

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOSHIO OKAMURA

Appeal No. 1999-1063
Application No. 08/402,498

HEARD: JANUARY 27, 2000

Before STAAB, NASE, and GONZALES, Administrative Patent Judges.

GONZALES, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 2 through 7, 11, 15, 16 and 18 through 23.

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Claim 17 has been allowed.¹ Claims 10 and 12 through 14, the only other claims remaining in the application, are objected to as being dependent upon a rejected claim, but would be allowable if rewritten in dependent form including all of the limitations of the base claim and any intervening claims. Claims 1, 8 and 9 have been canceled.

We REVERSE and REMAND.

The subject matter on appeal is directed to

an escape device for escaping from a multi-storied building or other high areas in an emergency comprising a worm gear mechanism [40] driven by an electric motor [51], operatively coupled to a reel [30] having a length of high tensile line [60] wound around it, a casing [20] enclosing operative components, and a belt [76] connected to the casing for supporting a person's body. (Specification, page 1, reference numerals added)

A copy of the appealed claims is appended to the main brief (Paper No. 10).

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

O'Neil	4,503,933	Mar. 12, 1985
Cox	1,440,919	Jun. 30, 1976
(British published application)		

¹ See Paper No. 9.

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The following rejections are before us for review:

I) Claims 15, 16, 18 and 19 stand rejected under 35
U.S.C.

§ 102(b) as anticipated by Cox;

II) Claims 2 through 7, 11 and 21 through 23 stand
rejected under 35 U.S.C. § 103(a) as being unpatentable over
Cox; and

III) Claim 20 stands rejected under 35 U.S.C. § 103(a) as
being unpatentable over Cox in view of O'Neil.

The full text of the examiner's rejections and the
responses to the arguments presented by appellant appear in
the answer (Paper No. 11, mailed February 10, 1998), while the
complete
statement of appellant's arguments can be found in the main
brief (Paper No. 10, filed September 22, 1997) and the reply
brief (Paper No. 12, filed April 10, 1998).

OPINION

In reaching our decision in this appeal, we have given
careful consideration to the appellant's specification and
claims, to the applied prior art references, and to the

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respective positions articulated by the appellant and the examiner. As a consequence of our review, we conclude that none of the rejections can be sustained.

Considering first the § 102 rejection of claims 15, 16, 18 and 19 based on Cox, we find that Cox discloses a hoist having a casing 1, an electric motor 32 within the casing 1, a shaft 34 driven by the motor 32 and a cable 2 coiled on the shaft 34 to which is attached a harness (page 1, lines 44-48). The shaft 34 is rotated by the motor 32 to wind and unwind the cable through a first drive train comprising gears 36, 38, 40 and 42 (page 2, lines 1-5). Operation of the motor also causes rotation of a second shaft 58, corresponding to a worm gear, via a gear train including gears 36, 38, 40, 70, 68 and 66 (page 2, lines 88-91). Rotation of shaft 58 controls the position of a housing 56 and a switch actuating arm 52. Shaft 58 is designed such that the housing 56 and switch actuating arm 52 will reach a position to open a switch 50, thus, shutting off the motor, when the cable is completely unwound (page 2, lines 100-108).

It is the examiner's position that the shaft 58 in Cox corresponds to appellant's claimed "worm gear mechanism" and

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that the shaft 34 in Cox corresponds to the claimed "reel."
Further, the examiner has determined that the shaft 58 in Cox is operatively coupled to the shaft 34 such that rotation of the shaft 58 rotates the shaft 34 to unwind the line.

We cannot support the examiner's determination. It is true that when shaft 58 in Cox is rotated by the motor 32, shaft 34 is also rotated by the motor 32. However, rotation of the shaft 58 does not cause shaft 34 to rotate as called for in claim 15. It is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983). Consistent with the underlying specification,² we interpret the language "said worm gear mechanism operatively coupled to said reel such that said rotation of the worm gear mechanism rotates the reel to

² Appellant's specification at page 6, for example, teaches that "[t]he electric motor 51 turns the worm gear 42 which interacts with the worm wheel teeth 41a to turn the reel 30, feeding the line 60 from the reel."

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unwind the line" in claim 15 to require the worm gear mechanism to be in the drive or power train connecting the motor to the reel such that rotation of the worm gear mechanism causes the reel to rotate. This is clearly not the case in Cox which teaches a shaft 58 rotated by a motor 32 through a gear train comprising gears 36, 38, 40, 70, 68 and 66 and a shaft 34 rotated by a motor 32 through a gear train comprising gears 36, 38, 40 and 42. Shaft 58 is not "operatively coupled" to the shaft 34 such that rotation of the shaft 58 "rotates" the shaft 34.

Accordingly, the standing § 102 rejection of claim 15, and of claims 16, 18 and 19 dependent on claim 15, cannot be sustained.

