

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

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT J. KOFFRON

Appeal No. 1997-4237
Application No. 08/665,992

HEARD: January 23, 2001

Before GARRIS, KRATZ, and PAWLIKOWSKI, **Administrative Patent Judges.**

PAWLIKOWSKI, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-18, which are all of the claims pending in this application.

The subject matter on appeal is illustrated in claim 1, which reads as follows:

A method of maximizing clean metal pour from a side-tapped tilting furnace during the last about 20% of metal pour, substantially avoiding operator judgment, comprising:
providing means for measuring the angle of tilt of said furnace while discharging liquid metal from said side tap into a ladle;
measuring the amount of metal contained in said furnace before said discharge into said ladle;
measuring the volume of metal discharged into said ladle;
determining the amount of metal residuum remaining in said furnace from said volume of metal discharged into said ladle;

adjusting said angle of tilt of said furnace to an optimal angle which provides for minimal slag entertainment in liquid metal pouring through said tap, said optimal angle calculated as a function of the furnace geometry and historical data of furnace lining wear, for said amount of metal residuum.

The references relied upon by the examiner are as follows:

Tenberg et al. (Tenberg)	4,544,140	Oct. 1, 1985
Labate	4,799,650	Jan. 24, 1989
Ford et al. (Ford)	4,986,517	Jan. 22, 1991
Petrushka et al. (Petrushka)	5,203,909	Apr. 20, 1993

Claims 1-12, 15, and 18 stand rejected under 35 U.S.C. ' 112, paragraph 2.

Claims 1-4, 6-8, and 10 stand rejected under 35 U.S.C. ' 102(b) as being anticipated by Ford.

Claims 1-4, 6-8, and 13-16 stand rejected under 35 U.S.C. ' 103 as obvious over Petrushka in view of Ford.

Claims 5, 17, and 18 stand rejected under 35 U.S.C. ' 103 as obvious over Petrushka in view of Ford, and further in view of Tenberg.

Claims 9-12 stand rejected under 35 U.S.C. ' 103 as obvious over Petrushka in view of Ford, and further in view of LaBate.

OPINION

For the reasons set forth below, we reverse each of the above-noted rejections.

The 35 U.S.C. ' 112, Paragraph 2 Rejection

The examiner rejects claims 1-12, 15, and 18 as being indefinite under 35 U.S.C. ' 112, paragraph 2.

35 U.S.C. ' 112, paragraph 2, provides that A[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which applicant regards as his invention.® This requires only that the claims set out and

circumscribe a particular area with a reasonable degree of precision and particularity. In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

Here, the examiner asserts that the claims are indefinite regarding the optimal tilt angle and that therefore any angle could be optimal. (Answer, pages 3 and 4).

Appellant points out that his specification adequately defines the optimal tilt angle, and that therefore the claims are definite in this regard. (Brief, page 5).

Moreover, pages 15 and 16 of appellant's specification describes how the optimal tilt angle is determined, using sensors which measure the degree of tilt, the amount of metal poured into the ladle, the slag height, and an algorithm tailored to the historically determined optimal tilt angles or calculated from furnace geometry.

Therefore, in light of the specification, the challenged language is sufficient for defining the subject matter of the claims, and we reverse the examiner's rejection.

II. The Art Rejections

A. The 35 U.S.C. ' 102(b) rejection of claims 1-4, 6-8, and 10 as being anticipated by Ford

The examiner states that Ford teaches all of the aspects of rejected claims 1-4, 6-8, and 10. (Answer, page 4). Appellant argues, *inter alia*, that his claimed invention adjusts to the changing wear conditions of the furnace lining, and that Ford does not disclose this aspect of his claimed invention. (Brief, pages 7 and 8).

We agree with appellant's statement mentioned above. That is, we cannot find any disclosure in Ford that satisfies the limitation of "Asaid optimal angle calculated as a function of the furnace geometry and historical data of furnace lining wear" as recited in appellant's method claim 1. Nor does the examiner specifically point out any disclosure in Ford that sets forth this limitation or any structure capable of performing this function.

Hence, we reverse the 35 U.S.C. ' 102(b) rejection of claims 1-4, 6-8, and 10 as being anticipated by Ford.

B. The 35 U.S.C. ' 103 rejection of claims 1-4, 6-8, and 13-16 as obvious over Petrushka in view of Ford

The examiner states that Petrushka teaches all of the aspects of claims 1-4, 6-8, and 13-16, except for the use of measuring means for measuring the amount of material within a receiving vessel. The examiner relies upon Ford for teaching the use of measuring means for measuring the amount of material within a receiving vessel. (Answer, pages 4 and 5).

Appellant argues, *inter alia*, that Petrushka does not teach use of historical data of furnace lining wear, or calculation of an optimal angle of tilt. (Brief, page 10).

We agree with appellant's understanding of Petrushka mentioned above. That is, we cannot find any disclosure in Petrushka that satisfies the limitation of an optimal tilt angle that is calculated as a function of furnace geometry and historical data of furnace lining wear as set forth in appellant's method claim 1 and as recited in appellant's apparatus claim 13.

The examiner argues that Petrushka teaches adjusting an angle of tilt in response to sensed conditions, at column 6, lines 66 to column 7, lines 17. (Answer, page 8). However, this disclosure is not a teaching of the claim limitation of an optimal angle of tilt calculated as a function of furnace geometry and historical data of furnace lining wear. We cannot find such disclosure in Petrushka, nor can we find a structure capable of performing such a function. Ford does not cure this deficiency of Petrushka.

Hence, we reverse the 35 U.S.C. ' 103 rejection of claims 1-4, 6-8, and 13-16 as obvious over Petrushka in view of Ford.

C. The 35 U.S.C. ' 103 rejection of claims 5, 17, and 18 as obvious

over Petrushka in view of Ford, and further in view of Tenberg, and the 35 U.S.C. ' 103 rejection of claims 9-12 as obvious over Petrushka in view of Ford, and further in view of LaBate

The examiner relies upon the secondary references of Tenberg and LaBate regarding limitations in some of the dependent claims, and not for curing the aforementioned deficiencies of Ford and Petrushka. (Answer, pages 5 and 6).

Because the aforementioned deficiencies of Ford and Petrushka are not cured by the secondary references of Tenberg and LaBate, we reverse the 35 U.S.C. ' 103 rejection of claims 5, 17, and 18 as obvious over Petrushka in view of Ford, and further in view of Tenberg, and we reverse the 35 U.S.C. ' 103 rejection of claims 9-12 as obvious over Petrushka in view of Ford, and further in view of LaBate.

III. SUMMARY

The rejection of claims 1-12, 15, and 18 under 35 U.S.C. ' 112, paragraph 2 is reversed.

The rejection of claims 1-4, 6-8, and 10 under 35 U.S.C. ' 102(b) as being anticipated by Ford is reversed.

The rejection of claims 1-4, 6-8, and 13-16 under 35 U.S.C. ' 103 as obvious over Petrushka in view of Ford is reversed.

The rejection of claims 5, 17, and 18 under 35 U.S.C. ' 103 as obvious over Petrushka in view of Ford, and further in view of Tenberg is reversed.

The rejection of claims 9-12 under 35 U.S.C. ' 103 as obvious over Petrushka in view of Ford, and further in view of LaBate is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR ' 1.136(a).

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
PETER KRATZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
BEVERLY A. PAWLIKOWSKI)	
Administrative Patent Judge[RBL1])	

Appeal No. 1997-4237
Application No. 08/665,992

WILLIAM G. CONGER
BROOKS & KUSHMAN
1000 TOWN CENTER 22ND FLOOR
SOUTHFIELD, MI 48075