Paper No. 13

# UNITED STATES PATENT AND TRADEMARK OFFICE

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# BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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Ex parte THOMAS J. WELLS

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Appeal No. 2003-0858
Application No. 09/557,509

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ON BRIEF

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Before ABRAMS, NASE, and BAHR, Administrative Patent Judges.

NASE, Administrative Patent Judge.

## DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 30, which are all of the claims pending in this application.

We REVERSE.

## BACKGROUND

The appellant's invention relates to bedding or seating products and more particularly to a bedding or seating product having a topper resting on a base (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

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

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| Asaro | 2,264,607 | Dec. 2, 1941 |
| Long et al. (Long) | 5,127,635 | July 7, 1992 |

Claims 1 to 30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Asaro in view of Long.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejection, we make reference to the final rejection (Paper No. 5, mailed April 16, 2002) and the answer (Paper No. 11, mailed November 29, 2002) for the examiner's complete reasoning in support of the rejection, and to the brief (Paper No. 10, filed September 16, 2002) for the appellant's arguments thereagainst.

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 respective positions articulated by the appellant and the examiner. Upon evaluation of all the evidence before us, it is our conclusion that the evidence adduced by the examiner is insufficient to establish a prima facie case of obviousness with respect to the claims under appeal. Accordingly, we will not sustain the examiner's rejection of claims 1 to 30 under 35 U.S.C. § 103. Our reasoning for this determination follows.

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 would have led one of ordinary skill in the art 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) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

**The claimed subject matter**

The independent claims on appeal read as follows:

1. A bedding or seating product comprising
a base,

a topper located above said base, said topper comprising a plurality of parallel continuous bands of coil springs joined together, each of sand bands of springs being made of one piece of wire formed into multiple coil springs and connecting segments joining said coil springs; and

an upholstered covering surrounding said topper and said base.

10. A bedding or seating product comprising:

a base,

a posturized topper located above said base, said topper having multiple sections of differing firmnesses including at least one spring core segment and at least one filler segment, each spring core segment comprising a plurality of parallel bands of coil springs joined together, each of said bands of coil springs being made of one piece of wire.

21. A bedding or seating product comprising:

a base,

a topper located above said base, said topper comprising a rectangular spring core segment and a filler segment surrounding said spring core segment, said spring core segment comprising a plurality of bands of coil springs joined together, each of said bands of coil springs being made of one piece of wire; and

an upholstered covering surrounding said topper and said base.

23. A bedding or seating product comprising:

a base,

a topper located above said base, said topper comprising a rectangular filler segment and a spring core segment surrounding said filler segment, said spring core segment comprising a plurality of bands of coil springs joined together, each of said bands being made of a single piece of wire; and

an upholstered covering surrounding said topper and said base.

25. A bedding or seating product having a longitudinal dimension and a transverse dimension, said product comprising:

a base,

a topper located above said base, said topper having at least one spring core segment and at least one filler segment, each spring core segment comprising a plurality of parallel, continuous bands of coil springs joined together, each of said bands of coil springs being made of one piece of wire formed into multiple coil springs and connecting segments joining said coil springs.

28. A bedding or seating product comprising:
a base comprising a plurality of pocketed coil springs,
a topper located above said base, said topper having a plurality of spring core segments and a plurality of filler segments, each of said topper spring core segments comprising a plurality of springs joined together with helical lacing wires.

29. A bedding or seating product comprising:
a base,
a posturized topper located above said base, said topper having multiple segments of differing firmnesses including a filler segment located between two topper spring core segments, each topper spring core segment comprising a plurality of springs joined together, each of said spring core segments being secured to said filler segment.

30. A bedding or seating product comprising:
a base,
a posturized topper located above said base, said topper having multiple segments of differing firmnesses including a spring core segment located between two segments, each topper spring core segment comprising a plurality of springs joined together, each of said filler segments being secured to said spring core segment.

**The teachings of the applied prior art**

*Asaro*

Asaro's invention relates to improvements in spring cushion structures. In the drawings Asaro has shown the spring cushion structure as being an automobile seat. However, Asaro teaches that it should be borne in mind that his improvements are desirable for use in furniture and other upholstery, particularly where it is desired to provide a relatively soft or yielding surface and at the same time provide a structure in

which the upholstery covering is effectively maintained in position, even though continuous over the entire cushion structure and without tufting, pleats or flutings.

