

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

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL E. RING

Appeal No. 2005-0354
Application No. 09/399,412

ON BRIEF

Before BARRETT, RUGGIERO, and DIXON, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-3 and 5-20, which are all of the claims pending in this application.

We REVERSE.

Appellant's invention relates to a method and apparatus for enhancing the braking efficiency of a railway freight train consist. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A method of substantially achieving a minimum stopping distance of a freight train consist without incurring any significant detrimental wheel slide, said method comprising the steps of:

(a) preprogramming preselected information into a computer disposed on a freight locomotive including velocity dependence of wheel to rail adhesion;

(b) determining a speed of such freight train consist,

(c) communicating a signal that is indicative of said speed determined in step (b) to such computer disposed on such freight locomotive;

(d) determining in such computer a pressure that can be applied to brake cylinders which will maintain substantially maximum adhesion between wheels being braked and rail surfaces in contact with such wheels such that braking energy is substantially evenly distributed to all of such wheels;

(e) communicating a signal representative of such pressure determined in step (d) to a pressure control valve in fluid communication with such brake cylinders; and

(f) using said velocity dependence of wheel to rail adhesion in maintaining a maximum pressure on such brake cylinders that will stop such train consist in a shortest possible distance while simultaneously substantially preventing wheel slide along said rails, minimizing variation in wheel temperatures, and substantially evenly distributing braking energy to all of such wheels.

Appeal No. 2005-0354
Application No. 09/399,412

The prior art of record relied upon by the examiner in rejecting the appealed claims is as follows:

Fourie	4,671,576	Jun. 9, 1987
Matsuoka	5,544,057	Aug. 6, 1996
Cook et al. (Cook)	5,605,387	Feb. 25, 1997
Kull	5,681,015	Oct. 28, 1997
Roselli et al. (Roselli)	5,718,487	Feb. 17, 1998

Claims 1-3, 5-8, 11, 16, and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Cook in view of Fourie. Claims 9, 10, and 12-15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Cook and Fourie in view of Kull.¹ Claim 18 stands rejected under 35 U.S.C. § 103 as being unpatentable over Cook and Fourie in view of Matsuoka. Claims 19 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Cook and Fourie in view of Roselli.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellant regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 26, mailed Feb. 10, 2004) for the examiner's reasoning in support of the rejections, and to appellant's brief (Paper No. 25, filed Nov. 20, 2003) for appellant's arguments thereagainst.

¹ We note that the examiner has not included a restatement of this rejection in the answer, but has not expressly indicated that this rejection is overcome or withdrawn in either the final rejection or the examiner's answer. Therefore, we will treat the claims as rejected in the first office action.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we make the determinations which follow.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. **See In re Rijckaert**, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A *prima facie* case of obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or other modification. **See In re Lintner**, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Furthermore, the conclusion that the claimed subject matter is *prima facie* obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. **See In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The examiner may not, because of

Appeal No. 2005-0354
Application No. 09/399,412

doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See **In re Warner**, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), **cert. denied**, 389 U.S. 1057 (1968). Our reviewing court has repeatedly cautioned against employing hindsight by using the appellant's disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. **See, e.g., Grain Processing Corp. v. American Maize-Prods. Co.**, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

When determining obviousness, "the [E]xaminer can satisfy the burden of showing obviousness of the combination 'only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.'" **In re Lee**, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), citing **In re Fritch**, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). "Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'" **In re Dembiczak**, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). "Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact." **Dembiczak**, 175 F.3d at 999, 50 USPQ2d at 1617,

Appeal No. 2005-0354
Application No. 09/399,412

citing **McElmurry v. Arkansas Power & Light Co.**, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) .

Further, as pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362,1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Therefore, we look to the limitations set forth in independent claim 1. Here, we note that the preamble of independent claim 1 sets forth "a method of achieving a minimum stopping distance for a freight train consist" wherein a computer on the train is preprogrammed with information including "velocity dependence of wheel to rail adhesion." The computer determines a pressure that can be applied to the brake cylinder which will substantially maintain maximum adhesion between wheels being braked and rail surfaces in contact with the wheels such that braking energy is substantially evenly distributed to all of such wheels being braked.

