

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CATERPILLAR, INC.,
Petitioner,

v.

MILLER INTERNATIONAL, LTD.,
Patent Owner.

Case IPR2015-00434
Patent 8,112,914 B2

Before HYUN J. JUNG, SCOTT A. DANIELS, and
MITCHELL G. WEATHERLY, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Caterpillar, Inc. (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1–23 and 39–42 of U.S. Patent No. 8,112,914 B2 (“the ’914 patent”). Paper 2 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 5. We instituted trial for claims 1–23 and 39–42 of the ’914 patent on certain grounds of unpatentability alleged in the Petition. Paper 6 (“Decision to Institute” or “Inst. Dec.”).

In the Scheduling Order, which sets times for taking action in this proceeding, we notified the parties that “any arguments for patentability not raised in the [Patent Owner] response will be deemed waived.” *See* Paper 7, 4. Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

Patent Owner did not file a Patent Owner Response within the time period set forth in the Scheduling Order. Patent Owner neither sought authorization to file a Patent Owner Response after the deadline, nor indicated that it wished to file such a Response or any further papers in this proceeding. We have before us, therefore, unrebutted argument and evidence as set forth in the Petition. Nonetheless, Petitioner bears the burden to show, by a preponderance of the evidence, that the challenged claims are unpatentable.

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–23 and 39–42 of the ’914 patent are unpatentable.

B. Additional Proceedings

The '914 patent also is challenged in IPR2015-00435 with respect to the patentability of claims 24–38. A final written decision in IPR2015-00435 is entered concurrently with this decision.

C. The '914 Patent

The '914 patent (Ex. 1001), titled “Fully Automatic Coupler for Excavator Arm,” relates generally to a coupler mechanism for attaching, for example, an excavator bucket to the arm on an excavator machine. Ex. 1001, 1:25–32, Fig. 1. Figure 1 of the '914 patent, illustrating a cut-away view of the coupler, is reproduced below.

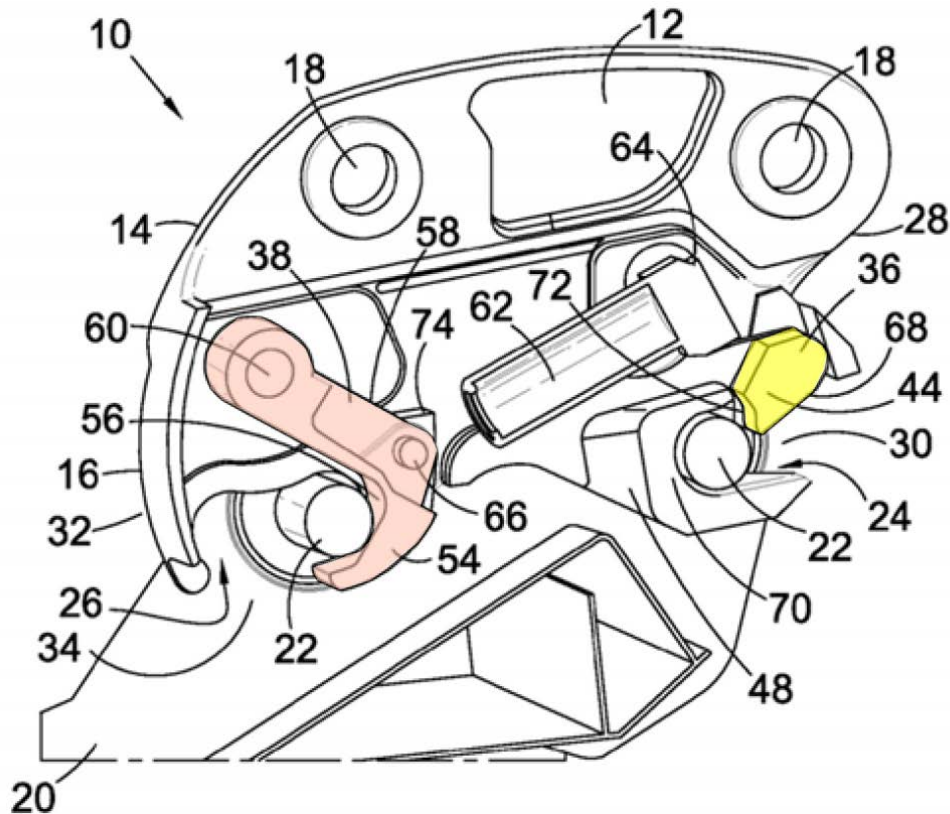


Fig. 1

Figure 1 depicts coupler 10 having frame 12 including two holes 18 for attachment to the end of an excavator arm (not shown). *Id.* at 7:46–54.

Frame 12 defines front jaw 24, and rear jaw 34 for receiving attachment pins 22 on an accessory 20, such as a bucket, to attach the bucket to the excavator arm. *Id.* at 7:63–67.

For the coupler to secure the bucket, the '914 patent explains that:

[a] first step in an accessory attachment is therefore usually the engagement of an attachment pin 22 in a front jaw 24 of the coupler by an appropriate manipulation of the excavator arm. Then, the second attachment pin 22 needs to be engaged into the rear jaw 26 by rotating the rear 32 of the coupler 10 downwardly.

Id. at 8:14–19. In addition, front jaw 24 has first latching mechanism 36 (highlighted in yellow), and rear jaw 26 has second latching mechanism 38 (highlighted in pink) for securing pins 22 within the respective jaws. *Id.* at 8:23–26. In the embodiment of Figure 1, first latching mechanism 36 acts under the influence of gravity, whereas second latching mechanism 38 is driven by hydraulic ram 62 and a rod (rod not shown) that attaches to hinge pin 66. *Id.* at 8:31–9:42.

There are two main ways in which attachment of the bucket proceeds, that is, two ways to attain an “attachment receiving condition,” of the coupler. Ex. 1001, 9:61–63. In one instance, hydraulic ram 62 powers second latching mechanism 38 into a fully closed state so that latching mechanism 38 itself does not interfere with first latching mechanism 36, thus allowing pin 22 to be inserted into front jaw 24. *Id.* at 9:63–10:8. In another instance, a preferred condition is where the second latching mechanism is powered into a fully open position by the hydraulic ram. *Id.* at 10:46–55. Best seen in Figure 3, reproduced below, with the coupler having engaged on front pin 22 in the open position, one end 42 of first latching mechanism 36 is hung up on flange 74 of fully open second latching mechanism 38, consequently raising first latching mechanism 36 to permit

entry of pin 22 into jaw 24. *Id.* at 10:52–56. This fully open position of both jaws is referred to in the '914 patent as the “default condition.” *Id.* at 10:58–65. Figure 3 is reproduced below.

