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UPHOLSTERY RETAINER STRIP

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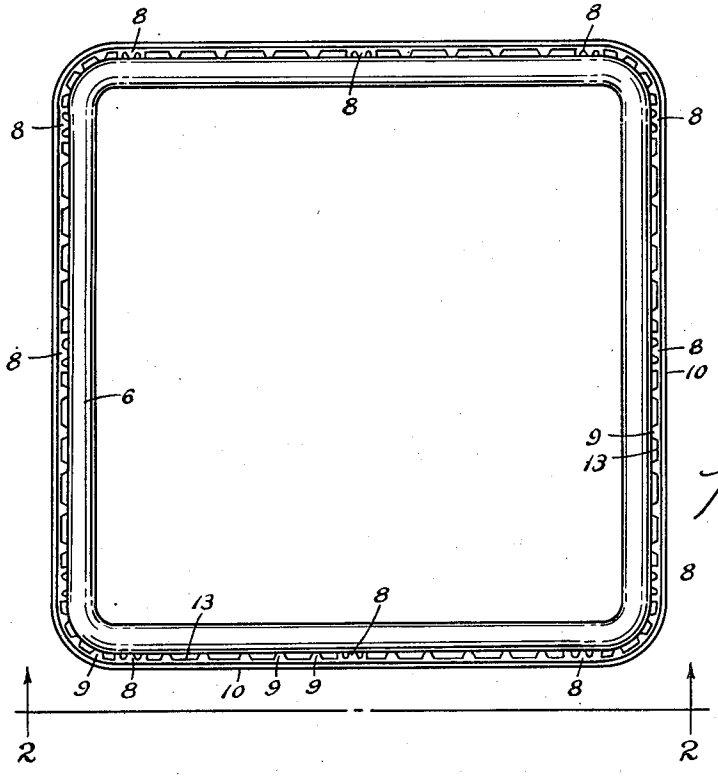


Fig. 1.

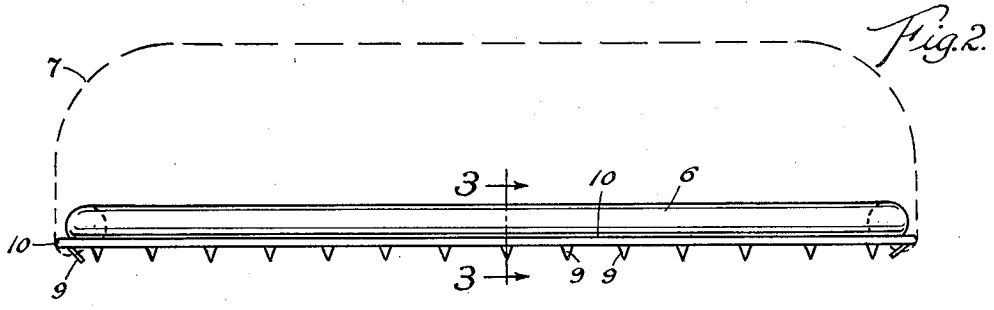


Fig. 2.

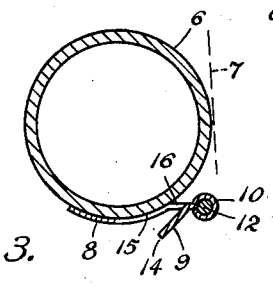


Fig. 3.

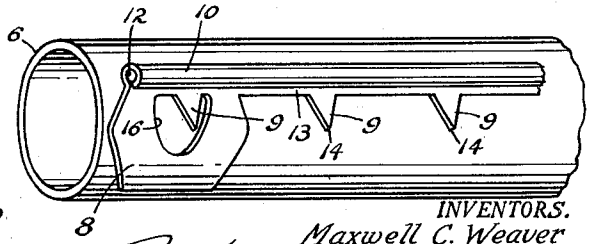


Fig. 4.

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UPHOLSTERY RETAINER STRIP

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8 Claims. (Cl. 155—180)

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This invention relates to an upholstery retainer strip of a type to be mounted upon any surface or frame to be covered with sheet material.

