

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte WILLI DERKS, HANS-JURGEN REISMANN and EGON SIPPEL

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Appeal No. 2000-0590  
Application No. 08/019,500

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ON BRIEF

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Before ABRAMS, FRANKFORT, and NASE, Administrative Patent Judges.  
ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision<sup>1</sup> on appeal from the examiner's final rejection of claims 2, 4-11 and 13. Subsequently, claims 2, 4, 5, 7 and 13 were canceled, and claim 14 was added, leaving claims 6, 8-11 and 14 before us on appeal.

We REVERSE.

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<sup>1</sup>The Board rendered a previous decision in this application, wherein the examiner's rejections under 35 U.S.C. § 103 were reversed and a new rejection under 35 U.S.C. § 112, second paragraph, was entered (Paper No. 21, mailed Dec. 11, 1997).

BACKGROUND

The appellants' invention relates to a rolling mill stand. An understanding of the invention can be derived from a reading of exemplary claim 14, which appears in the appendix to the appellants' Brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Soderberg <u>et al.</u> (Soderberg)	1,865,286	Jun. 28, 1932
Bond	4,557,130	Dec. 10, 1985
Poloni <u>et al.</u> (Poloni)	4,907,437	Mar. 13, 1990
Seto <u>et al.</u> (Seto)	5,031,435	Jul. 16, 1991

Claims 6, 8 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Soderberg in view of Bond.

Claim 9 stands rejected under 35 U.S.C. § 103 as being unpatentable over Soderberg in view of Bond and Seto.

Claims 10 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Soderberg in view of Bond, Seto and Poloni.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the Answer (Paper No. 29) for the examiner's complete reasoning in support of the rejections, and to the Brief (Paper No. 28) and Reply Brief (Paper No. 30) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The appellants' invention is directed to improvements in rolling mill stands with regard to allowing improved accessibility of the yokes that support the rollers so that the rollers can be replaced easily. As manifested in independent claim 14, the invention comprises a stand comprising horizontal and vertical rolls, spaced first and second drive roll stand posts parallel to each other for supporting the rolls, with the second post being axially movable relative to the first, bearing means located in the roll stand posts for supporting the horizontal rolls therein, a horizontal guide frame located in each of the roll stand posts for supporting a respective vertical roll therein, tie rods for connecting the horizontal guide frame to the roll stands, an adapter for receiving the respective vertical rolls arranged in said horizontal guide frame and having "spaced separate horizontally extending top and bottom plates" for holding a vertical support axle for supporting a vertical roll, the guide frame comprising a recess for the adapter and "accessible from a space between said first and second roll stand posts," and

a U-shaped abutment part located in said recess for positioning said adapter in said recess, wherein said guide frames are configured in two

parts, an adapter support part and a crosshead connected to said adapter support part and located on a side of a respective roll stand post remote from the space between said roll stand posts,

wherein the universal rolling mill stand further comprises a vertical roll screw-down or adjustment system disposed in each crosshead, said U-shaped abutment part being disposed between said adapter and said roll screw-down or adjustment system.

As explained on page 4 of the specification, this arrangement causes the vertical and the horizontal rolls to be exposed and accessible from the inside of the space between the pulled apart stand posts, and permits adjustment of the vertical rolls in the horizontal plane.

It is the examiner's view that all of the claimed structure is disclosed by Soderberg, with the exception that the Soderberg spaced apart horizontal support plates are not separate, the guide frames are not of two-part construction, and the vertical roll screw-down or adjustment system is not located in accordance with the claim. In the examiner's opinion, however, whether or not the horizontal support plates are separate is a matter of design choice, and it would have been obvious to reconfigure the vertical roll guide frames and the roll adjustment system to the manner recited in claim 14 in view of the teachings of Bond. The appellants argue that one of ordinary skill in the art would not have been motivated to combine the teachings of the two references in the manner proposed by the examiner because it would result in complete destruction of the intended arrangement in Soderberg, and that even if such were done, the result would not be the claimed invention (Brief, pages 11 and 12).