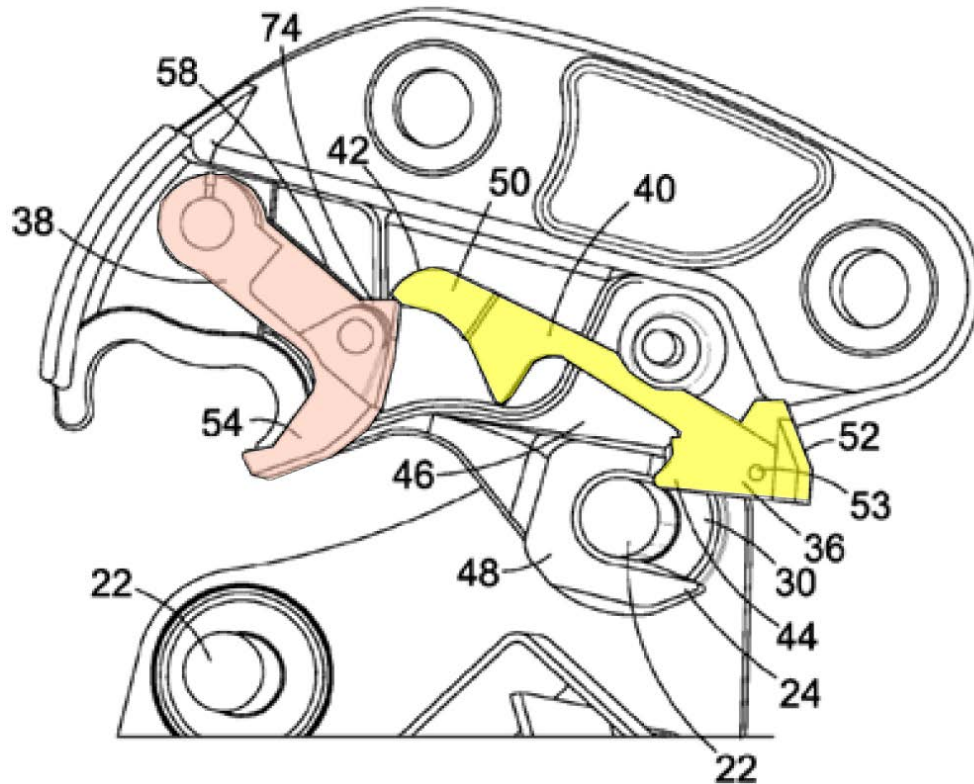


Fig. 3

Figure 3, above, shows a first pin engagement step. *Id.* at 7:17–19. As can be appreciated from Figure 3 when the hydraulic ram (not shown) powers second latching mechanism 38 back to a closed position, end 42 of latching mechanism 36 falls off flange 74 and into a closed position to secure pin 22 in jaw 24. *Id.* at 10:58–65.

The '914 patent also describes blocking bar 78 that has a “blocking position” and an “unblocking position” to, i.e., secure, and release, hook 54 in the second latching mechanism as shown, below, in Figures 2 and 4.

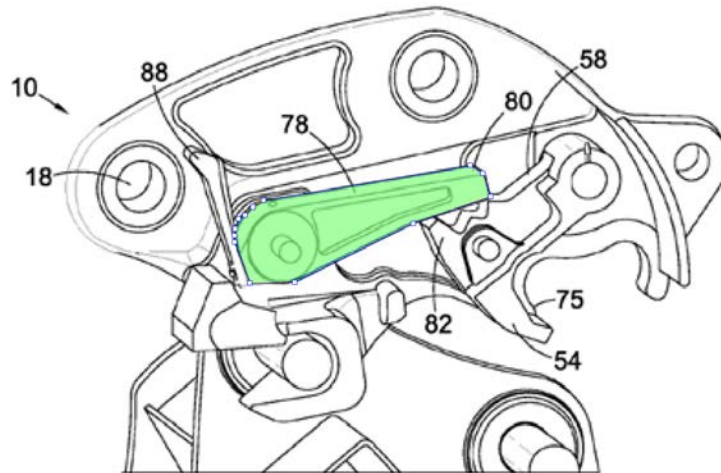


Fig. 4

Figure 4 of the '914 patent, above, illustrates blocking bar 80, (highlighted in green), in the “unblocked position,” of hook 54 in the second latching mechanism.

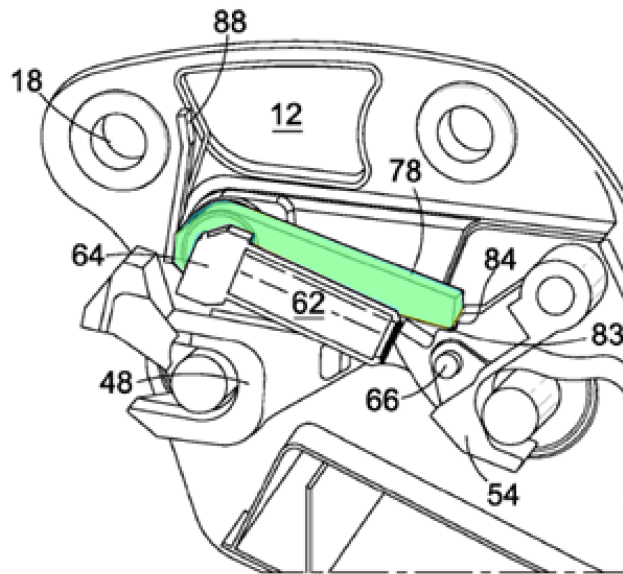


Fig. 2

Figure 2 of the '914 patent, above, illustrates blocking bar 80, in the “blocked position,” of hook 54, in the second latching mechanism.

D. Illustrative Claim

Of the challenged claims, claims 1 and 39 are independent. Each of dependent claims 2–23 depend, directly or indirectly, from claim 1 and claims 40–42 depend directly or indirectly from claim 39. Claim 1 illustrates the claimed subject matter and is reproduced below:

1. A coupler having a top half for attaching to an end of an excavator arm of an excavator and a bottom half for attaching to an accessory; wherein:

the bottom half comprises:

a first jaw having an opening pointing generally towards the front end of the coupler and a second jaw having an opening pointing generally downwards with respect to the coupler;

a first latching mechanism associated with the first jaw; and

a second latching mechanism associated with the second jaw, the second latching mechanism being powered for movement between an open position and a closed position, wherein the first latching mechanism has an arm extending therefrom and towards the second latching mechanism, whereby the second latching mechanism can hold the first latching mechanism in an open position when it is in its own open position; and

the coupler further comprising:

a blocking mechanism that is independent of the first latching mechanism, and being for selectively blocking the second latching mechanism in its latching position, the blocking mechanism being operable between a blocking position and an unblocking position by a separate drive means, or by the influence of gravity, operation by the influence of gravity comprising attaining a blocking position when the top side of the coupler is pointing generally upwards and an unblocking position when the bottom side of the coupler is pointing generally upwards.

