

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CARMO RIBEIRO,
THOMAS EGERER, and
RANDALL GAISER

Appeal 2008-2411
Application 10/898,878
Technology Center 2800

Decided: August 19, 2008

Before TERRY J. OWENS, THOMAS A. WALTZ, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellants appeal from a rejection of claims 1-11, which are all of the pending claims.

THE INVENTION

The Appellants claim a piston having upper and lower portions joined by an induction weld. Claim 1 is illustrative:

1. A piston, comprising:
 - an upper piston portion having mating surfaces;
 - a lower piston portion having mating surfaces; and
 - an induction weld joint uniting said mating surfaces.

THE REFERENCES

Brolin	US 4,734,552	Mar. 29, 1988
Jarrett	US 6,112,642	Sep. 5, 2000
Rey	US 6,289,790 B1	Sep. 18, 2001

THE REJECTIONS

The claims stand rejected as follows: claims 1-11 under 35 U.S.C. § 102(b) over Jarrett; claims 1-11 under 35 U.S.C. § 103 over Jarrett in view of Brolin; and claims 1 and 6 under 35 U.S.C. § 102(b) over Rey.

OPINION

We affirm the rejection under 35 U.S.C. § 102(b) over Jarrett, reverse the rejection under 35 U.S.C. § 103, and reverse the rejection under 35 U.S.C. § 102(b) over Rey.¹

Rejection under 35 U.S.C. § 102(b) over Jarrett

The Appellants do not separately argue any claim (Br. 3). We therefore limit our discussion to the sole independent claim, i.e., claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2007).

¹ A rejection of claims 1-11 under the judicially created doctrine of obviousness-type double patenting over claims 1-4, 14-20, 23-25, 27, and 28 of US 6,825,450 is withdrawn in the Examiner's Answer (Ans. 4-5).

Jarrett discloses a piston comprising upper (42) and lower (44) piston portions having mating surfaces (fig. 4). The mating surfaces are welded together by a weld such as a diffusion bonding weld, a brazing weld, an electron beam weld and a laser weld (col. 5, l. 59 – col. 6, l. 1).

The Examiner argues that Jarrett “discloses a product or a joint formed by ‘friction welding’ which reasonably appears to be either identical with or only slightly different than the product or ‘joint’ claimed in a product-by-process claim (i.e. ‘induction weld joint’) of the instant application” (Ans. 10-11).

The Appellants focus (Br. 3) on the Examiner’s statement that “since the claimed invention as a whole was directed to the claimed article or piston, such induction welding method of forming the weld joint is not germane to the issue of patentability of the weld joint itself” (Ans. 7). The Appellants argue (Br. 3):

This is not the test for patentability and the induction weld joint limitation cannot be simply ignored by the examiner or dismissed as a product-by-process limitation or as not being “germane” to the issue of patentability. It is noted that the examiner gives no support for the “germane” test of patentability.

The Appellants do not dispute the Examiner’s finding that Jarrett discloses a friction weld joint that is either identical to or only slightly different than the Appellants’ induction weld joint. Hence, the Appellants have not convinced us of reversible error in the Examiner’s rejection under 35 U.S.C. § 102(b) over Jarrett.

Rejection under 35 U.S.C. § 103

Brolin joins two tubing members used in the construction of booms of the lattice type for cranes or the like by placing one or two induction coils between the tubing members' ends, applying current to the coils to simultaneously raise the temperatures of the ends to the weld temperature, and then removing the coil(s) and pressing the heated ends together with sufficient force to form a strong weld (col. 1, l. 6-25; col. 5, ll. 17-58).

The Appellants argue that "the examiner does not explain how one skilled in the art would contend with the [Jarrett's] overlapping positioning features 90, 149 [Fig. 4] of the upper and lower piston parts since they would have to be positioned apart from one another to accommodate the insertion of the induction coil and it is not clear that the design could tolerate such a gap and still impart sufficient heating to the surfaces 70, 160 which would be spaced even further from one another and from the induction coil to achieve a suitable induction weld joint" (Br. 4).

The Examiner argues that "the object to be subjected to induction welding by the coil in Brolin is also a cylindrical shaped tube which is the similar shape of the piston in Jarrett reference" (Ans. 15).

The Examiner is incorrect. Unlike Brolin's tube ends which are flat and, therefore, are adjacent to the induction coils at all points at which the tube ends are to be heated (Fig. 8), Jarrett's head member 42 surface 70 to be heated would be separated from an induction coil placed between head member 42 and skirt member 44 by a gap caused by the step in Jarrett's stepped mating portion 149 of head member 42 (Fig. 4).

The Examiner argues that “it is not necessary to insert the induction coil of Brolin reference between the mating surfaces of the parts in Jarrett reference since the coil can be positioned adjacent or near the matting [sic] surfaces in order to induce eddy current to such surfaces to heat and melt thereby forming the induction weld joint” (Ans. 15).

The Examiner has not provided evidence that Brolin would have led one of ordinary skill in the art to modify the induction coil such that it can be placed around the parts to be joined instead of between them. The record indicates that the Examiner’s reason for that modification, rather than coming from the applied prior art, is based upon impermissible hindsight in view of the Appellant’s Specification. *See W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Rothermel*, 276 F.2d 393, 396 (CCPA 1960).

Accordingly, we conclude that the Examiner has not established a prima facie case of obviousness of the Appellants’ claimed invention over the combined disclosures of Jarrett and Brolin.

Rejection under 35 U.S.C. § 102(b) over Rey

Rey discloses a hydraulic control device for a motor vehicle clutch including at least one control cylinder comprising a substantially tubular cylinder (17) in which a piston (21) slides axially (col. 1, ll. 12-21). A skirt (54) is fastened sealingly within the cylinder body by ultrasonic welding (col. 9, ll. 46-51; col. 10, ll. 1-5).

The Examiner argues that “the piston as a whole is shown in Figure 9 of Rey, where the upper piston portion or skirt 54 having mating surfaces, a lower piston portion 17 having mating surfaces, and a sealed fastening

weld 58 uniting the mating surfaces are at least considered or interpreted ad [sic] parts of the piston assembly as a whole" (Ans. 17).

Rey's cylinder 17 is not a lower piston portion but, rather, is the cylinder in which piston 21 slides (col. 3, ll. 33-35). Skirt 54, which is fixed to cylinder 17 (col. 9, ll. 50-51), also is not a piston portion. The Examiner's interpretation of the Appellants' claim term "piston" as including Rey's cylinder and skirt is not a reasonable interpretation in view of the Appellants' Specification which lacks any indication that a cylinder in which the disclosed piston is to slide, and a skirt fixed to that cylinder, are to be considered part of the piston.

Hence, the Examiner has not established a *prima facie* case of anticipation of the Appellants' claimed invention by Rey.

DECISION

The rejection of claims 1-11 under 35 U.S.C. § 102(b) over Jarrett is affirmed. The rejections of claims 1-11 under 35 U.S.C. § 103 over Jarrett in view of Brolin, and claims 1 and 6 under 35 U.S.C. § 102(b) over Rey are reversed.

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

AFFIRMED

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