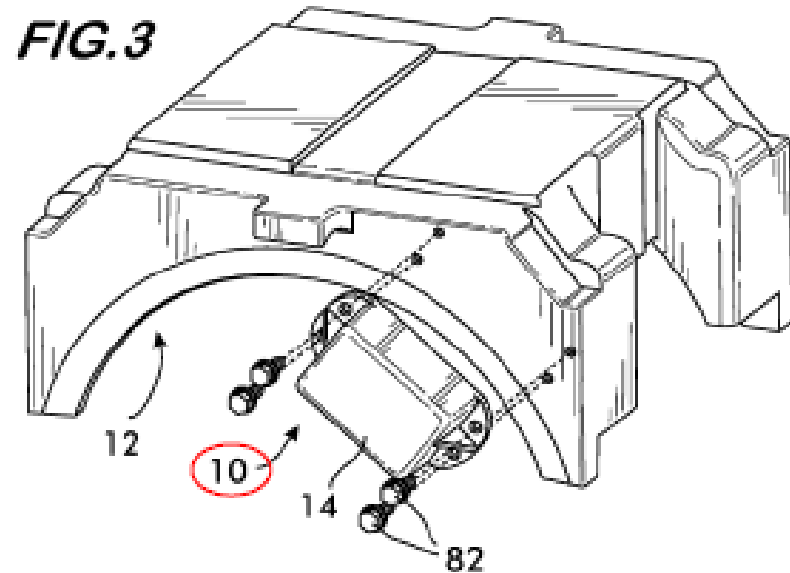


Hum Industrial Technologies Inc. v. Amsted Rail Company Inc.

IPR2023-00538, -00539

Patent Owner's Demonstrative Exhibits

FIG. 1 is an exploded perspective view of a container assembly 10. The assembly includes a top cover 2 with a base 14 and a side panel 16. A bracket 26 is shown with a top plate 28 and a bottom plate 30. A cylindrical component 34 is also shown. A base 18 is shown with a central opening 20 and a side panel 24. A cross-sectional view 20a is shown. FIG. 2 is a cross-sectional view of the container assembly 10, showing the internal components and the base 14.



Housing '223 Patent ('538 IPR)

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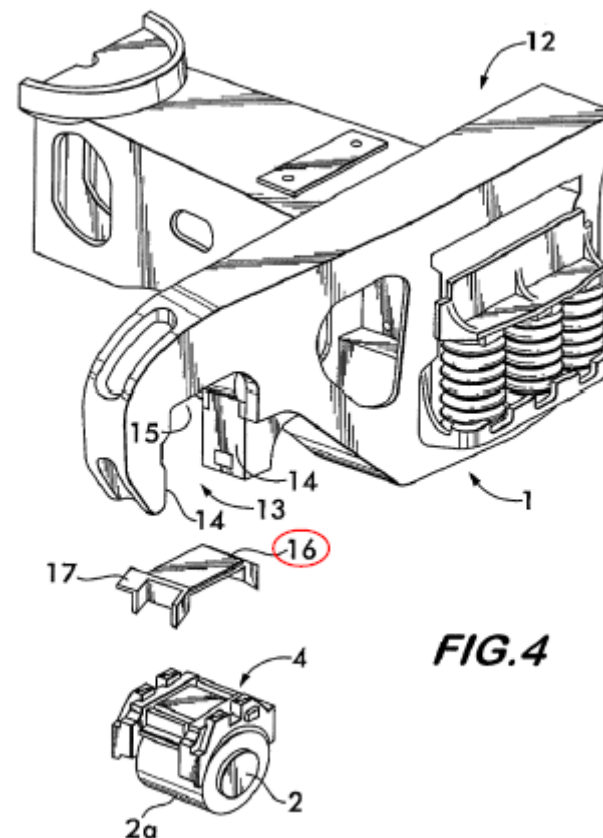
Ex. 1001, 15:18-24

Paper 20 at 8, 20

In another alternate embodiment of the invention, one or more notes may be housed in alternative housings or built in to the railcar itself. In one such embodiment, notes can be built into the form of an adapter pad similar to the type shown in U.S. Pat. Nos. 7,698,962 and 7,688,218, the disclosures of both of which are incorporated herein by reference, which could be adapted for use with the present invention.