E. The Instituted Grounds of Unpatentability

Petitioner contends that the challenged claims are unpatentable on the following specific grounds.¹

References	Basis	Claims Challenged
Hill ² and Miller '805 ³	§ 103	1–11, 13–22, and 39–42
Hill, Miller '805, and Miller '112 ⁴	§ 103	12
Hill, Miller '805, and Miller '062 ⁵	§ 103	23

II. CLAIM CONSTRUCTION

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Under the broadest reasonable interpretation standard, claim terms are given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposed, *inter alia*, constructions for the following claim phrases: “a blocking mechanism that is independent of the first latching mechanism” as recited in claim 1, and “a blocking mechanism separate from the first latching mechanism,” recited in independent claim 39. Pet. 9–13. In our Decision to Institute we determined constructions consistent with the broadest reasonable construction. Inst. Dec. 8–10. Since our determination, no further papers or evidence have been filed, and

¹ Petitioner supports its challenge with a Declaration of Dr. Frank J. Fronczak, P.E. (Ex. 1002). *See infra*.

² Ex. 1003, WO 2008/031590 (March 20, 2008).

³ Ex. 1004, U.S. Patent No. 6,422,805 (July 23, 2002).

⁴ Ex. 1005, WO 2008/029112 (March 13, 2008).

⁵ Ex. 1006, U.S. Patent No. D565,062 (March 25, 2008).

thus, we do not perceive any reason or evidence that now compels any deviation from our initial constructions.

Accordingly, the following claim constructions apply to this Decision:

Claim Term	Construction
a blocking mechanism that is independent of the first latching mechanism	blocking mechanism and the first latching mechanism are independent because they do not affect or influence movement of each other
a blocking mechanism separate from the first latching mechanism	a blocking mechanism and a latch that are individual and distinct elements

III. ANALYSIS

A. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418. A prima facie case of obviousness is established when the prior art itself would

appear to have suggested the claimed subject matter to a person of ordinary skill in the art. *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976).

The level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

B. Claims 1–11, 13–22, and 39–42 — Obviousness over Hill in view of Miller ’805

Petitioner asserts that claims 1–11, 13–22, and 39–42 would have been obvious over Hill and Miller ’805. Pet. 17. Petitioner has shown, based on the record before us, by a preponderance of the evidence, that claims 1–11, 13–22, and 39–42 are unpatentable as obvious over Hill in view of Miller ’805.

1. Hill

Hill discloses coupler 10 for an excavator having frame plate 15 defining apertures 16, 18 for attachment to an excavator arm, first jaw 20 and second jaw 22 for receiving pins 24, 26 on an attachment accessory such as an excavator bucket. Ex. 1003, 4:27–5:13, Fig. 1. Figure 1, reproduced below, illustrates Hill’s coupler 10.

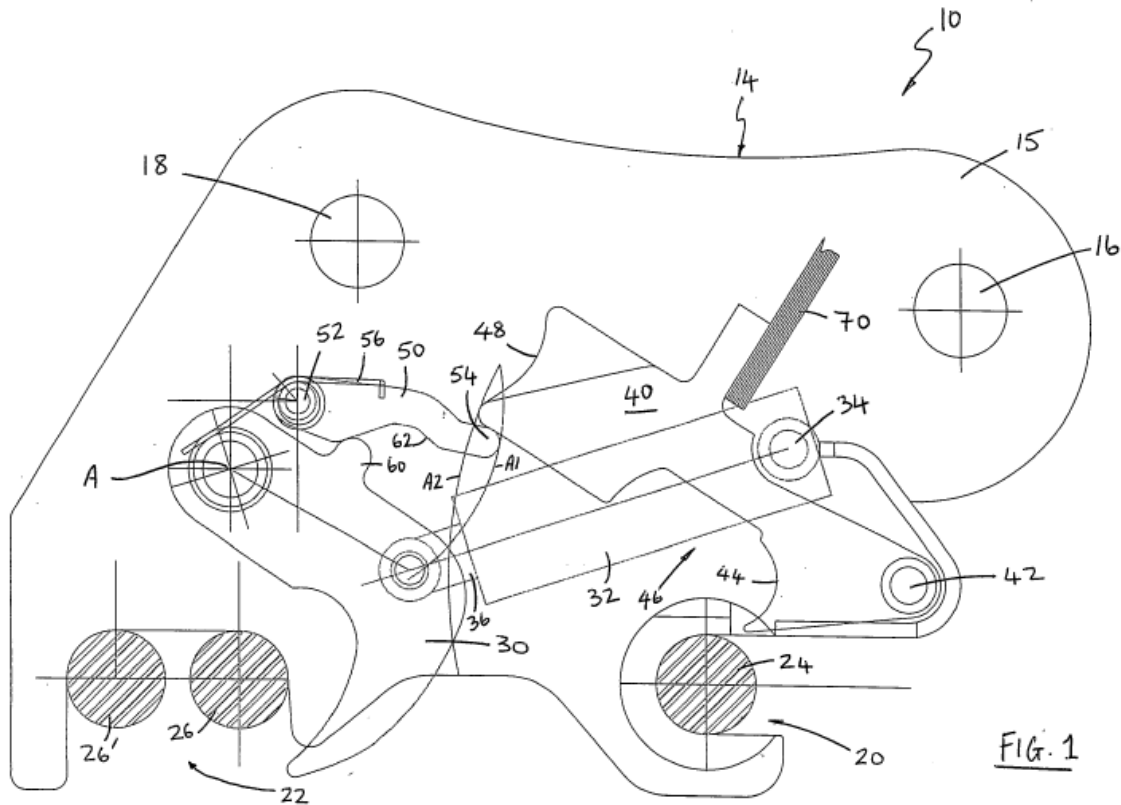
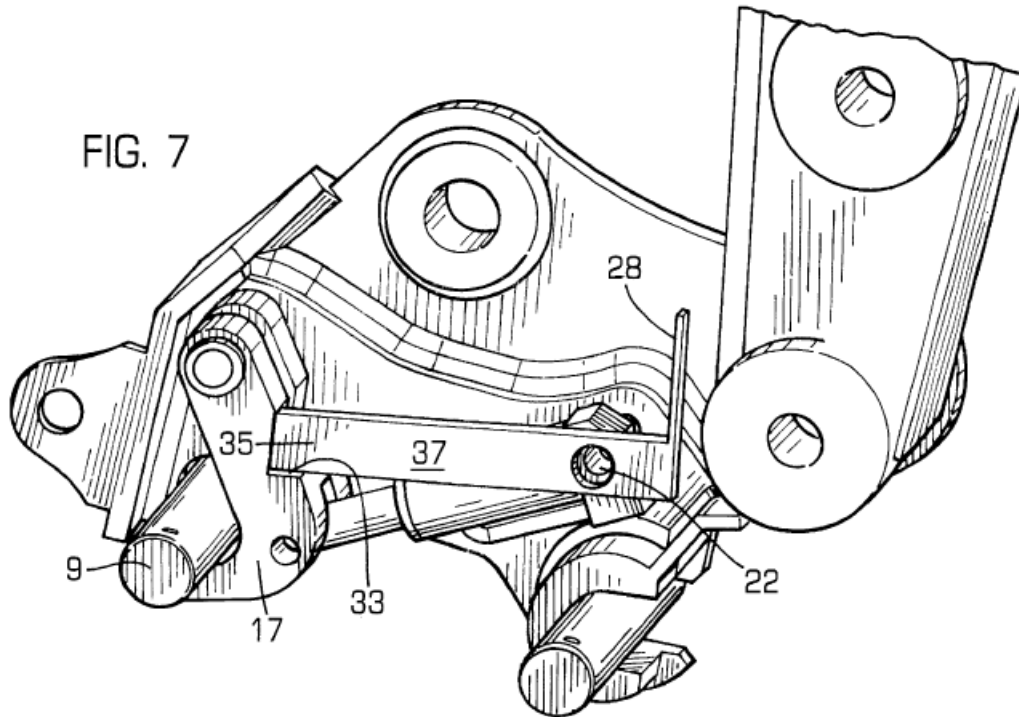


