



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

11/750,783

05/18/2007

Stephen M. Seibel

0315-000482/COE

1727

27572 7590 01/31/2013
HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER

FREAY, CHARLES GRANT

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

01/31/2013

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEPHEN M. SEIBEL,
MICHAEL M. PEREVOZCHIKOV, and NORMAN BECK

Appeal 2011-001653
Application 11/750,783
Technology Center 3700

Before: PHILLIP J. KAUFFMAN, BRETT C. MARTIN, and
HYUN J. JUNG, *Administrative Patent Judges*.

KAUFFMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from a rejection of claims 1-9 and 28-30. Appellants' representative presented oral argument on January 24, 2013. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

The Invention

Appellants' claimed invention relates generally to scroll machines, and more particularly, "to a dual volume ratio scroll machine, having a multi-function seal system which utilizes flip or flip seals." Spec. para. [0002]. Claim 1, reproduced below, is the sole independent claim on appeal, and is representative of the claimed subject matter:

1. A compressor comprising:

a shell;

a first scroll member supported within said shell and including a first end plate having a first spiral wrap extending from a first surface thereof and a second surface having an annular groove therein, said annular groove including a first portion having a first depth and a second portion disposed radially inwardly relative to said first portion and having a second depth that is less than said first depth;

a second scroll member supported within said shell and including a second end plate having a second spiral wrap extending therefrom and meshingly engaged with said first spiral wrap; and

a first annular seal positioned within said annular groove.

Evidence Relied Upon

Reinhart	US 3,697,202	Oct. 10, 1972
Ruf	US 3,802,812	Apr. 9, 1974
Shim	US 6,027,321	Feb. 22, 2000

Sack	US 6,419,321 B1	Jul. 16, 2002
Seibel '683	US 6,679,683 B2	Jan. 20, 2004
Seibel '013	US 7,074,013 B2	Jul. 11, 2006

The Rejections

The following rejections are before us on appeal:

- I. Claims 1-9 and 28-30 under 35 U.S.C. § 103(a) as unpatentable over Shim and Ruf;
- II. Claims 1-9 and 28-30 on the ground of nonstatutory, obviousness-type double patenting as unpatentable over claims 1-36 of Ruf in view of Shim;
- III. Claims 1-9 and 28-30 on the ground of nonstatutory, obviousness-type double patenting as unpatentable over claims 1-98 of Seibel '683 in view of Ruf; and,
- IV. Claims 1-9 and 28-30 on the ground of nonstatutory, obviousness-type double patenting as unpatentable over claims 1-79 of Seibel '013 in view of Ruf.

OPINION

I. Claims 1-9 and 28-30 under 35 U.S.C. § 103(a) as unpatentable over Shim and Ruf

The Examiner found that Shim discloses a compressor as claimed, except the annual groove having a first and second portion as claimed, and an annual seal as claimed. Ans. 6. The Examiner concluded that it would have been obvious “to substitute the C-shaped groove of Shim et al with the L-shaped seal of Ruf with the sealing point (near reference numerals 7 and 8 in Fig. 1 of Ruf) at a radially inner position.” *Id.* The Examiner provided

two reasons for this conclusion: improved sealing and improved durability. Ans. 7, 13-14. We examine these reasons in turn.

First, the Examiner concludes the proposed modification would “provide improved sealing owing to the spring (14, 15) [corrugated spring ring 14 and ring 15] biased annular sealing which holds the seal against the stationary member (end plate 1 in Ruf) [end piece 1].” *See* Ans. 7; *see also* Ans. 13.

Ruf’s ring 15 does not provide a biasing force at sealing edge 7; rather, ring 15 includes a slit 16 that imparts ring spring properties in a radial direction (perpendicular to the force provided by corrugated spring ring 14). Ruf, col 2, ll. 9-11; fig. 1. Ruf’s corrugated spring ring 14 transmits opposing force against the bottom 13 of groove 10 and the radial flange 5 of L-shaped ring 4, bringing the sealing edge 7 into sealing contact with the inner face 8 of end piece 1. Ruf, col. 2, ll. 18-23; fig. 1. However, Ruf does not disclose any comparison of this corrugated spring biased sealing arrangement to other sealing arrangements such as Shim’s seal 130. Absent such a comparison, the Examiner’s conclusion that Ruf’s arrangement provides improved sealing over Shim’s arrangement lacks a rationale underpinning.

Second, the Examiner concludes that the proposed modification would add durability because Shim’s rubber seal would degrade quicker than Ruf’s metal seal. Ans. 14 (citing Ruf, col. 1, ll. 20-25). The Examiner has overstated what the reference fairly discloses. Ruf discloses that in a rotary piston combustion engine, O-rings lose elasticity and fail to seal due to insufficient long-term heat resistance. Ruf, col. 1, ll. 13-17; Abstract. Shim’s seal 130 is not utilized in a rotary piston combustion engine; rather

Shim's seal is utilized in a scroll-type compressor configuration. Shim, col. 1, ll. 6-7. Further, the Examiner does not find that Shim's seal is utilized in an environment having long-term heat exposure, nor do we discern such a disclosure in Shim. Thus, this conclusion also lacks a rational underpinning.

For these reasons, we agree with Appellants that the Examiner has provided an insufficient rationale for the proposed combination. App Br. 9-10; Reply Br. 4. Consequently, we do not sustain the rejection of claims 1-9 and 28-30 as unpatentable over Shim and Ruf.

II.-IV. Nonstatutory, Obviousness-type Double Patenting

Appellants present no arguments against these rejections, and therefore they are summarily affirmed. *See* Ans. 8-12; App. Br. 9-13; Reply Br. 4-8; *see also Manual of Patent Examining Procedure* (MPEP) § 1205.02 (8th Ed., Rev. 9, Aug. 2012) ("If a ground of rejection stated by the examiner is not addressed in the appellant's brief, that ground of rejection will be summarily sustained by the Board."); *Ex Parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (citing *Hyatt v. Dudas*, 551 F.3d 1307, 1313-14 (Fed. Cir. 2008) for the proposition that the Board may treat arguments appellant failed to make as waived).

DECISION

We reverse the Examiner's decision to reject claims 1-9 and 28-30 under 35 U.S.C. § 103(a) as unpatentable over Shim and Ruf.

We affirm the Examiner's decision to reject claims 1-9 and 28-30 on the ground of nonstatutory, obviousness-type double patenting as unpatentable over claims 1-36 of Ruf in view of Shim;

We affirm the Examiner's decision to reject claims 1-9 and 28-30 on the ground of nonstatutory, obviousness-type double patenting as unpatentable over claims 1-98 of Seibel '683 in view of Ruf; and,

We affirm the Examiner's decision to reject claims 1-9 and 28-30 on the ground of nonstatutory, obviousness-type double patenting as unpatentable over claims 1-79 of Seibel '013 in view of Ruf.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

tkl