

Paper No. 10
Filed: September 5, 2024

Filed on behalf of: Delta Power Equipment Corporation; Lowe's Home Centers, LLC; and Home Depot U.S.A., Inc.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DELTA POWER EQUIPMENT
CORPORATION; LOWE'S HOME CENTERS,
LLC; HOME DEPOT U.S.A., INC.
Petitioners,

v.

P & F BROTHER INDUSTRIAL CORPORATION,
Patent Owner.

IPR2024-00347
U.S. Patent No. 7,475,622 to Chang et al.
Issue Date: January 13, 2009
Title: Supporting Device for Mounting a Protective Cover to Shield a Cutting
Blade of a Cutting Machine

**PETITIONERS' REQUEST FOR REHEARING
OF
DECISION DENYING INSTITUTION**

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I. INTRODUCTION

On August 6, 2024, the Board declined to institute *Inter Partes* Review of U.S. Pat. No. 7,475,622 (the “’622 Patent”). IPR2024–00347, Paper 9 (“Decision”) at 20.

The challenged claims are directed to a supporting device with “a biasing member disposed on said shank adjacent to said rear end of said shank such that, as a result of displacement of said actuating body to the tightening position, said biasing member acquires an increment of a biasing force which biases said front end of said shank towards said supporting frame....” (“Limitation 1.13”).

The Board adopted Patent Owner’s incorrect argument that the prior art Gass patent (U.S. Pat. No. 7,827,890) “teaches a system that is arranged to achieve the opposite bias, i.e., the biasing member of Gass biases the front end of the shank away from said supporting frame.” (Decision at 18 – 19 (quoting Preliminary Response at 10) (emphasis in original).)

No other element of any claim was identified as missing from the prior art. (*See* Decision at 19 – 20.)

Respectfully, the Board’s decision misapprehended and/or overlooked Gass’s actual disclosure. As explained in both the Petition and the accompanying Declaration of Bruce Main (EX1004), Gass teaches a biasing member disposed on the shank adjacent to said rear end of the shank such that, as a result of displacement

of the actuating body to the tightening position, the biasing member acquires an increment of a biasing force which biases the front end of the shank towards the supporting frame.

Gass discloses that, as a result of displacement of the actuating body 470 (blue below) to the tightening (closed) position, the biasing member 456 acquires an increment of a biasing force which biases the front end (annotated in orange below) of the shank 452 (orange) towards the supporting frame 400 (red) to keep the actuating body in the tightening (closed) position.

(Petition at 36.)

235. Gass further discloses that, as a result of displacement of the actuating body 470 (blue below) to the tightening (closed) position, the biasing member 456 acquires an increment of a biasing force which biases the front end (annotated in orange below) of the shank 452 (orange) towards the supporting frame 400 (red). *Id.*, Figs. 49 & 53, 20:60-61 (“Spring 456 biases clamping plate 442 away from positioning plate 422 to help open the clamp....”), 22:18-23 (“[T]he spring may be sized and selected so that it applies 5 to 15 pounds of force against the clamping plate in the open position, and more force when compressed. In this manner, the spring biases the clamping plate out so that the mounting system opens when handle 490 is raised.”). Compressing a spring results in increased spring force.

(EX1004 at 109).

Despite the foregoing, and following the reasoning of the Patent Owner, the Board arrived at the conclusion that Gass’s clamp operates in a way directly contrary

to what Gass itself teaches. And directly contrary to physics, a person of ordinary skill in the art, and Isaac Newton.

The Board's misapprehension of Gass's teachings, and of the Petition, warrant rehearing and institution of all challenged claims of the '622 patent.

II. APPLICABLE LEGAL STANDARDS

This Request is authorized under 37 C.F.R. § 42.71(d). It has been filed within thirty days of the August 6, 2024 entry of a decision not to institute a trial. Under 37 C.F.R. § 42.71(d), this Request “must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.” 37 C.F.R. § 42.71(c) provides that a panel will review the decision for an abuse of discretion.

The Board abuses its discretion where its decision “(1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact findings; or (4) involves a record that contains no evidence on which the Board could rationally base its decision.” *Ultratec, Inc. v. CaptionCall, LLC*, 872 F.3d 1267, 1272 (Fed. Cir. 2017).