Figure 1 of Hill, above, shows coupler 10 having latching mechanism 40 associated with first jaw 20, and second latching mechanism 30 associated with second jaw 22. Second latching mechanism 30 is powered by hydraulic actuator 32 between an open and a closed, i.e. an unlatched and latched, state. *Id.* at 5:18–20, 6:7–10. Hill explains further that in the open state as shown in Figure 1, latching mechanism 30 causes lever 50 to attain a holding state, keeping first latching mechanism 30 in the open state. *Id.* at 7:1–13.

2. Miller '805

Miller '805 also discloses a coupler for an excavator arm as shown in Figure 7 reproduced below.



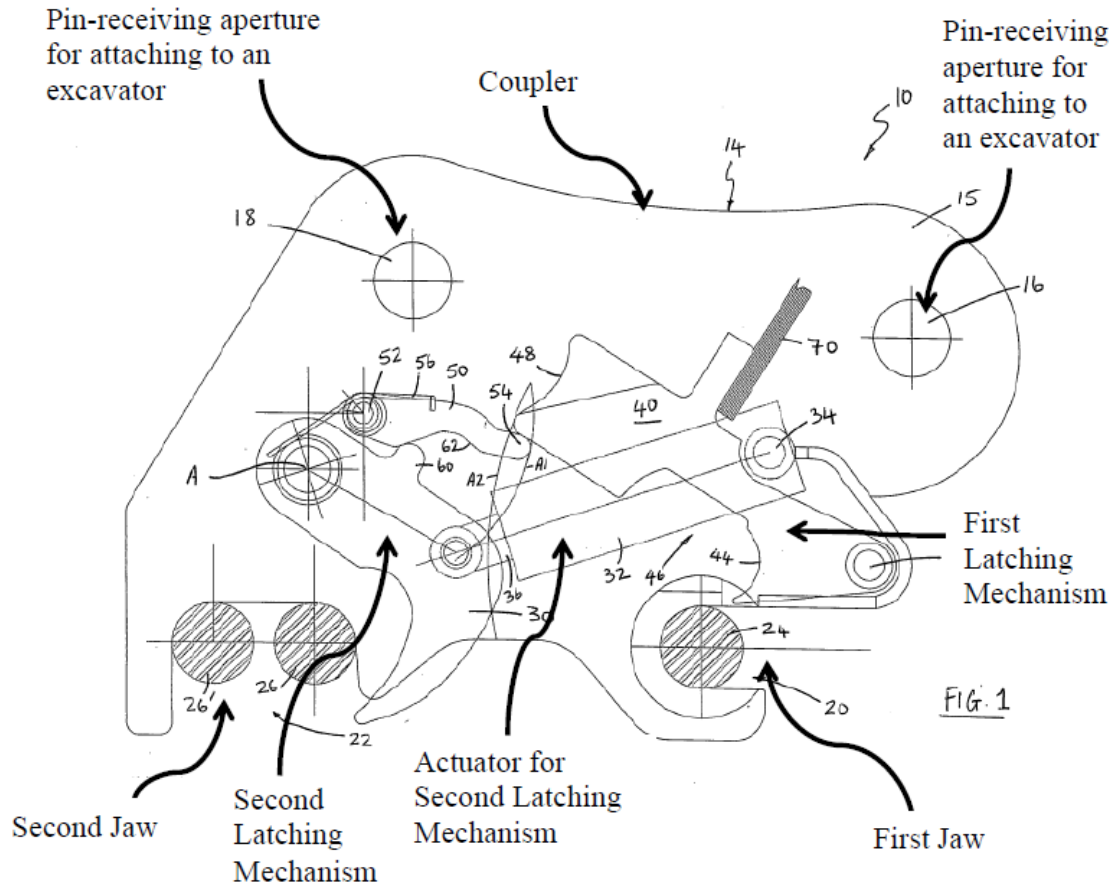
As shown by the embodiment depicted in Figure 7, above, Miller '805 discloses a coupler having two jaws, and one of the jaws having latching mechanism 17 for securing pin 9 therein.⁶ Ex. 1004, 4:62–5:1. Latching mechanism 17 is controlled by a hydraulic actuator (no reference number) between an open and closed state. *Id.* Miller '805 further discloses blocking bar 37 that essentially acts under its own weight, and states “[i]n the embodiment of FIG. 7, a forward end portion 35 of the blocking bar engages within a recess 33 in a rear face of the latching hook 17 to hold the latching

⁶ Although we refer here to the embodiment disclosed in Figure 7, the basic structure and function of the Miller '805 coupler, namely latching mechanism 17, pin 9, and hydraulic actuator, are discussed in terms of the prior art shown in Figures 4 and 5.

hook 17 in its latching position.” *Id.* at 5:58–62. Miller ’805 explains that with blocking bar 37, if there is a hydraulic failure, latching hook 17 is maintained in the latched position and both excavator accessory pins 9 remain engaged in the jaws of the coupler. *See id.* at 6:15–18.

3. Discussion

Petitioner argues that the only difference between Hill and claim 1 is that Hill does not disclose a blocking mechanism. Petitioner contends that Hill discloses a coupler having a first and second jaw, a first and second latching mechanism associated with the jaws, and that the second latching mechanism is powered by a hydraulic actuator and holds the first latching mechanism in an open position. Pet. 17–19 (citing Ex. 1002 ¶¶ 35–39, 41; Ex. 1003, 4:27–29, 5:11–14, 5:18–20, 5:28–31, 6:7–10, 6:16–18, 6:23–25, 6:31–7:4, 7:24–28, Fig. 1). Petitioner provides an annotated version of Figure 1 of Hill that is reproduced below. *Id.* at 18–19.



