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Transmitted herewith for filing under 37 CFR 1.53(b) are the specification and claims of the nonprovisional patent application of:

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TOOLS FOR RAILWAY TRAFFIC CONTROL

APPLICATION ELEMENTS ENCLOSED:

1. X Specification (total pages 36) including:
  - a. 4 pages of claims (claims 1-8)
  - b. 1 page(s) Abstract
2. X 11 sheets of drawings (Figs. 1-13)
3. X Oath or declaration of inventor
  - a. X Newly executed
  - b.      Unexecuted
  - c.      Copy from a prior application (*for continuation/divisional with Item 12 completed*)
4. X Application Data Sheet (signed).
5.      Deletion of Inventor(s): Signed statement pursuant to 37 CFR 1.63(d)(2) and 1.33(b).
6. X Incorporation By Reference: of entire disclosure of prior application(s) indicated in item 12.

APPLICATION PARTS ENCLOSED:

7.      Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i).
8. X This application is assigned to Railware, Inc., Hauppauge, New York.
  - a.      An assignment (including Form PTO-1595)      pages.
9. X Power of Attorney
  - a. X Newly executed
  - b.      Copy from a prior application
  - c.      Communication Indicating Practitioners To Be Recognized As Being Of Record
  - d.      37 CFR 3.73(b) Statement (*when there is an assignee*).

10. X Information Disclosure Statement  
       X Form PTO-1449  
       \_\_\_\_ List of Related Cases  
       \_\_\_\_ Copies of IDS Citations
11. \_\_\_\_ A Preliminary Amendment
12. X If a Continuing Application, *check the appropriate box and supply the requisite information:*  
       X Continuation of prior application No.: 14/519,727 filed October 21, 2014 claiming  
       benefit of U.S. Provisional Application No. 61/893,547 filed October 21, 2013.  
       \_\_\_\_ Divisional of prior application No.: \_\_\_\_\_ filed \_\_\_\_\_  
       \_\_\_\_ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_ filed \_\_\_\_\_
13. \_\_\_\_ Applicant hereby claims priority under 35 U.S.C. §119  
       \_\_\_\_ Certified copy of priority application No. \_\_\_\_ is enclosed herewith.  
       \_\_\_\_ Certified copy of priority application No. \_\_\_\_ will be submitted in due course.  
       \_\_\_\_ Certified copy of priority application No. \_\_\_\_ has been filed in prior appl'n no. \_\_\_\_.  
       \_\_\_\_ A Request To Retrieve Electronic Priority Application is enclosed herewith.
14. \_\_\_\_ This is a transitional application claiming foreign priority or domestic benefit of an  
       application filed ***before*** March 16, 2013, and includes claim to invention having  
       effective filing date ***on or after*** March 16, 2013.
15. \_\_\_\_ Applicant hereby establishes small entity status under 37 C.F.R. §1.27

The filing fee for electronic filing (claims as amended) is calculated as follows:

|                                                                            |                 |   |                  |   | Rate            |                 |   | Fee             |                   |
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| Total Claims                                                               | 8 - 20          | = | 0                | X | \$40            | \$80            | = | \$              | \$0               |
| Indep. Claims                                                              | 2 - 3           | = | 0                | X | \$210           | \$420           | = | \$              | \$0               |
| Multiple Dependent<br>Claims Presented: Yes ____ No <u>X</u>               |                 |   |                  |   | \$390           | \$780           | = | \$              | \$0               |
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| *If the difference in column 1 is less than zero,<br>enter "0" in column 2 |                 |   |                  |   | Basic Fee       |                 |   | \$140.00        | \$280.00          |
|                                                                            |                 |   |                  |   | Search Fee      |                 |   | \$300.00        | \$600.00          |
|                                                                            |                 |   |                  |   | Examination Fee |                 |   | \$360.00        | \$720.00          |
|                                                                            |                 |   |                  |   | Total Fee       |                 |   | \$              | <b>\$1,600.00</b> |

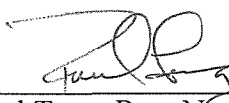
16. \_\_\_ A check in the amount of \$ \_\_\_\_\_ to cover the filing fee.
17. X The Patent Office is hereby authorized to charge the following fees in connection with the following or credit any overpayment to Deposit Account No. 03-3125.
- X Filing fees for electronic filing ( \$ 1,600.00 ) under 37 C.F.R. §1.16.
- X Patent application processing fees under 37 C.F.R. §1.17.
- \_\_\_ The issue fee set in 37 C.F.R. §1.18 at or before mailing of the Notice of Allowance, pursuant to 37 C.F.R. §1.311(b).
18. \_\_\_ Other (identify):

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**TOOLS FOR RAILWAY TRAFFIC CONTROL**

**CROSS-REFERENCE TO RELATED APPLICATION**

This application is a Rule 1.53(b) continuation of  
5 Application No. 14/519,727 filed October 21, 2014, claiming  
the benefit of U.S. Provisional Application No. 61/893,547  
filed October 21, 2013 and entitled "SYSTEM, APPARATUS AND  
METHOD FOR RAILWAY TRAFFIC CONTROL".

10 **TECHNICAL FIELD**

This disclosure relates to railway traffic control, and  
more specifically, a system, apparatus, and method for  
railway traffic control to address concerns for safety of  
railway workers working on or near railroad tracks.

15

**BACKGROUND**

Railway transportation is run under strict operational  
guidelines or rules, in order to operate safely. Most of  
these guidelines are standard amongst commercial railway  
20 traffic. Examples of transport standards include interlock  
signals, centralized traffic control (CTC), rule 251, etc.

Interlocking signals govern movement within a sector  
controlled by an interlock. For example, on a specific track

line, a track may be divided into sections of 400 to 2500m, on each of which trains move at a speed depending on an interlocking signal exhibited by an interlock at an entrance to the section. That is, the interlocking signal displays a color system which instructs the conductor of the train, or the train operating by automated response, how to move through the upcoming section of track. Interlocking systems usually incorporate a 3-color system by which the train, or train conductor, is informed to proceed at regular speed, is informed to proceed at a reduced speed or is prohibited from proceeding through the upcoming section.

While interlocking systems can be operated manually, currently most interlocking systems are controlled electronically. One method of controlling all of the interlocks within a rail system is through a centralized traffic control (CTC), or traffic control system (TCS). A CTC is used for monitoring, tracking and operating trains traversing tracks throughout a network. The CTC is controlled by a single person known as a train dispatcher.

In order for the train dispatcher to make appropriate train control decisions regarding how the train should be operated, various information and data must be obtained and presented. Information regarding track conditions, train

traffic, scheduling, etc., is presented on a control console which may include a map of the entire rail system controlled by the CTC. Through the control console, the dispatcher has control of each interlock signal (that is, the dispatcher  
5 controls the train traffic and flow of train traffic using the interlocks) and is constantly made aware of the positions of trains in the railway system as such positions are electronically reported by signals present throughout the railway system. In addition, in order to provide for  
10 safe traffic control and avoid accidents or collisions, signals are provided throughout the track network, or interlocks.

The interlocks may be controlled from the CTC in any of various different ways, including, e.g., direct wiring, by  
15 pulse codes sent over a wire to distant locations, etc. In addition, interlocks can also be controlled by a native mechanism detecting presence of a train on the track. That is, when a train occupies a certain section of track, the interlock prevents other trains from proceeding onto the  
20 same

Further, there are additional safety systems on the train itself, such as automatic train control (ATC). A common feature of many of such automated train control

systems is the need for constant or nearly constant communications between onboard train control systems and an offboard hub radio connected to control equipment located along the wayside or in a central office. In some systems, the offboard control equipment generates movement authorities which authorize the train to move in one or more sections of track. In some systems, the offboard equipment informs the onboard train control system of the presence of other trains in the vicinity. In yet other systems, the offboard equipment provides information such as temporary speed restrictions and work zone information to the onboard train control system. Such systems protect against a number of human errors on the part of the train drivers, one of the basics of the system being that the train is provided with a computer which receives traffic information, such as stop signals and speed limits, from a plurality of transmitters along the track. Thus, the computer may bring the train to a standstill regardless of what the train driver does when the train arrives at a stop signal.

Even with all these safety features present in a railway system, railway accidents occur, with many being fatal. For example, one study reported that there were 39 roadway worker accidents that occurred between January 1997

and the end of 2011, in which 41 roadway workers perished while attending to tasks such as inspection, construction, maintenance, or repair of railroad track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities or roadway maintenance machinery on or near track, operating as flagmen or watchmen/lookouts for other roadway workers, etc.

There remains a need for further safety measures to protect the lives of railway workers.

10

#### **BRIEF SUMMARY**

This disclosure provides tools (in the form of systems, apparatuses, methodologies, etc.) for enhancing railway traffic control, as supplemental measures directed to safety of railway workers.

For example, a centralized railway control system may be adapted (such as via computer hardware, software, or a combination) to include providing on a user terminal a user interface including a block placing part to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections, generating a removal code and transmitting the removal code to the electronic

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contact address of the railway field worker, and permitting the block to the track sections to be removed only upon entry of the removal code in the centralized railway control system. Such process may be largely automated via programming such that upon placement, by the block placing part, of the block of railway traffic to the specified track sections, the removal code is automatically transmitted, by a code generation part, to the electronic contact address of the railway field worker, and the block of railway traffic to the specified track sections remains in place in the centralized railway control system until the entry of the removal code in the centralized railway control system to cause a block removal part to remove the block on said one or more track sections.

15 In another aspect, the adaptation may include a RTC user interface to permit a user (e.g., train dispatcher) to specify a track section(s) to be blocked, specify an instruction to the centralized railway control system to block the railway traffic to the specified track section(s), and specify identifying information of the railway field worker performing (or to be performing) work in the specified track section(s).

In another aspect, the adaptation includes a block

removal user interface to permit a user to enter the removal code to cause the block removal part to remove the block on said one or more track sections. Such block removal user interface may be provided in any of various ways. For  
5 example, the block removal user interface may be provided within a mobile application or web page through which the railway field worker can enter the removal code manually or orally (i.e. including a voice or speech interface part). As another example, the removal code may be embedded in a  
10 link in a message transmitted by email or messaging to the electronic contact address of the railway field worker, and the railway field worker can simply cause the removal code to be entered by activating the link in the message received by the railway field worker. In another example, the block  
15 removal user interface may be provided on the same user terminal on which the block placing part is disposed. Further, a voice or speech interface part may be disposed on the system-side to process a voice message (such as received via a telephone call from the railway field worker), extract  
20 the removal code from the voice message, and enter the block removal code. In each instance, the block of railway traffic to the specified track sections remains in place in the centralized railway control system until the entry of

the removal code through the block removal user interface. Further, entry of the removal code may also require entry of identification of the user entering the removal code, and removal of the block may also require not only the removal  
5 code but also confirmation that the user entering the removal code is authorized to remove the block. The block removal user interface may further require, in addition to entry of the removal code, the user to specify that confirmation that the track sections have been cleared has  
10 been obtained from the railway field worker associated with the block, before the block removal user interface permits the removal code to be transmitted to the block removal part.

In another aspect, the system may include a railway  
15 control database registering block identifying information, including block limits identifying the one or more blocked track sections, along with the removal code for removing the block of the track sections. Further, the railway control database may register additional information, such as  
20 identification of the user who specified the instruction to block the track sections, notes specifying reasons for the block, date and time at which the block was placed, etc. The railway control database may further register block

removal information identifying date and time at which the  
block was removed and identifying the user who entered the  
removal code and who specified that confirmation that the  
track sections have been cleared was obtained from the  
5 railway field worker associated with the block.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The aforementioned and other aspects, features and  
advantages can be more readily understood from the following  
10 detailed description with reference to the accompanying  
drawings wherein:

**Fig. 1A** shows a block diagram illustrating a railway  
control system, in accordance with an exemplary embodiment;

**Fig. 1B** shows a block diagram illustrating a railway  
15 control system, in accordance with another exemplary  
embodiment;

**Fig. 2** shows a block diagram of a railway traffic  
control apparatus, in accordance with an exemplary  
embodiment;

20 **Fig. 3A** shows a block diagram of an exemplary  
configuration of a terminal;

**Fig. 3B** shows a block diagram of an exemplary  
configuration of a computing device;

Fig. 4 shows a schematic diagram illustrating communication flow in the system shown in Fig. 1A or in the system shown in Fig. 1B;

Fig. 5 shows an example of a graphical portrayal of a railway network;

Figs. 6-9 show examples of a user interface display, in accordance with an exemplary embodiment;

Fig. 10 shows an example of a user interface display that may be provided on the field worker side for triggering block removal;

Fig. 11 shows another example of a user interface display;

Fig. 12 shows a flow chart illustrating a block placement method, in accordance with an exemplary embodiment;

Fig. 13 shows a flow chart illustrating a block removal method, in accordance with an exemplary embodiment;

#### DETAILED DESCRIPTION

This patent specification describes tools (in the form of methods, apparatuses and systems) that controls train traffic within a railway system using, but not limited to,

standardized rules or timetables described in the Background section of this specification.

In describing exemplary embodiments illustrated in the drawings, specific terminology is employed for the sake of clarity. However, the subject matter of this patent specification is not intended to be limited to the specific terminology so selected and it is to be understood that each specific element includes all technical equivalents that operate in a similar manner.

10       The drawings show examples of implementations of the subject matter of this patent disclosure in several computing environments. However, it should be understood that the subject matter of this disclosure can be utilized by any computing device including but not limited to PDAs, 15 cell phones, personal, notebook and workstation computers, kiosks, other information terminals, WIC (or another) pager etc. In addition, the subject matter of this disclosure might be provided as services in a modular fashion by other devices connected by a communication network.

20       Referring now to the drawings, wherein like reference numerals designate identical or corresponding parts throughout the several views, there are described tools (systems, apparatuses, methodologies, computer program

products, etc.) that can be integrated in a railway traffic control system.

**Fig. 1A** shows schematically an exemplary embodiment in which a system 100A includes a railway traffic control terminal 105, rail personnel data 104 and a terminal 103, each connected to the network 102. **Fig. 1B** shows schematically another exemplary embodiment, in which rail personnel contact data 104 is accessed directly by the railway traffic control apparatus 105. While only one terminal is connected to the network 102 in the example shown in **Fig. 1A** as well as in the example shown in **Fig. 1B**, it should be appreciated that the network environment can have an arbitrary number of devices (of various types).

The network 102 can be any data network, a local area network, a wide area network or any type of network such as an intranet, an extranet (for example, to provide controlled access to external users, for example through the Internet), a private or public cloud network, the Internet, etc., or a combination thereof. Further, other communications links (such as a virtual private network, a wireless link, etc.) may be used as well for the network 102. In addition, the network 102 preferably uses TCP/IP (Transmission Control Protocol/Internet Protocol), but other protocols such as

SNMP (Simple Network Management Protocol) and HTTP (Hypertext Transfer Protocol) can also be used. How devices can connect to and communicate over networks is well-known in the art and is discussed for example, in "How Networks  
5 Work", by Frank J. Derfler, Jr. and Les Freed (Que Corporation 2000) and "How Computers Work", by Ron White, (Que Corporation 1999), the entire contents of each of which are incorporated herein by reference.

The rail personnel 104 is a database that can be either  
10 connected to or inside the railway traffic control terminal 105. The rail personnel data 104 stores information regarding the maintenance workers used for traveling, inspecting and working on blocked rails. For example, the information stored can include name of the maintenance  
15 worker, primary contact, secondary contact, previous assignment, current assignment, etc. as shown via user interface display in Fig. 11.

Fig. 2 shows a terminal 100A which is configured (such as via one or more programs of instructions executable by a  
20 processor of a computer or another electronic device) with a railway traffic blocking apparatus 101 to include a block placer 101A, a code generator 101B, a block remover 101C and a user interface 101D. The terminal 100A can be any

electronic device including a processor, storage and display, such as shown by way of examples in Figs. 3A and 3B.

The railway traffic blocking apparatus is programmed to control the traffic of an entire railway network. The block placer 101A is configured to stop traffic within a certain length of rail line. That is, once a block is placed, no train can traverse the blocked section of rail. For example, in the case of a railway controlled by multiple interlocks, the block placer 101A causes those interlocks to output a STOP signal, therefore, stopping any train traffic within the rails controlled by that interlock. By doing this, maintenance workers and railway personnel can travel, inspect and work on the rails without the danger of oncoming train traffic. Trains that are scheduled to traverse said blocked tracks either come to a complete stop, electronically or mechanically, before passing the interlock or are rerouted using tracks that are not in a blocked state. However, this disclosure is not limited to a railway traffic control system implementing interlocks. This system can be implemented on any configuration in which there is control of the traffic of a railway system.

The code generator 101B is configured to produce a removal code (such as a cipher which is random, pseudo-random, secret, etc., and stored on the terminal. A new random cipher may be generated for each instance of traffic  
5 blocking. This random cipher is then sent to another terminal belonging to the railway personnel who are scheduled to travel, inspect or work on the specific rails being blocked.

The block remover 101C is programmed to remove the  
10 previous block, or plurality of blocks set by the block placer 101A. The block remover 101C is dependent on the code produced by the code generator 101B. As described in detail below, a block cannot be removed without the input of the release code.

15 The user interface 101D is configured preferably for the ease of use for the railway traffic controller. As shown by way of examples in **Figs. 6-9** and **11**, the user interface 101D displays information and tools needed to enable/disable blocks on rail sections.

20 The user interface 101D may be a mobile application, a web page or some other software component, on a terminal device. Such terminal preferably is configured to communicate through a computer or data network to obtain

content and data from an external source. However, it should be appreciated that the inventive aspects described herein can be employed even if the mobile device is not configured to connect to a data network, and/or is not  
5 connected to a data network.

