

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LINDA A. FROEHLICH and RICHARD D. FROEHLICH

Appeal No. 96-1703
Reexamination Control No. 90/003,612¹

HEARD: October 16, 1996

Before McCANDLISH, Senior Administrative Patent Judge, and
McQUADE and CRAWFORD, Administrative Patent Judges.

CRAWFORD, Administrative Patent Judge.

DECISION ON APPEAL

¹ Commissioner initiated order for reexamination issued on October 31, 1994 for the reexamination of U.S. Patent 5,329,672, granted July 19, 1994, based on Application 07/604,970 filed October 29, 1990. According to appellants, Application No. 07/604,970 is a continuation of Application 07/045,452, filed May 4, 1987, now abandoned, which is a continuation of Application 06/764,566, filed August 12, 1985, now abandoned.

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This is an appeal from the examiner's final rejection of claims 1 through 5. Appellants' claimed subject matter is a metal wire paper clip comprised of spring-quality metal wire.

Claim 1 is illustrative of the subject matter on appeal:

1. A metal wire paper clip comprising
 - a unitary length of spring-quality wire bent into an elongated configuration presenting
 - an elongated U-shaped inner loop,
 - an elongated U-shaped outer loop, and
 - an arcuately-curved interconnecting portion therebetween;
 - each such U-shaped loop having
 - an open end,
 - a closed end, and
 - a pair of longitudinally-extending legs;
 - such closed end of the elongated U-shaped outer loop defining one longitudinal end of such bent wire elongated configuration,
 - such inner loop being nested within such outer loop with such open end of each such U-shaped loop facing in the same longitudinal direction;
 - such pair of longitudinally-extending legs of each such U-shaped loop including
 - a free leg having a distal end located at the open end of its respective U-shaped loop, and

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a connecting leg,

such arcuately-curved interconnecting portion extending between such connecting legs at the open end of each such U-shaped loop and defining at its longitudinally outward midpoint the remaining longitudinal end of such bent wire configuration;

each such inner and outer loop free leg extending at least to the juncture of such longitudinally-extending connecting legs with such curved interconnecting portion while not extending beyond a location which is contiguous to a laterally transverse plane normal to the longitudinal axis of the clip which is longitudinally inward of a tangent to the longitudinally inward midpoint of the arcuately-curved interconnecting portion, and

each such U-shaped loop and such curved interconnecting portion being substantially coplanar so that the paper clip lies substantially flat when not in use.

THE REFERENCES

The following references were relied on by the examiner:

Lankenau	1,985,866	Dec. 25, 1934
Winter et al. (Winter)	4,017,337	Apr. 12, 1977
Weinar	4,569,172	Feb. 11, 1986 (filed June 16, 1982)
Sanders	4,658,479	Apr. 21, 1987 ²

THE REJECTIONS

Claims 1 and 2 stand rejected under 35 U.S.C. § 103 as being unpatentable over Winter in view of Lankenau. Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over

² The Sanders patent is based on an application filed March 13, 1986 which, according to the patent document, is a continuation of an application filed June 19, 1985. The appellants have not disputed that the Sanders patent is prior art with respect to their invention.

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Winter in view of Lanckenau as applied to claim 2 above and further in view of Sanders. Claims 4 and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Winter in view of Lanckenau as applied to claim 2 above and further in view of Sanders and Weinar.

Rather than reiterate the entire arguments of the appellants and the examiner in support of their respective positions, reference is made to appellants' substitute brief (Paper No. 19), reply brief (Paper No. 22), the examiner's answer (Paper No. 20) and supplemental answer (Paper No. 23) for the full exposition thereof.

OPINION

In reaching our conclusions on the issues raised in this appeal, we have carefully considered appellants' specification and claims, the applied references, the declarations filed by appellants, and the respective viewpoints advanced by the appellants and the examiner. As a consequence of our review, we have made the determination that the claimed subject matter would have been obvious within the meaning of 35 U.S.C. § 103. Our reasons for this determination follow.