The annotated figure is representative of Petitioner's arguments with respect to the teachings of Hill and claim 1. *Id.* at 18–19. We agree with Petitioner's assertions regarding the teachings of Hill and find that as called for in claim 1 Hill teaches or suggests a:

coupler having a top half for attaching to an end of an excavator arm of an excavator and a bottom half for attaching to an accessory; wherein:

the bottom half comprises:

a first jaw having an opening pointing generally towards the front end of the coupler and a second jaw having an opening pointing generally downwards with respect to the coupler;

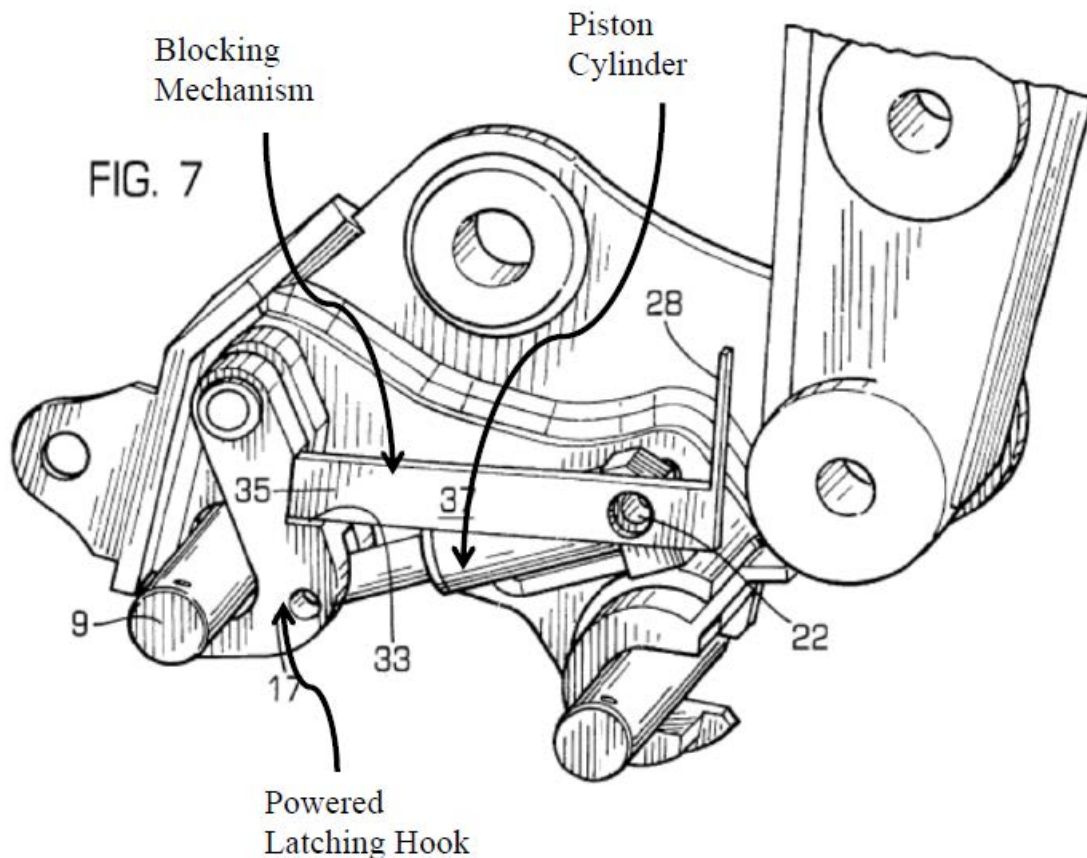
a first latching mechanism associated with the first jaw; and

a second latching mechanism associated with the second jaw, the second latching mechanism being powered for movement

between an open position and a closed position, wherein the first latching mechanism has an arm extending therefrom and towards the second latching mechanism, whereby the second latching mechanism can hold the first latching mechanism in an open position when it is in its own open position

Ex. 1001, 16:2–18.

Petitioner argues that Miller '805 also discloses a coupler for an excavator and supplies the missing blocking mechanism for the powered second latching mechanism as well as the claimed function of blocking the second latching mechanism from opening. *Id.* at 19–22 (citing Ex. 1002 ¶¶ 44–47; Ex. 1004 Abstract, 2:1–26, 3:59–4:10, 4:29–37, 4:62–66, 5:29–34, 5:52–55, 5:58–64, 6:7–18, Figs. 5, 7). Petitioner provides an annotated Figure 7 of Miller '805 that is reproduced below.



The annotated figure is representative of Petitioner’s arguments with respect to the teachings of Miller ’805 and claim 1. *Id.* at 18–19. We agree with Petitioner’s assertions regarding the teachings of Miller ’805, and we find that Miller ’805 teaches or suggests a “coupler having four fixed pin location points, . . . being mountable in use between the bucket and the dipper arm and comprising a first aperture and a second aperture defining two of said points . . . power operated means for moving the latching hook between latching and unlatched positions” (Ex. 1004, 2:1–22), “blocking means 25 moves into blocking engagement . . . under its own weight due to the force of gravity” (*id.* at 5:29–34), “[i]n the alternative preferred embodiment shown in FIG. 7, . . . single blocking bar 37” (*id.* at 5:52–64), and “gravity operated blocking means 25. . . shown in FIG. 7” (*id.* at 6:7–9). Accordingly, we find that Miller ’805 teaches or suggests a:

coupler further comprising: a blocking mechanism that is independent of the first latching mechanism, and being for selectively blocking the second latching mechanism in its latching position, the blocking mechanism being operable between a blocking position and an unblocking position by a separate drive means, or by the influence of gravity, operation by the influence of gravity comprising attaining a blocking position when the top side of the coupler is pointing generally upwards and an unblocking position when the bottom side of the coupler is pointing generally upwards.

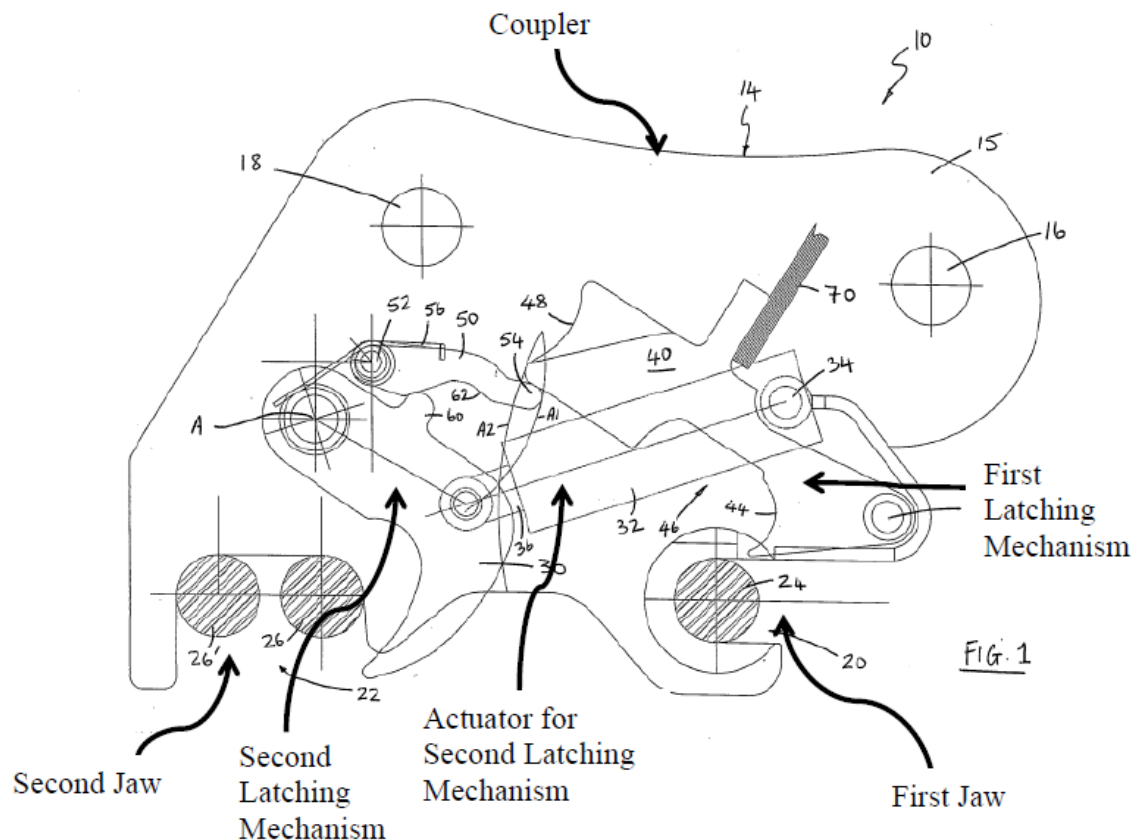
Ex. 1001, 16:19–30.