An example of a configuration of a user terminal (e.g., the terminal 103) or computer is shown schematically in Fig. 3A. In the example of Fig. 3A, terminal device 200 includes a controller (or processor) 202 that communicates with a  
10 number of other components, including storage 203, display 204, input/output (such as mouse, touchpad, stylus, microphone and/or speaker with voice/speech interface and/or recognition software, etc.) 205 and a network interface 206, by way of an internal bus 201.

15 The storage 203 can provide storage for program and data, and may include a combination of assorted conventional storage devices such as buffers, registers and memories [for example, read-only memory (ROM), programmable ROM (PROM), erasable PROM (EPROM), electrically erasable PROM (EEPROM),  
20 static random access memory (SRAM), dynamic random access memory (DRAM), non-volatile random access memory (NOVRAM), etc.].

The network interface 206 provides a connection (for example, by way of an Ethernet connection or other network connection which supports any desired network protocol such as, but not limited to TCP/IP, IPX, IPX/SPX, or NetBEUI) to  
5 a network (e.g., network 102) to enable the terminal device to communicate with another device through the network.

Fig. 3B shows an exemplary constitution of a computer 300 which can be configured by appropriate programming to operate as the railway traffic control apparatus 105 (Fig.  
10 1A). The computer 300 shown in Fig. 3B includes a processor 302, and various elements connected to the processor 302 by an internal bus 301, such as a memory 303, display 304, keyboard 305 and network interface 306. The processor 302 processes incoming requests transmitted through the network  
15 interface 306. The network interface 306 enables the railway traffic control terminal to communicate with other network-connected devices such as a terminal (e.g., the terminal 103 of Fig. 1A or Fig. 1B) and receive data or service requests.

Each of the terminal 103, rail personnel database 104  
20 and railway traffic control apparatus 105 can be configured to communicate with each other through the network 102. The railway traffic control terminal 105 can be configured to request data from the rail personnel contact data 104

through the network 102, as shown in Fig. 4. When the railway traffic control apparatus 105 initiates a block on a track section, the railway traffic control apparatus 105 may also designate a worker in associate with the block on the track section. With this information, the railway traffic control apparatus 105 requests the specific personnel data pertaining to the designated worker. The rail personnel contact data retrieves the requested personnel data and sends it to the railway traffic control apparatus 105. By receiving this data, the railway traffic control apparatus 105 may then generate a release code and save it to an internal storage.

The release code is then sent to the terminal 102. This terminal 102 is the contact associated with the designated worker, and the electronic address of this terminal is found within the personnel data received from the rail personnel contact data 104. By this system, only the railway traffic control apparatus 105 and terminal 102 receive the release code generated by the railway traffic control apparatus 105.

Additionally, Fig. 4 shows the communication between the terminal 102 and the railway traffic control apparatus 105 in the event that a block on a certain track is to be lifted. In order for a block on a certain track to be

lifted, the release code has to be input into the railway traffic control apparatus. The terminal 102 sends the release code to the railway traffic control apparatus 105. The release code is then input into the block remover 101C.  
5 After which, the block is removed and traffic to that section of rail is then allowed.

Fig. 5 illustrates an example of a railway network 500. Labeled are interlocks A-F which control sections of railway of the railway network 500. For example, the rail traffic  
10 controller might choose to block the section of rail corresponding to the track between interlock A and interlock B. This way, train traffic between those two interlocks is prohibited. The railway network is present on screen of the railway traffic control terminal 105 at all times for the  
15 convenience of the rail traffic controller. By being on screen at all times, the rail traffic controller knows the status of certain sections of rail in real time.

As shown in the example illustrated in Fig. 5, the railway between interlocks A and B, and interlocks C, D and  
20 E is blocked. Train traffic is prohibited between these sections and shown to the railway traffic controller on screen. As further explained below, the railway traffic controller can lift the blocks on these sections of track if

the release code is input into the railway traffic control terminal 105.

**Fig. 6** is an exemplary illustration of the user interface of the railway traffic control terminal 105. The railway traffic controller may place blocks on any section of traffic using this user interface. In this exemplary embodiment, the train traffic controller inputs authority, worker and block limits. This information corresponds to the train traffic controller username, maintenance worker designated to work on the specific blocked track and the sections of track being blocked, respectively. In addition, the railway traffic control terminal 105 applies a timestamp to the order once the block is placed.

Once the block is put into place, the corresponding section on the railway network 500 displays the section of track being blocked. In addition, the railway traffic control terminal 105 generates a release code, stores the release code, and sends the code to the maintenance worker designated for track work, i.e. maintenance worker 12. As shown in **Fig. 6**, the railway traffic controller may place blocks on track sections but may not remove the track blocks without the input of the release code in the allotted area labeled release code. **Fig. 6** shows that the remove action is

dashed out, meaning it cannot be selected (unless a release code is first entered). In the example illustrated in Fig. 6, it is shown that only one worker, maintenance worker 12 is designated to work on track Section A to Section B. However, as shown in later embodiments, the train traffic controller is not limited to the amount of maintenance workers designated for any track section. In addition, the train traffic controller may apply a block to any number of additional track sections.

10       The blocks are then tabulated by the railway traffic control apparatus 105 as depicted in Fig. 7. The table in Fig. 7 lists all the blocks that are in place and in addition lists blocks that were previously set. The information that can be found in this table includes, but is not limited to, the type of work being done on the track sections, when the block was placed, who is designated to work on the sections of track, who placed the block, when was the block removed and who removed the block.

20       Additional information can be accessed through this table by highlighting a cell of the table and selecting info, as shown in Fig. 7. For example, by highlighting the cell labeled maintenance worker 12 and selecting info, the train traffic controller may access the bio of the

5 maintenance worker 12, as shown in detail below. The train traffic controller may also highlight a different cell, such as the limits cell label "Sec. A - Sec. B". By selecting this cell and selecting the info command, the past history of maintenance work and operation of the section(s) may be displayed to the train traffic controller.

10 Fig. 8 shows the user interface of the railway traffic control terminal 105 as the railway traffic controller inputs the release code to remove the block on certain track sections. In the exemplary embodiment of Fig. 8, the remove option is now able to be selected with the input of the release code provided by the designated worker assigned for track work, maintenance worker 12.

15 Without the input of the release code, the remove option is not available to be selected. In a different embodiment, the release code may be obtained from the storage of the railway traffic control terminal 105.

20 In the case where there are multiple maintenance workers assigned to a certain track section, there may be provided one release code to one, multiple or all of the maintenance workers assigned. That is, The train traffic controller may input that the release code be specified to one maintenance worker, preferably a supervisor or foreman,

to multiple maintenance workers or to all of the maintenance workers assigned to work on a given track section. Also, in another embodiment, in a case where there are multiple workers assigned for a certain track section, there may be  
5 provided multiple unique release codes which would then all be required to be input into the train traffic control terminal 105 by the train traffic controller in order to be able to remove blocks on certain track sections.

In another embodiment, the train traffic controller may  
10 be asked to verify that a railway section is cleared before receiving the option to remove a train block. As shown in **Fig. 9**, the user interface displayed by the railway traffic control terminal 105 does not allow a removal of a block until the option corresponding to "Railway Section Cleared"  
15 is checked. This option allows for a further protection of the maintenance workers assigned to the block track sections.

**Fig. 10** shows an exemplary illustration of a message sent by the railway traffic control terminal 105 to a  
20 terminal 103 at a corresponding address of a maintenance worker assigned to work on a blocked track. The message is meant to deliver the release code to the maintenance worker assigned to work on a blocked track. In addition to relaying

the code, the message may include, but not limited to, information regarding the section of track that is being blocked, the date and time that the track was blocked, who initiated the track block, and links to quickly respond to the message. By selecting one of the links embedded in the message, the terminal 103 sends the release code to the railway traffic control terminal 105. The code can be transmitted through, but not limited to, text message, e-mail or voice message. In the present embodiment being illustrated, the terminal 103 is depicted as a mobile phone. The terminal 103 could be any communication device such as, but not limited to, mobile phone or smartphone, tablet, WIC (or another) pager, PDA, etc.

In another embodiment, once the rail traffic controller unblocks a section of track, the railway traffic control terminal 105 may send a message to the worker, or plurality of workers, associated with working on the previously blocked track in order to inform them that the track has been unblocked and is no longer a safe environment to work in.

**Fig. 11** depicts an exemplary embodiment of a profile of a maintenance worker. This profile may be accessed directly by highlighting the corresponding maintenance worker cell in

the table depicted in **Fig. 7** and selecting the info tab. This command brings up the profile and the maintenance worker and displays information regarding the worker including, but not limited to, the name, age, primary  
5 contact, secondary contact, e-mail, last assignment and current assignment of the maintenance worker. Additionally in this screen, the railway traffic controller may contact the maintenance worker directly using one of the plurality of addresses provided.

10       Next, the method of placing a block on a track section will be described with reference to **Fig. 12**. In S1201, the rail traffic controller selects the sections to be blocked using the railway traffic control terminal 105. Once the block limits are designated and sent, the railway traffic  
15 control terminal 105 established office interlocking immediately in S1202. That is, the railway traffic control terminal 105 immediately sends a signal to the corresponding interlocks corresponding to the section of track designated to be blocked. Additionally, the railway traffic control  
20 terminal 105 generates and saves a random secret code in S1203.

After a request to block a certain section of track is sent, the railway traffic control terminal 105 checks if

there are sections currently having a block placed (S1204). If one or more of the designated sections does not have a block placed, then the railway traffic control terminal 105 opens a user interface for the railway traffic controller to  
5 designate a type of block to set and a maintenance worker for the blocked section in S1206. If the railway traffic control terminal sees that a block is already in effect (S1205), then the railway traffic control terminal 105 allows the railway traffic controller to change the existing  
10 block type and maintenance worker using the same interface. The interface is then opened in S1206.

The railway traffic controller then inputs the type of block and assigns a worker to work on the blocked section. The railway traffic controller also has the option to block  
15 the track for purposes of an emergency and not necessarily for maintenance work in S1207. Once the railway traffic controller assigns a block type and/or a corresponding maintenance worker, the railway traffic control terminal 105 checks the status of the selected block in S1208. If the  
20 current selected section has an existing block, the railway traffic control terminal 105 waits for a response from the interlocks of the corresponding section to send an indication that a new block can be established in S1209.

Once this indication is received in S1210, the railway traffic control terminal 105 enables the place button of the user interface (S1211). If the selected section has no previous active block, the railway traffic control terminal  
5 105 immediately enables the place button on the user interface.

Once the place button is selected, the railway traffic control terminal 105 generates a place time and enables safety measures so that the block cannot be removed without  
10 the input of the secret code generated (S1212). Finally, the railway traffic control terminal 105 sends the secret removal code to the corresponding one or more maintenance workers if the railway traffic controller has selected maintenance workers for the given block.

15 **Fig. 13** describes a method for removing a block placed on a section of track. In S1301, the railway traffic controller selects an existing block by using either the network rail map, shown in **Fig. 5**, the remove tool, shown in **Figs. 6, 8 and 9**, or the summary table, shown in **Fig. 7**. The  
20 remove button is disabled without the input of the secret code from either the maintenance worker or the railway traffic control terminal 105 (S1302). In S1304, the railway traffic control terminal 105 checks if there is a

maintenance worker that is eligible to transmit the random secret code. If there is an eligible maintenance worker available, the maintenance worker transmits the random secret code to the railway traffic control center 105  
5 (S1305). If there is no maintenance worker available to transmit the random secret code, the code can be retrieved from the train traffic control terminal 105 by the train traffic controller (S1306).

Once the secret code is received, the secret code may  
10 be input to the designated field (S1308). The railway traffic control terminal 105 checks the secret code with the code saved in its memory (S1309). If the code is incorrect, the railway traffic control terminal 105 will prompt the user to input the code again. If the code is correct, the  
15 railway traffic control terminal will prompt the user to enter information into any remaining fields (S1310). In S1311, the railway traffic control terminal 105 checks that all information input into all fields is correct and that all fields are filled in. After this check is performed by  
20 the railway traffic control terminal 105, the remove button is enabled on the form (S1312) and the railway traffic controller may remove the block on the corresponding track section.

The aforementioned specific embodiments are illustrative, and many variations can be introduced on these embodiments without departing from the spirit of the disclosure or from the scope of the appended claims. For  
5 example, elements and/or features of different examples and illustrative embodiments may be combined with each other and/or substituted for each other within the scope of this disclosure and appended claims.

The orders in which the steps are performed in the  
10 aforementioned methods are not limited to those shown in the examples of Figs. 12 and 13, and may be switched as long as similar results are achieved. Also, it should be noted that the methods illustrated in the examples of Figs. 12 and 13 may be implemented using any of the embodiments shown in  
15 Figs. 1A-1B.

Further, conventional systems can be modified to include the aspects described herein. As an example, a means may be added to a conventional interlock system by which the railway worker has partial control of the interlock system  
20 at the times that maintenance work is needed on a certain train block. In such modification, a system, apparatus and/or method may be provided to control the interlocks in a railway system as an interface between the railway workers

and the interlock control. Thus, in a case in which maintenance is to be performed on a certain rail block, which is controlled by an interlock, the interlock can be configured to send out a stop signal for all incoming  
5 trains, to block train traffic to such portion of the rail system. In addition, once the interlock is placed in a "stop traffic" state, a release code is transmitted to an electronic contact address corresponding to the railway worker.

10       Once a block has been placed, the interlock remains in a blocked state, until the maintenance worker supplies the release code, which was received at the time the interlock started, and the release code is entered in the interlock control system. So long as the block is in place, the  
15 maintenance worker can perform on-track work, without interference of oncoming train traffic. After the maintenance worker finishes the assigned work and is clear of the train tracks, he/she may then supply the interlock control system with the release code, and the interlock  
20 control system in turn can release the interlock over the block.

Accordingly, the railway worker has more control over the traffic through the rail block in which the worker is working, and fatal on-track accidents can be reduced.

Additional variations may be apparent to one of  
5 ordinary skill in the art from reading U.S. Provisional  
Application No. 61/893,547, filed October 21, 2013 and  
entitled "SYSTEM, APPARATUS AND METHOD FOR RAILWAY TRAFFIC  
CONTROL", the entire contents of which are incorporated  
herein by reference.

**What is claimed is:**

1. A system to enhance railway control, to protect safety of railway workers on or near railway tracks, the system comprising:

5 a railway control apparatus comprising a processor, a non-transitory medium storing one or more programs of executable instructions, and a network interface through which the railway control apparatus communicates via a network; and

10 a user terminal provided to a railway field worker and configured to communicate via the network with the railway control apparatus and to provide a user interface to display information received from the railway control apparatus and to permit the railway field worker to respond to prompts displayed  
15 thereon,

wherein the railway control apparatus, by execution of said one or more programs of executable instructions by the processor, includes:

a block placing part to place a block on one or more  
20 specified track sections to permit the railway field worker to enter the track sections while blocking railway traffic to said track sections;  
a code generation part to generate a release code and

transmit the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal; and

5 a block removal part to remove only upon receiving the release code from the user terminal in return, the block placed by the block placing part on said one or more track sections.

10 2. The system of claim 1, wherein upon the railway control apparatus placing the block of railway traffic to said one or more specified track sections and transmitting the release code to the electronic contact address accessible by the railway field worker, the user interface provided on the  
15 user terminal displays a message and permits the railway field worker to respond to the message to release the block.

3. The system of claim 2, wherein upon the railway field worker responding to the message to release the block, the  
20 release code is returned to the railway control apparatus.

4. The system of claim 2, wherein the message displayed by the user interface on the user terminal includes an embedded

link for activating a return transmission of the release code to the railway control apparatus.

5        5. A method to enhance railway control, to protect safety of railway workers on or near railway tracks, said method comprising:

         configuring a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the  
10   railway field worker to respond to prompts displayed thereon;

         providing a terminal user interface on a terminal to permit a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the  
15   track sections while blocking railway traffic to said track sections;

         generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker via  
20   operation of the user interface of the user terminal; and

         permitting the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return.

6. The method of claim 1, further comprising:

displaying, upon the railway control apparatus placing the  
block of railway traffic to said one or more specified track  
5 sections and transmitting the release code to the electronic  
contact address accessible by the railway field worker, a  
message through the device user interface provided on the mobile  
user device and permitting the railway field worker to respond  
to the message to release the block.

10

7. The method of claim 6, further comprising:

upon the railway field worker responding to the message to  
release the block, returning the release code to the railway  
control apparatus.

15

8. The method of claim 2, wherein the message displayed  
by the device user interface on the mobile user device includes  
an embedded link for activating a return transmission of the  
release code to the railway control apparatus.

20

**ABSTRACT**

Tools (such as system, apparatus, methodology, etc.) may be provided to control traffic over a railway track section, when a railway worker is working on or near the track section. More particularly, when traffic over the track section is to be blocked, a release code is generated and sent to an electronic contact address of the railway worker. Traffic through the track section is blocked until the release code is entered in the system.