Ex. 1005, FIG. 4

Paper 20 at 2, 7-8, 20

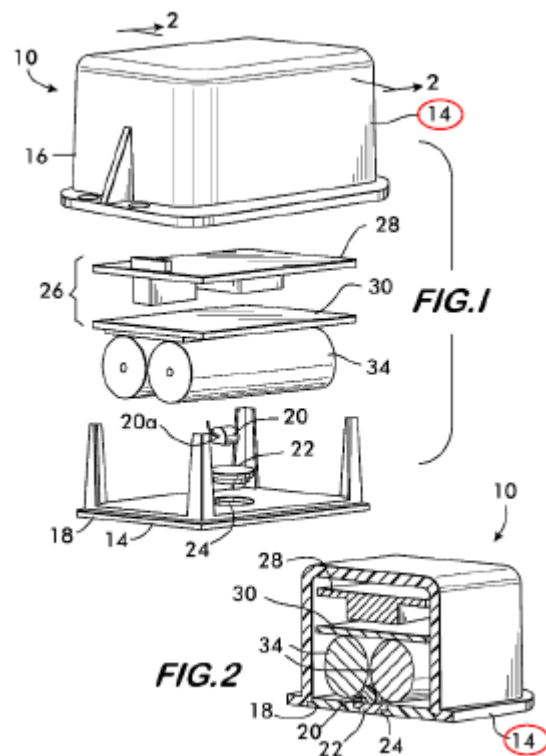


Housing '223 Patent ('538 IPR)

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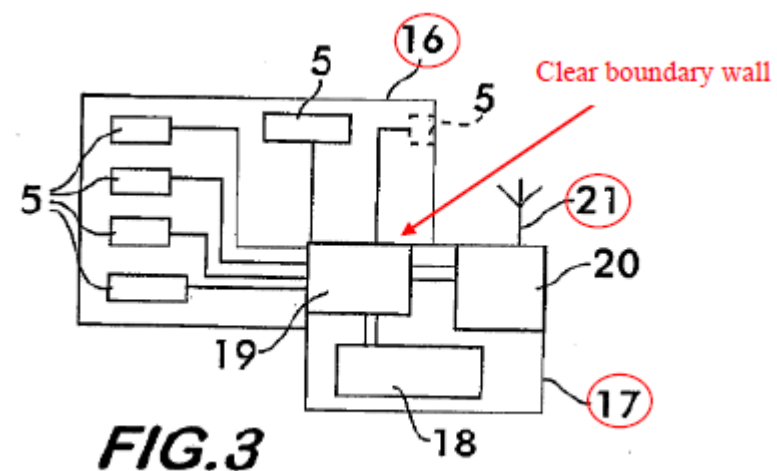
Ex. 1001, FIGs. 1, 2

Paper 20 at 6



Ex. 1005, FIG. 3

Paper 20 at 13



Armitage

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Ex. 1006, FIG. 4

IPR2020-00538, Paper 20 at 58

IPR2020-00539, Paper 16 at 49

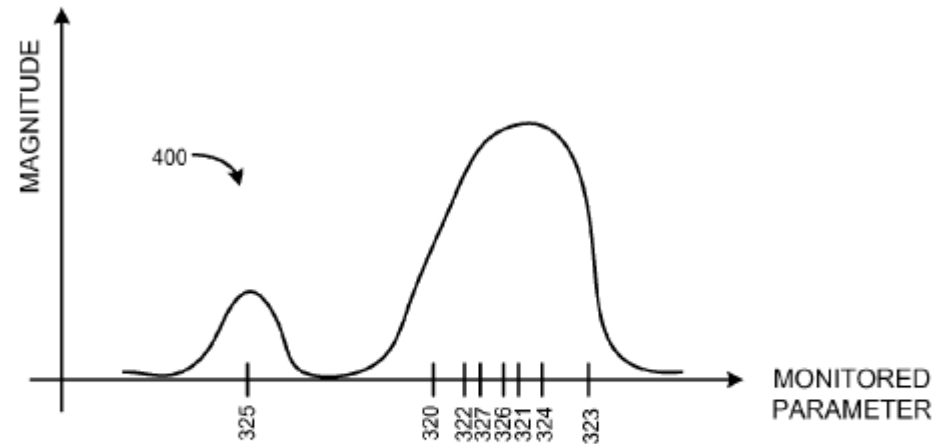


FIGURE 4

'538 Revised Motion to Amend

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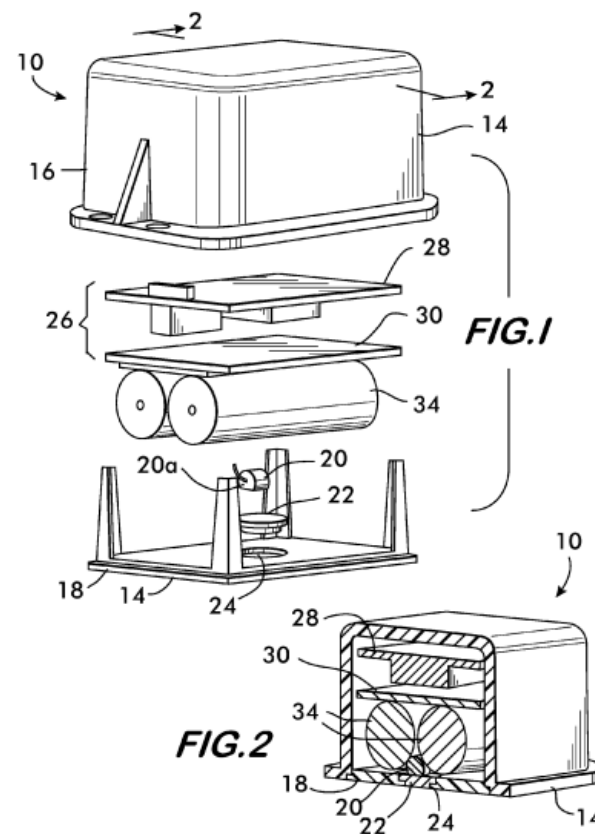
Ex 1001, 4:39-48

