

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JARI NAUMANEN and MAURI PARRI

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Appeal 2007-1330  
Application 10/451,725  
Technology Center 3600

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Decided: June 27, 2007

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Before TERRY J. OWENS, MURRIEL E. CRAWFORD, and  
JENNIFER D. BAHR, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Jari Naumanen and Mauri Parri (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-11. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

Appellants' claimed invention is directed to a belt drive device including two continuous drive belts driven by drive rollers and arranged to travel around stretching rollers and be pressed by press rolls against opposite surfaces of a cable or the like drawn by the belt drive device (Specification 1). Independent claims 1 and 11 are illustrative of the claimed invention and read as follows:

1. An arrangement for a belt drive device, which comprises two continuous drive belts, which are arranged to be operated by means of drive rollers, and which are arranged to travel around stretching rollers as continuous loops spaced apart, and which are arranged to be pressed by means of press rolls against the opposite surfaces of a cable to be drawn, wherein the drive rollers are arranged to be rotated by a single power source by driving two planetary gears connected in parallel and provided with angular front transmission, each planetary gear having an independently rotatable primary axle, and the rotary motion generated by the power source is arranged to be transmitted in the same direction to the primary axles of both planetary gears with angular front transmission in order to rotate secondary axles and the drive rollers connected thereto in opposite directions.

11. An arrangement for a belt drive device, which comprises two continuous drive belts, which are arranged to be operated by means of drive rollers, and which are arranged to travel around stretching rollers as continuous loops spaced apart, and which are arranged to be pressed by means of press rolls against the opposite surfaces of a cable to be drawn, wherein the drive rollers are arranged to be rotated by a single power source by driving two gear systems each gear system having a driven, fixed and planetary gear, the gear systems

connected in parallel and provided with angular front transmission, and the rotary motion generated by the power source is arranged to be transmitted in the same direction to the primary axles of both planetary gears with angular front transmission in order to rotate secondary axles and the drive rollers connected thereto in opposite directions.

The Examiner relies upon the following as evidence of unpatentability:

Fisk	US 2,642,280	Jun. 16, 1953
Bruestle	US 2,884,120	Apr. 28, 1959

Bonfiglioli Technical Bulletin, *Guidelines for selection of planetary gear units of the 300-INDUSTRIAL series for installation in hazardous areas, classified by Directive 99/92/EC 1-18* (hereinafter “Bonfiglioli”).

Appellants seek review of the Examiner’s rejections under 35 U.S.C. § 103(a) of claims 1-10 as unpatentable over Bruestle in view of Fisk and Bonfiglioli and claim 11 as unpatentable over Bruestle in view of Fisk.

The Examiner provides reasoning in support of the rejections in the Answer (mailed June 30, 2006). Appellants present opposing arguments in the Appeal Brief (filed April 13, 2006) and Reply Brief (filed August 28, 2006). Appellants’ counsel presented oral argument in this appeal on June 5, 2007.

## OPINION

### Claims 1-10

In rejecting claim 1, the Examiner concedes that “Bruestle does not disclose press rolls that press the continuous belts and does not disclose that the planetary gears have independently rotatable primary axles” (Answer 3). In order to overcome the first of these deficiencies, the Examiner contends it

would have been obvious to one having ordinary skill in the art at the time of Appellants' invention to make the pressing elements (rails 41, 42) of Bruestle's press rollers for pressing belts (chains 80, 82) into engagement with work to be fed as taught by Fisk to reduce friction and wear between the belts and the pressing structures. *Id.* Appellants do not specifically challenge this contention. Rather, Appellants challenge the Examiner's further determination that it would have been obvious to provide Bruestle with planetary gears having independently rotatable primary axles as taught by Bonfiglioli (Answer 4) to arrive at the subject matter of claim 1 (Appeal Br. 9-11). Accordingly, the dispositive issue with respect to the rejection of claim 1, and claims 2-10 depending therefrom, is whether the Examiner erred in determining that it would have been obvious, in view of Bonfiglioli, to modify Bruestle to provide two planetary gears having independently rotatable primary axles, as called for in claim 1.

The drive arrangement for driving Bruestle's shafts 11 and 12, which in turn rotate sprockets 13 and 14 to drive chains 80 and 82, includes a single shaft 19 rotated by a suitable power source through a chain and sprocket 24. Shaft 19 has a pair of bevel gears 17 and 18 mounted thereon, which bevel gears mesh with bevel gears 15 and 16 to drive sprockets 13 and 14. Bruestle's drive arrangement effects "conjoint movement of the chains 80 and 82." (Bruestle, col. 1, ll. 67-72, col. 2, ll. 67-68, col. 3, ll. 17-26.)

The Examiner does not specify how Bruestle is to be modified to provide "planetary gears having independently rotatable primary axles as taught by Bonfiglioli" (Answer 4). The Examiner does hint, however, that the modification would involve the substitution of a planetary gear angle

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drive of the type disclosed by Bonfiglioli for each of the bevel gear sets 17, 15 and 18, 16 of Bruestle (Answer 5).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*KSR Int'l. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007). We must also keep in mind that

a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.

*Id.* at 1741, 82 USPQ2d at 1396.

In this instance, while the planetary gear angle drive disclosed by Bonfiglioli appears to serve the same basic function of the bevel gear sets of Bruestle, namely, transmission of rotation in a direction normal to the axis of transmitted rotation, the Examiner has not explained, and it is not apparent, how one of ordinary skill in the art *could* modify Bruestle to permit such a

substitution using the single shaft 19 of Bruestle, without destroying the other disclosed function of the shaft 19, namely, rotation of sprocket 23 secured at one end thereof (Bruestle, col. 2, ll. 2-4 and Fig. 3). Rather, substitution of a planetary gear angle drive of the type disclosed by Bonfiglioli for each of the bevel gear sets 17, 15 and 18, 16 of Bruestle, as apparently proposed by the Examiner, would seemingly involve an extensive and complex redesign of the drive transmission arrangement from the power source to such planetary gear angle drives without any apparent benefit or improvement resulting therefrom. We therefore conclude that the Examiner erred in determining it would have been obvious to one of ordinary skill in the art to modify Bruestle to provide two planetary gears having independently rotatable primary axles, as called for in claim 1. The rejection of claim 1, and claims 2-10 depending from claim 1, is reversed.

#### Claim 11

Claim 11, like claim 1, requires two planetary gears, with each gear having its own primary axle.<sup>1</sup> Bruestle, as discussed above, provides only a single primary axle and thus lacks this feature. The Examiner's application of Fisk for its teaching of providing a feeding apparatus having a pair of continuous belts with press rollers 7, 8 for pressing the belts into engagement with work to be fed (Answer 4) does not make up for the deficiency of Bruestle. We therefore conclude that the Examiner erred in

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<sup>1</sup> While claim 11 does not positively recite each planetary gear having its own primary axle, the reference to "the primary axles of both planetary gears" requires two primary axles, one for each planetary gear. Although the failure to provide strict antecedent basis for the primary axles does not render the claim indefinite, this informality is deserving of correction.

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determining that the subject matter of claim 11 is unpatentable over Bruestle  
in view of Fisk. The rejection is reversed.

**SUMMARY**

The decision of the Examiner to reject claims 1-11 is reversed.

**REVERSED**

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