**FIGURE 1A**

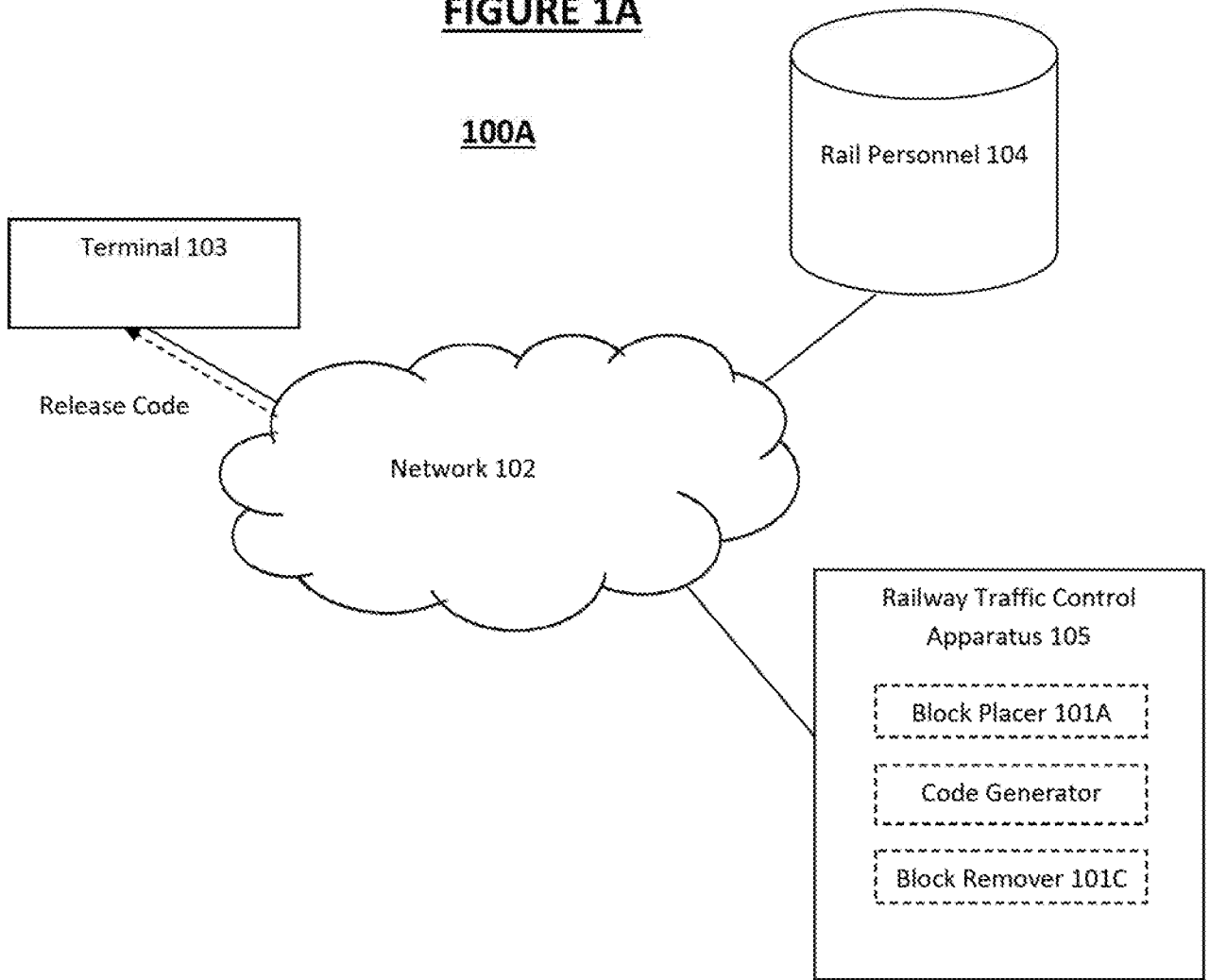


**FIGURE 1B**

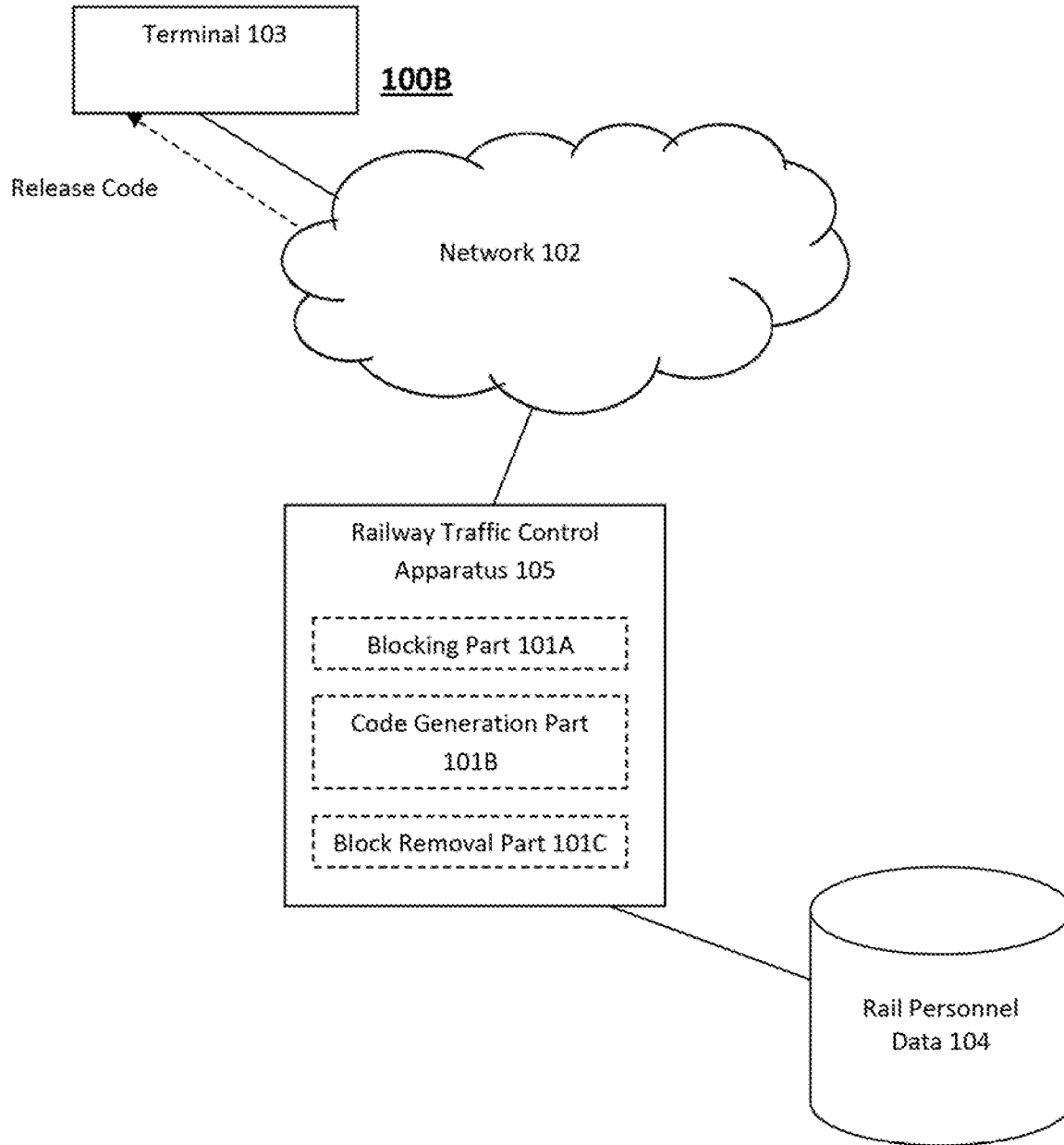


**FIGURE 2**

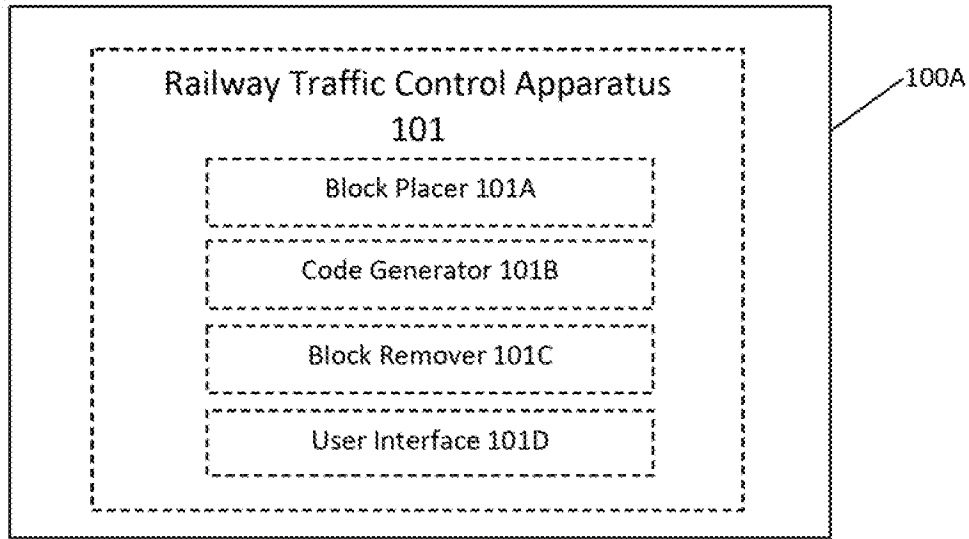


**FIGURE 3A**

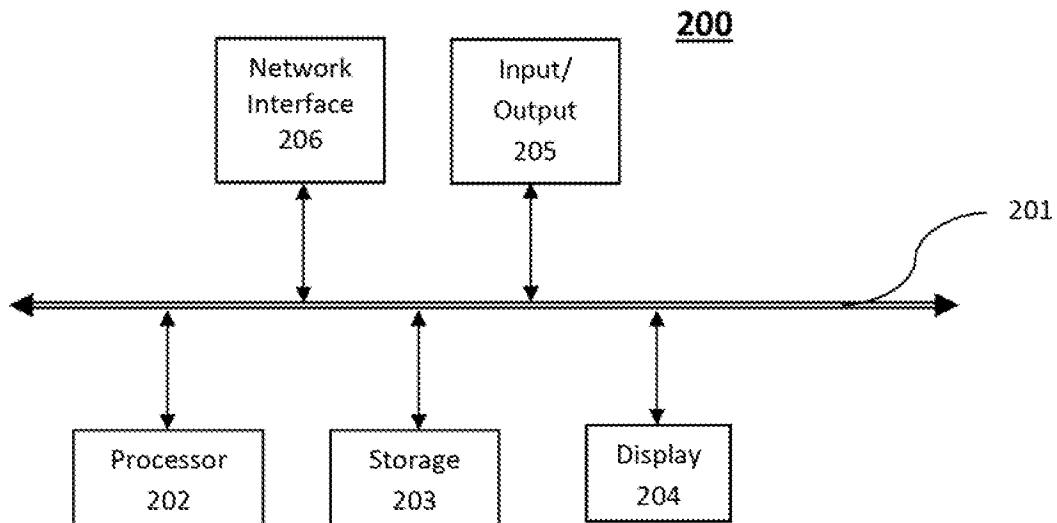


**FIGURE 3B**

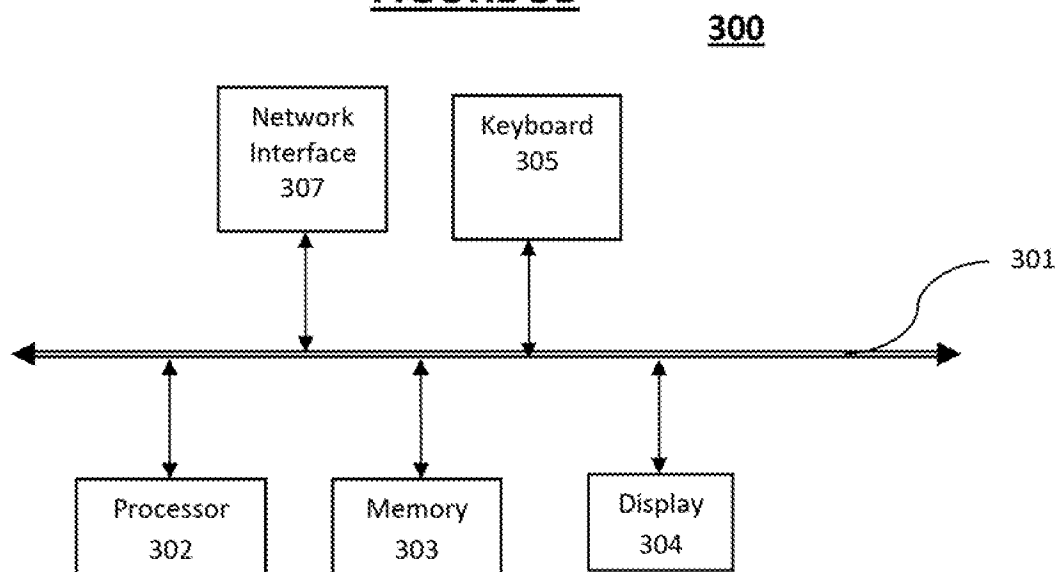


**FIGURE 4**

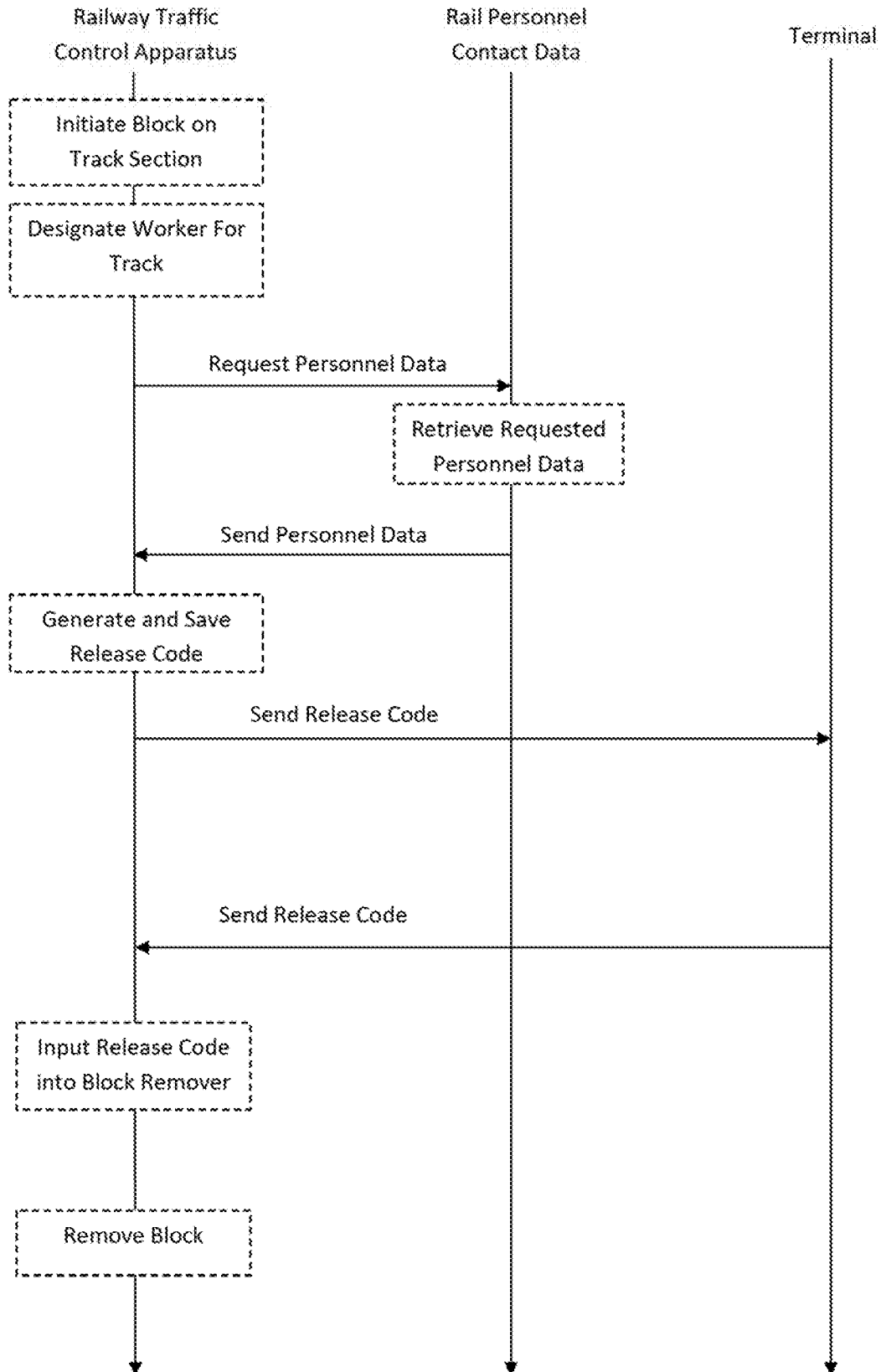


**FIGURE 5**

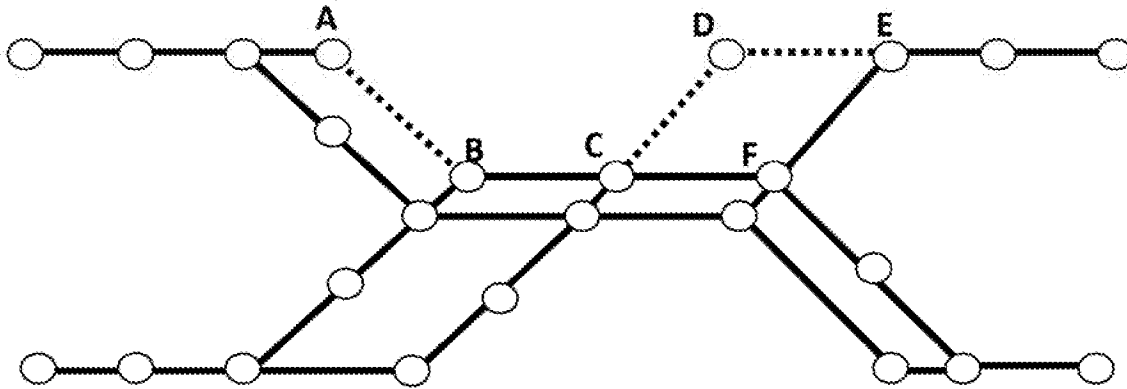


**FIGURE 6**

A screenshot of a software interface for managing railroad tracks. On the left, a small portion of the track diagram from Figure 5 is visible. To its right is a control panel with several buttons and input fields. The buttons are labeled 'BLOCK', 'SWITCH', 'PLACE', 'REMOVE', and 'CANCEL'. The 'REMOVE' button is shown with a dashed border. The input fields contain the following text: 'Authority: Train Dispatcher 22', 'Worker : Maintenance Worker 12', 'Block Limits: Section A - Section B', 'Placed At: 10/10/2013 4:15PM', and 'Release Code: ' followed by an empty rectangular box.