Petitioner alleges that a person of ordinary skill in the art would have had good reason to include Miller ’805’s gravity operated blocking bar 37 in Hill’s coupler, because, as expressly discussed in Miller ’805, in the event of hydraulic failure of the actuator maintaining the second latching mechanism closed, Miller ’805’s blocking bar 37 would prevent opening of latching mechanism 17. Pet. 22–23 (citing Ex. 1002 ¶¶ 49–50; Ex. 1004, 6:7–18;

KSR, 550 U.S. at 416, 420). Petitioner’s Declarant, Dr. Fronczak, supports this argument, alleging that Miller’s teachings, as well as safety concerns, would have motivated one of ordinary skill in the art to add Miller’s blocking bar 37 to Hill’s coupler because “if the hydraulic actuator 32 of *Hill* ’590 fails or malfunctions, the powered latch may not be maintained in a latched position, allowing the bucket or other accessory to disengage or release from the second jaw (i.e., pin-receiving recess 22).” Ex. 1002 ¶ 50. As cited by Dr. Fronczak, we find that Miller ’805 states that “even if there is a hydraulic failure . . . the blocking means 25 will still prevent the latching hook 17 moving to an unlatched position.” Ex. 1004, 6:15–18; *see also* Ex. 1002 ¶ 50 (citing *id.*). Dr. Fronczak further testifies that the blocking mechanism 37, as it is influenced by gravity and operates independently of the first latching mechanism, would operate in combination with Hill’s coupler no differently than it does in Miller ’805. *Id.* ¶¶ 54–56.

We are persuaded by Petitioner’s rationale and explanation, and credit Dr. Fronczak’s testimony, which are consistent with our understanding of Hill and Miller ’805, that blocking the second latching mechanism retains both pins of the attachment, such as a bucket, engaged in the coupler jaws and improves the safety of Hill’s device in a way that would have been recognized by an ordinary artisan at the time of invention of the ’914 patent. Ex. 1004, 6:15–18; Ex. 1002 ¶ 50. We find Dr. Fronczak’s reasoning persuasive, that the purpose of blocking the second latching mechanism, as shown and described in Miller ’805, ensures that the excavator bucket remains entirely secured even in the event of a hydraulic failure, and would have been apparent at the time of filing of the ’914 patent to one of ordinary skill in the art. Ex. 1002 ¶¶ 50–51.

Petitioner provides similar arguments and evidence regarding the teachings of Hill and Miller '805 and the elements of independent claim 39. Pet. 41–46 (citing Ex. 1002 ¶¶ 106–110, 112–114; Ex. 1003, 5:11–14, 5:18–20, 5:28–31, 6:7–10, 6:16–18, 6:23–25, Fig. 1; Ex. 1004 Abstract, 2:1–26, 3:59–4:10, 4:29–37, 4:62–66, 5:29–34, 5:52–55, 5:58–64, 6:7–18, Figs. 5, 7). Petitioner provides an annotated Figure 1 of Hill that is reproduced below.



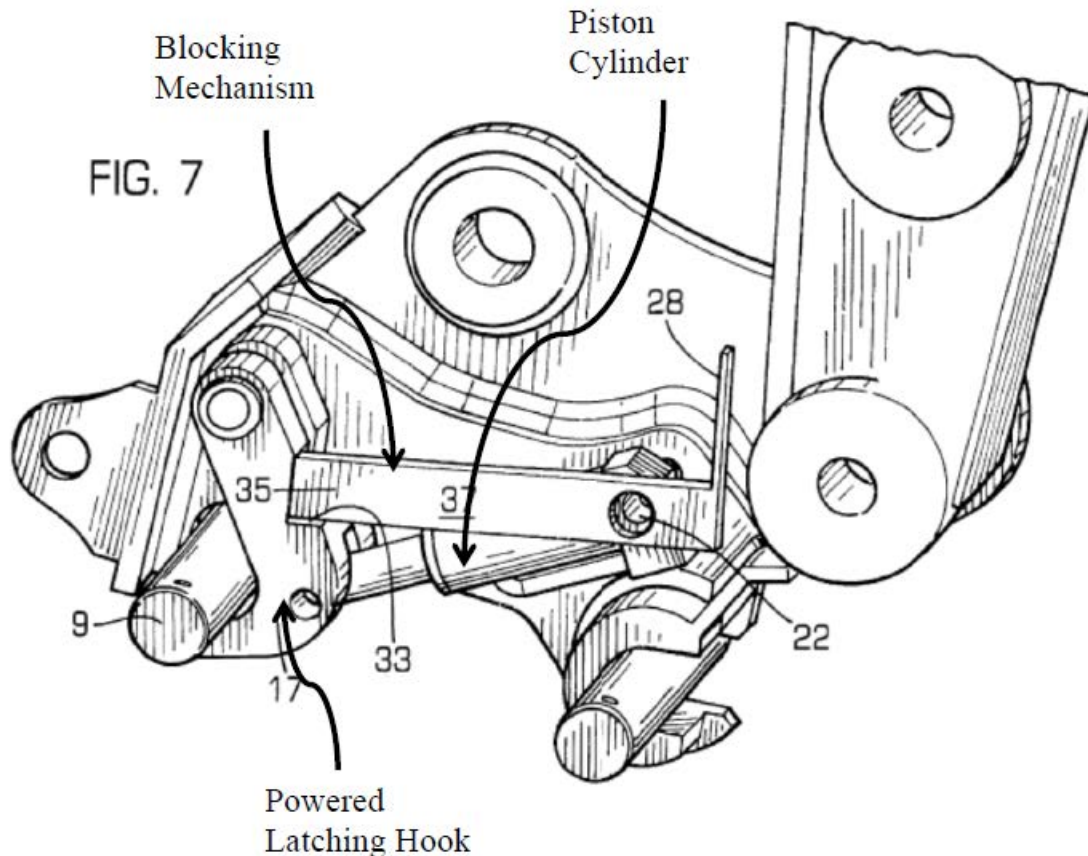
The annotated figure illustrates Petitioner's position regarding the teachings of Hill and claim 39. Pet. 42. We agree with Petitioner's assertions regarding the teachings of Hill and find that Hill teaches or suggests a:

coupler for attaching an excavator arm and an accessory, comprising: a first jaw having an opening pointing generally towards the front end of the coupler; a second jaw having an

opening pointing generally downwards with respect to the coupler; a first latching mechanism associated with the first jaw; a second latching mechanism associated with the second jaw, the second latching mechanism being selectively moveable between an open position and a closed position.