Paper 35 at 8

perature reading is desired. As one of ordinary skill would
 40 recognize, the configuration of the nodes 10 with respect to
 the sensor 20 is dependent upon the type of sensor and the
 type of data desired. Sensor 20 can be any type of sensor,
 including for example, a temperature sensor, a pressure sen-
 sor, a load cell, a strain gauge, a hall effect sensor, a vibration
 45 sensor, an accelerometer, a gyroscope, a displacement sensor,
 an inductive sensor, a piezoelectric microphone or an ultra-
 sonic sensor. In addition, the sensor may be a type of switch,
 including, for example, reed switches and limit switches. An

Ex. 1001, FIG. 1

Paper 35 at 10



'538 Revised Motion to Amend

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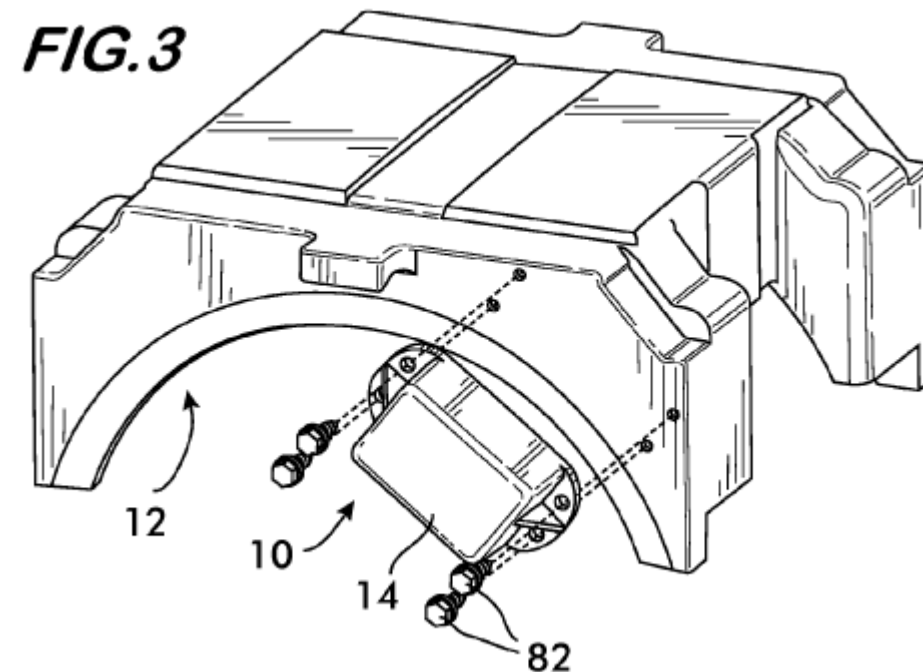
Ex 1001, Table Spanning Cols. 7-10, pg. 12-13

Paper 35 at 8, 10, 16

Ex. 1001, FIG. 3

Paper 35 at 8, 10

Parameter Sensed	Sensor Type	Output	Heuristic
Adapter Acc.	Accelerometer	Bearing Fault Indicator	An adapter mounted accelerometer can be used to sample dynamic bearing data. An FFT can be used on data sets and plotted over time to isolate dominant modes and any shifting or relative amplification. Amplification at rolling frequency indicates a likely fault.
Adapter Acc.	Accelerometer	Bearing Fault	An adapter mounted accelerometer can be used to sample dynamic bearing data. Kurtosis can be computed as an indicator of bearing damage. Kurtosis is measured in the time domain and requires computation of a probability density function.



'539 Revised Motion to Amend

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Ex 1001, Table Spanning Cols. 7-10, pg. 12-13

Paper 32 at 6, 8, 11

Ex. 1001, FIG. 3

Paper 32 at 6, 8-9

Parameter Sensed	Sensor Type	Output	Heuristic
Adapter Acc.	Accelerometer	Bearing Fault Indicator	An adapter mounted accelerometer can be used to sample dynamic bearing data. An FFT can be used on data sets and plotted over time to isolate dominant modes and any shifting or relative amplification. Amplification at rolling frequency indicates a likely fault.
Adapter Acc.	Accelerometer	Bearing Fault	An adapter mounted accelerometer can be used to sample dynamic bearing data. Kurtosis can be computed as an indicator of bearing damage. Kurtosis is measured in the time domain and requires computation of a probability density function.