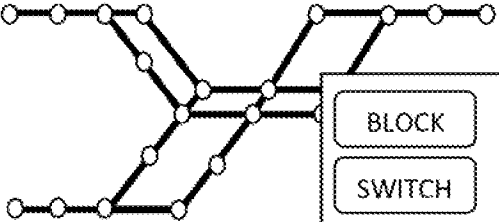
**FIGURE 7**



| # | Type   | Placed On             | Issued To                                             | Limits                       | Placed By                 | Removed               | Removed By                |
|---|--------|-----------------------|-------------------------------------------------------|------------------------------|---------------------------|-----------------------|---------------------------|
| 1 | Maint. | 10/10/2013<br>4:15PM  | Maintenance<br>Worker 12                              | Sec. A-<br>Sec. B            | Train<br>Dispatcher<br>22 | 10/10/2013<br>10:00PM | Train<br>Dispatcher<br>22 |
| 2 | Maint. | 10/11/2013<br>12:00PM | Maintenance<br>Worker 35;<br>Maintenance<br>Worker 36 | Sec. C-<br>Sec. D-<br>Sec. F | Train<br>Dispatcher<br>44 | N/A                   | N/A                       |

REMOVE CANCEL INFO

**FIGURE 8**



BLOCK  
SWITCH

Authority: Train Dispatcher 22  
Worker : Maintenance Worker 12  
Block Limits:  
Section A - Section B

Placed At: 10/10/2013 4:15PM  
Release Code: 912478

PLACE REMOVE CANCEL

**FIGURE 9**

The screenshot shows a railway control interface. On the left is a track diagram with several tracks and switches. A modal window is open on the right, containing the following elements:

- Two buttons: **BLOCK** and **SWITCH**.
- Text fields for:
  - Authority: Train Dispatcher 22
  - Worker : Maintenance Worker 12
  - Block Limits: Section A - Section B
- Text fields for:
  - Placed At: 10/10/2013 4:15PM
  - Release Code: 912478
- A checkbox labeled "Railway Section Cleared" which is currently unchecked.
- At the bottom, three buttons: **PLACE**, **REMOVE**, and **CANCEL**.

**FIGURE 10**

The screenshot shows a terminal window with a black border. At the top is a label **Terminal**. The main content area displays the following text:

Railway Traffic Controller

Sec. A - Sec. B

BLOCKED on 10/10/2013  
4:15PM

By Train Dispatcher 22

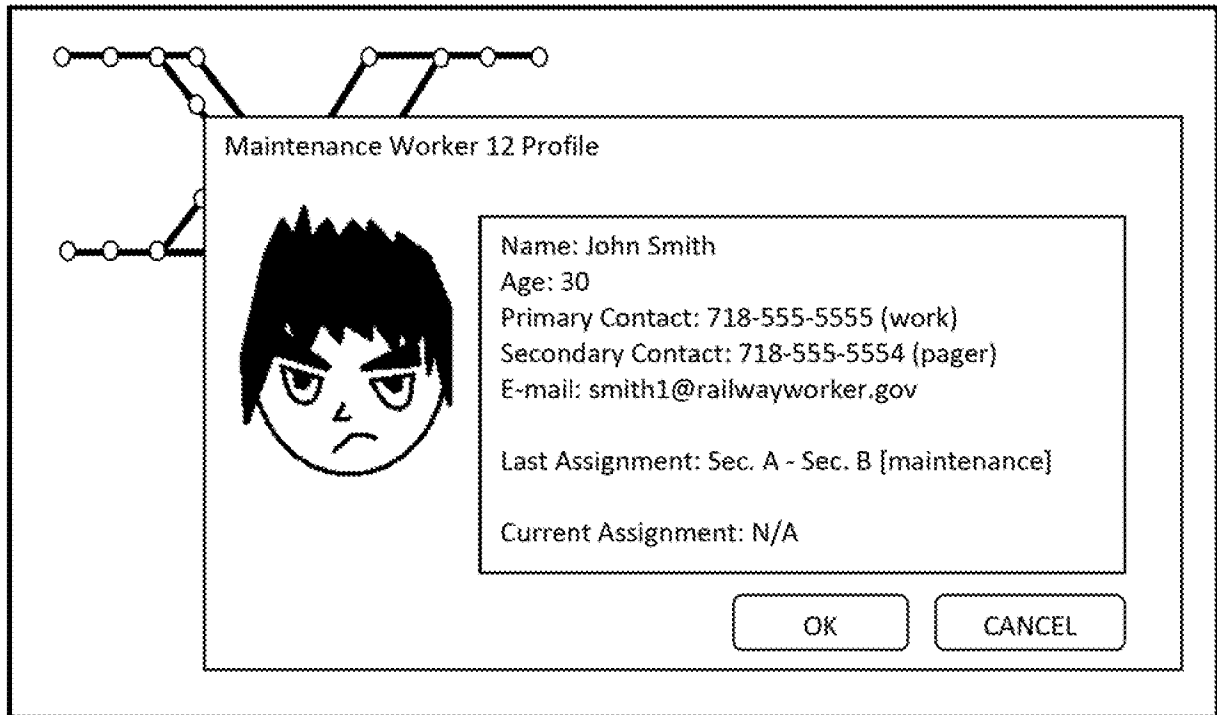
Release Code: 912478

**CALL UNBLOCK LINK**

**MESSAGE UNBLOCK LINK**

At the bottom is an **OK** button.

**FIGURE 11**



The diagram shows a railway track with several segments and switches. A pop-up window titled "Maintenance Worker 12 Profile" is overlaid on the track. The window contains a cartoon drawing of a man's face with a grumpy expression. To the right of the face is a text box containing the following information:

Name: John Smith  
Age: 30  
Primary Contact: 718-555-5555 (work)  
Secondary Contact: 718-555-5554 (pager)  
E-mail: smith1@railwayworker.gov  
  
Last Assignment: Sec. A - Sec. B [maintenance]  
  
Current Assignment: N/A

At the bottom right of the window are two buttons: "OK" and "CANCEL".

**FIGURE 12**

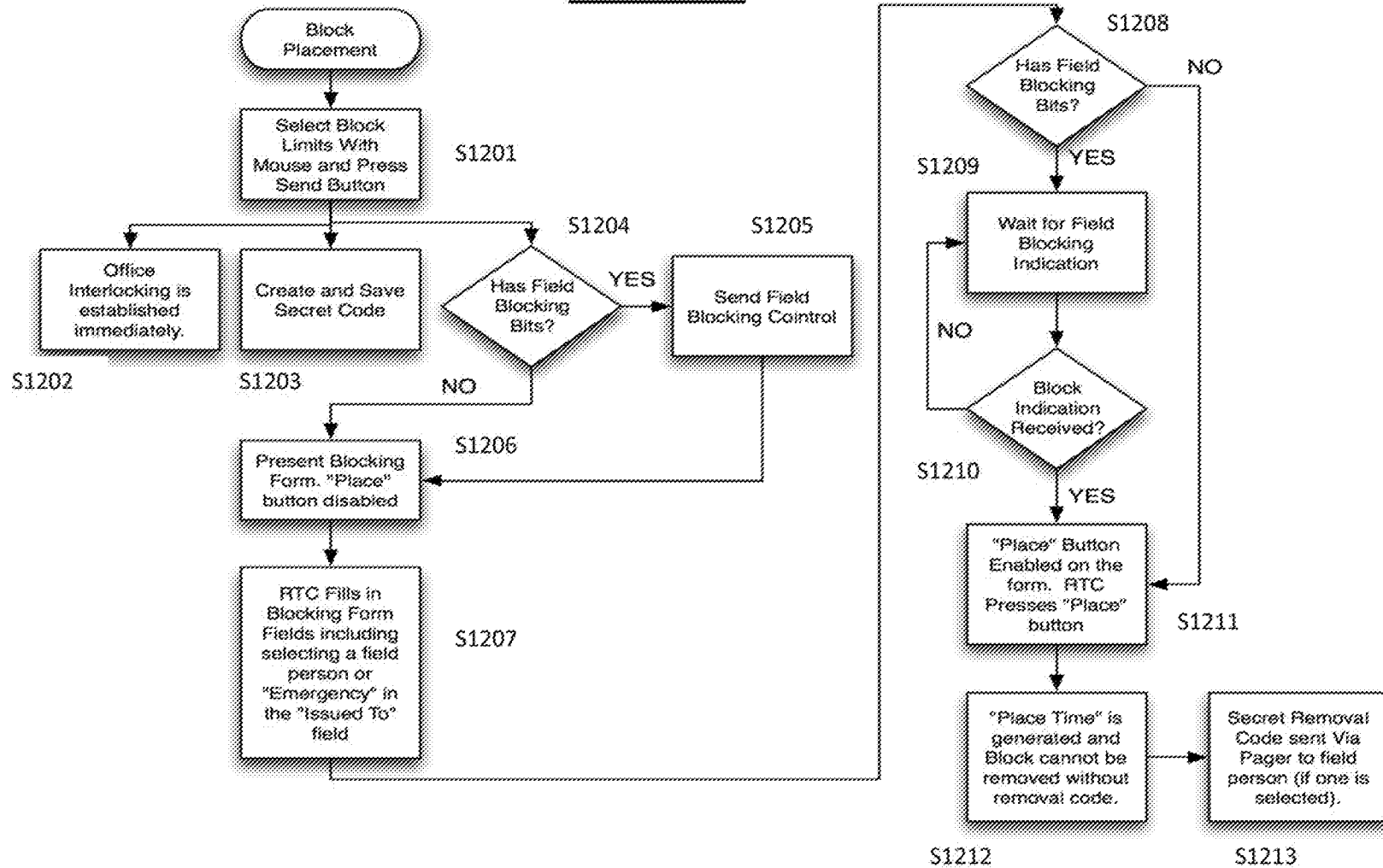
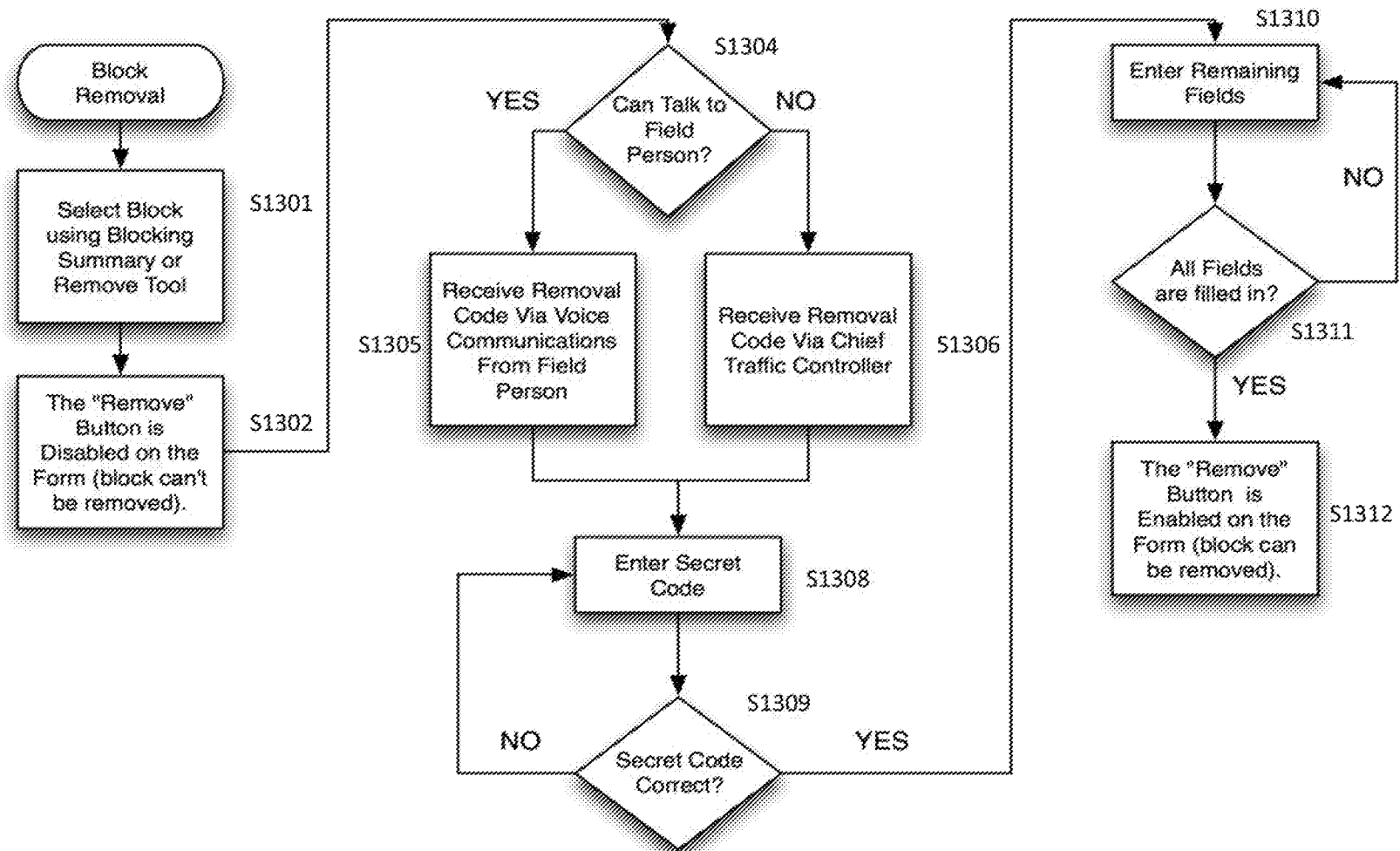


**FIGURE 13**



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# DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of  
Invention **TOOLS FOR RAILWAY TRAFFIC CONTROL**

As the below named inventor, I hereby declare that:

This declaration is directed to: ☒ The attached application, or  
☐ United States application or PCT international application number \_\_\_\_\_  
 filed on \_\_\_\_\_.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

## WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

## LEGAL NAME OF INVENTOR

Inventor: **Ross Pirtle**

Date (Optional) : \_\_\_\_\_

Signature: \_\_\_\_\_

Note: An application data sheet (PTO/AIA/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/SB/AIA01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                        |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------|--------------|
| <b>Application Data Sheet 37 CFR 1.76</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                   | Attorney Docket Number | 7552/85663-A |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   | Application Number     |              |
| Title of Invention                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | TOOLS FOR RAILWAY TRAFFIC CONTROL |                        |              |
| <p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p> |                                   |                        |              |

## Secrecy Order 37 CFR 5.2

|                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Inventor Information:

|                                                                                                                                                                             |            |                                      |             |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------|-------------|-------------------------|
| Inventor 1 <span style="float: right;">Remove</span>                                                                                                                        |            |                                      |             |                         |
| Legal Name                                                                                                                                                                  |            |                                      |             |                         |
| Prefix                                                                                                                                                                      | Given Name | Middle Name                          | Family Name | Suffix                  |
|                                                                                                                                                                             | Ross       |                                      | PIRTLE      |                         |
| Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service    |            |                                      |             |                         |
| City                                                                                                                                                                        | Commack    | State/Province                       | NY          | Country of Residence US |
| Mailing Address of Inventor:                                                                                                                                                |            |                                      |             |                         |
| Address 1                                                                                                                                                                   |            | RAILWARE, INC.                       |             |                         |
| Address 2                                                                                                                                                                   |            | 750 Veterans Memorial Hwy, Suite 200 |             |                         |
| City                                                                                                                                                                        | Hauppauge  | State/Province                       | NY          |                         |
| Postal Code                                                                                                                                                                 | 11788      | Country                              | US          |                         |
| All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. <span style="float: right;">Add</span> |            |                                      |             |                         |

## Correspondence Information:

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| <input type="checkbox"/> An Address is being provided for the correspondence Information of this application.                         |       |           |              |
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## Application Information:

|                                         |                                   |                                                      |  |
|-----------------------------------------|-----------------------------------|------------------------------------------------------|--|
| Title of the Invention                  | TOOLS FOR RAILWAY TRAFFIC CONTROL |                                                      |  |
| Attorney Docket Number                  | 7552/85663-A                      | Small Entity Status Claimed <input type="checkbox"/> |  |
| Application Type                        | Nonprovisional                    |                                                      |  |
| Subject Matter                          | Utility                           |                                                      |  |
| Total Number of Drawing Sheets (if any) | 11                                | Suggested Figure for Publication (if any)            |  |

|                                           |                                   |                        |              |
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| <b>Application Data Sheet 37 CFR 1.76</b> |                                   | Attorney Docket Number | 7552/85663-A |
|                                           |                                   | Application Number     |              |
| Title of Invention                        | TOOLS FOR RAILWAY TRAFFIC CONTROL |                        |              |

**Publication Information:**

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

**Representative Information:**

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

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| Customer Number    | 23432                                            |                                              |                                                         |

**Domestic Benefit/National Stage Information:**

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

|                                                                                                                       |                    |                          |                          |
|-----------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------|--------------------------|
| Prior Application Status                                                                                              | Pending            | <a href="#">Remove</a>   |                          |
| Application Number                                                                                                    | Continuity Type    | Prior Application Number | Filing Date (YYYY-MM-DD) |
|                                                                                                                       | Continuation of    | 14519727                 | 2014-10-21               |
| Prior Application Status                                                                                              | Pending            | <a href="#">Remove</a>   |                          |
| Application Number                                                                                                    | Continuity Type    | Prior Application Number | Filing Date (YYYY-MM-DD) |
| 14519727                                                                                                              | non provisional of | 61893547                 | 2013-10-21               |
| Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the <b>Add</b> button. |                    |                          |                          |

**Foreign Priority Information:**

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)<sup>1</sup> the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

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| <b>Application Data Sheet 37 CFR 1.76</b> |                                   | Attorney Docket Number | 7552/85663-A |
|                                           |                                   | Application Number     |              |
| Title of Invention                        | TOOLS FOR RAILWAY TRAFFIC CONTROL |                        |              |

|                    |                      |                          |                                                            |
|--------------------|----------------------|--------------------------|------------------------------------------------------------|
| Application Number | Country <sup>i</sup> | Filing Date (YYYY-MM-DD) | <div>Remove</div> Access Code <sup>j</sup> (if applicable) |
|                    |                      |                          |                                                            |

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

## Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

## Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

## Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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| <b>Application Data Sheet 37 CFR 1.76</b> |                                   | Attorney Docket Number | 7552/85663-A |
|                                           |                                   | Application Number     |              |
| Title of Invention                        | TOOLS FOR RAILWAY TRAFFIC CONTROL |                        |              |

**Applicant 1**

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

|                                                                           |                                                                        |                                      |
|---------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------|
| <input checked="" type="radio"/> Assignee                                 | <input type="radio"/> Legal Representative under 35 U.S.C. 117         | <input type="radio"/> Joint Inventor |
| <input type="radio"/> Person to whom the inventor is obligated to assign. | <input type="radio"/> Person who shows sufficient proprietary interest |                                      |

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name

Railware, Inc.