III. BASIS FOR RELIEF REQUESTED

Petitioner respectfully requests that the Board reconsider its Decision and institute review of the challenged claims. As explained in the Petition, prior art

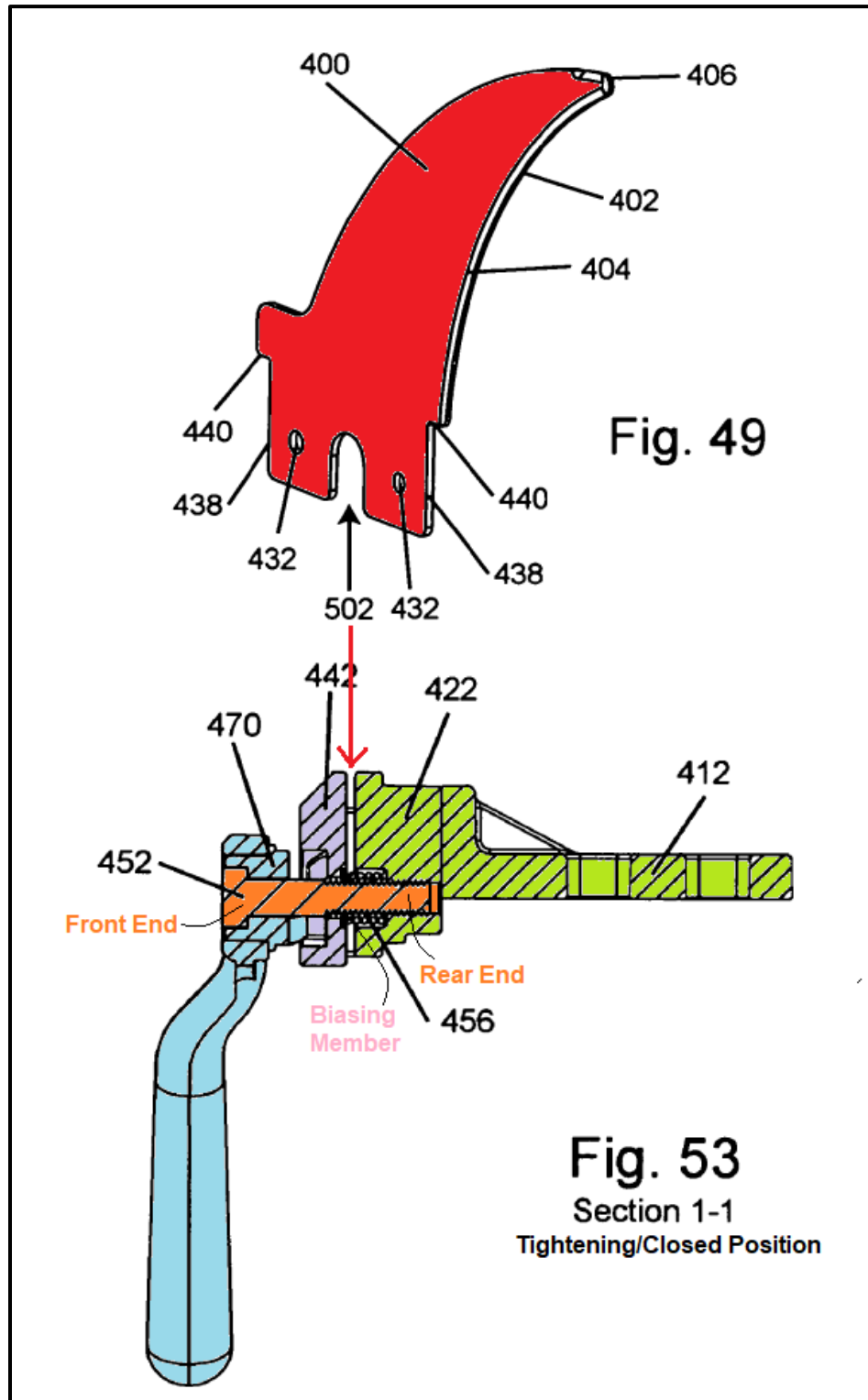
comprising (a) Gass, (b) what the '622 disclosure itself admits is prior art, (c) Burke, and (d) Garcia render claims 1, 2, 5, and 9 obvious.

The only claim limitation identified by the Board as missing from the prior art was Limitation 1.13:

“as a result of displacement of said actuating body to the tightening position, said biasing member acquires an increment of a biasing force which biases said front end of said shank towards said supporting frame so as to counteract the axial frictional force to thereby keep said actuating body in the tightening position.”

