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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN R. KUNZ

Appeal 2019-005406
Application 15/159,780
Technology Center 3600

Before JAMES P. CALVE, MICHELLE R. OSINSKI, and
BRANDON J. WARNER, *Administrative Patent Judges*.

CALVE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the decision of the Examiner to reject claims 1, 2, and 10–12 under 35 U.S.C. § 103 as unpatentable over Mennuto (US 4,953,258, iss. Sept. 4, 1990), Baker (US 8,561,260 B2, iss. Oct. 22, 2013), and Tillman (US 5,311,642, iss. May 17, 1994). Appeal Br. 2, 5. Claims 3–9 and 13–19 are cancelled. *Id.* at 2. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies John Evans’ Sons, Inc. as the real party in interest. Appeal Br. 2.

CLAIMED SUBJECT MATTER

Claims 1 and 10 are independent. Claim 1 is reproduced below with disputed limitations italicized.

1. In a window having a window sash, wherein said window sash travels in guide tracks between a fully open position and a fully closed position, a system for inhibiting drift movement of said window sash out of said fully open position, said system comprising:

a brake shoe having a spool post, wherein said brake shoe moves in one of said guide tracks with said window sash as said window sash is manually manipulated between said fully closed position and said fully open position;

a flexible locking finger extending from said brake shoe;

a coiled ribbon spring supported by said brake shoe about said spool post, wherein said coiled ribbon spring has a free end that can be extended away from said brake shoe;

a stop mounted to said one of said guide tracks at a fixed elevation, said stop having a bottom edge that faces said brake shoe in one of said guide tracks, wherein *said stop has a depression formed therein for receiving said flexible locking finger and an inclined surface that extends from said bottom edge to said depression to guide said flexible locking finger into said depression as said window sash moves toward said fully open position*, wherein said flexible locking finger engages said depression when said sash reaches said fully open position therein creating an interconnection that prevents said brake shoe from moving away from said stop until a threshold separating force is applied to said window sash to move said sash from said fully open position towards said fully closed position, and;

an anchor element extending from said stop that interconnects with said free end of said coiled ribbon spring, wherein said coiled ribbon spring biases said brake shoe toward said stop.

Appeal Br. 20–21 (Claims App.) (emphasis added).

ANALYSIS

Appellant argues the rejection of claims 1, 2, and 10–12 as a group, presenting the same arguments against the rejection of independent claims 1 and 10 and not arguing dependent claims 2, 11, or 12 separately. *See* Appeal Br. 6–19. We select claim 1 as representative. 37 C.F.R. § 41.37(c)(1)(iv).

Regarding claim 1, the Examiner cites Mennuto to teach a system for inhibiting drift movement of a window sash in a window with a brake shoe (balance shoe 16, 16A) that moves in a window guide track with a window sash. Final Act. 2. The Examiner finds that Mennuto teaches a stationary stop (spring holder 6, 6A) that is mounted to one of the guide tracks at a fixed elevation and includes a flexible locking finger (leaf spring 28) and spool posts 3, 5 to support coiled ribbon springs 2, 4 as claimed. *Id.*

The Examiner finds that Mennuto's spring holder 6, 6A supports the coiled ribbon spring 2, 4, as claimed, but it is mounted at a fixed elevation rather than movable in the track of the window as claimed. Final Act. 2–3. The Examiner also finds that Mennuto's brake shoe 16, 16A moves with a window sash, as claimed, but it does not support coil springs, and it includes a depression 22B, which the claims require to be part of a stop mounted to one of the guide tracks at a fixed elevation, rather than movable. *See id.*

The Examiner cites Baker to teach a movable brake shoe (carrier 40) supporting coiled ribbon spring 42 and including a locking finger (projection 80) that engages depression 124 on a stationary stop (mounting bracket 44) as claimed. *Id.* at 3. The Examiner determines it would have been obvious to modify Mennuto to have a smaller stop element that can be installed more easily in a tight space of a window track, as taught by Baker, and as a mere reversal of working parts involving only routine skill in the art. *Id.*; Ans. 9.