**Mailing Address Information For Applicant:**

|               |           |                                      |       |
|---------------|-----------|--------------------------------------|-------|
| Address 1     |           | 750 Veterans Memorial Hwy, Suite 200 |       |
| Address 2     |           |                                      |       |
| City          | Hauppauge | State/Province                       | NY    |
| Country       | US        | Postal Code                          | 11788 |
| Phone Number  |           | Fax Number                           |       |
| Email Address |           |                                      |       |

Additional Applicant Data may be generated within this form by selecting the Add button.

**Non-Applicant Assignee Information:**

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

**Assignee 1**

Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).

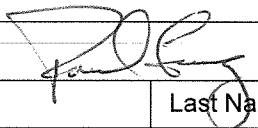
If the Assignee is an Organization check here. ☐

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|                                           |                                   |                        |              |
|-------------------------------------------|-----------------------------------|------------------------|--------------|
| <b>Application Data Sheet 37 CFR 1.76</b> |                                   | Attorney Docket Number | 7552/85663-A |
|                                           |                                   | Application Number     |              |
| Title of Invention                        | TOOLS FOR RAILWAY TRAFFIC CONTROL |                        |              |

|                                                                                         |  |                |  |
|-----------------------------------------------------------------------------------------|--|----------------|--|
| Organization Name                                                                       |  |                |  |
| <b>Mailing Address Information For Non-Applicant Assignee:</b>                          |  |                |  |
| Address 1                                                                               |  |                |  |
| Address 2                                                                               |  |                |  |
| City                                                                                    |  | State/Province |  |
| Country <sup>i</sup>                                                                    |  | Postal Code    |  |
| Phone Number                                                                            |  | Fax Number     |  |
| Email Address                                                                           |  |                |  |
| Additional Assignee Data may be generated within this form by selecting the Add button. |  |                |  |

**Signature:**

|                                                                                                                              |                                                                                    |           |      |                     |            |
|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------|------|---------------------|------------|
| NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. |                                                                                    |           |      |                     |            |
| Signature                                                                                                                    |  |           |      | Date (YYYY-MM-DD)   | 2016-06-09 |
| First Name                                                                                                                   | Paul                                                                               | Last Name | Teng | Registration Number | 40837      |
| Additional Signature may be generated within this form by selecting the Add button.                                          |                                                                                    |           |      |                     |            |

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

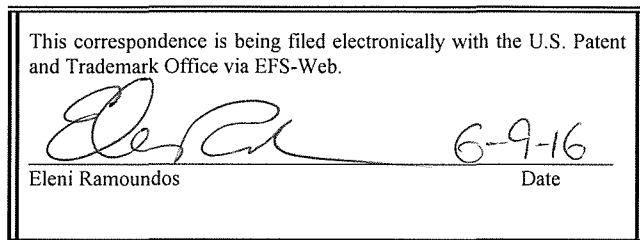
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of: Ross Pirtle

Application No.: [Rule 1.53(b) Continuation of 14/519,727]

Date Filed: Concurrently Herewith

For: TOOLS FOR RAILWAY TRAFFIC CONTROL



30 Rockefeller Plaza, 20<sup>th</sup> Floor  
New York, New York 10112  
Tel.: (212) 278-0400

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**INFORMATION DISCLOSURE STATEMENT**

This Information Disclosure Statement is being submitted concurrently with the above-identified continuation application, pursuant to the applicant's duty of disclosure, in order to bring the information listed in the attached Form PTO-1449 to the attention of the Examiner.

The subject application is a Rule 1.53(b) continuation of U.S. application No. 14/519,727, filed October 21, 2014. The references listed on the attached Form PTO-1449 have previously been submitted to, or cited by, the U.S. Patent and Trademark Office in prior application No. 14/519,727. The subject application relies upon said prior application for an earlier filing date under 35 U.S.C. §120. Accordingly, in compliance with 37 C.F.R. §1.98(d) copies of the references are not being supplied herewith. Rather, the Examiner's attention is respectfully directed to the prior application No. 14/519,727 for copies of the references.

Further, the Examiner's attention is directed to the file history of said prior application, including without limitation the submissions and citations of prior art by applicant and the claims

and prior art of record in said prior application. In addition, the Examiner's attention is directed to the allowance of said prior application.

It is respectfully requested that the information cited in the attached Form PTO-1449 be considered by the Examiner in connection with the above-identified patent application, and that such art be made of record in said application.

The filing of this Information Disclosure Statement is not an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

The Patent Office is hereby authorized to charge any fees that are required for consideration of this Information Disclosure Statement, and to credit any overpayment during prosecution of this application, to our Deposit Account No. 03-3125.

Respectfully submitted,

  
\_\_\_\_\_  
PAUL TENG, Reg. No. 40,837  
Attorney for Applicant  
COOPER & DUNHAM LLP  
30 Rockefeller Plaza, 20<sup>th</sup> Floor  
New York, New York 10112  
Tel.: (212) 278-0400

Submitted by: \_\_\_\_\_  
 Paul Teng, Reg. No. 40, 837

Sheet 1 of 3

|                                                                                               |                                                                    |                                             |                                             |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|
| <b>Form PTO-1449</b>                                                                          | <b>U.S. Department of Commerce Patent and<br/>Trademark Office</b> | <b>Application No.</b>                      | <b>Filing Date</b><br>Concurrently Herewith |
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>(Use as many sheets as necessary) |                                                                    | <b>First Named Inventor:</b><br>Ross PIRTLE |                                             |
|                                                                                               |                                                                    | <b>Art Unit:</b>                            |                                             |
|                                                                                               |                                                                    | <b>Examiner Name:</b>                       |                                             |
|                                                                                               |                                                                    | <b>Atty. Docket No.:</b> 7552/85663-A       |                                             |

### U.S. PATENT DOCUMENTS

| Examiner<br>Initials* | Cite<br>No. | Document Number<br>Number-Kind Code (if known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Relevant Pages,<br>Lines, etc. |
|-----------------------|-------------|------------------------------------------------|--------------------------------|----------------------------------------------------|--------------------------------|
|                       |             | 5 3 9 0 8 8 0                                  | 02-21-1995                     | Fukawa et al.                                      |                                |
|                       |             | 5 9 2 4 6 5 3                                  | 07-20-1999                     | Pederson et al.                                    |                                |
|                       |             | 20 07 /0 05 57 43 A1                           | 03-08-2007                     | Pirtle et al.                                      |                                |
|                       |             | 20 07 /0 17 60 54 A1                           | 08-02-2007                     | Mally                                              |                                |
|                       |             | 20 11 /0 03 76 19 A1                           | 02-17-2011                     | Ginsberg et al.                                    |                                |
|                       |             | 20 11 /0 23 82 42 A1                           | 09-29-2011                     | NICHTER                                            |                                |
|                       |             | 20 11 /0 31 35 96 A1                           | 12-22-2011                     | Ecton et al.                                       |                                |
|                       |             | 20 13 /0 13 51 09 A1                           | 05-30-2013                     | Sharon                                             |                                |
|                       |             | 8 4 7 8 4 6 3                                  | 07-02-2013                     | Knott et al.                                       |                                |
|                       |             | 20 13 /0 16 85 03 A1                           | 07-04-2013                     | Cooper et al.                                      |                                |
|                       |             | 20 13 /0 18 70 10 A1                           | 07-25-2013                     | KIM                                                |                                |
|                       |             | 20 13 /0 20 13 16 A1                           | 08-08-2013                     | BINDER et al.                                      |                                |
|                       |             | 20 13 /0 23 47 74 A1                           | 09-12-2013                     | Huang                                              |                                |

### FOREIGN PATENT DOCUMENTS

| Examiner<br>Initials* | Cite<br>No. | Foreign Patent Document<br>Country Code, Number, Kind Code (if known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited<br>Document | Relevant<br>Pages,<br>Lines, etc. | Translation |
|-----------------------|-------------|-----------------------------------------------------------------------|--------------------------------|-------------------------------------------------------|-----------------------------------|-------------|
|                       |             | EP 1 0 8 3 6 3                                                        | 05-16-1984                     | Kawasaki Jukogyo<br>Kabushiki Kaisha                  |                                   |             |

### NON PATENT LITERATURE DOCUMENTS

| Examiner<br>Initials* | Cite<br>No. | Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, symposium, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|-----------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       |             | J.B. CALVERT, "Centralized Traffic Control", May 29, 1999                                                                                                                                                          |
|                       |             | FRANK W. BRYAN, "Railroad's traffic control systems", May 1, 2006                                                                                                                                                  |

|                 |                        |
|-----------------|------------------------|
| <b>EXAMINER</b> | <b>DATE CONSIDERED</b> |
|-----------------|------------------------|

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Submitted by: \_\_\_\_\_  
Paul Teng, Reg. No. 40, 837

Sheet 2 of 3

|                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|--------------------------------------|----------------------------------------------------|-------------------------------------------------------|-----------------------------------|-------------|--------------|--|
| Form PTO-1449                                                                                                                                                                                                                            |             | U.S. Department of Commerce Patent and<br>Trademark Office                                                                                                                                                         |   |   | Application No.                      | Filing Date<br>Concurrently Herewith               |                                                       |                                   |             |              |  |
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>(Use as many sheets as necessary)                                                                                                                                            |             |                                                                                                                                                                                                                    |   |   | First Named Inventor:<br>Ross PIRTLE |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   | Art Unit:                            |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   | Examiner Name:                       |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   | Atty. Docket No.: 7552/85663-A       |                                                    |                                                       |                                   |             |              |  |
| <b>U.S. PATENT DOCUMENTS</b>                                                                                                                                                                                                             |             |                                                                                                                                                                                                                    |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
| Examiner<br>Initials*                                                                                                                                                                                                                    | Cite<br>No. | <u>Document Number</u><br>Number-Kind Code (if known)                                                                                                                                                              |   |   | Publication Date<br>MM-DD-YYYY       | Name of Patentee or<br>Applicant of Cited Document | Relevant Pages,<br>Lines, etc.                        |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | 5                                                                                                                                                                                                                  | 7 | 2 | 7                                    | 7                                                  | 5                                                     | 8                                 | 03-17-1998  | Penza et al. |  |
| <b>FOREIGN PATENT DOCUMENTS</b>                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
| Examiner<br>Initials*                                                                                                                                                                                                                    | Cite<br>No. | <u>Foreign Patent Document</u><br>Country Code, Number, Kind Code (if known)                                                                                                                                       |   |   |                                      | Publication Date<br>MM-DD-YYYY                     | Name of Patentee or<br>Applicant of Cited<br>Document | Relevant<br>Pages,<br>Lines, etc. | Translation |              |  |
|                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
| <b>NON PATENT LITERATURE DOCUMENTS</b>                                                                                                                                                                                                   |             |                                                                                                                                                                                                                    |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
| Examiner<br>Initials*                                                                                                                                                                                                                    | Cite<br>No. | Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, symposium, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | KYLE MCINNES, "BlackBerry-Based WIC Pager Pilot Program at Children's Hospital", July 21, 2010                                                                                                                     |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | JAI C.S., "Healthcare Communication Interface: WIC Pager, Philips Emergin", October 8, 2010                                                                                                                        |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | "Fatal Accidents Involving Roadway Workers-In-Charge and Lone Workers", March 9, 2012, Fatality Analysis of Maintenance-of-way Employees and Signalmen (FAMES) Committee                                           |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | "Introduction to the FAMES Committee", May 21, 2012, Fatality Analysis of Maintenance-of-way Employees and Signalmen (FAMES) Committee                                                                             |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | CASEYJONZ et al., "Centralized traffic control", July 13, 2013, Wikipedia                                                                                                                                          |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | AARON-TRIPPEL et al., "Train dispatcher", August 23, 2013, Wikipedia                                                                                                                                               |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | MASAKI KATAHIRA et al., "Recent Train Traffic Control Systems", Hitachi, Ltd.                                                                                                                                      |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             | "SCC Centralized traffic control system for lines and area junctions", Ansaldo STS                                                                                                                                 |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
| <b>EXAMINER</b>                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   | <b>DATE CONSIDERED</b>               |                                                    |                                                       |                                   |             |              |  |
| *EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |             |                                                                                                                                                                                                                    |   |   |                                      |                                                    |                                                       |                                   |             |              |  |

Submitted by: \_\_\_\_\_  
Paul Teng, Reg. No. 40, 837

Sheet 3 of 3

|                                                                                                                                                                                                     |                                             |                                             |
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| <b>Form PTO-1449</b><br><br><b>U.S. Department of Commerce Patent and Trademark Office</b><br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(Use as many sheets as necessary) | <b>Application No.</b>                      | <b>Filing Date</b><br>Concurrently Herewith |
|                                                                                                                                                                                                     | <b>First Named Inventor:</b><br>Ross PIRTLE |                                             |
|                                                                                                                                                                                                     | <b>Art Unit:</b>                            |                                             |
|                                                                                                                                                                                                     | <b>Examiner Name:</b>                       |                                             |
|                                                                                                                                                                                                     | <b>Atty. Docket No.:</b> 7552/85663-A       |                                             |

**U.S. PATENT DOCUMENTS**

| Examiner Initials* | Cite No. | Document Number<br>Number-Kind Code (if known) |    |    |    |    |    |    |  | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Relevant Pages,<br>Lines, etc. |
|--------------------|----------|------------------------------------------------|----|----|----|----|----|----|--|--------------------------------|----------------------------------------------------|--------------------------------|
|                    |          | 6                                              | 1  | 1  | 3  | 0  | 3  | 7  |  | 09-05-2000                     | Pace                                               |                                |
|                    |          | 6                                              | 1  | 4  | 5  | 7  | 9  | 2  |  | 11-14-2000                     | Penza et al.                                       |                                |
|                    |          | 7                                              | 6  | 2  | 4  | 9  | 5  | 2  |  | 12-01-2009                     | Bartek                                             |                                |
|                    |          | 20                                             | 11 | /0 | 00 | 69 | 12 | A1 |  | 01-13-2011                     | Sheardown et al.                                   |                                |
|                    |          | 20                                             | 11 | /0 | 22 | 69 | 10 | A1 |  | 09-22-2011                     | Bock et al.                                        |                                |
|                    |          | 20                                             | 11 | /0 | 27 | 84 | 01 | A1 |  | 11-17-2011                     | Sheardown et al.                                   |                                |
|                    |          | 8                                              | 0  | 6  | 1  | 6  | 6  | 2  |  | 11-22-2011                     | Bartek                                             |                                |
|                    |          | 20                                             | 12 | /0 | 17 | 62 | 17 | A1 |  | 07-12-2012                     | TAMARIBUCHI et al.                                 |                                |
|                    |          | 20                                             | 13 | /0 | 16 | 61 | 14 | A1 |  | 06-27-2013                     | Baines et al.                                      |                                |
|                    |          | 20                                             | 13 | /0 | 30 | 42 | 86 | A1 |  | 11-14-2013                     | Ehrler et al.                                      |                                |
|                    |          | 20                                             | 14 | /0 | 10 | 40 | 81 | A1 |  | 04-17-2014                     | Cross et al.                                       |                                |
|                    |          | 20                                             | 14 | /0 | 34 | 62 | 86 | A1 |  | 11-27-2014                     | Tonguz et al.                                      |                                |
|                    |          | 20                                             | 15 | /0 | 10 | 82 | 84 | A1 |  | 04-23-2015                     | Pirtle                                             |                                |
|                    |          | 20                                             | 15 | /0 | 36 | 78 | 73 | A1 |  | 12-24-2015                     | IBENDORF et al.                                    |                                |
|                    |          | 20                                             | 16 | /0 | 03 | 55 | 07 | A1 |  | 02-04-2016                     | BRABAND et al.                                     |                                |