(Decision at 19.)

In evaluating this limitation, Petitioner used the following composite of Gass's Figs. 49 and 53, which was agreed to and used by Patent Owner (Preliminary Response at 10 – 11) and was also used by the Board in its decision. (Decision at 17):



“Composite Figure”

(Petition at 37.)

In considering Limitation 1.13, the Board made six observations:

As shown in Petitioner's annotated version of Figure 53 of Gass, mounting system 410 comprises mounting plate 412 (green), positioning plate 422 (green) bolted onto mounting plate 412, and clamping plate 442 (purple), which "works with positioning plate 422 to clamp and hold the riving knife in position." Ex. 1003, 20:40–41.

(Decision at 14 – 15.)

Bolt 452 (orange) passes through cam bushing 470 and clamping plate 442 and is threaded into hole 454 in positioning plate 422 to loosely connect the clamping plate to the positioning plate.

(Decision at 15 (red underlining emphasis added).)

Bolt 452 is threaded into hole 454

(Decision at 15 (red underlining emphasis added).)

Spring 456 surrounds bolt 452 and is at least partially contained in first circular recess 458 in positioning plate 422 (*see* Fig. 57) and in second circular recess 460 in clamping plate 442 (*see* Fig. 59).

(Decision at 15 (red underlining emphasis added).)

The base of the riving knife includes cut-out 502 to provide clearance for bolt 452 and spring 456 when the riving knife is inserted into mounting system 410. *Id.* at 22:29–31, Fig. 49.

(Decision at 15.)

From these first five observations, the Board additionally correctly observed:

Spring 456 is thereby compressed, which
“biases clamping plate 442 away from positioning plate 422 to help open the
clamp” when handle 490 is raised.

(Decision at 16.) This sixth observation is especially important – it is the key to understanding how the Board misapprehended and/or overlooked the functionality of the Gass apparatus. In the tightened position, in which, obviously, none of the components are in motion, compressed spring 456 indeed biases clamping plate 442 away from positioning plate 422. In the tightened position, clamping plate 442 is urged away from positioning plate 422 by the force resulting from the compression of spring 456. Stated another way, in the tightened position, clamping plate 442 “wants” to move away from positioning plate 422 because of the force resulting from compression of spring 456 when the Gass apparatus is in the tightened position.

Even though the six above–quoted observations by the Board about the Gass apparatus are accurate, the Board made a clearly erroneous rejection of Petitioners’ and Petitioners’ Declarant’s correct description of Gass’s device (cut–and–pasted above on Page 2 of this Request). The Board’s misapprehension of the Gass prior art disclosure has at least two aspects.

A. Biasing Positioning Plate 422 Away from the Riving Knife

A first end of spring 456 in Gass is “in second circular recess 460 in clamping plate 442.” (Decision at 15.) This first end is to the reader’s left in what has been

labeled the “Composite Figure” replicated on Page 5 above. The opposite, second end of the Gass spring 456 “is at least partially contained in first circular recess 458 in positioning plate 422” (Decision at 15). This second end is to the reader’s right in the “Composite Figure” replicated above on Page 5.

When compressed, the first end – the “left end” from the perspective of the “Composite Figure” replicated above on Page 5 – of the Gass spring 456 would, as accurately described by the Board, “bias[] clamping plate 442 away from positioning plate 422.” (Decision at 16.)

But the Board misapprehended and/or overlooked that the second end of the compressed Gass spring 456 – the “right end” from the perspective of the “Composite Figure” replicated above on Page 5 – biases positioning plate 422 away from clamping plate 442, to the right from the perspective of the “Composite Figure” replicated above on Page 5. The second end of spring 456 – its “right end” – must push to the right if its left end pushes to the left. That is the way springs work. The “right end” of spring 456 “is at least partially contained in first circular recess 458 in positioning plate 422.” (EX1003, Gass, Column 20, lines 55-58.) The only component against which the “right end” of spring 456 can push is positioning plate 422 because positioning plate 422 is where the “right end” of spring 456 resides. Compression of spring 456 therefore must bias positioning plate 422 to the right in the “Composite Figure” replicated on Page 5 above as much as it biases clamping

plate 442 to the left. That is the way springs work.