The Examiner recognizes that the modified system of Mennuto lacks a stationary anchor element with “an inclined surface that extends from said bottom edge to said depression to guide said flexible locking finger into said depression,” as claimed. Final Act. 3. The Examiner finds that Tillman uses an inclined surface of a fixed circular disc 32 to engage inclined surface 21 of a flexible locking finger (leaf spring 31) that extends from a movable shoe (slide 13). *Id.* at 3, 6–7. The Examiner also finds that the inclined surface of circular disc 32 contacts bevel 21 of slide 13 to guide locking finger 31 into a releasable connection with fixed circular disc 32, which is anchored in the door track, to hold the door in an open position as shown in Figure 8. *See id.*

The Examiner makes the following claim interpretation and findings:

The term “inclined” is defined as “sloping, slanting, or leaning”, or “deviating in a direction from the horizontal or vertical; sloping” (per <https://www.thefreedictionary.com/inclined>). “Incline” is also defined as “to deviate from a line, direction, or course; specifically: to deviate from the vertical or horizontal” (per <https://www.merriam-webster.com/dictionary/incline>). Thus, absent any special definition, the circular surface of the fixed stop element (32) of Tillman reads on the broadest reasonable interpretation of “inclined” as found in two reputable dictionaries, as it is clearly sloped and deviates in a direction from the horizontal or vertical. There is no special definition set forth by the Appellant for the term “inclined” that requires a planar or flat surface. The curved surface of the fixed stop element of Tillmann therefore reads on the claimed limitation “inclined surface”.

It is again noted that Mennuto discloses the claimed depression and bottom edge, as well as a surface leading from the bottom edge to the depression that guides the locking finger to the depression. *Tillmann is only relied upon to teach the use of an inclined surface engaged by a flexible locking finger.*

Ans. 8 (emphasis added).

Appellant argues that Tillman's circular disc 32 has a *curved surface* that cannot be considered an inclined surface that leads from a bottom edge to a depression of a stop as claimed. Appeal Br. 8, 13. Appellant argues that Tillman teaches a leaf spring 31 that is mounted to sidewalls of slide 13 and moves across a hard elastic circular disc 32 as the door opens and closes. *Id.* at 13. Appellant also argues that Tillman is non-analogous art that is not from the same field of endeavor as the claimed invention and not reasonably pertinent thereto either. *Id.* at 8, 12.

Is Tillman Analogous Art?

We first consider whether Tillman is analogous art to the claimed invention because “[g]enerally, a skilled artisan would only have been motivated to combine analogous art.” *In re Ethicon*, 844 F.3d 1344, 1349 (Fed. Cir. 2017). “A reference qualifies as prior art for a determination under § 103 when it is analogous to the claimed invention.” *Innovation Toys, LLC v. MGA Entm’t., Inc.*, 637 F.3d 1314, 1321 (Fed. Cir. 2011); *see also In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (“A reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the claimed invention.”) (citing *Innovation Toys*, 637 F.3d at 1321; *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004); *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992)).

Two separate tests define the scope of analogous prior art.

(1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

Klein, 647 F.3d at 1348 (quoting *Bigio*, 381 F.3d at 1325).

The PTO determines the appropriate field of endeavor by reference to explanations in the patent application to include the embodiments, function, and structure of the claimed invention. *Bigio*, 381 F.3d at 1325. References with the same structure and function as the claimed invention as perceived by a skilled artisan are within the same field of endeavor. *See id.* at 1326.

“A reference is reasonably pertinent if . . . it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *Clay*, 966 F.2d at 659. In addition, “[i]f a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and that fact supports use of that reference in an obviousness rejection.” *Id.* “The identification of analogous prior art is a factual question.” *Bigio*, 381 F.3d at 1324.