**FOREIGN PATENT DOCUMENTS**

| Examiner Initials* | Cite No. | Foreign Patent Document<br>Country Code, Number, Kind Code (if known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Relevant Pages,<br>Lines, etc. | Translation |
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|                    |          |                                                                       |                                |                                                    |                                |             |

**NON PATENT LITERATURE DOCUMENTS**

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|--------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |          |                                                                                                                                                                                                                    |
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## Electronic Patent Application Fee Transmittal

**Application Number:**

**Filing Date:**

**Title of Invention:**

TOOLS FOR RAILWAY TRAFFIC CONTROL

**First Named Inventor/Applicant Name:**

Ross PIRTLE

**Filer:**

Paul Teng/Eleni Ramoundos

**Attorney Docket Number:**

7552/85663-A

Filed as Large Entity

### Filing Fees for Utility under 35 USC 111(a)

| Description                | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|----------------------------|----------|----------|--------|----------------------|
| <b>Basic Filing:</b>       |          |          |        |                      |
| Utility application filing | 1011     | 1        | 280    | 280                  |
| Utility Search Fee         | 1111     | 1        | 600    | 600                  |
| Utility Examination Fee    | 1311     | 1        | 720    | 720                  |

**Pages:**

**Claims:**

**Miscellaneous-Filing:**

**Petition:**

**Patent-Appeals-and-Interference:**

Amtrak Exhibit 1002

Page 62 of 109

| Description                       | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|-----------------------------------|----------|----------|--------|----------------------|
| Post-Allowance-and-Post-Issuance: |          |          |        |                      |
| Extension-of-Time:                |          |          |        |                      |
| Miscellaneous:                    |          |          |        |                      |
| Total in USD (\$)                 |          |          |        | 1600                 |

## Electronic Acknowledgement Receipt

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| <b>EFS ID:</b>                              | 26014049                          |
| <b>Application Number:</b>                  | 15177506                          |
| <b>International Application Number:</b>    |                                   |
| <b>Confirmation Number:</b>                 | 7504                              |
| <b>Title of Invention:</b>                  | TOOLS FOR RAILWAY TRAFFIC CONTROL |
| <b>First Named Inventor/Applicant Name:</b> | Ross PIRTLE                       |
| <b>Customer Number:</b>                     | 23432                             |
| <b>Filer:</b>                               | Paul Teng/Eleni Ramoundos         |
| <b>Filer Authorized By:</b>                 | Paul Teng                         |
| <b>Attorney Docket Number:</b>              | 7552/85663-A                      |
| <b>Receipt Date:</b>                        | 09-JUN-2016                       |
| <b>Filing Date:</b>                         |                                   |
| <b>Time Stamp:</b>                          | 11:54:36                          |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)       |

### Payment information:

|                                          |                 |
|------------------------------------------|-----------------|
| Submitted with Payment                   | yes             |
| Payment Type                             | Deposit Account |
| Payment was successfully received in RAM | \$ 1600         |
| RAM confirmation Number                  | 11276           |
| Deposit Account                          | 033125          |
| Authorized User                          | TENG, PAUL      |

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

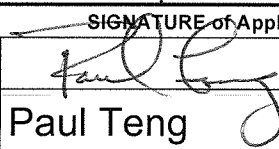
| <b>File Listing:</b>                            |                                                            |                                                  |                                                     |                  |                  |
|-------------------------------------------------|------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|------------------|------------------|
| Document Number                                 | Document Description                                       | File Name                                        | File Size(Bytes)/<br>Message Digest                 | Multi Part /.zip | Pages (if appl.) |
| 1                                               | Transmittal of New Application                             | 85663-A--Transmittal.pdf                         | 103292<br>df2382ec0ef8bf62c866025e883d595ffe08b734  | no               | 3                |
| <b>Warnings:</b>                                |                                                            |                                                  |                                                     |                  |                  |
| <b>Information:</b>                             |                                                            |                                                  |                                                     |                  |                  |
| 2                                               |                                                            | 85663-A--<br>SpecificationClaimsAbstract.<br>pdf | 9286151<br>ef7988695ca2807f530d9e4fa3bf7a6d8cada327 | yes              | 36               |
|                                                 | <b>Multipart Description/PDF files in .zip description</b> |                                                  |                                                     |                  |                  |
|                                                 | <b>Document Description</b>                                |                                                  | <b>Start</b>                                        | <b>End</b>       |                  |
|                                                 | Specification                                              |                                                  | 1                                                   | 31               |                  |
|                                                 | Claims                                                     |                                                  | 32                                                  | 35               |                  |
|                                                 | Abstract                                                   |                                                  | 36                                                  | 36               |                  |
| <b>Warnings:</b>                                |                                                            |                                                  |                                                     |                  |                  |
| <b>Information:</b>                             |                                                            |                                                  |                                                     |                  |                  |
| 3                                               | Drawings-only black and white line drawings                | 85663-A--Drawings.pdf                            | 1201976<br>d01b0905f3d3d9a9b2630a66c8b53fe0a606d539 | no               | 11               |
| <b>Warnings:</b>                                |                                                            |                                                  |                                                     |                  |                  |
| <b>Information:</b>                             |                                                            |                                                  |                                                     |                  |                  |
| 4                                               | Oath or Declaration filed                                  | 85663-A--Declaration.pdf                         | 70229<br>bb2ec35d491500408c755b96ae61a2729fb243cd   | no               | 1                |
| <b>Warnings:</b>                                |                                                            |                                                  |                                                     |                  |                  |
| <b>Information:</b>                             |                                                            |                                                  |                                                     |                  |                  |
| 5                                               | Application Data Sheet                                     | 85663-A--ADS.pdf                                 | 266021<br>e6ac4962e1240edcb6976391d1fcb67413e204a5  | no               | 5                |
| <b>Warnings:</b>                                |                                                            |                                                  |                                                     |                  |                  |
| <b>Information:</b>                             |                                                            |                                                  |                                                     |                  |                  |
| This is not an USPTO supplied ADS fillable form |                                                            |                                                  |                                                     |                  |                  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                       |                      |                                                        |    |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------|--------------------------------------------------------|----|---|
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Power of Attorney                                     | 85663-A--POA.pdf     | 122262<br>281195040100be01269b578dd4516bcc3d<br>d44bd0 | no | 2 |
| <b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                       |                      |                                                        |    |   |
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                       |                      |                                                        |    |   |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Information Disclosure Statement (IDS)<br>Form (SB08) | 85663-A--IDS1449.pdf | 240959<br>ac6b0ca0cdf4cb96e5212ab02155849d199<br>33840 | no | 5 |
| <b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                       |                      |                                                        |    |   |
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                       |                      |                                                        |    |   |
| This is not an USPTO supplied IDS fillable form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                       |                      |                                                        |    |   |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fee Worksheet (SB06)                                  | fee-info.pdf         | 34735<br>5b61b5c3fa89219dbab7a30a534381959f3<br>bd3cf  | no | 2 |
| <b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                       |                      |                                                        |    |   |
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                       |                      |                                                        |    |   |
| <b>Total Files Size (in bytes):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                       |                      | 11325625                                               |    |   |
| <p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b><br/> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b><br/> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b><br/> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p> |                                                       |                      |                                                        |    |   |

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**TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE  
REGISTERED PRACTITIONERS**

**NOTE:** This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B or equivalent) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5. If the Power of Attorney by Applicant form is not accompanied by this transmittal form or an equivalent, the Power of Attorney will not be recognized in the application.

|                                                      |                                                                                    |           |                |
|------------------------------------------------------|------------------------------------------------------------------------------------|-----------|----------------|
| Application Number                                   |                                                                                    |           |                |
| Filing Date                                          |                                                                                    |           |                |
| First Named Inventor                                 | Ross PIRTLE                                                                        |           |                |
| Title                                                | TOOLS FOR RAILWAY TRAFFIC CONTROL                                                  |           |                |
| Art Unit                                             |                                                                                    |           |                |
| Examiner Name                                        |                                                                                    |           |                |
| Attorney Docket Number                               | 7552/85663-A                                                                       |           |                |
| <b>SIGNATURE of Applicant or Patent Practitioner</b> |                                                                                    |           |                |
| Signature                                            |  | Date      | 2016 JUNE 9    |
| Name                                                 | Paul Teng                                                                          | Telephone | (212) 278-0400 |
| Registration Number                                  | 40,837                                                                             |           |                |

**NOTE:** This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications.

☒ \*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

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**POWER OF ATTORNEY BY APPLICANT**

I hereby revoke all previous powers of attorney given in the application identified in the attached transmittal letter.

- ☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

23432

OR

- ☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

| Name | Registration Number | Name | Registration Number |
|------|---------------------|------|---------------------|
|      |                     |      |                     |
|      |                     |      |                     |
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|      |                     |      |                     |
|      |                     |      |                     |
|      |                     |      |                     |

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to:

- ☒ The address associated with the above-mentioned Customer Number.

OR

- ☐ The address associated with Customer Number:

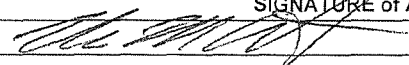
OR

|                                                  |       |     |  |
|--------------------------------------------------|-------|-----|--|
| <input type="checkbox"/> Firm or Individual Name |       |     |  |
| Address                                          |       |     |  |
| City                                             | State | Zip |  |
| Country                                          |       |     |  |
| Telephone                                        | Email |     |  |

I am the Applicant:

- ☐ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

SIGNATURE of Applicant for Patent

|                   |                                                                                     |           |              |
|-------------------|-------------------------------------------------------------------------------------|-----------|--------------|
| Signature         |  | Date      | 6/7/2016     |
| Name              | Ross Pirtle                                                                         | Telephone | 631 295 7245 |
| Title and Company | President, Railware, Inc.                                                           |           |              |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below \*.

- ☒ \*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| APPLICATION<br>NUMBER | FILING or<br>371(c) DATE | GRP ART<br>UNIT | FIL FEE REC'D | ATTY. DOCKET NO | TOT CLAIMS | IND CLAIMS |
|-----------------------|--------------------------|-----------------|---------------|-----------------|------------|------------|
| 15/177,506            | 06/09/2016               | 3617            | 1600          | 7552/85663-A    | 8          | 2          |

CONFIRMATION NO. 7504

FILING RECEIPT



0000000083839584

23432  
COOPER & DUNHAM, LLP  
30 Rockefeller Plaza  
20th Floor  
NEW YORK, NY 10112

Date Mailed: 06/22/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Inventor(s)**

Ross PIRTLE, Commack, NY;

**Applicant(s)**

RAILWARE, INC., Hauppauge, NY;

**Assignment For Published Patent Application**

RAILWARE, INC., Hauppauge, NY

**Power of Attorney:** The patent practitioners associated with Customer Number 23432

**Domestic Priority data as claimed by applicant**

This application is a CON of 14/519,727 10/21/2014  
which claims benefit of 61/893,547 10/21/2013

**Foreign Applications** for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

*Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.*

**Permission to Access Application via Priority Document Exchange:** No

**Permission to Access Search Results:** No

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

**If Required, Foreign Filing License Granted:** 06/21/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/177,506**

**Projected Publication Date:** 09/29/2016

**Non-Publication Request:** No

**Early Publication Request:** No

**Title**

TOOLS FOR RAILWAY TRAFFIC CONTROL

**Preliminary Class**

246

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

## **PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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**Title 35, United States Code, Section 184**  
**Title 37, Code of Federal Regulations, 5.11 & 5.15**

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The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

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| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b><br>Substitute for Form PTO-875                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                               |                                  |          |                                    |               | Application or Docket Number<br>15/177,506 |                    |                               |                    |                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------|------------------------------------|---------------|--------------------------------------------|--------------------|-------------------------------|--------------------|--------------------|
| <b>APPLICATION AS FILED - PART I</b>                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               |                                  |          |                                    |               |                                            |                    |                               |                    |                    |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                               | (Column 2)                       |          | SMALL ENTITY                       |               | OR<br>OTHER THAN SMALL ENTITY              |                    |                               |                    |                    |
| FOR                                                                                                                                                                                                                                                                                                                                                                                                        | NUMBER FILED                                                                                                                                                                                                                  | NUMBER EXTRA                     | RATE(\$) | FEE(\$)                            |               | RATE(\$)                                   | FEE(\$)            |                               |                    |                    |
| BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))                                                                                                                                                                                                                                                                                                                                                                 | N/A                                                                                                                                                                                                                           | N/A                              | N/A      |                                    |               | N/A                                        | 280                |                               |                    |                    |
| SEARCH FEE<br>(37 CFR 1.16(k), (l), or (m))                                                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                           | N/A                              | N/A      |                                    |               | N/A                                        | 600                |                               |                    |                    |
| EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))                                                                                                                                                                                                                                                                                                                                                           | N/A                                                                                                                                                                                                                           | N/A                              | N/A      |                                    |               | N/A                                        | 720                |                               |                    |                    |
| TOTAL CLAIMS<br>(37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                             | minus 20 = *                     |          |                                    | OR            | x 80 =                                     | 0.00               |                               |                    |                    |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))                                                                                                                                                                                                                                                                                                                                                                     | 2                                                                                                                                                                                                                             | minus 3 = *                      |          |                                    |               | x 420 =                                    | 0.00               |                               |                    |                    |
| APPLICATION SIZE FEE<br>(37 CFR 1.16(s))                                                                                                                                                                                                                                                                                                                                                                   | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |                                  |          |                                    |               |                                            | 0.00               |                               |                    |                    |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                               |                                  |          |                                    |               |                                            | 0.00               |                               |                    |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                               |                                  | TOTAL    |                                    |               | TOTAL                                      | 1600               |                               |                    |                    |
| * If the difference in column 1 is less than zero, enter "0" in column 2.                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                               |                                  |          |                                    |               |                                            |                    |                               |                    |                    |
| <b>APPLICATION AS AMENDED - PART II</b>                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                               |                                  |          |                                    |               |                                            |                    |                               |                    |                    |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                               | (Column 2)                       |          | (Column 3)                         |               | SMALL ENTITY                               |                    | OR<br>OTHER THAN SMALL ENTITY |                    |                    |
| AMENDMENT A                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               | CLAIMS REMAINING AFTER AMENDMENT |          | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)                                   | ADDITIONAL FEE(\$) |                               | RATE(\$)           | ADDITIONAL FEE(\$) |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Total<br>(37 CFR 1.16(i))                                                                                                                                                                                                     | *                                | Minus    | **                                 | =             | x                                          | =                  | OR                            | x                  | =                  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Independent<br>(37 CFR 1.16(h))                                                                                                                                                                                               | *                                | Minus    | ***                                | =             | x                                          | =                  | OR                            | x                  | =                  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Application Size Fee (37 CFR 1.16(s))                                                                                                                                                                                         |                                  |          |                                    |               |                                            |                    | OR                            |                    |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                            | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))                                                                                                                                                               |                                  |          |                                    |               |                                            |                    | OR                            |                    |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                               |                                  |          |                                    |               | TOTAL<br>ADD'L FEE                         |                    | OR                            | TOTAL<br>ADD'L FEE |                    |
| AMENDMENT B                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               | CLAIMS REMAINING AFTER AMENDMENT |          | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)                                   | ADDITIONAL FEE(\$) |                               | RATE(\$)           | ADDITIONAL FEE(\$) |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Total<br>(37 CFR 1.16(i))                                                                                                                                                                                                     | *                                | Minus    | **                                 | =             | x                                          | =                  | OR                            | x                  | =                  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Independent<br>(37 CFR 1.16(h))                                                                                                                                                                                               | *                                | Minus    | ***                                | =             | x                                          | =                  | OR                            | x                  | =                  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Application Size Fee (37 CFR 1.16(s))                                                                                                                                                                                         |                                  |          |                                    |               |                                            |                    | OR                            |                    |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                            | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))                                                                                                                                                               |                                  |          |                                    |               |                                            |                    | OR                            |                    |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                               |                                  |          |                                    |               | TOTAL<br>ADD'L FEE                         |                    | OR                            | TOTAL<br>ADD'L FEE |                    |
| * If the entry in column 1 is less than the entry in column 2, write "0" in column 3.<br>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".<br>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".<br>The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1. |                                                                                                                                                                                                                               |                                  |          |                                    |               |                                            |                    |                               |                    |                    |



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

## NOTICE OF ALLOWANCE AND FEE(S) DUE

23432 7590 08/05/2016  
COOPER & DUNHAM, LLP  
30 Rockefeller Plaza  
20th Floor  
NEW YORK, NY 10112

EXAMINER

SMITH, JASON C

ART UNIT

PAPER NUMBER

3617

DATE MAILED: 08/05/2016

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

15/177,506

06/09/2016

Ross PIRTLE

7552/85663-A

7504

TITLE OF INVENTION: TOOLS FOR RAILWAY TRAFFIC CONTROL

| APPLN. TYPE    | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | UNDISCOUNTED  | \$960         | \$0                 | \$0                  | \$960            | 11/07/2016 |

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

23432 7590 08/05/2016  
**COOPER & DUNHAM, LLP**  
30 Rockefeller Plaza  
20th Floor  
NEW YORK, NY 10112

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

|                    |
|--------------------|
| (Depositor's name) |
| (Signature)        |
| (Date)             |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 15/177,506      | 06/09/2016  | Ross PIRTLE          | 7552/85663-A        | 7504             |

TITLE OF INVENTION: TOOLS FOR RAILWAY TRAFFIC CONTROL

| APPLN. TYPE    | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | UNDISCOUNTED  | \$960         | \$0                 | \$0                  | \$960            | 11/07/2016 |

| EXAMINER       | ART UNIT | CLASS-SUBCLASS |
|----------------|----------|----------------|
| SMITH, JASON C | 3617     | 246-003000     |

|                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</b><br><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.<br><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. <b>Use of a Customer Number is required.</b> | <b>2. For printing on the patent front page, list</b><br>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____<br>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____<br>3 _____ |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)**

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

#### **4a. The following fee(s) are submitted:**

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

#### **4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)**

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

#### **5. Change in Entity Status (from status indicated above)**

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29  
☐ Applicant asserting small entity status. See 37 CFR 1.27  
☐ Applicant changing to regular undiscounted fee status.