Notably, riving knife 400 experiences no force in either direction from the compression of spring 456 because riving knife 400 “includes cut-out 502 to provide clearance for bolt 452 and spring 456.” (Decision at 15.) Because clamping plate 442 is on the “left side” of riving knife 400 and positioning plate 422 is on the opposite “right side” of riving knife 400 from the perspective of the “Composite Figure” replicated on Page 5 above, the biasing of clamping plate 442 away from positioning plate 422 and the biasing of positioning plate 422 away from clamping plate 442 accomplishes what the Board held is a purpose of the assembly: “help open the clamp when handle 490 is raised.” (Decision at 16.) Biasing positioning plate 422 away from clamping plate 442 – to the right – is thus a necessary aspect of the Gass apparatus functionality.

B. Bolt 452 Is Threaded Into Positioning Plate 422

As articulated in Section III(A) above, positioning plate 422 is biased away from riving knife 400 when spring 456 is compressed – this is because spring 456 is compressed and one of its ends terminates at positioning plate 422.

Importantly, bolt 452 is threaded into positioning plate 422. The positioning plate 422 + bolt 452 combination therefore acts as a unified body. In whatever direction either may move, so too in that same direction must the other move. Likewise, in whatever direction either is biased, so too in that same direction the

other must also be biased.

Because Gass's positioning plate 422 is biased away from the "supporting frame" (the '622 patent's "supporting frame" is Gass's riving knife 400), and because the front end of Gass's bolt 452 is on the opposite side of Gass's riving knife 400 from positioning plate 422, to bias positioning plate 422 away from Gass's riving knife 400 necessarily requires biasing the front end of Gass's bolt 452 toward Gass's riving knife 400. Positioning plate 422 and bolt 452 are threaded together, so the bias must be in the same direction – to the right in the "Composite Figure."

Clamping plate 442 is biased away from riving knife 400 by the force of compressed spring 456. (Decision at 16.) It is held in position in the Gass assembly by the force of the front end of bolt 452, which is biased toward riving knife 400 by the force of compression spring 456. Those forces are equal and opposite, which is the equilibrium that holds clamping plate 442 in position and allows the clamp (noun) to clamp (verb).

A thought experiment illustrates the point. Suppose the Gass clamp assembly depicted in the "Composite Figure" was missing mounting plate 412. First, would turning handle 490 to a tightening position of such an assembly nevertheless hold riving knife 400? Of course – the dynamics of the tightening functionality of the Gass clamp do not depend on the presence of mounting plate 412 (mounting plate 412 just attaches the assembly to the table saw). Second, would beginning to loosen

such a device result in urging both the positioning plate 422 and clamping plate 442 away from each other and away from the until-then-clamped-between-them riving knife 400? Of course – each would be pushed away from each other by the compressed spring 456. Restated, each plate is biased away from the other, and beginning to loosen the clamp would allow each to move, relative to riving knife 400 which is not influenced by spring 456, as a result of that bias. Finally, would the force of the compressed spring 456, upon beginning to loosen the Gass device, urge (“bias”) bolt 452 to follow clamping plate 442 or urge it to follow positioning plate 422? Certainly, bolt 452 would be urged to follow positioning plate 422 – it has to be urged to follow positioning plate 422, because it is threaded to positioning plate 422. But the front end of Gass’s bolt 452 is on the opposite side of riving knife 400 from positioning plate 422. Thus, the front end of Gass’s bolt 452 must have been biased “towards said supporting frame” (riving knife 400) as positioning plate 422 is biased away from the supporting frame (riving knife 400). And that bias is what Limitation 1.13 requires.

Considering “bias” with a plain and ordinary meaning, in what direction are the relevant components “urged” by the compression of spring 456? What do the relevant components “want to do” as a result of the spring compression? With reference to the “Composite Figure” on Page 5, in the tightened position, compression of spring 456 makes the clamping plate 442 “want” to move left (as the

Board observed). And compression of spring 456 makes the positioning plate 422 want to move to the right – the compression is urging positioning plate 422 to move to the right. Bolt 452, threaded to positioning plate 422, therefore also necessarily has to “want” to move to the right and, because bolt 452 passes through riving knife 400, the front end of Gass’s bolt 452 also “wants” to move to the right toward riving knife 400. Which is what Limitation 1.13 requires.

