

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

MAILED

Paper No. 10

NOV 22 1996

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte DANIEL P. GAFFANEY and STEVEN J. SPENCER

Appeal No. 95-4457  
Application 08/169,258<sup>1</sup>

ON BRIEF

Before CALVERT, STAAB and CRAWFORD, Administrative Patent Judges.  
CALVERT, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 to 7, all the claims in the application.

Claim 1, the only independent claim, was amended following the final rejection,<sup>2</sup> and reads as follows:

---

<sup>1</sup> Application for patent filed December 20, 1993.

<sup>2</sup> Amendment filed January 9, 1995 (Paper No. 5).

Appeal No. 95-4457  
Application 08/169,258

1. An improved apparatus for radially expanding a tube, said apparatus having an expander rod that drives an expander bullet axially through said tube and that undergoes an axial compressive force during an expansion operation, in which the improvement comprises:

a sensor, having an output signal that is proportional to the force sensed by said sensor, positioned to detect the axial compressive force exerted on said expander rod during an expansion operation.

The references applied in rejecting the claims on appeal

are:

Rieben et al. (Rieben)	4,369,662	Jan. 25, 1983
Finch	4,513,497	Apr. 30, 1985

The claims on appeal stand rejected as follows:

- (1) Claims 1 to 7, as failing to comply with 35 U.S.C. § 112, second paragraph.
- (2) Claim 1, as unpatentable over Rieben under 35 U.S.C. § 103.<sup>3</sup>
- (3) Claims 2 to 7, as unpatentable over Rieben in view of Finch, under 35 U.S.C. § 103.

---

<sup>3</sup> In the advisory action of January 20, 1995 (Paper No. 6), the examiner stated that the amendment filed January 9, 1995 overcame the rejection of claim 1 under 35 U.S.C. § 102(b) as anticipated by Rieben.

Appeal No. 95-4457  
Application 08/169,258

The Rejection Under 35 U.S.C. § 112

The examiner takes the position that claim 1 (and therefore also dependent claims 2 to 7) fails to comply with the second paragraph of 35 U.S.C. § 112, in that it is indefinite. The grounds for this rejection are stated on pages 3 and 4 of the examiner's answer as (original emphasis):

The phrase "said apparatus having . . . operation" (claim 1, lines 1-3) is vague, indefinite, awkwardly and/or confusingly worded. As claimed and described in the disclosure, the expander bullet (23) radially expanding a tube, a compressive force thus radially exerting on the bullet. The claimed limitations of a "rod that drives an expander bullet through said tube" (claim 1, line 2) provide no structural connections nor functional relationships between the rod and the bullet to warrant the rod "undergoes an axial compressive force" (claim 1, lines 2-3, emphasis added) since there are other forces such as radially compressive forces exerting on the bullet and since the rod, as claimed, can remotely drive the bullet through the tube. Furthermore, since there is no operating direction in which the bullet is driven, it is unclear as to how the rod would "undergoes an axial compressive force."

It is further stated on page 7 of the answer that:

The claimed limitations of a "rod that drives an expander bullet through said tube" (claim 1, line 2) provide no structural connections nor functional relationships whatsoever between the rod and the bullet to warrant the rod "undergoes an axial compressive force" since the rod as claimed can remotely drive the bullet through the tube.

Appeal No. 95-4457  
Application 08/169,258

In addition, there is no operating direction in which the bullet is driven, it is unclear as to how the rod would "undergoes an axial compressive force" instead of axial tensile force and since there are other exerted forces such as radially compressive forces being exerting on the bullet and/or on the rod during the expansion operation.

The test for whether a claim complies with the second paragraph of § 112 is "whether the claim language, when read by a person of ordinary skill in the art in light of the specification, describes the subject matter with sufficient precision that the bounds of the claimed subject matter are distinct." In re Merat, 519 F.2d 1390, 1396, 186 USPQ 471, 476 (CCPA 1975). Applying this test to claim 1 in the present case, we conclude that it does comply with § 112, second paragraph.

In the first place, contrary to the examiner's last-quoted statement, claim 1 (as amended after final rejection) does specify the direction in which the bullet is driven, since it recites that the rod drives the bullet "axially." Moreover, we consider that one of ordinary skill reading the claim in light of the specification would have no problem understanding the bounds of what is claimed, particularly when read in light of appellants' clear disclosure of an expander rod 22 which drives a

Appeal No. 95-4457  
Application 08/169,258

bullet 23 axially through a tube 16 and thereby undergoes an axial compressive force during the expansion operation. The fact that claim 1 recites that the rod undergoes an axial compressive force, but does not recite a specific connection between the rod and bullet, may make the claim broad, but does not cause it to be indefinite or unclear.

We will therefore not sustain the rejection of claims 1 to 7 under § 112, second paragraph.

The Rejection Under 35 U.S.C. § 103

Considering first the rejection of claim 1, assuming arguendo that expander 26 or plug 22 of Rieben may be considered a "bullet," rod 14 of Rieben pulls the expander rather than driving it, and undergoes a tensile force during the expansion operation rather than a compressive force as called for by the claim. The examiner recognizes this difference, but contends (answer, page 8; original emphasis):

Rieben['s] sensor (piezoelectric force ring 38, column 4, lines 13-16) is of the very same type as of [sic] applicants['] (lines 19-22, page 5, specification) and is provided for "indicating the force applied on rod 14" (column 4, lines 17-19) by transmit[ting] "an electrical signal indicating the

Appeal No. 95-4457  
Application 08/169,258

magnitude of the force" (column 4, lines 31-34, emphasis added).

Since the sensor (38) having [sic: has] an identical function of "indicating a force applied on rod" (column 4, lines 18-20) it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Rieben et al[.] by utilizing the sensor (38) to detect an axial compressive force since the sensor (38) is fully capable of detect[ing] an axial compressive force because the sensor having [sic: has] an identical function of "indicating a force applied on rod" as [that] of applicants, whether the force is in tension or compression.

We do not agree with this argument. Regardless of whether Rieben's sensor 38 would be capable of detecting a compressive force on rod 14, the fact remains that Rieben's rod 14 is in tension during the expansion operation. The Rieben apparatus could not, therefore, be modified to position the sensor "to detect the axial compressive force exerted on said expander rod during an expansion operation," as recited in claim 1, because in Rieben's apparatus there is no such force on the rod.

Accordingly, the rejection of claim 1 under 35 U.S.C. § 103 will not be sustained. The rejection of claims 2 to 7 will



Appeal No. 95-4457  
Application 08/169,258

Charles E. Adams  
Carrier Corporation  
P.O. Box 4800  
Syracuse, NY 13221