March 3, 1959 P. B. HOAG 2,875,819

SEAT CONSTRUCTION

Filed Aug. 26, 1957 2 Sheets-Sheet 1

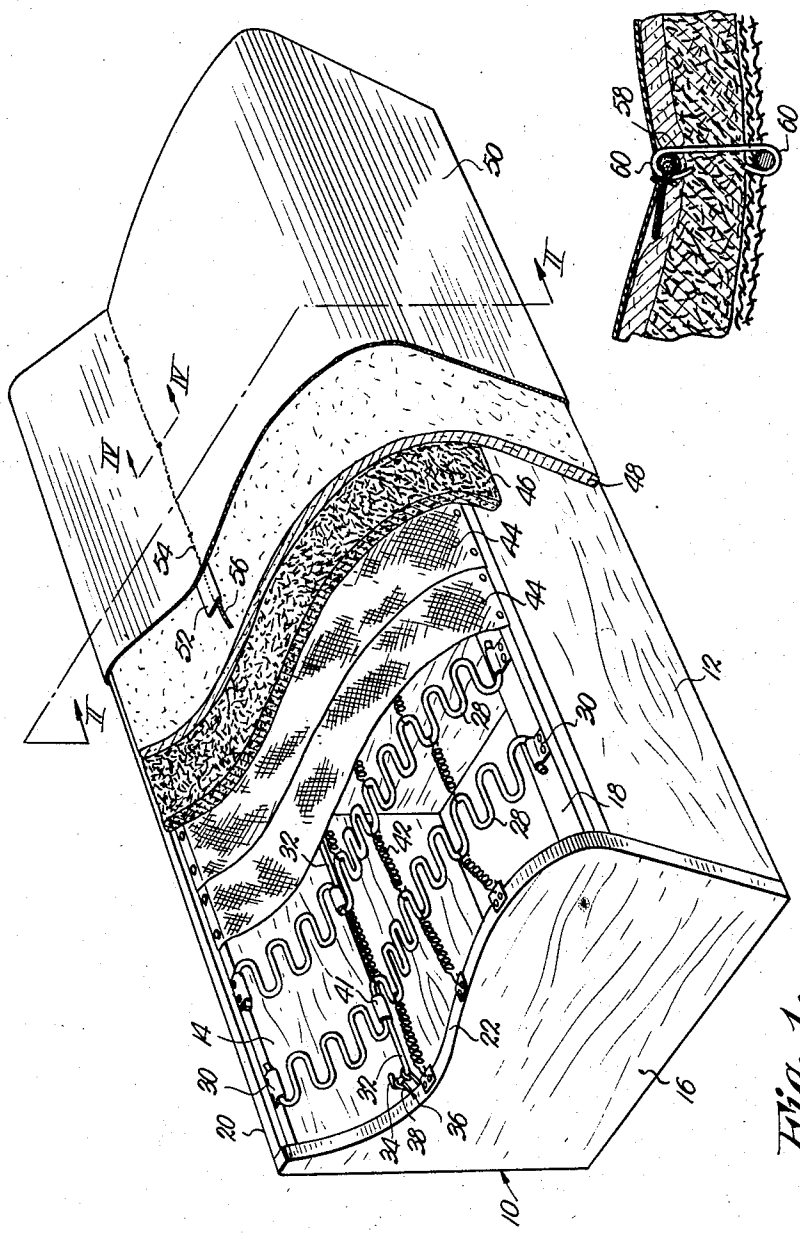


Fig. 1.

Fig. 4.