All of the rejections are based upon lack of patentability under 35 U.S.C. § 103. Our current reviewing court, the Court of Appeals for the Federal Circuit and its

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predecessor, the Court of Customs and Patent Appeals, have provided us with the following guidance for evaluating this issue: The question under 35 U.S.C. § 103 is not merely what the references expressly teach, but what they would have suggested to one of ordinary skill in the art at the time the invention was made. See Merck & Co., Inc. Biocraft Laboratories, Inc., 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989); In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). While there must be some suggestion or motivation for one of ordinary skill in the art to combine the teachings of the references, it is not necessary that such to be found in the four corners of the references themselves; a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in the particular reference. See In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). Further, in an obviousness assessment, skill is presumed on the part of an artisan rather than lack thereof. In re Sovish, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985). Insofar as the references themselves are concerned, we are bound to consider the disclosure of each reference for what it fairly teaches one of ordinary skill in the art including not only specific teachings, but also the inferences which one of ordinary skill in the art would

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reasonably have been expected to draw therefrom. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968); In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966).

We turn first to the rejection of claims 1 and 2 and note that Winter discloses a gem type paper clip i.e. one comprised of two U-shaped loops. Only two limitations in claim 1 are argued as differences over the Winter patent. First, appellants contend that Winter does not disclose a paper clip comprised of "spring-quality metal wire" (See, for example, brief, pages 14-15). Second, appellants contend that the free legs of Winter's paper clip do not extend "at least to the juncture of such longitudinally-extending connecting legs with such curved interconnecting portion while not extending beyond a location which is contiguous to a laterally transverse plane normal to the longitudinal axis of the clip."

With regard to the first limitation concerning the wire, the appellants argue:

The requirements of 35 U.S.C. sec. 112, para. 6 are set forth in the Official Gazette of May 17, 1994(1162 OG 59).

That is, "... the corresponding structure, materials or acts described in the specification and equivalents thereof" must be utilized in determining patentability under Sec. 103.

The interpretation of "spring-quality metal wire" asserted in Paper #6, page 6, lines 9-13 is not juridically proper and cannot properly be utilized. Also, none of the citations, individually or

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collectively, discloses use of the ASTM designated spring-quality metal wire in making a planar-configuration paper clip, and none of the citations individually or collectively, discloses an equivalent of spring-quality metal wire (Col.4 of Pat. '672), as recited in each claim, in making a planar configuration paper clip. [Brief at pages 14-15]

We are not persuaded that the scope of the limitation "spring-quality wire" is limited by 35 U.S.C. § 112, paragraph six.

The sixth paragraph of 35 U.S.C § 112 is applicable to means plus function language in a claim, in which the elements of the claim are recited in terms of a function to be performed and is not applicable to structural language such as "spring-quality wire" as recited in claim 1 of appellants' application. See York Products Inc. v. Central Tractor Farm & Family Center 99 F.3d 1568, 1574, 40 USPQ2d 1619, 1624 (Fed. Cir. 1996). While it is true, as appellants argue in the reply brief, that there is no magic language that must appear in the claim which triggers the provisions of 35 U.S.C. § 112, paragraph six, it is clear, however, that the language of a claim must be set forth at least in part by the function to be performed. Id at 1574, 40 USPQ2d at 1624. For the foregoing reasons, 35 U.S.C. § 112, paragraph six is not applicable to this limitation. This limitation is to be given its broadest reasonable interpretation, without reading limitations from the specification into the claims as appellants would have us do in the application of 35 U.S.C. § 112, paragraph

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six. See In re Paulsen 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1674 (Fed. Cir. 1984).

Appellants' specification does not distinguish between spring-quality metal wire as claimed and spring wire. In fact, appellants' specification uses the terms "spring-quality wire" and "spring wire" interchangeably (Column 4, lines 32 to 55). Thus when the limitation "spring-quality metal wire" is given its broadest reasonable interpretation consistent with appellants specification, it is evident that "spring-quality metal wire" simply means "spring metal wire."