**NOTE:** Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

**NOTE:** If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

**NOTE:** Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

**NOTE:** This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 15/177,506      | 06/09/2016  | Ross PIRTLE          | 7552/85663-A        | 7504             |

23432 7590 08/05/2016  
COOPER & DUNHAM, LLP  
30 Rockefeller Plaza  
20th Floor  
NEW YORK, NY 10112

EXAMINER

SMITH, JASON C

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3617

DATE MAILED: 08/05/2016

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

### Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of a law or regulation.

|                               |                                      |                                     |                                                   |
|-------------------------------|--------------------------------------|-------------------------------------|---------------------------------------------------|
| <b>Notice of Allowability</b> | <b>Application No.</b><br>15/177,506 | <b>Applicant(s)</b><br>PIRTLE, ROSS |                                                   |
|                               | <b>Examiner</b><br>JASON C. SMITH    | <b>Art Unit</b><br>3617             | <b>AIA (First Inventor to File) Status</b><br>Yes |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/09/2016.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-8. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a) ☐ All    b) ☐ Some    \*c) ☐ None of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                                |                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                    | 5. <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>06/09/2016</u> | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                     | 7. <input type="checkbox"/> Other _____.                                             |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.                                         |                                                                                      |

/JASON C SMITH/  
Primary Examiner, Art Unit 3617

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

### **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance: the block placing part to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections; a code generation part to generate a release code, retrieve the electronic contact address of the railway field worker from the rail personnel contact database, and transmit the removal code to the electronic contact address of the railway field worker; and a block removal part to remove only upon entry of the removal code, the block placed by the block placing part on said one or more track sections, is seen as an unobvious improvement over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON C. SMITH whose telephone number is (571)270-5225. The examiner can normally be reached on M- F, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on (571) 272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JASON C SMITH/  
Primary Examiner, Art Unit 3617

|                                   |                                       |  |                                                            |             |
|-----------------------------------|---------------------------------------|--|------------------------------------------------------------|-------------|
| <b>Notice of References Cited</b> | Application/Control No.<br>15/177,506 |  | Applicant(s)/Patent Under<br>Reexamination<br>PIRTLE, ROSS |             |
|                                   | Examiner<br>JASON C. SMITH            |  | Art Unit<br>3617                                           | Page 1 of 3 |

#### U.S. PATENT DOCUMENTS

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name                       | CPC Classification | US Classification |
|---|---|--------------------------------------------------|-----------------|----------------------------|--------------------|-------------------|
| * | A | US-5,390,880 A                                   | 02-1995         | Fukawa; Tatsuya            | B61L27/0027        | 246/167R          |
| * | B | US-5,727,758 A                                   | 03-1998         | Penza; George Gregory      | B61L23/06          | 246/124           |
| * | C | US-5,924,653 A                                   | 07-1999         | Pedersen; Heine Ewi        | B61L3/121          | 246/14            |
| * | D | US-6,113,037 A                                   | 09-2000         | Pace; Joseph A.            | B61L23/06          | 246/124           |
| * | E | US-6,145,792 A                                   | 11-2000         | Penza; George Gregory      | B61L23/06          | 246/122R          |
| * | F | US-2007/0055743 A1                               | 03-2007         | Pirtle; Ross Murray        | H04L63/08          | 709/217           |
| * | G | US-2007/0176054 A1                               | 08-2007         | Mally; Alain               | B61L23/06          | 246/15            |
| * | H | US-7,624,952 B1                                  | 12-2009         | Bartek; Peter M.           | B61L23/06          | 246/124           |
| * | I | US-2011/0006912 A1                               | 01-2011         | Sheardown; Keith Burton    | B61L23/06          | 340/901           |
| * | J | US-2011/0037619 A1                               | 02-2011         | Ginsberg; Matthew L.       | G08G1/095          | 340/910           |
| * | K | US-2011/0238242 A1                               | 09-2011         | NICHTER; KEVIN CHRISTOPHER | B61L27/0005        | 701/19            |
| * | L | US-2011/0226910 A1                               | 09-2011         | Bock; Ulrich               | B61L23/06          | 246/167A          |
| * | M | US-2011/0278401 A1                               | 11-2011         | Sheardown; Keith Burton    | B61L23/06          | 246/167A          |

#### FOREIGN PATENT DOCUMENTS

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name | CPC Classification |
|---|---|--------------------------------------------------|-----------------|---------|------|--------------------|
|   | N |                                                  |                 |         |      |                    |
|   | O |                                                  |                 |         |      |                    |
|   | P |                                                  |                 |         |      |                    |
|   | Q |                                                  |                 |         |      |                    |
|   | R |                                                  |                 |         |      |                    |
|   | S |                                                  |                 |         |      |                    |
|   | T |                                                  |                 |         |      |                    |

#### NON-PATENT DOCUMENTS

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|-------------------------------------------------------------------------------------------|
|   | U |                                                                                           |
|   | V |                                                                                           |
|   | W |                                                                                           |
|   | X |                                                                                           |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

|                                   |                                       |  |                                                            |             |
|-----------------------------------|---------------------------------------|--|------------------------------------------------------------|-------------|
| <b>Notice of References Cited</b> | Application/Control No.<br>15/177,506 |  | Applicant(s)/Patent Under<br>Reexamination<br>PIRTLE, ROSS |             |
|                                   | Examiner<br>JASON C. SMITH            |  | Art Unit<br>3617                                           | Page 2 of 3 |

#### U.S. PATENT DOCUMENTS

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name                   | CPC Classification | US Classification |
|---|---|--------------------------------------------------|-----------------|------------------------|--------------------|-------------------|
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| <b>Notice of References Cited</b> | Application/Control No.<br>15/177,506 |  | Applicant(s)/Patent Under<br>Reexamination<br>PIRTLE, ROSS |             |
|                                   | Examiner<br>JASON C. SMITH            |  | Art Unit<br>3617                                           | Page 3 of 3 |

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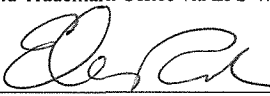
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of: Ross Pirtle

Application No.: [Rule 1.53(b) Continuation of 14/519,727]

Date Filed: Concurrently Herewith

For: TOOLS FOR RAILWAY TRAFFIC CONTROL

|                                                                                                          |        |
|----------------------------------------------------------------------------------------------------------|--------|
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New York, New York 10112  
Tel.: (212) 278-0400

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**INFORMATION DISCLOSURE STATEMENT**

This Information Disclosure Statement is being submitted concurrently with the above-identified continuation application, pursuant to the applicant's duty of disclosure, in order to bring the information listed in the attached Form PTO-1449 to the attention of the Examiner.

The subject application is a Rule 1.53(b) continuation of U.S. application No. 14/519,727, filed October 21, 2014. The references listed on the attached Form PTO-1449 have previously been submitted to, or cited by, the U.S. Patent and Trademark Office in prior application No. 14/519,727. The subject application relies upon said prior application for an earlier filing date under 35 U.S.C. §120. Accordingly, in compliance with 37 C.F.R. §1.98(d) copies of the references are not being supplied herewith. Rather, the Examiner's attention is respectfully directed to the prior application No. 14/519,727 for copies of the references.

Further, the Examiner's attention is directed to the file history of said prior application, including without limitation the submissions and citations of prior art by applicant and the claims

Ross Pirtle  
Rule 1.53(b) Contin. of 14/519,727  
Filed: (herewith)  
Page 2

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and prior art of record in said prior application. In addition, the Examiner's attention is directed to the allowance of said prior application.

It is respectfully requested that the information cited in the attached Form PTO-1449 be considered by the Examiner in connection with the above-identified patent application, and that such art be made of record in said application.

The filing of this Information Disclosure Statement is not an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

The Patent Office is hereby authorized to charge any fees that are required for consideration of this Information Disclosure Statement, and to credit any overpayment during prosecution of this application, to our Deposit Account No. 03-3125.

Respectfully submitted,

  
\_\_\_\_\_  
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Attorney for Applicant  
COOPER & DUNHAM LLP  
30 Rockefeller Plaza, 20<sup>th</sup> Floor  
New York, New York 10112  
Tel.: (212) 278-0400

Submitted by: \_\_\_\_\_  
 Paul Teng, Reg. No. 40, 837

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|                                                                                                                                                                                                 |                                             |                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|
| <b>Form PTO-1449</b><br><br><b>U.S. Department of Commerce Patent and Trademark Office</b><br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>(Use as many sheets as necessary) | <b>Application No.</b>                      | <b>Filing Date</b><br>Concurrently Herewith |
|                                                                                                                                                                                                 | <b>First Named Inventor:</b><br>Ross PIRTLE |                                             |
|                                                                                                                                                                                                 | <b>Art Unit:</b>                            |                                             |
|                                                                                                                                                                                                 | <b>Examiner Name:</b>                       |                                             |
|                                                                                                                                                                                                 | <b>Atty. Docket No.:</b> 7552/85663-A       |                                             |

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| Examiner Initials* | Cite No. | Document Number<br>Number-Kind Code (if known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Relevant Pages,<br>Lines, etc. |
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| Form PTO-1449                                                                                                                                                                                                                            |             | U.S. Department of Commerce Patent and<br>Trademark Office                                                                                                                                                         |   |   | Application No.                      | Filing Date<br>Concurrently Herewith               |                                                       |                                   |             |              |  |
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>(Use as many sheets as necessary)                                                                                                                                            |             |                                                                                                                                                                                                                    |   |   | First Named Inventor:<br>Ross PIRTLE |                                                    |                                                       |                                   |             |              |  |
|                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   | Art Unit:                            |                                                    |                                                       |                                   |             |              |  |
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|                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                    |   |   | Atty. Docket No.: 7552/85663-A       |                                                    |                                                       |                                   |             |              |  |
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| Examiner<br>Initials*                                                                                                                                                                                                                    | Cite<br>No. | Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, symposium, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |   |   |                                      |                                                    |                                                       |                                   |             |              |  |
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| <b>Form PTO-1449</b><br><b>U.S. Department of Commerce Patent and Trademark Office</b><br><br><b>INFORMATION DISCLOSURE<br/>         STATEMENT BY APPLICANT</b><br>(Use as many sheets as necessary) | <b>Application No.</b>                      | <b>Filing Date</b><br>Concurrently Herewith |
|                                                                                                                                                                                                      | <b>First Named Inventor:</b><br>Ross PIRTLE |                                             |
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| <b>SERIAL NUMBER</b><br>15/177,506                                                                                                                                                                                                                                                                                                                                           | <b>FILING or 371(c) DATE</b><br>06/09/2016<br><b>RULE</b>                                                         | <b>CLASS</b><br>246                                      | <b>GROUP ART UNIT</b><br>3617 | <b>ATTORNEY DOCKET NO.</b><br>7552/85663-A                                                                                                                                                                                                                                |                          |                                |
| <b>APPLICANTS</b><br>RAILWARE, INC., Hauppauge, NY;<br><b>INVENTORS</b><br>Ross PIRTLE, Commack, NY;<br><b>** CONTINUING DATA *****</b><br>This application is a CON of 14/519,727 10/21/2014 PAT 9403545<br>which claims benefit of 61/893,547 10/21/2013<br><b>** FOREIGN APPLICATIONS *****</b><br><b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **</b><br>06/21/2016 |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                          |                                |
| Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Verified and Acknowledged <u>/JASON C SMITH/</u><br>Examiner's Signature                                                                                               |                                                                                                                   | <input type="checkbox"/> Met after Allowance<br>Initials | <b>STATE OR COUNTRY</b><br>NY | <b>SHEETS DRAWINGS</b><br>11                                                                                                                                                                                                                                              | <b>TOTAL CLAIMS</b><br>8 | <b>INDEPENDENT CLAIMS</b><br>2 |
| <b>ADDRESS</b><br>COOPER & DUNHAM, LLP<br>30 Rockefeller Plaza<br>20th Floor<br>NEW YORK, NY 10112<br>UNITED STATES                                                                                                                                                                                                                                                          |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                          |                                |
| <b>TITLE</b><br>TOOLS FOR RAILWAY TRAFFIC CONTROL                                                                                                                                                                                                                                                                                                                            |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                          |                                |
| <b>FILING FEE RECEIVED</b><br>1600                                                                                                                                                                                                                                                                                                                                           | FEES: Authority has been given in Paper<br>No. _____ to charge/credit DEPOSIT ACCOUNT<br>No. _____ for following: |                                                          |                               | <input type="checkbox"/> All Fees<br><input type="checkbox"/> 1.16 Fees (Filing)<br><input type="checkbox"/> 1.17 Fees (Processing Ext. of time)<br><input type="checkbox"/> 1.18 Fees (Issue)<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Credit |                          |                                |

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| <b>Issue Classification</b><br> | <b>Application/Control No.</b><br>15177506 | <b>Applicant(s)/Patent Under Reexamination</b><br>PIRTLE, ROSS |  |
|                                                                                                                 | <b>Examiner</b><br>JASON C SMITH           | <b>Art Unit</b><br>3617                                        |  |

| CPC    |  |    |   |      |      |            |
|--------|--|----|---|------|------|------------|
| Symbol |  |    |   |      | Type | Version    |
| B61L   |  | 27 | / | 0038 | F    | 2013-01-01 |
| B61L   |  | 23 | / | 06   | I    | 2013-01-01 |
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| CPC Combination Sets |      |     |         |         |
|----------------------|------|-----|---------|---------|
| Symbol               | Type | Set | Ranking | Version |
|                      |      |     |         |         |
|                      |      |     |         |         |

|                                                                                                 |                                |                              |                   |
|-------------------------------------------------------------------------------------------------|--------------------------------|------------------------------|-------------------|
| NONE                                                                                            |                                | <b>Total Claims Allowed:</b> |                   |
|                                                                                                 |                                | 8                            |                   |
| (Assistant Examiner)<br>/JASON C SMITH/<br>Primary Examiner.Art Unit 3617<br>(Primary Examiner) | (Date)<br>07/28/2016<br>(Date) | O.G. Print Claim(s)          | O.G. Print Figure |
|                                                                                                 |                                | 1                            | 1                 |





EAST Search History

EAST Search History (Prior Art)

| Ref # | Hits | Search Query                                                                                                                                                                                            | DBs                    | Default Operator | Plurals | Time Stamp       |
|-------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|---------|------------------|
| S1    | 1    | "14519727"                                                                                                                                                                                              | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:30 |
| S2    | 13   | ("20070055743"   "20070176054"   "20110037619"   "20110238242"   "20110313596"   "20130135109"   "20130168503"   "20130187010"   "20130201316"   "20130234774"   "5390880"   "5924653"   "8478463").PN. | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:30 |
| S3    | 80   | b61l23/06.cpc.                                                                                                                                                                                          | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:32 |
| S4    | 7    | ("20030025589"   "20070073457"   "20090140856"   "20100013227"   "5705991"   "5942985"   "8548391").PN. OR ("9187105").URPN.                                                                            | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:37 |
| S5    | 6    | ("20110006912"   "5727758"   "6113037"   "6145792"   "7624952"   "8344877").PN. OR ("8786428").URPN.                                                                                                    | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:37 |
| S6    | 7    | 246/124.ccls. and worker\$2 and block                                                                                                                                                                   | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:38 |
| S7    | 2    | 246/124.ccls. and worker\$2 same block                                                                                                                                                                  | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:38 |
| S8    | 352  | 246/124.ccls.                                                                                                                                                                                           | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:40 |
| S9    | 1    | 246/124.ccls. and worker\$2 and code                                                                                                                                                                    | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:40 |
| S10   | 49   | 246/\$.ccls. and worker\$2 and code                                                                                                                                                                     | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:40 |
| S11   | 875  | 246/122r.ccls.                                                                                                                                                                                          | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2016/02/23 21:41 |
| S12   | 508  | 246/167r.ccls.                                                                                                                                                                                          | US-PGPUB; USPAT;       | OR               | OFF     | 2016/02/23 21:41 |

|     |      |                     |                                  |    |     |                     |
|-----|------|---------------------|----------------------------------|----|-----|---------------------|
|     |      |                     | USOCR                            |    |     |                     |
| S13 | 112  | b61l27/00.cpc.      | US-<br>PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2016/02/23<br>21:41 |
| S14 | 16   | b61l23/16.cpc.      | US-<br>PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2016/02/23<br>21:42 |
| S15 | 1641 | 246/3.ccls.         | US-<br>PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2016/02/23<br>21:42 |
| S16 | 193  | 246/4.ccls.         | US-<br>PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2016/02/23<br>21:42 |
| S17 | 2    | pirtle adj ross.in. | US-<br>PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2016/02/23<br>21:42 |

7/ 28/ 2016 5:24:50 PM  
C:\ Users\ jsmith8\ Documents\ EAST\ Workspaces\ 15177506.wsp

|                                                                                                              |                                                |                                                                    |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------|
| <b>Search Notes</b><br><br> | <b>Application/Control No.</b><br><br>15177506 | <b>Applicant(s)/Patent Under Reexamination</b><br><br>PIRTLE, ROSS |
|                                                                                                              | <b>Examiner</b><br><br>JASON C SMITH           | <b>Art Unit</b><br><br>3617                                        |

| CPC- SEARCHED         |           |          |
|-----------------------|-----------|----------|
| Symbol                | Date      | Examiner |
| B61L 23/06, 16, 27/00 | 7/28/2016 | jcs      |

| CPC COMBINATION SETS - SEARCHED |      |          |
|---------------------------------|------|----------|
| Symbol                          | Date | Examiner |
|                                 |      |          |

| US CLASSIFICATION SEARCHED |                       |           |          |
|----------------------------|-----------------------|-----------|----------|
| Class                      | Subclass              | Date      | Examiner |
| 246                        | 3, 4, 124, 122r, 167r | 7/28/2016 | jcs      |

| SEARCH NOTES     |           |          |
|------------------|-----------|----------|
| Search Notes     | Date      | Examiner |
| east text search | 7/28/2016 | jcs      |

| INTERFERENCE SEARCH     |                         |           |          |
|-------------------------|-------------------------|-----------|----------|
| US Class/<br>CPC Symbol | US Subclass / CPC Group | Date      | Examiner |
| B61L                    | 23/06, 16, 27/00        | 7/28/2016 | jcs      |

|  |                                                   |
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|  | /JASON C SMITH/<br>Primary Examiner.Art Unit 3617 |
|--|---------------------------------------------------|



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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 15/177,506         | 06/09/2016            | Ross PIRTLE           | 7552/85663-A           |

**CONFIRMATION NO. 7504**

## PUBLICATION NOTICE



\*OC000000086141034\*

23432  
COOPER & DUNHAM, LLP  
30 Rockefeller Plaza  
20th Floor  
NEW YORK, NY 10112

**Title:**TOOLS FOR RAILWAY TRAFFIC CONTROL

**Publication No.**US-2016-0280241-A1

**Publication Date:**09/29/2016

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The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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| (Signature)        |
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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 15/177,506      | 06/09/2016  | Ross PIRTLIS         | 7552/85663-A        | 7504             |

**TITLE OF INVENTION:** TOOLS FOR RAILWAY TRAFFIC CONTROL

| APPL. TYPE     | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | UNDISCOUNTED  | \$960         | \$0                 | \$0                  | \$960            | 11/07/2016 |

| EXAMINER       | ART UNIT | CLASS-SUBCLASS |
|----------------|----------|----------------|
| SMITH, JASON C | 3617     | 246-003000     |

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(A) NAME OF ASSIGNEE

RAILWARE, INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Hauppauge, New York

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

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- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
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- ☐ Applicant changing to regular undiscounted fee status.