Tillman is in the Same Field of Endeavor

The Examiner finds that Tillman is in the same field of endeavor as the claimed invention because both are directed to “hold-open mechanisms for closure wings.” Ans. 3–4. The Examiner finds that Tillman’s hold-open mechanism for a door is structurally and functionally similar to the claimed invention because it includes a moving locking member coupled to a closure wing and slidably movable to engage a fixed stop member. *Id.* at 4.

Appellant argues that “Tillman is not in the same field of endeavor as the present invention being claimed [because] [t]he Tillman Patent is not a window counterbalance system.” Appeal Br. 8.

Appellant is correct that counterbalance systems for windows are part of the Field of Invention. Spec. 1:15–16. However, the Field of Invention relates more broadly to structures of the brake shoe and spring mount “that interconnect to inhibit unintentional movement.” *Id.* at 1:18–23.

The claimed mechanical connection 24 includes a flexible finger 26 on a movable brake shoe 12 and a depression in a fixed stop mount 16. In use, the flexible finger 26 rides up an inclined surface 36 on stop mount 16 and engages depression 34 to interconnect brake shoe 12 (and window sash) to stop mount 16 in a window frame and hold the sash in an open position.

Tillman teaches a holding unit with a similar structure and function to hold a door in an open position. Tillman, 1:10–19, 3:24–36. Elastic legs 31 form a holding element 25 on a movable slide 13 and releasably connect to a fixed abutment in the form of a hard elastic circular disc 32 in Figure 10 of Tillman. *Id.* at 4:24–50. Inclined surface 21 of elastic legs 31 engages the similar inclined surface of disc 32, so slide 13 and flexible legs 21 releasably connect to disc 32 to fix a door in an open position. *Id.*; *see id.* at 3:24–55.

Appellant’s argument that Tillman is not in the same field of endeavor as the claimed system because it “is not a window counterbalance system” is not persuasive because it does not explain why the structure and function of the claimed connection system would be perceived as different to a skilled artisan than the structure and function of Tillman’s system, which holds a movable element in an open position using similar structure, as the Examiner finds. Ans. 3–4; *see also In re Berg*, 320 F.3d 1310, 1315 (Fed. Cir. 2003) (“As persons of scientific competence in the fields in which they work, examiners and administrative patent judges on the Board are responsible for making findings, informed by their scientific knowledge, as to the meaning of prior art references to persons of ordinary skill in the art and the motivation those references would provide to such persons. Absent legal error or contrary factual evidence, those findings can establish a prima facie case of obviousness.”).

Based on the evidence of record before us, we determine that Tillman is in the same field of endeavor as the claimed system. It includes a flexible finger secured to a movable door to engage a fixed abutment in a door frame using a depression to hold a movable closure (i.e., door) in an open position. As the Examiner also finds, windows and doors are similar structures with the same function as *closure wings* (see Ans. 3–4) of an aperture in a frame.

Tillman is Reasonably Pertinent to Inventor’s problem

We also determine that Tillman is reasonably pertinent to the problem addressed by Appellant. Appellant and the Examiner agree that this problem is retaining a window in an open position. Ans. 4; Appeal Br. 7. To solve this problem, Appellant designed a hold-open mechanism to hold a window releasably in an open position. We agree with the Examiner that Tillman teaches a similar hold-open mechanism used to hold a door releasably in an open position against closing forces acting on it. Ans. 4.

If a reference has the same purpose as the claimed invention, it relates to the same problem, and that fact supports the use of that reference in an obviousness rejection. *Clay*, 966 F.2d at 659. Appellant acknowledges that Tillman is “a device for holding open a door.” Appeal Br. 7. In Tillman, a flexible leaf spring finger 31 of a movable slide 13 that is attached to a door engages a fixed abutment 32 attached to a door frame to releasably hold the door in an open position like the claimed hold-open mechanism. Tillman, 1:10–19, 1:45–2:26, 3:42–4:64. The Examiner reasonably determines that windows and doors have significant overlap in structure and function, and a skilled artisan would be aware that the problem of holding such closures open exists for doors and windows. Ans. 4. Appellant’s arguments do not address these findings and thus do not apprise us of Examiner error.