Soderberg discloses, inter alia, a roll mounting arrangement in which each of the vertical rolls is fixedly mounted in a chuck (32). The opening in the chuck that faces the space between the roll stand posts is closed by a removable cap 40 (Figure 6). As explained on page 3, at line 11 et seq. and shown in Figure 2, the chuck is secured to a cross-head (56), and adjustment of the position of the vertical rolls in the horizontal plane is accomplished by moving the cross-head by means of a pair of flanking screw shafts (67) which are far removed from the location of the roll itself. This differs in concept from the appellant's system, in which the adjusting mechanism is located within a recess in the guide frame, immediately adjacent to the adapter (chuck) that holds the vertical roll, and the vertical roll is moved with respect to the guide frame. With regard to claim 14, it is our view that Soderberg fails to disclose a horizontal two-part guide frame having a recess in which an adapter for receiving the vertical roll is positioned, with the guide frame comprising an adapter support part and a crosshead located on the side of the roll stand post remote from the space between the posts, a U-shaped abutment part located in the recess for positioning the adapter in the recess, and a vertical screw-down or adjustment system disposed in each crosshead, the U-shaped abutment part being disposed between the adapter and the roll screw-down or adjustment system.

Bond discloses a system for adjusting the position of a vertical roll in the horizontal direction which comprises a chuck (43; Figure 3) that holds the vertical roll. The chuck is

similar to that of Soderberg. A one-piece guide frame (15) defines a recess within which the chuck is slidably mounted, and an adjusting screw (45) moves the chuck and the vertical roll mounted thereon within the recess in the guide frame. The adjusting screw is located between the chuck and the cross-piece of the guide frame.

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a prima facie case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine the reference teachings to arrive at the claimed invention. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988).

Soderberg states that “[t]he way in which the vertical rolls 5 and 6 are rotatably mounted in the roll chucks and the way in which the chucks are mounted in the windows of the roll housings . . . form novel and important features of our invention” (page 2, lines 1-6). Basic to this arrangement is that a substantial portion of the rolling mill structure is moved

along with the vertical roll and its chuck by the action of a pair of spaced screws located remotely from the chuck. While Bond teaches that it was known in the art at the time of the appellants' invention to adjust the horizontal position of the vertical roll more directly by screw means mounted in the vertical roll guide means, the mere fact that the Soderberg structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). In the present case, we fail to perceive any teaching, suggestion or incentive in either Soderberg or Bond which would have led one of ordinary skill in the art to modify the Soderberg apparatus by replacing the disclosed adjustment means with the one of Bond. Moreover, to do so would necessitate a wholesale reconstruction of the Soderberg rolling mill, in the course of which what is characterized by Soderberg as "a novel and important" feature of the invention would be discarded; that, in our opinion, would act as a disincentive for one of ordinary skill in the art to do so.

In addition, even if one were to combine the two references in the manner proposed by the examiner, the resulting construction would fail to include the separate spaced-apart top and bottom support plates for the roll axle and the two part guide frame, which the appellants assert provides advantages over the prior art systems and which the examiner has simply written off, without providing any reasoning or evidence, as design choices.

It therefore is our conclusion that the combined teachings of Soderberg and Bond fail to establish a prima facie case of obviousness with regard to the subject matter recited in independent claim 14. This being the case, we will not sustain the rejection of claim 14 or, it follows, of dependent claims 6 and 8.

Dependent claim 9 stands rejected on the basis of the references cited against claim 14, taken further with Seto, which is cited for its teaching of using multi-part horizontal rolls so as to enable the mill to produce products of various sizes. Be this as it may, Seto does not overcome the shortcomings we have focused upon above in the basic combination of Soderberg and Bond, and therefore we will not sustain this rejection.

We reach the same conclusion with regard to dependent claims 10 and 11, wherein Poloni has been added to the other three references for its teaching of using eccentric adjustment means for horizontal rolls.

#### SUMMARY

None of the rejections are sustained.

The decision of the examiner is reversed.

REVERSED

NEAL E. ABRAMS  
Administrative Patent Judge

CHARLES E. FRANKFORT  
Administrative Patent Judge

JEFFREY V. NASE  
Administrative Patent Judge

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Appeal No. 2000-0590  
Application No. 08/019,500

Page 10

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