Asaro refers to the main spring or bottom unit as the base unit and he provides a superimposed spring unit which he refers to as the upholstery pad unit. The base or bottom unit comprises bottom border member 1 and top border member 2. The top border member is carried by the body coil springs 3 which are housed or encased in pockets 4, the pockets being of the series type and arranged in parallel rows. The springs of adjacent rows are secured together at top and bottom by clips 5 and to the border frame by clips 6.

The upholstery pad unit 11 comprises a plurality of coil springs 12 arranged in pockets 13, the pocketed springs of adjacent rows being preferably arranged in nested relation as shown in the drawings. The coil springs 12 are of substantially lighter gauge stock than those of the body coil springs 3; they are also of smaller diameter and of substantially less height, one of the objects being to provide an upholstery pad unit which is relatively soft and yielding as compared to the springs of the base unit.

The rows of coil springs 12 are arranged in a casing consisting of a top 14 and a bottom 15, these being formed of fabric and the bottom being provided with a plurality

of strands 16 of resilient wire arranged in such spaced relation as to provide an effective supporting mat between the springs of the base unit and the upholstery pad unit and to effectively support the springs of the upholstery pad unit for independent collapsing movement; that is, the springs of the upholstery pad unit are not connected to each other except through the pocket and the side supporting relation in which they are arranged in the assembly.

The upholstery pad unit is arranged upon the base unit and its edges are connected to the top border frame. This connection preferably consists of a continuous helical spring connector 20 which is connected to the border of the upholstery pad unit at intervals by means of the clips 21.

Fibrous padding material 24 is arranged around the border of the upholstery pad unit 11. A relatively thin layer or pad of fibrous padding material 25 is arranged over the upholstery pad unit 11 and over the padding material 24. Lastly, an upholstery covering 23 is attached by any suitable means.

*Long*

Long's invention relates to spring assemblies for mattresses, cushions and the like. In the background of the invention, Long informs us that it was known to form a spring assembly from a plurality of longitudinally extending bands of springs disposed side by side and connected together by helical lacing wires which extend transversely of the bands and embrace portions of the bands. It was further known in the art that the bands of springs comprised a single length of spring wire shaped to form a plurality of individual coil springs arranged in a row, one end turn of each coil spring lying adjacent to a top face of the band, and the other end turn of each coil spring lying adjacent to a bottom face of the band wherein the adjacent coils of the bands of springs were interconnected to adjacent coils by a pair of interconnecting segments of wire integral with the coil springs. However, Long teaches that the presence of helical lacing wires in such continuous band spring assemblies can give rise to production problems and limit applications of the product. For example, the application of the helical lacing wires to the assembly must be performed mechanically in order to be practical, and such mechanical assembly can give rise to production machinery jams and production work stoppages. Furthermore, helical lacing wires in such a spring assembly can create undesirable noise and be a weak point in the assembly if the helical lacing wires are overstressed, bent, and caused to fracture.

One objective of Long's invention was to provide an improved continuous band spring assembly which eliminates the presence of the helical lacing wires and/or any other wire product for interconnecting the adjacent bands of coil springs. Still another objective of Long's invention was to provide an improved continuous band spring product which is quieter than prior art continuous band products because of the absence of the helical springs and the absence of any potential for coil springs of one band to rub against coil springs of adjacent bands and thereby give rise to noise.

Figures 1 and 2 illustrate a mattress 20. This mattress comprises a spring interior 21 on the top and bottom surfaces of which there is a pad 19. An upholstered covering 18 encases the spring interior 21 and the pads 19. The spring interior 21 is formed from a plurality of longitudinally extending strips 22 of pocketed coil springs 31. Each strip 22 of pocketed coil springs 31 comprises a fabric covering 24 within which there is located a band of coil springs 23. These strips extend longitudinally of the mattress 20 and are secured to top and bottom border wires 25 by conventional hog rings 26. The border wires are located in the top and bottom planes of the mattress and extend completely around the periphery of the spring interior 21.

Each band 23 of coil springs 31 is made from a single length of spring wire shaped to form a plurality of individual coil springs 31 arranged in a row. Each band

extends for the full length of the strip 22. Each coil spring 31 comprises about 2½ turns of wire with an axis which extends vertically perpendicular to the top and bottom faces of the band of springs 23 and the spring interior. The end turns of the coil springs 31 lie adjacent to the top and bottom faces 27, 28 of the band. Each coil spring 31 is joined to the next adjacent coil spring by two interconnecting segments 35, 36 of the wire integral with the coil springs. One of the two interconnecting segments 35, 36 is in the top face 27 of the band 23, and the other is in the bottom face 28 thereof. Each interconnecting segment 35, 36 comprises a bridging portion 37, which extends longitudinally of the band or row of coil springs, and end portions 38, which extend in a direction normal to the longitudinal axis of the band 22. These end portions 38 of the interconnecting segments 35, 36 also lie in the top and bottom faces 27, 28 of the band 22.