Appellant’s solution was a releasable latch (a flexible finger) on an element that moves with a window sash engaging a depression on a structure fixed in the window track to hold a sash in an open position against gravity and other forces tending to close it. Spec. 9:12–10:24. Tillman teaches a similar releasable latch used to retain a similar structure of a door in an open position. Both latches are releasable by the application of sufficient force so the window/door may be closed. Tillman, 1:14–19, 5:13–25; Spec. 10:3–24.

In *Paulsen*, the court determined that an inventor considering a hinge and latch mechanism for portable computers would consider references that used other housings, hinges, latches, and springs such as a desktop telephone directory, a piano lid, a kitchen cabinet, a washing machine cabinet, a wooden furniture cabinet, and a two-part housing for storing audio cassettes. *In re Paulsen*, 30 F.3d 1475, 1481–82 (Fed. Cir. 1994) (cited with approval in *ICON health*, 496 F.3d 1374, 1380 (Fed. Cir. 2007)).

Does Tillman Teach an Inclined Surface?

“Tillman is only relied upon to teach an inclined surface.” Ans. 8.

The circular disc 32 of Tillmann is not the flexible finger, but is instead relied upon to teach the claimed incline and depression of the stop element. . . . Flexible finger 31 is provided on the sliding shoe 13. When the finger 31 approaches the disc 32, the inclined surface 21 of the finger and the inclined surface of the disc 32 engage each other, deflecting the finger until it engages behind the disc in a depression defined by the disc and the rest of the stop element. Therefore, *Tillmann is relied upon to teach the use of an inclined surface on a stop to deflect a flexible finger. The overall structure of the finger and the stop of Mennuto is not modified by Tillman, other than to include an incline on the stop.*

Final Act. 6–7 (emphasis added).

The Examiner cites the following definitions of “inclined.”

“[I]nclined” is defined as “sloping, slanting, or leaning”, or “deviating in a direction from the horizontal or vertical; sloping” (per <https://www.thefreedictionary.com/inclined>).

“Incline” is also defined as “to deviate from a line, direction, or course; specifically: to deviate from the vertical or horizontal” (per <https://www.merriam-webster.com/dictionary/incline>).

Ans. 8. The Examiner determines that, absent any special definition in the Specification, “the circular surface of the fixed stop element (32) of Tillman reads on the broadest reasonable interpretation of ‘inclined’ as found in two reputable dictionaries, as it is clearly sloped and deviates in a direction from the horizontal or vertical.” *Id.* (“Tillman is only relied upon to teach the use of an inclined surface engaged by a flexible locking finger.”).

Appellant disagrees and argues the following:

If the claimed “inclined surface” is considered the circular disc 32, as stated by the Examiner, the reference is unreasonable. The Applicant claims an inclined surface that leads from a bottom edge to a depression. The circular disc 32 is obviously a circle. As such, it does have curved surfaces. However, nothing on the circular disc can be considered an inclined surface that leads from a bottom edge to a depression. The circular disc 32 is a circle. As such, it has no bottom edge. Likewise, as a circle, it has no depressions.

