Aug. 4, 1959 W. B. BRADFORD 2,897,520

RESILIENT SUPPORT ASSEMBLY

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Fig. 1.

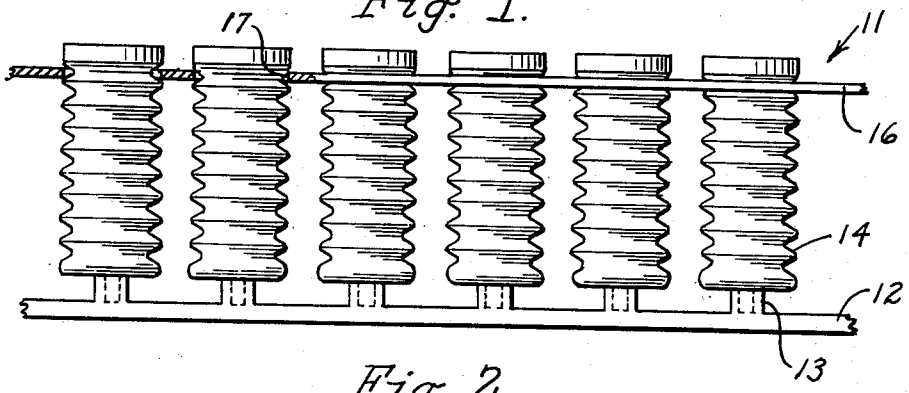


Fig. 2.

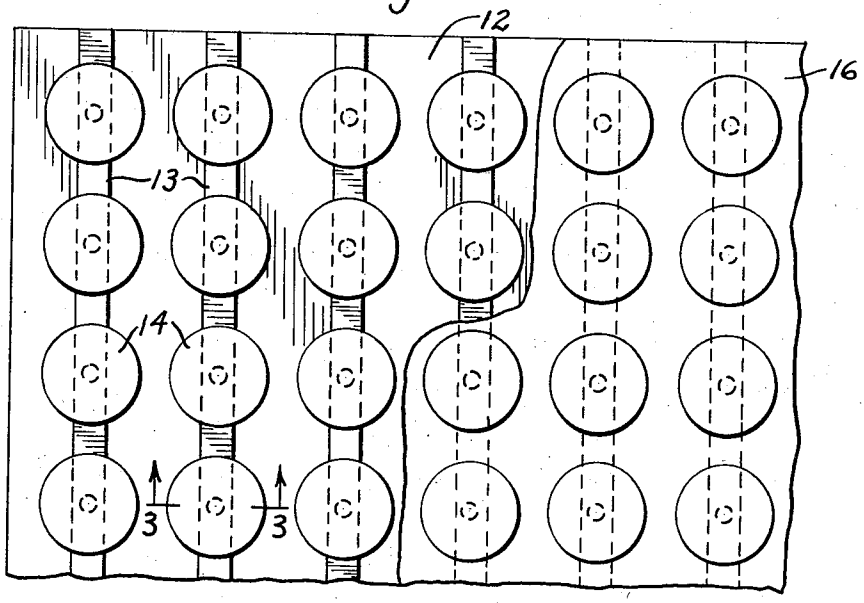
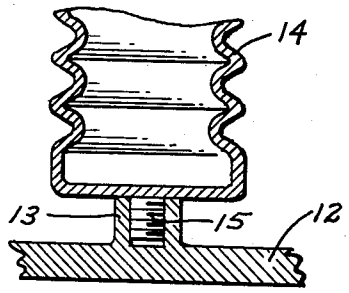


Fig. 3.



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RESILIENT SUPPORT ASSEMBLY

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3 Claims. (Cl. 5—348)

This invention relates to supports, and more particularly to a spring assembly.

A main object of the invention is to provide a novel and improved resilient support assembly usable for mattresses, resilient padding devices, and similar applications, the support assembly being simple in construction, involving relatively inexpensive parts, and being easy to maintain in a serviceable condition.

A further object of the invention is to provide an improved resilient support assembly which is relatively compact in size, which is durable in construction, and which may be readily taken apart for cleaning or repair whenever required.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a fragmentary side elevational view, partly in vertical cross section, of a spring assembly constructed in accordance with the present invention.