Ex. 1001, 19:24–20:7.

Petitioner provides an annotated Figure 7 of Miller '805 that is reproduced below.



The annotated figure is representative of Petitioner's arguments with respect to the teachings of Miller '805 and claim 39. *Id.* at 44–45. We agree with Petitioner's assertions regarding the teachings of Miller '805, and we find that as called for in claim 39 Miller '805 teaches or suggests

a blocking mechanism separate from the first latching mechanism and movable between a blocking position preventing the second latching mechanism from moving from its closed

position and a non-blocking position permitting the second latching mechanism to move between the closed and open positions.

Ex. 1001, 20:8–13.

Petitioner also asserts the same rationale for its proposed combination of Hill and Miller '805. Pet. 46–4 (citing Ex. 1002 ¶¶ 116–122; Ex. 1003, 5:23–24, 13:12–20; Ex. 1004, 6:7–18, Fig. 7; *KSR*, 550 U.S. at 416–420). For the reasons stated above, we are persuaded by Petitioner's asserted rationale, which are consistent with our understanding of Hill and Miller '805.

On this record, we are persuaded that the combination of Hill and Miller '805 would include a coupler with a blocking structure and function that meets all the elements of claims 1 and 39, including selectively blocking the second latching mechanism in a “blocking position.” The evidence presented by Petitioner is persuasive that one of ordinary skill in the art would have used Miller's blocking structure in combination with Hill's coupler to maintain the second latching mechanism securely in place improving the safety of the coupler such that in the event of hydraulic failure the powered second latching mechanism does not release the excavator pins, and the bucket is maintained in an entirely secured manner with the coupler.

We have also reviewed each of the challenged dependent claims in light of the combination of Hill and Miller '805, and we find that the cited portions of Hill and Miller '805 teaches or suggests the elements of claims 2–11, 13–22, and 40–42. Pet. 25–41 (citing Ex. 1002 ¶¶ 58–66, 68, 70, 72–76, 83–87, 89–93, 95, 96, 98; Ex. 1003, 4:27–31, 5:12–13, 5:23–26, 6:4–10, 6:16–32, 10:18–23, 13:12–20, Figs. 1, 2, 5, 18, 19; Ex. 1004, 2:1–5, 4:23–28, 5:23–29, 5:52–67, Figs. 1, 7, 8), 49–53 (citing Ex. 1002 ¶¶ 124–125,

127–133; Ex. 1003, 6:4–10, 6:16–20, 8:25–27, Figs. 1, 2, 6; Ex. 1004, 5:23–29, 5:52–64, 6:7–9, 8:6–17, Figs. 7, 12(2), 12(4)). Petitioner’s asserted rationales for the challenged dependent claims are also persuasive on the record presented. *See id.*

For the foregoing reasons, we agree with, and adopt as our own, Petitioner’s rationale to combine Hill and Miller ’805. We further determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–11, 13–22, and 39–42 of the ’914 patent are obvious over Hill and Miller ’805.

C. Claims 12 and 23 — Obviousness over Hill in view of Miller ’805 and Miller ’112 (Claim 12), and Hill in view of Miller ’805 and Miller ’062 (Claim 23)

Petitioner argues that claim 12 is obvious over the combination of Hill, Miller ’805, and Miller ’112, and that claim 23 is also obvious over Hill, Miller ’805, and Miller ’062. Pet. 53–59.

Petitioner has shown, based on the record before us, by a preponderance of the evidence, that claim 12 is unpatentable as obvious in view of Hill, Miller ’805, and Miller ’112, and that claim 23 is also obvious over Hill, Miller ’805, and Miller ’062.

1. Miller ’112

Figure 1 of Miller ’112, reproduced below, discloses coupler 10 for attaching an excavator bucket to an excavator arm.