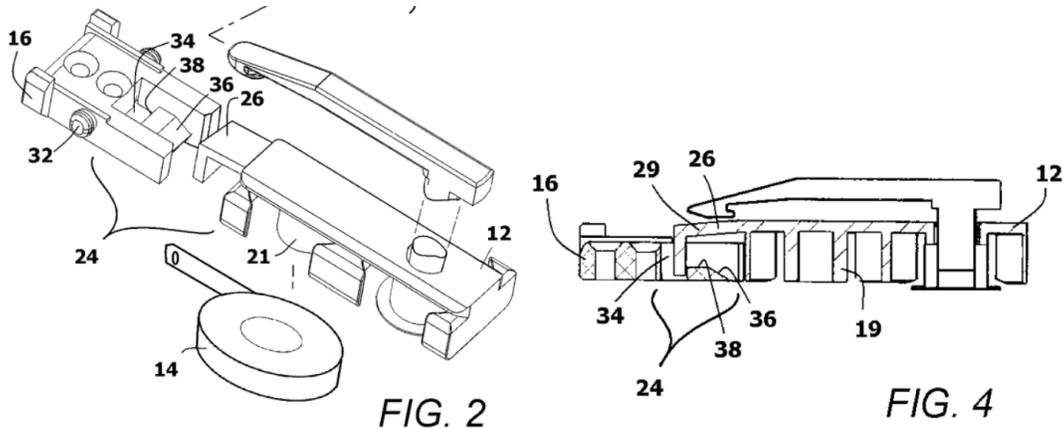
Appeal Br. 8.

We interpret the limitation “inclined surface” to mean a surface that “slopes, slants, leans, or deviates in a direction away from a horizontal or a vertical direction.” This meaning is consistent with the ordinary meaning of “incline” presented in the dictionaries cited by the Examiner in the Answer and reproduced above.

This meaning also is consistent with the Specification which provides:

The depression 34 presents an inclined surface 36 at the bottom edge of the stop mount 16. The inclined surface 36 extends into the depression 34 and terminates with a ledge 38.

Spec. 9:27–10:3. Appellant’s Figures 2 and 4 are reproduced below.

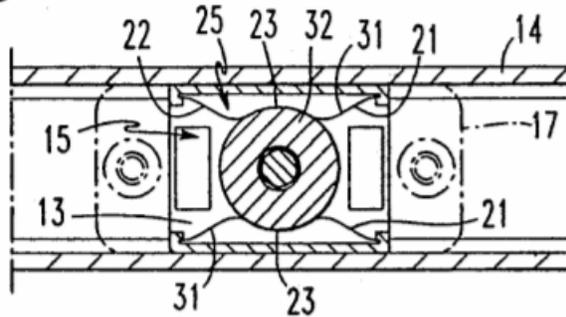


Appellant’s Figure 2 is a perspective view of brake shoe 12 and its flexible finger 26 that connects to depression 34 in stop mount 16 by riding up on inclined surface 36 to ledge 38 and then to depression 34. Spec. 7:14–26, 9:25–10:3. Figure 4 is a section view of brake shoe 12 connected to stop mount 16 via finger 26 disposed in depression 34. *Id.* at 10:3–15.

As illustrated in Appellant’s drawings, inclined surface 36 “slopes, slants, leans, or deviates in a direction away from a horizontal or a vertical direction,” e.g., in comparison to horizontal ledge 38 or the vertical end of flexible finger 26 (not enumerated in the drawings).

We agree with the Examiner that Tillman’s circular hard disc 32 has an “inclined surface” as we interpret that term. As illustrated in Figure 10 of Tillman, which is reproduced below, the curved outer surface of disc 32 slopes, slants, leans, and deviates in a direction away from a horizontal or a vertical direction. Ans. 8–9.

Fig. 10



Tillman's Figure 10 illustrates a fixed circular disc 32 whose curved outer surface engages leading edge bevel 21 of movable slide 13 until disc 32 is captured in catch 32 formed in leaf spring 31. Tillman, 4:39–50.

We do not interpret “surface” in “inclined surface” to require a flat or planar surface absent a lexicographic definition in the Specification, which Appellant does not argue, and we do not find. *See* Ans. 8; Appeal Br. 8.

Moreover, Tillman teaches the equivalence of the inclined surface of circular disc 32 with a flat or planar inclined surface for engaging a flexible finger. As illustrated in the Figure 7 of Tillman, reproduced below, the fixed abutment 31 has flat or planar inclined surfaces that engage similar, inclined leading and trailing bevels 21, 22 of elastic leg 19. *See* Tillman, 4:24–38.