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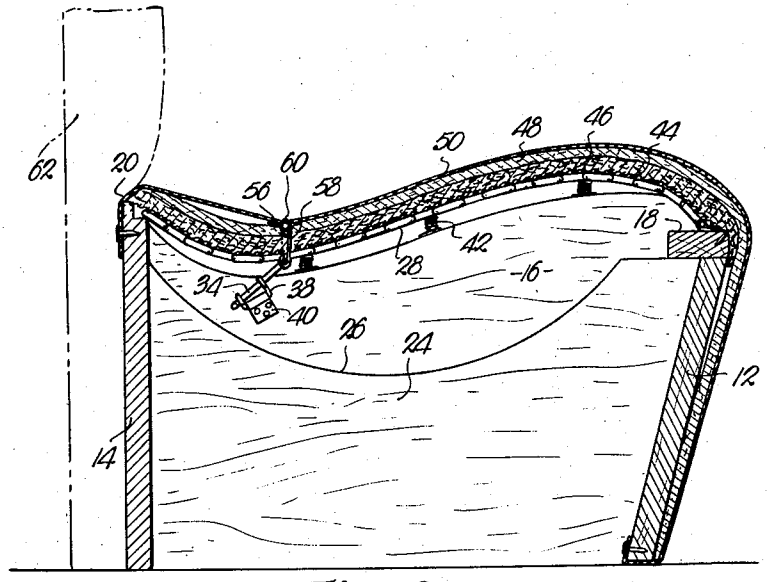


Fig. 2.

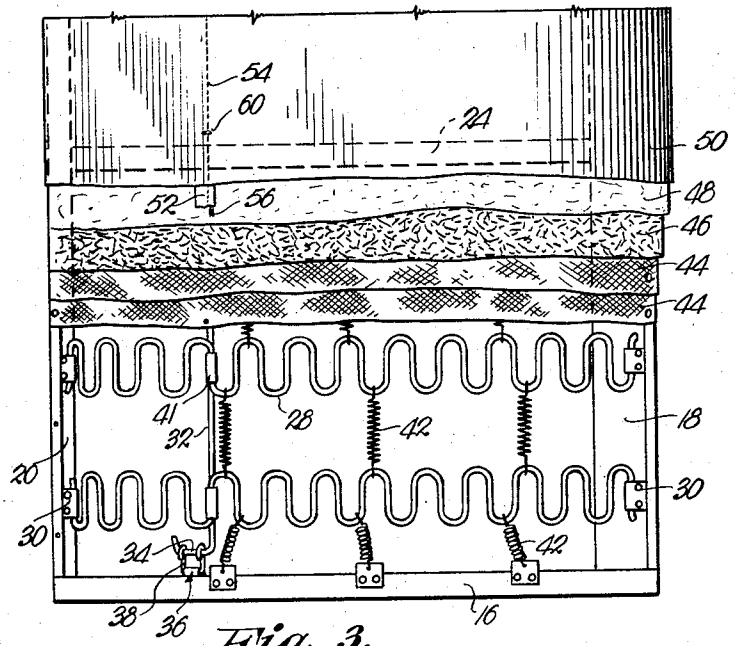


Fig. 3.

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SEAT CONSTRUCTION

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5 Claims. (Cl. 155—180)

This invention relates to an upholstered article of furniture, and more specifically to seat structure such as is commonly employed in booths of restaurants, cafes, and other public establishments where it is desired to provide a relatively inexpensive seat structure which has a long, useful life and is comfortable. Although many types of booth seats have been previously suggested, there has been a problem created because of the seam between the seat and the back rest collecting dirt and other types of foreign matter which cannot be easily removed from the booth. Attempts to clean the crevice formed between the back rest and the seat result in damage to the upholstery and causing greater cost in upkeep of the equipment.

It is, therefore, a very important object of this invention to provide an upholstered article of furniture in the nature of a booth seat wherein a part of the seat adjacent the back rest curves upwardly rather than downwardly as in conventional seats of this type so as to eliminate the seam between the back rest and the seat which tends to collect dirt and foreign matter.

An equally important object is to provide an article of furniture as described wherein a plurality of continuous springs are employed between the forward part of the booth and the rearward part thereof to afford a resilient seat and which springs are formed in a unique configuration so that the back part of the seat curves upwardly and thus eliminates the problem incident to dirt collecting in the crevice between the back and the seat.