Admittedly, Winter does not expressly state that steel paper clips may be made of spring wire. Winter does however, expressly disclose that paper clips are conventionally made from resilient steel wire (Col. 7, lines 30-34). According to its dictionary definition, the word "resilient" means "springing back: elastic." Webster's Third New International Dictionary (G.& C. Merriam Co. 1981). Indeed, it is notoriously well known in the art that the steel wire used to make paper clips is a springy metal for the purpose of resiliently gripping a stack of paper sheets. The resilient steel wire of Winter therefore is inherently a spring wire. Thus, contrary to appellants' arguments, claim 1 does not distinguish from Winter by reciting that the clip is comprised of "spring-quality metal wire." Based

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on our findings, claim 1 distinguishes from Winter only be reciting that the free legs extend "at least to the juncture of such longitudinally-extending connecting legs with such curved interconnecting portion while not extending beyond a location which is contiguous to a laterally transverse plane normal to the longitudinally axis of the clip."

Lankenau discloses a paper clip in which the two ends of the wire 11³, 12³ extend at least to the juncture of the longitudinally-extending connecting legs with the interconnecting portion 36 similar to appellants' claimed paper clip (Page 1, column 1, lines 30 through 35). Lankenau teaches that this construction provides maximum gripping surface for the self-evident purpose of resiliently gripping a stack of two or more sheets of paper (Page 1, column 1, lines 28-35). Lankenau also teaches that this construction prevents the ends of the paper clip from digging into the papers to which the paper clip is attached. We note that Lankenau specifically discusses the problem associated with gem type paper clips which have free ends which do not extend to the end:

The free ends 11³ and 12³ terminate in a plane lying substantially in abutment with the straight end 36, and cannot dig in and scratch the paper as is usually the case when removing paper clips of the "Gem" type having short legs which do not

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extend to the extreme end of the
clip. [Page 2, column 1, lines 42-48]

We conclude that Lankenau would have suggested modifying the paper clip disclosed in Winter so that the outer loop free legs extend "at least to the juncture of the longitudinally extending connecting legs with the curved interconnecting portion while not extending beyond a location which is contiguous to a laterally transverse plane normal to the longitudinal axis of the clip" as recited in claim 1, to obtain the advantage of a paper clip having maximum gripping surface which does not dig into or scratch the paper when removed.

In addition, if it is assumed *arguendo* that Winter does not expressly or inherently disclose spring wire, Lankenau teaches that the paper clip is comprised of spring wire (Col. 1, line 3). A person of ordinary skill in the art would have been motivated to make Winter's clip of such wire to achieve the self-evident advantage of spring wire to resiliently grip a stack of paper sheets.

Appellants have made several arguments regarding the individual teachings of the references (Brief at pages 7, 11, and 14). These arguments are not persuasive because appellants can not show nonobviousness by merely attacking the references individually where the rejection is based on a combination of

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references. In re Young, 403 F.2d 754, 757, 159 USPQ 725, 728
(CCPA 1968).

Appellants argue, in regard to the combination of Lankenau and Winter, that it is impermissible to pick and choose only those portions of a citation as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests and that appellants' claims can not be used as a guideline to modify Winter. We agree with appellants that an applicant's claims can not be used as a "template" to piece together isolated disclosures and teachings of the prior art so that the claimed invention is rendered obvious. To do so would be to rely on impermissible hindsight. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2D 1780, 1784 (Fed. Cir. 1992). However, in the instant case, Lankenau specifically refers to gem type clips (Page 2, column 1, lines 42-48) and the problems caused by the short legs which do not extend to the extreme end of the clip. Lankenau would have fairly suggested extending the legs of a gem type clip as disclosed in Winter to obtain a paper clip which does not dig into or scratch the paper when the paper clip is removed.

It is appellants' position that their disclosed spring-quality wire would fail if bent to the angles required in Lankenau' design, thus precluding these composition from use in

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making Lankenau's clips. In support of this argument, appellants have submitted declarations signed June 13, 1995 and March 10, 1995 by Richard D. Froehlich which state that the actual samples of paper clips formed of the spring-quality wire compositions disclosed but not claimed by appellants were fabricated and that the samples were subject to failure and breakages when the wire was bent about angles. We must point out that appellants confuse the issue of patentability under 35 U.S.C. § 103. The examiner in making his obviousness rejection does not propose to make Lankenau's clip from spring wire corresponding to compositions described in appellants' specification. Lankenau is merely relied upon for its teaching of extending the free legs in the manner claimed by appellants and also for its teaching of using spring wire. The issue of patentability is not whether it would have been obvious to use appellants' wire composition to make Lankenau type of clip with its squared off ends hence the Froelich declarations are irrelevant.