The examiner maintains that the combination of Cook as modified by Fourie would have suggested the invention as recited in independent claim 1. Appellant argues that the teachings of Cook with respect to a magnetic levitation (mag-lev) train do not teach or fairly suggest the invention as it relates to a freight train having wheels which run on rails. (Brief at pages 9-11.) Appellant argues that the mag-lev trains do not operate with wheels in contact with rails and therefore are not concerned with the

velocity dependence of wheel to rail adhesion and use thereof to determine the maximum amount of pressure to be applied to the brake cylinders to achieve stopping of the train while preventing wheel slide with respect to the rails. (Brief at page 10.) While we agree with appellant that the teachings of Cook do not relate to the freight train consist with respect to rails and adhesion thereto, we do not fully agree with appellant that these teachings would have provided no suggestions to those skilled in the art of braking vehicles.

The examiner relies on the teachings of Fourie as teaching the use of pre-selected information including velocity dependence of wheel to rail adhesion in controlling deceleration. Appellant argues that it would not have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Fourie into the teachings of Cook with respect to a mag-lev train that does not use wheels on rails. We agree with this argument when viewed from the modification of Cook, but we do not necessarily agree that the teachings of the two references are not combinable in the aggregate. While the teachings of Fourie are directed to a freight train and recognizes the wheel to rail adhesion characteristics, we find that this general teaching does not teach or fairly suggest an implementation as recited in independent claim 1. We find no teaching or suggestion in Fourie of the claimed “determining in such computer a pressure that can be applied to brake cylinders which will maintain

substantially maximum adhesion between wheels being braked and rail surfaces in contact with such wheels such that braking energy is substantially evenly distributed to all of such wheels” and “communicating a signal representative of such pressure determined in step (d) to a pressure control valve in fluid communication with such brake cylinders.” Nor do we find that the examiner has provided a convincing line of reasoning as to why it would have been obvious to one of ordinary skill in the art at the time of the invention to have a determination by an on-board computer rather than to use the predetermined speed/adhesion profile taught by Fourie. (Fourie at col. 8, lines 39- col. 9, line 39.)

Additionally, while Cook provides motivation to equalize the braking energy absorbed by each car or truck in a mag-lev train (Cook at col. 1, lines 42-48), we do not find a recognition or suggestion of the claimed “using said velocity dependence of wheel to rail adhesion in maintaining a maximum pressure on such brake cylinders that will stop such train consist in a shortest possible distance while simultaneously substantially preventing wheel slide along said rails, minimizing variation in wheel temperatures, and substantially evenly distributing braking energy to all of such wheels” in the combination of Cook and Fourie. Since we do not find that the examiner has shown how the combined teachings of Cook and Fourie either teaches or fairly suggests the invention as recited in independent claim 1, we cannot sustain the rejection of independent claim 1 and its dependent claims. Similarly, we do not find that

Appeal No. 2005-0354
Application No. 09/399,412

the examiner has shown how the combined teachings of Cook and Fourie either teaches or fairly suggests the invention as recited in independent claim 11, and we cannot sustain the rejection of independent claim 11 and its dependent claims.

The examiner relies on the teachings of Matsuoka, Kull, and Roselli as evidence of various claimed features in dependent claims, but we do not find that these teachings remedy the deficiency in the base combination nor do we find that the examiner has provided a convincing line of reasoning thereto. Therefore, we do not find that the examiner has shown how the combined teachings of Cook and Fourie with Matsuoka, Kull, or Roselli teach or fairly suggest the invention as recited in the respective dependent claims, and we cannot sustain the rejection of dependent claims.

CONCLUSION

Appeal No. 2005-0354
Application No. 09/399,412

To summarize, the decision of the examiner to reject claims 1-3 and 5-20 under 35 U.S.C. § 103 is reversed.

REVERSED

LEE E. BARRETT)	
Administrative Patent Judge)	
)	
)	
)	
)	
)	BOARD OF PATENT
JOSEPH F. RUGGIERO)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
JOSEPH L. DIXON)	
Administrative Patent Judge)	

JLD:pgc

Appeal No. 2005-0354
Application No. 09/399,412

JAMES RAY & ASSOCIATES
2640 PITCAIRN ROAD
MONROEVILLE, PA 15146