Another important object of this invention relates to an article of furniture wherein the continuous springs utilized in the seat portion thereof are pre-formed into a substantially S-shaped configuration so that when the same are placed in position on the seat frame, the lowermost part of the seat presents a smooth curve which does not collect dirt and other foreign material.

Other objects of the invention relate to the provision of a continuous cover overlying the springs and secured to the frame in a manner so that no seam is formed at the lowermost arcuate part of the seat cushion which would tend to collect dirt; to the provision of a tie bar attached to the springs adjacent the lowermost portions thereof and means securing the proximal portion of the cover to the tie bar so that the cover assumes a smooth position over the springs; and to the provision of an elongated strip secured to the lowermost face of the cover and parallel to the tie bar to facilitate attachment of the cover to the tie bar.

In the drawings:

Fig. 1 is a perspective view of a booth seat made in accordance with the concepts of the instant invention, certain parts being broken away and in section to reveal details of construction;

Fig. 2 is a cross sectional view taken on line II—II of Fig. 1 and showing the normal position of a back rest in phantom;

Fig. 3 is a fragmentary, plan view of a portion of the seat, parts being broken away to reveal details of the seat beneath the cover thereof; and

Fig. 4 is a fragmentary, enlarged, cross sectional view taken on line IV—IV of Fig. 1.

An upholstered article of furniture in the nature of a booth seat is designated generally by the numeral 10. Seat 10 is substantially rectangular in configuration and includes substantially upright front and rear members 12 and 14 and a pair of sides 16, and as clearly shown in Fig. 2 of the drawings, the uppermost edge portion 18 of forward member 12 is somewhat lower than the level of the uppermost edge portion 20 of member 14. The ends of the upper edge 22 of the sides 16 merge with uppermost portions 18 and 20 respectively, and as evident in Fig. 1, edge 22 is substantially S-shaped in configuration.

It is also usually desirable to provide an intermediate bracing plate 24 which interconnects front and rear members 12 intermediate sides 16 and the uppermost edge of plate 24 is cut out as at 26 substantially below the level of edge 22.

A plurality of substantially parallel springs 28 span the distance between forward and rear members 12 and 14 and are joined to the uppermost portions 18 and 20 respectively by a series of J-shaped brackets 30 secured thereto by any suitable fastening means. Each of the springs 28 comprises a length of spring steel which is bent into a serpentine configuration and also formed so that springs 28 are longitudinally S-shaped in configuration and have aligned upwardly and downwardly bowed portions. Springs 28 are secured to members 12 and 14 so that they normally assume a position geometrically similar to the configuration of the surfaces of edges 22 of sides 16.

An elongated tie bar 32 having an L-shaped component 34 integral therewith at each end thereof spans the distance between sides 16 and is secured to the innermost face of each of the sides 16 by hinge means broadly enumerated 36. Each of the hinge means 36 includes a substantially U-shaped element 38, the bight of which is swingably secured to the face of side 16 by a J-shaped bracket 40 and the outermost ends of the legs of element 38 are looped over that leg of L-shaped component 34 which is perpendicular to tie bar 32.

As shown in Figs. 2 and 3, tie bar 32 is disposed in substantially perpendicular relationship to springs 28 and is located in closer proximity to rear wall 16 than forward wall 12. A portion of each of the springs 28 is secured to the tie bar 32 by a plurality of clamps 41 engaging one stretch of each of the springs 28 and wrapped around a portion of tie bar 32.

A plurality of cross tie springs 42 are provided between springs 28 and also between sides 16 and springs 28 to maintain proper spatial alignment of springs 28.

A number of layers of burlap 44 are disposed over springs 28 which are secured to uppermost portions 18 and 20 by nails or the like, and it is usually desirable to place a layer of rubberized hair 46 over the burlap in order to make the seat more comfortable. A layer of cotton batting 48 is usually placed over hair 46 and a continuous, substantially rectangular cover 50 of cloth reinforced plastic is disposed over batting 48 and secured to the seat frame by tacks or similar fastening means. It is necessary that cover 50 fit snugly over springs 28 and, therefore, the zone of cover 50 adjacent tie bar 32 is secured thereto by means to be hereinafter described.