In the reply brief, appellants argue that the examiner found that Winter and Lankenau are capable of securing small stacks of paper and refer to several portions of appellants' specification wherein it states that appellants' paper clip is capable of securing thick stacks of paper. We do not find this

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argument persuasive because the claims do not expressly recite that the paper clip is capable of holding thick stacks of paper.

Claim 2 recites that the paper clip has a length between longitudinal ends of about 3 to 5 inches and a lateral width between outer loop longitudinally extending legs of about 1 inch. Appellants argue that the larger paper clip leads to improved performance with large stacks of paper.

However, in our view, it would have been well within the skill of the artisan, at the time appellants' invention was made, to ascertain from routine experimentation, an appropriate size for a paper clip. It is notoriously well known in the art to make paper clips of different sizes to handle different thicknesses of paper stacks.³ Use of optimum sizes therefore would have been within the level of ordinary skill in the art. See In re Boesch 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). As such, the size limitation recited in claim 2 does not patentably distinguish claim 2 from the prior art.

Appellants argue that the prior art does not disclose the carbon content for the steel wire paper clip as recited in claims 3, 4, and 5 (Brief at page 12). However, we find that the carbon content in a steel wire is a well known result effective

³ See, for example, Sanders column 5, lines 26-29.

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variable and that the optimization thereof would be well within the skill of the art at the time of appellants' invention. Id at 276, 205 USPQ at 219. A person of ordinary skill in the art would know that the addition of carbon to steel would have produced the expected result of a harder paper clip because carbon is well known to impart hardness to steel.⁴ Therefore the recitation of carbon content in claims 3, 4, and 5 would not patentably distinguish these claims from the prior art.

Turning to the rejection of claim 4, appellants argue that Sanders does not disclose wire processing. However, the properties which flow from cold drawing without anneal, namely increased strength and hardness, are well known to the person of ordinary skill in the art⁵ and the selection of this process on the basis of suitability to the use of a paper clip would not patentably distinguish the subject matter of claim 4 from the prior art. In re Leshin, 277 F2d 197, 199, 125 USPQ 416, 418 (CCPA 1960).

In reference to claims 4 and 5, appellants argue that Weinar is not analogous art and that Sanders and Weinar are not properly combinable. However, as we have stated above, we find

⁴ 21 Kirk-Othmer, Encyclopedia of Chemical Technology 553 (3rd ed. 1983).

⁵ Id at 601.

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that the particular carbon content in steel is a result effective variable the optimization of which would be well within the skill of the person of ordinary skill in the art. In addition, a person of ordinary skill in the art would know what properties would be created in steel which is cold drawn without anneal. Therefore, in our view, the recitation that the paper clip is comprised of steel wire with a specific carbon content of 0.3% to 0.9% and the recitation that the steel is cold drawn without anneal would not patentably distinguish claims 4 and 5 from the prior art.

Appellants further argue that no new question of patentability exists as required by 35 U.S.C. § 303(a) because Winter was cited and relied on during the original prosecution and examination of the application. In view of the application in all the pending rejections of Lankenau, which was newly cited in this reexamination, we do not find this argument persuasive.

In view of the foregoing, we are convinced that the prior art has established a prima facie case of obviousness as to claims 1 through 5. Having arrived at the conclusion that the evidence of obviousness as applied in the rejection of the claims on appeal is sufficient to establish a prima facie case of obviousness, we recognize that the invention may still be unobvious in view of secondary considerations or objective

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evidence of nonobviousness, such as long felt need or commercial success of the invention. As such, the evidence of nonobviousness submitted by the appellants must be considered en route to a determination of obviousness/unobviousness under 35 U.S.C. § 103. See Stratoflex Inc, v, Aeroquip Corp., 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983). Accordingly, we consider all the evidence of record, including the evidence submitted to establish nonobviousness anew. See In re Piasecki, 745 F.2d 1468, 1472-1473, 223 USPQ 785, 788 (Fed. Cir. 1984).