Fig. 7

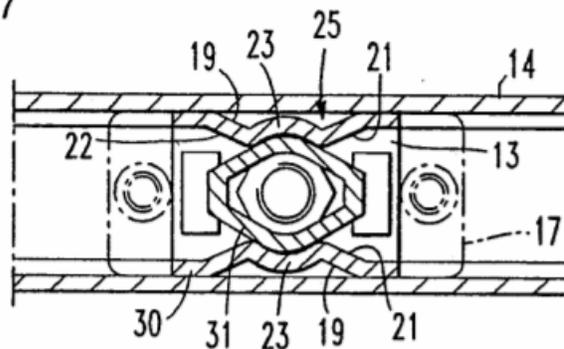


Figure 7 of Tillman illustrates a diamond-shaped abutment 31 with inclined surfaces (at 31) that engage bevels 21, 22 of leg 19. *Id.*

The principles of operation of Figures 7 and 10 are similar except the flexible legs in Figure 10 are leaf springs 31 not elastic legs 19 as in Figure 7 and they engage disc 32 instead of diamond shape 31. *See id.* at 4:24–50.

This art-recognized equivalence of the inclined surfaces of disc 32 and diamond-shaped abutment 31 for engaging inclined bevel surfaces 21, 22 of flexible legs 19 also supports the Examiner’s finding that Tillman teaches an inclined surface that guides an inclined flexible finger as claimed. Indeed, “[a] reference must be considered for everything it *teaches* by way of technology and is not limited to the particular *invention* it is describing and attempting to protect.” *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985); *see also In re Mouttet*, 686 F.3d 1322, 1331 (Fed. Cir. 2012) (“A reference may be read for all that it teaches, including uses beyond its primary purpose.”).

Thus, to releasably hold a door in an open position, Tillman uses a flexible finger 19 with an inclined surface (leading bevel 21) on movable slide 13 to engage an inclined surface on an abutment (diamond 31, disc 32) fixed in a door frame. The cooperating, complementary, inclined surfaces on the flexible finger and the fixed abutments facilitate the connection.

Motivation to Combine

Tillman’s teachings also support the Examiner’s modification of Mennuto “to have the inclined surface taught by Tillman . . . to ensure reliable movement of the finger to the locked position, so as to prevent jamming of the window before it is able to reach a fully open position.” *Ans. 10*; *see KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (the use of a known technique in one device is obvious to try in another for similar benefits unless its application is beyond the level of skill in the art).

We are not persuaded that merely providing Mennuto's shoe 16, (which already has a depression) with an inclined surface, as taught by Tillman for the very same purpose, namely, to facilitate engagement of Mennuto's flexible leaf spring 28 and detent 22 of shoe 16, would change Mennuto's principle of operation. *See* Appeal Br. 14.

To the contrary, application of Tillman's teachings to Mennuto would improve Mennuto similarly and complement Mennuto's own design because Mennuto's finger leaf spring 28 is configured with a beveled leading edge in the same manner as Tillman's flexible fingers 19, 31 have a leading bevel 21 to engage an inclined surface of a diamond-shaped or circular abutment as discussed above. Tillman provides an inclined surface on a fixed abutment to engage a complementary beveled surface of a movable, flexible finger to facilitate the interconnection of the movable slide 13 and abutment. The Examiner proposes to improve Mennuto the same way by adding an inclined surface on shoe 16 to engage a similar, beveled surface on leaf spring 28. *See* Final Act. 6 (Mennuto "discloses deflection of the finger based on engagement of an inclined surface [of leaf spring 28] at the stop.").

Accordingly, we sustain the rejection of claim 1 and claims 2 and 10–12, which fall with claim 1.

CONCLUSION

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------|--------------------|---------------------------|-----------------|-----------------|
| 1, 2, 10–12 | 103 | Mennuto, Baker, Tillman | 1, 2, 10–12 | |

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2019-005406
Application 15/159,780

AFFIRMED