An elongated cloth tape 52 rebent upon itself along the longitudinal median line thereof is secured to the lowermost face of cover 50 by a line of stitching 54 and it can be seen that tape 52 is parallel to and substantially adjacent tie bar 32. An elongated cord 56 is disposed

within the loop of tape **52** and extends the entire length of seat **10**, and means for securing the cord **56** to tie bar **32** comprises a series of spaced metal clips **58**. As clearly illustrated in Fig. 4, the ends of each of the clips **58** are bent over to form hooks, one of hooks **60** passing through the tape **52** and over cord **56** while the other hook is engaged over tie bar **32**. In this manner, the area of cover **50** adjacent tie bar **32** is snugly pulled down against springs **28** to thereby cause cover **50** to assume a smooth position over S-shaped springs **28**. If desired, an elongated metal rod could be used in lieu of the cord **56** within the loop of tape **52** and would extend the entire length of seat **10**, the metal clips **58** then being associated with such rod in the same manner as described for the cord **56**.

The upholstered seat **10** hereinabove described, retains all of the characteristics of high resiliency so as to afford a comfortable seat and the annoying dirt receiving crevice normally found in seat structures of this type is eliminated. Also, because of the manner in which tie bar **32** is hingedly secured to sides **16**, that portion of springs **28** adjacent thereto may move upwardly and downwardly under a weight without in any manner interfering with the resilient action of springs **28**. The construction of seat **10** is relatively simple and rugged, and the useful life of the seat is materially increased because it is not necessary to attempt to remove dirt from the crevice between the back and the seat as has heretofore been necessary.

As illustrated in Fig. 2, the crevice between back rest **62** and cover **50** is substantially higher than the lowermost portion of seat **10** and, therefore, dirt does not tend to get into such crevice.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

1. In an upholstered article of furniture, a seat frame including a front member, a rear member and a pair of spaced sides; a plurality of elongated, pre-formed, longitudinally permanently S-shaped, spaced flexible elements spanning the distance between and secured to the uppermost parts of the front and rear members respectively whereby each of said elements has aligned upwardly bowed and downwardly bowed portions; an elongated, horizontal tie bar disposed perpendicularly to said elements, spanning the distance between and secured to said sides, located adjacent the downwardly bowed portions of said elements and hingedly secured at opposite ends

thereof to respective sides for swinging movement in a restricted, substantially vertical arc; cover means extending continuously over said elements and joined to said frame; and means interconnecting said tie bar and a continuous line of the cover adjacent said tie bar for holding the cover in conforming relationship to the uppermost surfaces of the elements.

2. An article of furniture as set forth in claim 1, wherein each of said elements is a spring having serpentine strands.

3. An article of furniture as set forth in claim 1, wherein said downwardly bowed portions of the elements and the tie bar are located adjacent said rear member.

4. An article of furniture as set forth in claim 3, wherein said uppermost part of the rear member is disposed above the level of the corresponding part of the front member.

5. In an upholstered article of furniture, a seat frame including a front member, a rear member and a pair of spaced sides; a plurality of elongated, pre-formed, longitudinally permanently S-shaped, spaced flexible elements spanning the distance between and secured to the uppermost parts of the front and rear members respectively whereby each of said elements has aligned upwardly bowed and downwardly bowed portions; an elongated, horizontal tie bar disposed perpendicularly to said elements, spanning the distance between and secured to said sides, located adjacent the downwardly bowed portions of said elements and hingedly secured at opposite ends thereof to respective sides for swinging movement in a restricted, substantially vertical arc; cover means extending continuously over said elements and joined to said frame; means securing the tie bar to said elements; a tubular binding stitched to the lowermost face of said cover, said binding being parallel to and located adjacent said tie bar; an elongated cord disposed within said binding; and a plurality of spaced clips interconnecting the tie bar and said cord, each of said clips passing through a part of the binding to hold the cover in conforming relationship to the uppermost surfaces of the elements.

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