Figure 2 is a top plan view of the structure of Figure 1 with a portion of the top wall member broken away.

Figure 3 is a fragmentary cross-sectional detail view taken on the line 3—3 of Figure 2.

Referring to the drawings, 11 generally designates a resilient support assembly constructed according to the present invention, for example, a spring assembly usable as the support portion of a mattress of a bed, or as a support for a bed mattress when on a suitable base, a corner portion of the assembly being shown. The assembly 11 comprises a base plate 12 of any suitable material on which are formed the transversely extending parallel, evenly spaced, upstanding ribs 13. The transverse ribs 13 extend from one side edge of the base plate 12 to the other over the entire longitudinal length of the plate.

Designated at 14 are upstanding uniformly spaced bellows members, of any suitable material which is relatively flexible, such as resilient metal, molded plastic material, or the like. The bellows members are each formed with a depending, axial, threaded stud member 15, and said stud members are threadedly engaged in the transversely extending ribs 13, as is clearly shown in Figure 3. The bellows members are uniformly spaced along the ribs, whereby said bellows members are distributed substantially in a uniform manner over the entire area of the base plate 12.

Designated at 16 is a top wall member which is disposed substantially parallel to the base plate 12 and which is supported in any suitable manner in a fixed position relative to the base plate. The top plate 16 is formed with circular guide apertures 17 through which the upper portions of the respective bellows members 14 extend, said upper portions projecting above the top wall member 16, as is clearly seen in Figure 1. The circular apertures 17 slidably receive the bellows members and allow said bellows members to expand and contract axially, while maintaining the bellows members in vertical positions, namely, in positions perpendicular to the base plate 12 and the wall 16, at all times.

The uniformly distributed top walls of the bellows members 14 define a resilient support for any object placed thereon, for example, for the mattress of a bed,

and yielding under load, whereby to compress the gas sealed within the bellows members responsive to such loading. When relieved of load, the gas contained within the bellows members expands, allowing the bellows members to resume their nomal configurations. Thus, each bellows member acts as a spring element, being compressible from the load and being expansible when relieved of load, similar to a coiled spring.

As will be readily apparent, the bellows are individually removable by rotating them to disengage their stud elements 15 from the supporting ribs 13, whereby said bellows members may be readily removed for replacement or cleaning. The bellows members are easily replaced by threadedly engaging their studs 15 in the tapped openings provided therefor in the upstanding supporting ribs 13.

While a specific embodiment of a resilient support assembly has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. In a resilient support assembly, a base member, a plurality of upstanding sealed bellows members, depending axial studs on the bottoms of the bellows members threadedly engaged in the base member, and a top wall member fixedly mounted parallel to and above said base member and formed with guide apertures slidably receiving the top portions of said bellows members, said top portions extending slidably through said guide apertures and projecting above said top wall member and being distributed in a substantially uniform manner over said top wall member to define a resilient support for a mattress or the like.

2. In a resilient support assembly, a base plate, a plurality of parallel spaced ribs on said base plate, a plurality of upstanding sealed bellows members, depending axial studs on the bottoms of the bellows members threadedly engaged in the ribs, and a top wall member fixedly mounted parallel to and above said base plate and formed with guide apertures slidably receiving the top portions of said bellows members, said top portions extending slidably through said guide apertures and projecting above said top wall member and being distributed in a substantially uniform manner over said top wall member to define a resilient support for a mattress or the like.

3. In a resilient support assembly, a base plate, a plurality of parallel, uniformly spaced ribs on said base plate, a plurality of upstanding sealed bellows members, depending axial studs on the bottoms of the bellows members threadedly engaged in the ribs at uniformly spaced locations therealong, and a top wall member fixedly mounted parallel to and above said base plate and formed with guide apertures slidably receiving the top portions of said bellows members, said top portions extending slidably through said guide apertures and projecting above said top wall member and being distributed in a substantially uniform manner over said top wall member to define a resilient support for a mattress or the like.

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