The appellants have argued in the brief that the long felt but unsolved need and the failure of others to act in the field of planar-configuration paper clips are evidenced by the dates of Winter and Lankenau. Appellants submitted a declaration of Steven Meyer which states that there was a need for the paper clip construction which solved the problem of gouging or ripping of papers and damaging of paper edges by the paper clip which was not addressed in the prior art. Appellants also submitted the declaration of Judith K. Buckley which states that the declarant has worked with the Froelich paper clips and found that the paper clips manufactured by the Froelich's serves a valuable need because it does not become permanently deformed during paper clip use. The Buckley declaration also states that the Froelich paper clip avoids gouging or ripping of papers and damaging edges of

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files and abrading hands. Appellants also submitted the declaration of Richard D. Froehlich which contains averments regarding the commercial success of appellants' paper clip.

We note that the burden of proving whether or not the invention satisfied a long felt need or was a commercial success is on appellants. Id at 1472-1473, 223 USPQ at 788. In addition, objective evidence of nonobviousness may be entitled to more or less weight depending on the nature of the evidence and its relationship or "nexus" to the merits of the invention. See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 306, 227 USPQ 657, 674 (Fed. Cir. 1985), cert. denied 475 U.S. 1017 (1986). A "nexus" is required between the merits of the claimed invention and the evidence of nonobviousness in order for the evidence to be given substantial weight in an obviousness determination. Stratoflex, 713 F.2d at 1539, 218 USPQ at 879.

The averments in the Meyer and Buckley declarations that the claimed subject matter solved unsolved problems of the art is not evidence of nonobviousness unless it shows that widespread efforts of skilled workers, having knowledge of the prior art, have failed to find a solutions to the problems. In re Allen, 324 F.2d 993, 997, 139 USPQ 492, 495 (CCPA 1963). Appellants have not submitted any such evidence. In any case, in regard to the problem of gouging and ripping of paper when the

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paper clip is removed from a stack of paper, Lankenau solved the problem by extending the free ends 11³ and 12³ to the connecting portion 36.

The Froelich declaration includes averments regarding the number of sales of appellants' paper clip. However, as the declaration contains no indication of whether this represents a substantial quantity in the market, the declaration is a very weak showing of commercial success. In re Huang, 100 F.3d 135, 140, 40 USPQ2d 1685, 1689 (Fed. Cir. 1996). Moreover, the number of sales is relevant in the obviousness context only if there is proof that the sales were a direct result of the unique characteristics of the claimed invention. Id at 140, 40 USPQ2d at 1689. The declaration states that the increasing success of the claimed paper clip is the result of distinctive characteristics of the claimed subject matter which were not previously available. However, these statements are conclusory and not based on evidence. Indeed, there is no evidence to establish that the alleged commercial success was the direct result of the unique characteristics of the claimed invention and not due to other causes. See, e.g., In re Heldt, 433 F.2d 808, 812, 167 USPQ 676, 679 (CCPA 1970). In short, appellants have failed to establish a "nexus" between the merits of the claimed invention and the sales of the paper clip.

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When all the evidence and arguments are considered anew, it is our conclusion that the subject matter of claims 1 through 5 would have been obvious to one of ordinary skill in the art at the time the invention was made.

In view of the foregoing the decision of the examiner rejecting claims 1 through 5 under 35 U.S.C § 103 is affirmed. However, since our rationale for rejecting the claims differs somewhat from the rationale of the examiner, we designate this affirmance a new rejection under 37 CFR § 1.196(b).

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date hereof (37 CFR § 1.197).

Because we have designated our affirmance of the examiner's 35 U.S.C. § 103 rejections as a new ground of rejection under 37 CFR § 1.197(b), our decision herein is not considered final for the purpose of judicial review. The only options available to appellants at this time with regard to our decision are to seek reconsideration under 37 CFR § 1.197(b) as indicated *supra*, or to have the matter considered by the examiner provided an appropriate amendment and/or showing of facts is submitted. Should appellants elect to have further prosecution before the examiner in response to the new rejection under 37 CFR

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§ 1.196(b) by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months form the date of the this decision.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED, 37 CFR § 1.196(b)

HARRISON E. McCANDLISH, Senior))	
Administrative Patent Judge)	
)	
)	BOARD OF
)	PATENT APPEALS
JOHN P. McQUADE)	AND
Administrative Patent Judge)	INTERFERENCES
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