Long teaches that in the prior art, after formation of the rows of coil springs 22, it was common practice to interconnect the bands or rows of coil springs by lacing them together by means of helical lacing wires. Such helical lacing wires are eliminated, though, according to the practice of Long's invention. In accordance with Long's invention, each band of coil springs 23 is encased within a folded two-ply strip of non-woven fabric of thermoplastic fibers in which individual spring pockets 42 are defined between the plies by transverse lines 43 of discrete thermal welds of the plies

to one another and in which the pockets 42 are closed by a longitudinal seam 44 of a similar thermal weld.

After the rows or strips of pocketed coil springs 22 are secured together by securement of side surfaces 54, 56 to side surfaces of adjacent strips and a sufficient number of those strips have been adhered together to extend for the full width of a mattress, the spring interior 21 is completed by securement of the border wires 25 on the top and bottom edges of the spring interior 21. Thereafter, the mattress 20 is completed by placement of the pads 19 over the top and bottom surfaces of the spring interior 21, and the complete spring interior, including the pads, are encased within conventional ticking or upholstered covering material.

Figures 3 and 4 illustrate a second embodiment of Long's invention. This embodiment is identical to the embodiment of Figures 1 and 2, except that it includes, as a part of the spring interior 21', foam pads or foam plies 60 positioned between each of the strips 22 of pocketed springs and adhered or otherwise secured to the sidewalls 54, 56 of the strips. In this embodiment, each ply of foam material extends for the full length of the strip and is of the approximately the same height as the transverse dimension of the strip. In one preferred embodiment, the strip is approximately three centimeters in thickness, but this dimension may be varied depending upon the desired

resiliency and coil count of the resulting product. The plies of resilient foam material may be made from conventional urethane foam or any other resilient foam material of the type from which foam mattresses or foam cushions and pillows are conventionally made.

The advantage of having foam pads or plies of resilient foam 60 between the individual strips 22 of pocketed coil springs 31 is that there is a substantial savings in wire utilized in the mattress, cushion, or product embodying the spring interior, and the resulting product may be manufactured less expensively than the embodiment of Figures 1 and 2. Additionally, the resulting product may be easily varied in firmness by varying the thickness T of foam plies 60 in the resulting product, and the product may thereby have a softer or more resilient feel.

**The rejection**

In the rejection of claims 1 to 30 under 35 U.S.C. § 103 before us in this appeal (final rejection, pp. 2-3), the examiner determined that "[i]t would have been obvious to employ the multiple coil springs segments and foam filler segments [of Long in Asaro's upholstery pad unit] in order to provide a very quiet spring assembly that is easy to manufacture."

**The appellant's argument**

The appellant argues that the applied prior art does not suggest the claimed subject matter. Specifically, the appellant asserts that absent the use of impermissible hindsight[1] there is no suggestion in the applied prior art to have modified Asaro's upholstery pad unit based upon the teachings of Long to arrive at the claimed subject matter.

**Our position**

After reviewing the teachings of Asaro and Long, we find ourselves in agreement with the appellant that there is no suggestion in the applied prior art to have modified Asaro's upholstery pad unit based upon the teachings of Long to arrive at the claimed subject matter. In that regard, Long does not disclose a bedding or seating product having a topper. Long teaches to replace the prior art practice of interconnecting bands of coil springs by lacing them together by means of helical lacing wires with bands of coil springs 23 encased within spring pockets. Since the coil springs 12 in Asaro's upholstery pad unit are pocketed and not laced together by means of helical lacing wires, we see no reason, absent the use of impermissible hindsight, why a person of

[1] The use of hindsight knowledge derived from the appellant's own disclosure to support an obviousness rejection under 35 U.S.C. § 103 is impermissible. See, for example, W. L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

ordinary skill in the art at the time the invention was made would have modified Asaro to arrive at the subject matter of claims 1 to 30.

For the reasons set forth above, the decision of the examiner to reject claims 1 to 30 under 35 U.S.C. § 103 is reversed.

## CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 30 under 35 U.S.C. § 103 is reversed.

REVERSED

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| NEAL E. ABRAMS<br>Administrative Patent Judge | ) | |
| JEFFREY V. NASE<br>Administrative Patent Judge | ) | BOARD OF PATENT APPEALS AND INTERFERENCES |
| JENNIFER D. BAHR<br>Administrative Patent Judge | ) | |

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