C. The Effect of the Board’s Misapprehension of Gass

The Board based its decision not to institute upon the following understanding:

Gass teaches that spring 456

applies force to clamping plate 442 to push it away from positioning plate 422. *See, e.g.,* Ex. 1003, 20:60–62 (“Spring 456 biases clamping plate 442 away from positioning plate 422 to help open the clamp . . .”).⁹ Clamping plate 442 transfers this force to the front end of bolt 452 via the bolt head and cam bushing 470. *See id.* at 22:11–13, Fig. 53. Because positioning plate 442 holds riving knife 400 in the mounting system (*id.* at 20:25–38), pushing clamping plate 442 away from positioning plate 422 effectively biases front end of bolt 452 away from riving knife 400, which is the opposite of what claim 1 requires.

(Decision at 18 – 19.)

This understanding is wrong.

Spring 456 indeed applies force to clamping plate 442 to urge it away from positioning plate 422. But, as explained above, compression of spring 456 also

applies force to positioning plate 422 to urge it away from clamping plate 442. And riving knife 400 experiences no force in either direction from spring 456 because riving knife 400 “includes cut-out 502 to provide clearance for bolt 452 and spring 456.” (Decision at 15.) Because bolt 452 is threaded to positioning plate 422, its front end, which resides on the same side of riving knife 400 as clamping plate 442 and on the opposite side of riving knife 400 from the positioning plate 422, is urged toward riving knife 400. This is exactly what Limitation 1.13 requires. Thus the Board’s decision rests on clearly erroneous fact findings.

Is this disputable? No. The force from spring 456 to the clamping plate 442 – which the Board correctly assessed is to the left from the perspective of the “Composite Figure” replicated on Page 5 – must be opposed by an equal and opposite force to the right, else there would be movement of clamping plate 442. Isaac Newton said as much centuries ago. And that equal and opposite force is supplied by the front end of bolt 452 – axiomatically, there is no other structure to provide such a force rightward to oppose the other leftward force on clamping plate 442 by spring 456. The front end of bolt 452, urged to move to the right, holds clamping plate 442 in position and allows the clamp (noun) to clamp (verb).

Gass disclosed as much, in the context of Patent Owner’s ’622 patent, more than a year before the priority date of the ’622 patent, rendering the ’622 patent’s claims 1, 2, 5, and 9 obvious.

D. Test

As noted above, the Board correctly observed that, “Spring 456 is thereby compressed, which ‘biases clamping plate 442 away from positioning plate 422....’” (Decision at 16.) If the Board were also correct that the compression of Gass’s spring 456 “biases front end of bolt 452 away from riving knife 400” (Decision at 19), then positioning plate 422 would also have to be biased in the same direction as bolt 452 because bolt 452 and positioning plate 422 are threaded together. Thus, were the Board’s conclusion correct, in the illustration depicted in the “Composite Figure” above, positioning plate 422 would be biased to the left along with bolt 452.

But if positioning plate 422 were biased to the left, the Gass clamp would fail in its stated purpose of “help[ing] open the clamp when handle 490 is raised” (Decision at 16 (quoting Gass at Column 20, lines 60-62)) because the positioning plate 422 would follow clamping plate 442 to the left as the clamp was loosened.

Accordingly, for at least this additional reason, the Board’s reasoning and conclusion are incorrect. If, despite all of the foregoing, the Board continues even to suspect that the front end of Gass’s bolt might be biased away from the riving knife, such a functionality is certainly not explicit in Gass. Petitioners submit that such a suspected functionality would be a genuine issue of fact that should be explored through institution and trial.

In its Decision, the Board misapprehended and/or overlooked Gass's teaching that the front end of Gass's bolt is biased toward the riving knife upon compression of the spring. This led the Board to accept Patent Owner's erroneous argument that Gass operates the opposite from what Gass actually teaches.

IV. CONCLUSION

For the reasons set forth above, Petitioner respectfully requests the Board to reconsider its decision and institute *Inter Partes* review of the challenged claims.

Respectfully submitted,

September 5, 2024

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e)(4)(i) et seq. and 42.105(b), the undersigned certifies that PETITIONER'S REQUEST FOR REHEARING OF DECISION DENYING INSTITUTION, including all exhibits and supporting evidence, was served in its entirety on Patent Owner's counsel of record by filing this document through the End-to-End System, as well as via electronic mail to counsel of record for Patent Owner at the following addresses:

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September 5, 2024

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