Turning next to the § 103 rejection of claims 2 through 7, 11 and 21 through 23 based on Cox, alone,³ we note that

³ On page 5 of the answer, the examiner refers to a non-applied patent to Frankel as supporting his obviousness position. For the reasons set forth in the case of In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970), this is entirely inappropriate. Accordingly, we have not

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claims 2 through 7, 11, 21 and 23 are dependent directly or indirectly on claim 15 and, thus, contain the limitation found lacking, supra, in Cox. At pages 4 and 5 of the answer, the examiner states the position that

[t]he specific arrangement of the components of the reel (plate, sleeve, etc.) as well as other mechanical parts (such as a bearing as claimed and worm wheel teeth) are considered to be an obvious choice of design to the person having ordinary skill in the art, as a matter of mechanical and/or functional expedient and would be [sic, have been] obvious as such.

We do not agree. We are informed by appellant's specification (page 4) that "a worm gear mechanism which has a large speed reduction ratio is used, requiring a less powerful electric motor, thereby allowing the electric motor and battery to be smaller." In addition, the appellant's invention is described as more portable and economical than prior art escape devices (specification, page 2). Thus, according to appellant's specification, the claimed apparatus does solve a number of known problems in the art. Compare In

considered the Frankel patent or the examiner's comments with respect thereto in reaching our decision on the standing § 103 rejection based on Cox. However, we are remanding this application for the examiner to determine if the claimed subject matter is patentable over the combined teachings of Frankel and other prior art, e.g., Cox.

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re Kuhle, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975) wherein the court indicated that the rationale of "obvious matter of design choice" applies when a modification is made which "solves no stated problem." Therefore, we do not agree that, based on Cox alone, it would have been an obvious matter of design to replace the gear train comprising gears 36, 38, 40 and 42, operably coupling the motor 32 to the shaft 34, with a worm gear mechanism.

From our perspective, the examiner has impermissibly relied upon the appellant's own teachings in arriving at a conclusion of obviousness. This being the case, we will not sustain the rejection of claims 2 through 7, 11, 21 and 23 under 35 U.S.C.

§ 103 based on Cox alone.

Claim 22, the only other independent claim, calls for a reel supported by a casing, a plurality of worm wheel teeth arranged proximate an outer circumferential edge of the reel, a worm gear operatively engaged with the worm wheel teeth, and an electric driving means operatively coupled to the worm gear for effecting a rotation of the worm gear, the rotation of the worm gear rotating the reel to unwind the line. The rationale

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expressed above with regard to claims 2 through 7, 11, 21 and 23 leads us to a like conclusion, that is, the teachings of Cox fail to establish a prima facie case of obviousness with regard to claim 22, and the rejection of that claim cannot be sustained.

Finally, we will also not sustain the standing § 103 rejection of claim 20 based on Cox and O'Neil. Even assuming that it would have been obvious, in view of O'Neil to provide Cox's hoist with a support member comprising a pair of short pants attached to a belt as recited in claim 20, the rejected claim would still distinguish over the prior art applied in that it would not have been obvious to replace the gear train comprising gears 36, 38, 40 and 42, operably coupling the motor 32 to the shaft 34, with a worm gear mechanism, as discussed above.

REMAND TO THE EXAMINER

Frankel⁴ discloses a fire escape device having: a housing or casing 10a; straps 28 and 29 and a body belt 30 coupled to

⁴ U.S. Patent No. 2,721,685 to Frankel was cited by the examiner as being pertinent to applicant's disclosure in the Office action mailed July 5, 1996 (Paper No. 2).

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the housing for supporting a user; a drum or reel 13 mounted on shaft 14 which is supported by the housing; a cable or line 10 wound on the drum; a worm gear 19 mounted on shaft 14; a worm shaft 20 which may be moved into engagement with worm gear 19 when the weight of a user is supported by the straps 28 and 29 and body belt 30; and a wheel 23 and crank 24 mounted on worm shaft 20 such that when the shaft 20 is engaged with worm gear 19 "the drum 13 may be turned to unwind the cable 10, by manually turning the wheel 23 with the aid of the crank handle 24" (col. 2, lines 28-30). Frankel specifically teaches that

[t]he type of gear teeth used will determine the effort required to turn the drum and to lower the person supported by the body harness. A gear ratio may be provided which will use the worm shaft as a resistance to quick descent, and which will slowly turn the worm shaft, and a gearing may be used which will lock the drum against turning except when the worm shaft is manually turned. (Col. 2, lines 30-37)

Accordingly, we remand this application to the examiner to consider the patentability of the claimed subject matter in view of the patent to Frankel in combination with other prior art, e.g., Cox which teaches a shaft 34 rotated by an electric motor 32 to wind and unwind a cable through a first drive

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train.

In summary, all of the examiner's rejections are reversed.

Additionally, we have remanded the application to the examiner for consideration of issues relating to additional prior art.

REVERSED AND REMANDED

LAWRENCE J. STAAB)	
Administrative Patent Judge)	
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JEFFREY V. NASE)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES

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JOHN F. GONZALES
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