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for publication and is not binding precedent of the Board.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

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte JEAN DRILLON and JEAN-LUC AUBIN

Appeal No. 2003-0651
Application No. 09/348,761

ON BRIEF

Before MCQUADE, STAAB and BAHR, Administrative Patent Judges.

BAHR, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 13 and 14 as amended (see Paper Nos. 24 and 25) subsequent to the final rejection (Paper No. 21). No other claims are pending in this application.

We REVERSE.

BACKGROUND

The appellants' invention relates to a mandrel for forming a guide tube of a nuclear reactor fuel assembly (specification, page 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The examiner relied upon the following prior art references in rejecting the appealed claims:

Delans	3,610,012	Oct. 5, 1971
Druyan et al. (Druyan) (Soviet Union patent specification)	710692	Jan. 28, 1980[1]

The following is the sole rejection before us for review.[2]

Claims 13 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Delans in view of Druyan.

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

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[1] We derive our understanding of this reference from the English language translation appended to appellants' brief.

[2] The rejections under 35 U.S.C. § 112 have been withdrawn (see Paper No. 25).

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.

Delans discloses a one pass rolling mill comprising a pair of rolls 10, 11 and a rolling mill plug 14 having a configuration which includes a plurality of "frusta-conical" portions 17, 18, 19 respectively spaced longitudinally from one another by cylindrical portions 20, 21, 22 which are of different diameters and lengths (column 2, lines 20-24). As disclosed in column 3, line 14 et seq., the working of the metal of the pierced shell (blank) S occurs primarily on the three intermediate portions 18, 21 and 19 of the rolling mill plug 14. The leading "frusta-conical" portion 17 and the following cylindrical portion 20 also function in stopping cobble which occurs due to irregularity in the inner surface of the pierced shell S and additionally ensure the proper alignment of the one pass rolling mill plug with the pierced shell S (column 3, lines 36-41). Delans lacks first and second symmetrical parts of revolution each having "a symmetrical surface of revolution and a meridian of parabolic shape and a part for calibrating said at least one main part and said reinforced part of said guide tube, respectively" as called for in paragraph d) of claim 13. Specifically, none of the portions of Delans' rolling mill plug has a meridian of parabolic shape; all surfaces are either "frusta-conical" or cylindrical.

Druyan discloses a transverse helical roller for use in the tube-rolling industry comprising an entry cone whose generatrix is formed from smoothly joined concave 1 and convex 2 arcs, ridge 3, expander or sizing section 4 and exit cone 5. The concave and convex arcs may have a common chord AB passing through the starting point of the generatrix of the entry cone and the ridge. According to Druyan, this concave/convex curvilinear entry cone provides a smooth change in the speed of the billet when the deformation area is being filled, thereby reducing the dynamic loading on the rollers at the moment the billet is grasped by the rollers and increasing the reliability with which the deformation area is filled by metal and increasing the durability of the rollers and quality of the product. Druyan never uses the term "parabolic" to describe the shape of the concave and convex arcs but does disclose (translation, page 3) that the concave and convex arcs may, for example, have a constant radius of curvature.[3]

The examiner's position appears to be that it would have been obvious to one of ordinary skill in the art at the time of appellants' invention to provide a surface of revolution as taught by Druyan on the rolling mill plug of Delans to reduce dynamic loading on the rolls and thereby improve service life and product quality (see answer, page 3). Appellant argues that Druyan does not disclose or suggest parabolic surfaces (brief, page 7) and urges that, even if Delans and Druyan were combined, appellants' invention as recited in claim 13 would not result.

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[3] An arc having a constant radius of curvature would not be parabolic.

Even assuming that Druyan would have suggested modification of Delans' rolling mill plug to provide concave and convex surfaces to provide a smooth change in speed as the pierced shell is grasped by the rolls, the examiner has not explained, and it is not apparent to us, how appellants' invention as recited in claim 13 (most particularly the limitations in paragraph d) thereof) would result. It thus follows that we cannot sustain the examiner's rejection of claim 13 or claim 14[4] which depends from claim 13.

[4] We interpret claim 14 as being directed to the pilgrim rolling mill assembly of claim 13, including both the stepped mandrel and the cooperating die means recited in claim 13, since claim 14 depends from claim 13. Claim 14, which recites "[t]he mandrel according to claim 13," is nevertheless deserving of correction to clarify this inconsistency.

CONCLUSION

To summarize, the decision of the examiner to reject claims 13 and 14 under 35 U.S.C. § 103 is reversed.

REVERSED

JOHN P. MCQUADE Administrative Patent Judge	)
LAWRENCE J. STAAB Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
JENNIFER D. BAHR Administrative Patent Judge	)

JDB/eld

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