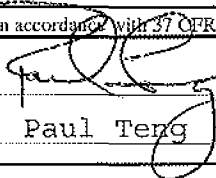
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Authorized Signature

  
Paul Teng

Date

November 7, 2016

Typed or printed name

Registration No.

40,837

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of: Ross Pirtle

Application No.: 15/177,506

Art Unit: 3617

Filing Date: June 9, 2016

Examiner: Jason Smith

For: TOOLS FOR RAILWAY TRAFFIC CONTROL

Confirmation No.: 7504

Class-Subclass: 246-003000

**Issue Fee Due Date: November 7, 2016**

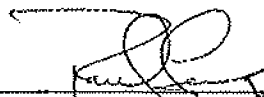
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**APPLICANT'S COMMENTS ON  
EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE**

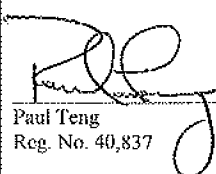
Sir:

Applicant appreciates the Examiner's Statement of the Reasons for Allowance attached to the Notice of Allowability dated August 5, 2016 and submits that the allowed claims recite subject matter which further supports patentability for reasons in addition to those identified in the Reasons for Allowance.

Respectfully submitted,



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Paul Teng  
Reg. No. 40,837

**November 7, 2016**

Date

PAUL TENG, Reg. No. 40,837  
Attorney for Applicant  
COOPER & DUNHAM LLP  
30 Rockefeller Plaza, 20<sup>th</sup> Floor  
New York, New York 10112  
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| <b>EFS ID:</b>                              | 27433873                          |
| <b>Application Number:</b>                  | 15177506                          |
| <b>International Application Number:</b>    |                                   |
| <b>Confirmation Number:</b>                 | 7504                              |
| <b>Title of Invention:</b>                  | TOOLS FOR RAILWAY TRAFFIC CONTROL |
| <b>First Named Inventor/Applicant Name:</b> | Ross PIRTLE                       |
| <b>Customer Number:</b>                     | 23432                             |
| <b>Filer:</b>                               | Paul Teng                         |
| <b>Filer Authorized By:</b>                 |                                   |
| <b>Attorney Docket Number:</b>              | 7552/85663-A                      |
| <b>Receipt Date:</b>                        | 07-NOV-2016                       |
| <b>Filing Date:</b>                         | 09-JUN-2016                       |
| <b>Time Stamp:</b>                          | 13:20:18                          |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)       |

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|                 |                             |                       | 9c1e482ad0679ac53f63dd815f2d483eb7e<br>a24b8 |                  |                  |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
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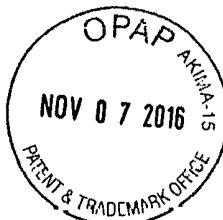
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| (Depositor's name) |
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| (Date)             |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 15/177,506      | 06/09/2016  | Ross PIRILJ          | 7552/85663-A        | 7504             |

TITLE OF INVENTION: TOOLS FOR RAILWAY TRAFFIC CONTROL

| APPLN. TYPE    | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | UNDISCOUNTED  | \$960         | \$0                 | \$0                  | \$960            | 11/07/2016 |

| EXAMINER       | ART UNIT | CLASS-SUBCLASS |
|----------------|----------|----------------|
| SMITH, JASON C | 3617     | 246-003000     |

11/09/2016 MBLANCO1 00000002 033125 15177506

01 FC:1501 960.00 DA  
 02 FC:8001 3.00 DA

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1 COOPER & DUNHAM LLP

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(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Happauge, New York

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NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature

*Paul Teng*

Date November 7, 2016

Typed or printed name

Paul Teng

Registration No. 40,837



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|------------|------------|---------------------|------------------|
| 15/177,506      | 12/13/2016 | 9517782    | 7552/85663-A        | 7504             |

23432 7590 11/22/2016  
COOPER & DUNHAM, LLP  
30 Rockefeller Plaza  
20th Floor  
NEW YORK, NY 10112

## ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

### **Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)** (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Ross PIRTLE, Commack, NY;  
RAILWARE, INC., Hauppauge, NY;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit [SelectUSA.gov](http://SelectUSA.gov).

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent No.: 9,517,782

Issued: December 13, 2016

Application No.: 15/177,506

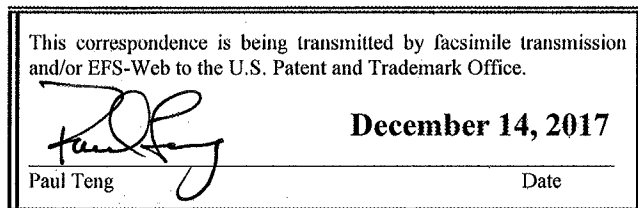
Filed: June 9, 2016

Applicant: RAILWARE, INC.

Inventor: Ross Pirtle

For: TOOLS FOR RAILWAY TRAFFIC CONTROL

Confirmation No.: 7504



30 Rockefeller Plaza, 20<sup>th</sup> Floor  
New York, New York 10112  
Tel.: (212) 278-0400

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
ATTN.: Certificate of Correction Branch

SIR:

**REQUEST FOR CERTIFICATE OF CORRECTION**

Please find a Form PTO-1050, attached hereto as **Exhibit A**, indicating a correction of an error in the above-identified patent.

The errors being corrected on Form PTO-1050 are as follows:

- (a) [for patent claim 6] in Col. 12, line 36 replace "claim 1" with "claim 5".
- (b) [for patent claim 8] in Col. 12, line 49 replace "claim 2" with "claim 7".

It is submitted that such errors are manifestly typographical errors. Each of patent claims 1 and 2 is directed to a system. On the other hand, each of patent claims 5-8 is directed to a method. Therefore, it is apparent that patent claim 6 directed to a method cannot depend from patent claim 1 directed to a system, and instead method claim 6 should depend from independent method claim 5.

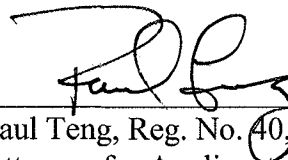
Likewise, it is apparent that patent claim 8 directed to a method cannot depend from patent claim 2 directed to a system, and instead method claim 8 should depend from method claim 7 (which provides antecedent basis for patent claim 8).

Patentee respectfully requests that a Certificate of Correction be issued by the Patent Office under 37 C.F.R. §1.323.

If a Petition is required to effect the aforementioned corrections in the patent, please deem this Request to be such a Petition.

Authorization is hereby given to charge the \$100.00 fee required under 37 C.F.R. §1.20(a), as well as the amount of any other required fees in connection with this Request, to Deposit Account No. 03-3125.

Respectfully submitted,



Paul Teng, Reg. No. 40,837  
Attorney for Applicant  
COOPER & DUNHAM LLP  
30 Rockefeller Plaza, 20<sup>th</sup> Floor  
New York, New York 10112  
Tel.: (212) 278-0400

## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 9,517,782  
APPLICATION NO.: 15/177,506  
ISSUE DATE : December 13, 2016  
INVENTOR(S) : Ross Pirtle

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Col. 12, line 36 replace "claim 1" with "claim 5".

In Col. 12, line 49 replace "claim 2" with "claim 7".

### MAILING ADDRESS OF SENDER (Please do not use Customer Number below):

COOPER & DUNHAM LLP  
30 Rockefeller Plaza, 20th Floor  
New York, New York 10112

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

## Electronic Acknowledgement Receipt

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| <b>EFS ID:</b>                              | 31223697                          |
| <b>Application Number:</b>                  | 15177506                          |
| <b>International Application Number:</b>    |                                   |
| <b>Confirmation Number:</b>                 | 7504                              |
| <b>Title of Invention:</b>                  | TOOLS FOR RAILWAY TRAFFIC CONTROL |
| <b>First Named Inventor/Applicant Name:</b> | Ross PIRTLE                       |
| <b>Customer Number:</b>                     | 23432                             |
| <b>Filer:</b>                               | Paul Teng                         |
| <b>Filer Authorized By:</b>                 |                                   |
| <b>Attorney Docket Number:</b>              | 7552/85663-A                      |
| <b>Receipt Date:</b>                        | 14-DEC-2017                       |
| <b>Filing Date:</b>                         | 09-JUN-2016                       |
| <b>Time Stamp:</b>                          | 09:32:44                          |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)       |

### Payment information:

|                        |    |
|------------------------|----|
| Submitted with Payment | no |
|------------------------|----|

### File Listing:

| Document Number | Document Description                  | File Name                                              | File Size(Bytes)/<br>Message Digest                       | Multi Part /.zip | Pages (if appl.) |
|-----------------|---------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|------------------|------------------|
| 1               | Request for Certificate of Correction | 85663-A--<br>RequestForCertificateOfCorrect<br>ion.pdf | 120367<br><br>55197f072fd2de33d303655ebf7d21e3272<br>bd08 | no               | 3                |

### Warnings:

Amtrak Exhibit 1002

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| <b>Total Files Size (in bytes):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 120367 |
| <p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b><br/> <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b><br/> <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b><br/> <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p> |        |

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 9,517,782 B2  
APPLICATION NO. : 15/177506  
DATED : December 13, 2016  
INVENTOR(S) : Ross Pirtle

Page 1 of 1

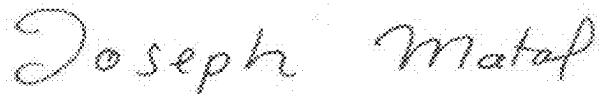
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

In Column 12, Line 36 replace “claim 1” with “claim 5”.

In Column 12, Line 49 replace “claim 2” with “claim 7”.

Signed and Sealed this  
Thirtieth Day of January, 2018

A handwritten signature in dark ink, reading "Joseph Matal". The signature is written in a cursive, flowing style.

Joseph Matal  
*Performing the Functions and Duties of the  
Under Secretary of Commerce for Intellectual Property and  
Director of the United States Patent and Trademark Office*

AO 120 (Rev. 08/10)

|                                                                                                                                               |                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>TO: Mail Stop 8</b><br><b>Director of the U.S. Patent and Trademark Office</b><br><b>P.O. Box 1450</b><br><b>Alexandria, VA 22313-1450</b> | <b>REPORT ON THE</b><br><b>FILING OR DETERMINATION OF AN</b><br><b>ACTION REGARDING A PATENT OR</b><br><b>TRADEMARK</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been  
filed in the U.S. District Court Southern District of New York on the following

☐ Trademarks or ☒ Patents. ( ☐ the patent action involves 35 U.S.C. § 292.):

|                             |                                |                                                                   |
|-----------------------------|--------------------------------|-------------------------------------------------------------------|
| DOCKET NO.<br>1:22-cv-5013  | DATE FILED<br>6/15/2022        | U.S. DISTRICT COURT<br>Southern District of New York              |
| PLAINTIFF<br>Railware, Inc. |                                | DEFENDANT<br>National Railroad Passenger Corporation d/b/a AMTRAK |
| PATENT OR<br>TRADEMARK NO.  | DATE OF PATENT<br>OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK                                     |
| 1 US Pat. 9,517,782         | 12/13/2016                     | Railware, Inc.                                                    |
| 2 US Pat. RE47,835          | 2/4/2020                       | Railware, Inc.                                                    |
| 3                           |                                |                                                                   |
| 4                           |                                |                                                                   |
| 5                           |                                |                                                                   |

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

|                            |                                                                                                                                                               |                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| DATE INCLUDED              | INCLUDED BY<br><input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading |                               |
| PATENT OR<br>TRADEMARK NO. | DATE OF PATENT<br>OR TRADEMARK                                                                                                                                | HOLDER OF PATENT OR TRADEMARK |
| 1                          |                                                                                                                                                               |                               |
| 2                          |                                                                                                                                                               |                               |
| 3                          |                                                                                                                                                               |                               |
| 4                          |                                                                                                                                                               |                               |
| 5                          |                                                                                                                                                               |                               |

In the above—entitled case, the following decision has been rendered or judgement issued:

|                    |
|--------------------|
| DECISION/JUDGEMENT |
|--------------------|

|                          |                                     |                   |
|--------------------------|-------------------------------------|-------------------|
| CLERK<br>Ruby J. Krajick | (BY) DEPUTY CLERK<br>/s/ P. Canales | DATE<br>6/16/2022 |
|--------------------------|-------------------------------------|-------------------|

Copy 1—Upon initiation of action, mail this copy to Director    Copy 3—Upon termination of action, mail this copy to Director  
Copy 2—Upon filing document adding patent(s), mail this copy to Director    Copy 4—Case file copy

AO 120 (Rev. 08/10)

|                                                                                                                                                         |                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>TO:</b><br><b>Mail Stop 8</b><br><b>Director of the U.S. Patent and Trademark Office</b><br><b>P.O. Box 1450</b><br><b>Alexandria, VA 22313-1450</b> | <b>REPORT ON THE</b><br><b>FILING OR DETERMINATION OF AN</b><br><b>ACTION REGARDING A PATENT OR</b><br><b>TRADEMARK</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been  
filed in the U.S. District Court Southern District of New York on the following

☐ Trademarks or ☒ Patents. ( ☐ the patent action involves 35 U.S.C. § 292.);

|                             |                                |                                                                   |
|-----------------------------|--------------------------------|-------------------------------------------------------------------|
| DOCKET NO.<br>1:22-cv-5013  | DATE FILED<br>6/15/2022        | U.S. DISTRICT COURT<br>Southern District of New York              |
| PLAINTIFF<br>Railware, Inc. |                                | DEFENDANT<br>National Railroad Passenger Corporation d/b/a Amtrak |
| PATENT OR<br>TRADEMARK NO.  | DATE OF PATENT<br>OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK                                     |
| 1 US Pat. 9,517,782         | 12/13/2016                     | Pirtle (Inventor); Railware, Inc. (Assignee)                      |
| 2 US Pat. RE47,835          | 2/4/2020                       | Pirtle (Inventor); Railware, Inc. (Assignee)                      |
| 3                           |                                |                                                                   |
| 4                           |                                |                                                                   |
| 5                           |                                |                                                                   |

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

|                            |                                                                                                                                                                          |                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| DATE INCLUDED<br>6/30/2022 | INCLUDED BY<br><input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading |                                              |
| PATENT OR<br>TRADEMARK NO. | DATE OF PATENT<br>OR TRADEMARK                                                                                                                                           | HOLDER OF PATENT OR TRADEMARK                |
| 1 US Pat. RE49,115         | 6/28/2022                                                                                                                                                                | Pirtle (Inventor); Railware, Inc. (Assignee) |
| 2                          |                                                                                                                                                                          |                                              |
| 3                          |                                                                                                                                                                          |                                              |
| 4                          |                                                                                                                                                                          |                                              |
| 5                          |                                                                                                                                                                          |                                              |

In the above—entitled case, the following decision has been rendered or judgement issued:

|                    |
|--------------------|
| DECISION/JUDGEMENT |
|--------------------|

|                          |                                      |                   |
|--------------------------|--------------------------------------|-------------------|
| CLERK<br>Ruby J. Krajick | (BY) DEPUTY CLERK<br>/s/ J. Gonzalez | DATE<br>6/30/2022 |
|--------------------------|--------------------------------------|-------------------|

Copy 1—Upon initiation of action, mail this copy to Director    Copy 3—Upon termination of action, mail this copy to Director  
Copy 2—Upon filing document adding patent(s), mail this copy to Director    Copy 4—Case file copy