

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 70

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT J. KOFFRON

Appeal No. 98-0393
Application No. 08/450,271¹

ON BRIEF

Before KIMLIN, WEIFFENBACH and PAK, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

REQUEST FOR REHEARING

¹ Application for reissue of U.S. Patent No. 4,871,148 (Application No. 07/230,065, filed August 9, 1988) issued October 3, 1989. This application was filed on May 25, 1995. According to appellant, this application is a continuation of Reissue Application No. 08/277,374, filed July 19, 1994, now abandoned, which is a continuation of Reissue Application No. 07/770,128, filed October 2, 1991, now abandoned.

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Appellant requests reconsideration of our decision of April 30, 1998, wherein we affirmed the examiner's rejection of claims 9-11, 13-17, 19, 20 and 22 under 35 U.S.C. § 102(b), as well as the examiner's rejections of claims 9-20 and 22 under 35 U.S.C. § 103.

Upon careful review of the arguments presented in appellant's Request, we remain of the opinion that the appealed claims are unpatentable for the reasons set forth in our decision.

Appellant contends at page 2 of the Request that the claim terms "geometrically proportioning" and the relationship that "the center of gravity is below its center of buoyant support" appear nowhere in Koffron. However, we find it clear from the disclosure of Koffron that the referenced tapered, polygonal body is geometrically proportioned such that the body is maintained in an upright orientation which generally conforms with the vortex shape along a submerged portion of the body, as required by the appealed claims. Also, the body of Koffron is geometrically proportioned in order to have "a specific gravity less than the specific gravity of the molten metal and greater than the specific gravity of the slag so

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that the body is buoyantly supported at the interface of the layer of slag and the layer of molten metal" (column 2, lines 26-30). From this disclosure, it reasonably appears that the center of gravity of the body is below its center of buoyant support. We note that appellant, the inventor and patentee of the Koffron reference, does not deny that the body described in the reference has a center of gravity below its buoyant support. Also, while appellant maintains that the claim term "geometrically proportioning" is defined in the patent specification at column 3, first full paragraph, we fail to find any specific definition of the term in the cited portion of the specification. Rather, the specification relates general examples of how the shape of the body may be geometrically proportioned. In our view, such discussion in the specification does not serve to distinguish the claimed "geometrically proportioning" from that disclosed in Koffron. Whether Koffron provides a weight in his non-preferred embodiments or eschews one in his preferred embodiments, the body of Koffron is shaped (geometrically proportioned) such that its specific gravity buoyantly supports the body at the interface of the layer of slag and the layer of molten metal.

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Also, as stated in our opinion, we do not interpret the appealed claims as precluding the weighted refractory body of Koffron.

Appellant submits at page 2 of the Request that "[t]he '415 patent discloses shaping by tapering to conform with the shape of the vortex, without regard to upright orientation." However, the reference specifically teaches that "the apex of the tapered body is oriented directly downward toward the discharge nozzle so that as the apex approaches and begins to enter the nozzle opening, a throttling effect is initiated to provide a means for detecting that the level of slag is approaching the nozzle" (column 2, lines 16 et seq., emphasis added).

Appellant also maintains that "if the tapered body includes a weighting means, it would not be necessary to perform shaping so that its center of gravity is below the center of buoyant support as claimed" (page 3, second paragraph of Request). However, it would seem that the specific weighting means utilized is contingent upon the specific shape of the body. Although appellant contends that "geometric proportioning is expressly defined as 'shaping that

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aligns the center of gravity of the refractory body below the center of buoyant support'" (page 3, third paragraph of Request), such definition does not preclude shaping a weighted body to position its center of gravity below its center of buoyancy.

Appellant further states at page 4 of the Request that our statement at page 5 of the decision, lines 13-17, defies logic because, according to appellant, "a buoyant body could be unstably supported." However, notwithstanding that the quoted passage from our decision does not precisely coincide with the Koffron disclosure at column 2, lines 22-30, appellant has not on this record denied that the vortex inhibitor bodies of Koffron have their center of gravity below their center of buoyant support.

Appellant cites our decision at page 8, lines 3-6 and contends that we did not define "any reference or prior art teachings that provide the motivation to geometrically proportion the refractory body by shaping" (page 6 of Request). However, as discussed above, we find that the shaping disclosed by Koffron meets the claimed requirement for "geometrically proportioning." Since Koffron teaches vortex

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inhibitors that are shaped, or geometrically proportioned, to a tapered body that has its center of gravity toward its apex such that it is buoyantly supported at the interface of the slag and molten metal, and it is known that the buoyancy of a body is effected by both its specific gravity and configuration (geometric proportioning), we are satisfied that one of ordinary skill in the art would have found it obvious to determine by routine experimentation and analysis the acceptable configurations for materials of particular specific gravities that generally fulfill the requirements for Koffron's vortex inhibitor. We note that the appealed claims are not limited to any particular shape or geometric proportioning, other than a general conformance with a vortex shape, but, rather, recite a concept of proportioning the body to obtain an intended effect, which seems to be the same effect disclosed by Koffron.

In conclusion, based on the foregoing, appellant's request is denied with respect to making any change in our decision.

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

DENIED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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CAMERON WEIFFENBACH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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CHUNG K. PAK)	
Administrative Patent Judge)	

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