FIG. 1

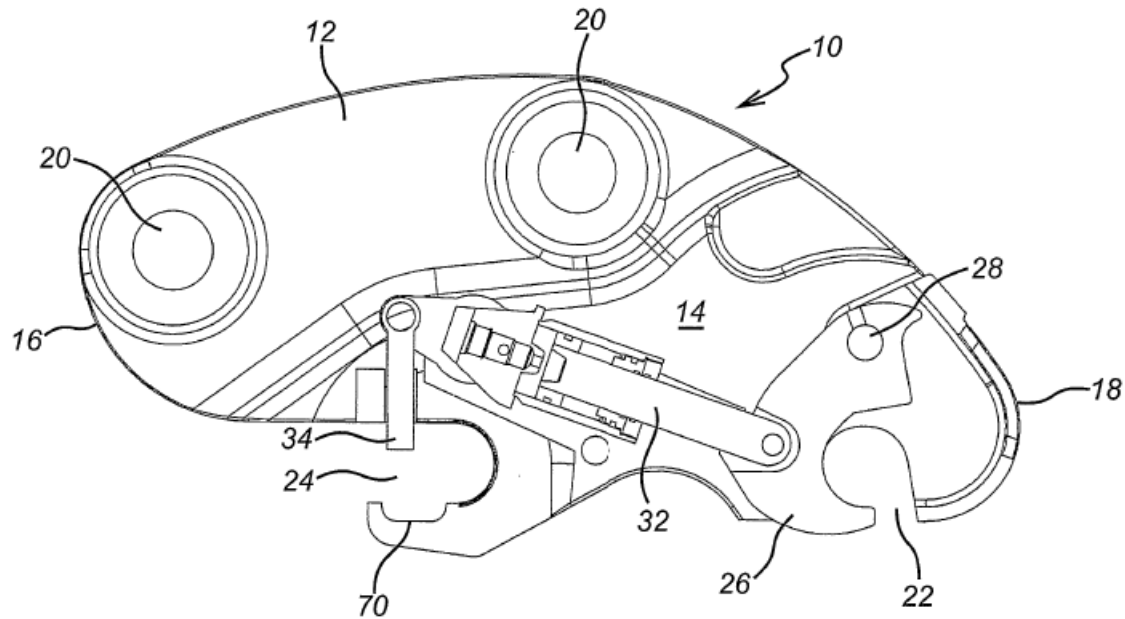


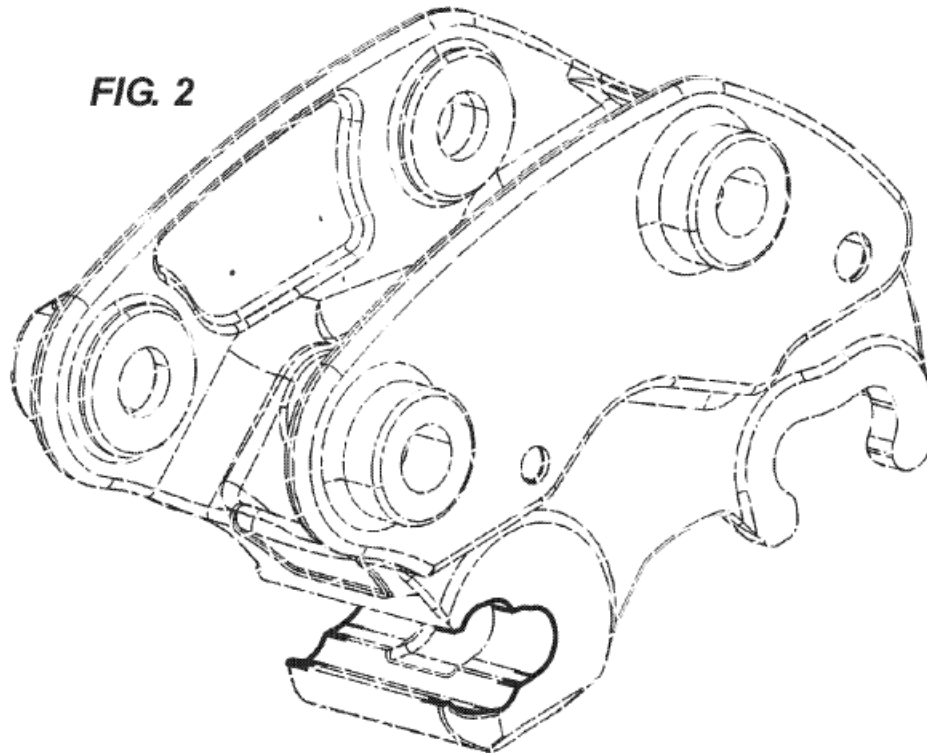
Figure 1 of Miller '112, above, is a side cut-away view showing coupler 10 having two holes 20 for attaching the coupler to an excavator arm (not shown), a rear jaw 22 and a front jaw 24 for engaging the pins of an accessory such as an excavator bucket. Ex. 1005, 22–23. Miller '112 explains that latch 34 associated with front jaw 24 “is adapted selectively to close the front jaw 24 for securing an attachment pin within the front jaw 24.” *Id.* at 24:13–14. Miller '112 also discloses an embodiment having the front latch painted a high-visibility color:

the second latch 34, in preferred embodiments *the second latch 34 is painted in a high visibility colour such as orange or red.* That is preferred since the second latch is one of the safety features of the coupler *that will nearly always be visible from the cab of the excavator* - it at least partially extends across the opening of the front jaw 24, and that opening generally faces towards the cab during normal use of accessories. The high visibility second latch 34, therefore, acts as a visible marker for confirming the correct or secure attachment of an accessory to the coupler 10, and that visual aid can be seen by the excavator operator from the within his cab.

Id. at 26:21–28 (emphasis added).

2. *Miller '062*

Miller '062 is a design patent and discloses an “ornamental design for a coupler for an excavator.” Ex. 1006, 1. The profile of the front jaw of the coupler is shown in solid lines of Miller '062's Figure 2, reproduced below.



As illustrated, above, Miller '062's Figure 2 shows a “coupler for releasably attaching an accessory to an arm of an excavator,” and the patent claims only the portion of the design illustrated in solid lines, “[t]hose features shown in broken lines form no part of the claimed design.” *Id.*

3. *Discussion*

Claim 12 of the '914 patent depends directly from claim 1 and reads as follows:

12. The coupler of claim 1, wherein a part of the first latching mechanism is visible in the jaw when the first latching mechanism is in a jaw-closing position, *and the part is painted*

in a high-visibility colour, or in a contrasting colour to the jaw,
for making it more readily visible from the cab of the excavator
through the opening of the jaw.

(Emphasis added). The first latching mechanism recited in claim 12 is, as shown in the drawings of the '914 patent, understood as associated with the front jaw of the claimed coupler and is consistent with the disclosure of front jaw 24 in Miller '112. *Compare* Ex. 1002, Figs 1–2, *with* Ex. 1005, Figs 1–2. Petitioner asserts, and we find, that Miller '112 discloses the additional limitation of a part of the first latching mechanism being visible from the cab of an excavator and “painted in a high-visibility colour,” as called for in claim 12. Pet. 54–55 (citing Ex. 1005, 3:6–7, 26:21–28, Fig. 17; Ex. 1002 ¶ 79). Petitioner reasons that a person of ordinary skill in the art would have known to use a highly visible color for part of the visible latch to confirm attachment and “doing so would enhance the safety of the coupler by allowing the operator in the excavator cab to determine whether the bucket or other accessory is properly attached to the coupler.” Pet. 55 (citing Ex. 1005, 26:21–28; Ex. 1002 ¶ 79).

Claim 23 also depends directly from claim 1 and presents certain additional limitations:

23. The coupler of claim 1, wherein the front jaw has a ridge or lip provided in an upper wall of its profile, *wherein the upper wall of the front jaw's profile extends further forwards, relative to the frame of the coupler, than the lower wall of that profile so as to overhang the lower profile*, wherein the lip or ridge is located in the overhanging area of that upper wall, and wherein the gap between the bottom of the ridge or lip and the free end of the lower wall of the profile of the front jaw has a length that is no less than the distance between that lower wall and that upper wall when instead measured diametrically therebetween.

(Emphasis added). Petitioner alleges, and we find, that Hill discloses an upper wall of the front jaw extending “further forwards” and “overhanging” the lower wall, and that Miller ’062 discloses a “lip” in the profile of the upper and lower walls. Petitioner contends that a person of ordinary skill in the art would have had a reason to combine Hill and Miller ’062 and locate a lip “in the upper and lower walls of the front jaw . . . which would provide some resistance to a bucket pin sliding out of the jaw.” Pet. 56–57 (citing Ex. 1002 ¶ 101; *KSR*, 550 U.S. at 420). Relying on its Declarant, Dr. Fronczak, Petitioner also asserts that the claimed “gap” is a structural condition which must exist for the front jaw to receive an accessory pin, “[i]ndeed, if the distance of the gap between the lip and the lower wall was less than the distance between the lower and upper walls, the accessory pin would be obstructed from entering the jaw.” Ex. 1002 ¶ 105; Pet. 59.

Based on the evidence presented in this proceeding, including giving some weight to Dr. Fronczak’s testimony, we agree with, and adopt as our own, Petitioner’s rationale to combine Hill, Miller ’805, and Miller ’112, as well as Hill, Miller ’805, and Miller ’062. We further determine that Petitioner has demonstrated by a preponderance of the evidence that these combinations would have rendered dependent claims 12 and 23 obvious.

IV. SUMMARY

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–23 and 39–42 of the ’914 patent are unpatentable over either Hill and Miller ’805; Hill, Miller ’805, and Miller ’112; or Hill, Miller ’805, and Miller ’062.

V. ORDER

For the reasons given, it is

ORDERED that claims 1–23 and 39–42 of the '914 patent are held *unpatentable*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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