An object of the invention is to provide an upholstery retainer strip designed for rapid and inexpensive production.

Another object is to provide a retainer strip which will facilitate and expedite the application of sheet material as a cover for a frame or other support.

Another object is to provide an upholstery retainer strip which may be flexed accurately and uniformly in correspondency with any curvatures peculiar to the frame or support to be covered or upholstered.

Another object is to provide a novel combination of retainer strip and tubular frame, whereby covering material may be applied and secured in place with maximum ease and precision.

The foregoing and other objects are attained by means described herein and illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of a frame having the upholstery strip of the invention applied thereto.

Fig. 2 is an enlarged side elevational view taken on line 2—2 of Fig. 1.

Fig. 3 is an enlarged cross-sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a fragmental perspective view showing a section of frame material with the retainer applied thereto.

In the application of upholstery or sheet covering material to a frame or support, it is desirable that a neat and substantial connection be made between the upholstery material and the frame, without the employment of highly skilled labor and tools of special design. An upholstery retainer strip, in order to perform proper service, should not only hold the material in place, but should also preclude the possibility of tearing of the material away from its anchorage. Important also is the provision of means to prevent clothing or other extraneous objects from catching upon or within the parts of the retainer strip while in service. In addition to the foregoing, it is necessary that the retainer strip be inexpensive as well as serviceable, and easily accessible for the rapid application of covering or upholstery materials. The instant retainer strip meets all of the requirements of a satisfactory article for the purposes mentioned, and may be seen to incorporate various other advantages of merit over previous articles in the category thereof.

Referring to the accompanying drawing, the

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reference character 6 indicates a frame or support, which for example may be tubular in form, providing a foundation for the upholstery retainer strip. In the example shown, the frame or support is substantially rectangular in shape, however, it is to be understood that it may assume shapes other than that shown. For purposes of illustration, the frame 6 may be considered a seat frame over which is to be applied a sheet of fabric or other upholstery material 7. The springs and padding usually resting upon the frame and covered by the sheet material 7, have been omitted from the drawing in the interests of clarity and simplicity of disclosure. The upholstery retainer strip is most clearly illustrated by Fig. 4, wherein it will be seen to comprise one or more anchor plates 8, an integral bead 10 and a series of spaced triangular prongs 9. The bead 10 may encircle a reinforcing rod or wire 12 extending lengthwise thereof along the full length of the bead. The reinforcing member 12, although indicated as being circular in cross-section, may be of any other shape, for example square, oval, or of any multi-sided configuration, and is preferably so shaped that it will bend or flex with substantially equal facility in any direction. The bead will usually conform with the cross-sectional shape of the reinforcing member, and will firmly embrace it to preclude accidental displacement during handling and usage.

As previously stated, the anchor plate 8 is integral with the bead 10, as is also a narrow fin 13 which extends from the bead laterally in the same general direction as the anchor plate. The fin extends continuously through the anchor plate as shown in Fig. 4, and through such other anchor plates as may be furnished at more or less regular intervals along the length of the bead, and the base of each prong 9 is provided by said fin. In the preferred construction of the retainer strip, several prongs will be located between adjacent anchor plates, and the number of anchor plates provided will depend upon the length of the strip and the kind of service it may be required to perform. In an upholstery retainer strip for comparatively heavy duty service, two or three prongs may be provided between adjacent anchor plates. For lighter service, a greater number of prongs may be interposed between adjacent plates.

Attention is now directed to Fig. 3, which illustrates the normal relationship of the upholstery retainer strip to the frame member 6. It will be seen that the anchor plate 8 is welded or other-

wise fixedly secured along the lower area of the frame member, so as to dispose the bead 10 at an elevation well beneath a horizontal line passing through the center of the frame member. This disposition of the retainer strip upon the frame member places the bead approximately on a vertical line tangent to a side of the frame, with the prong 9 projecting downwardly and inwardly relative to the frame member. Accordingly, when a sheet of covering material such as 7 is brought downwardly along the face of the frame and turned underneath about the bead 10, it will assume a proper position to be impaled upon the prong 9, thereby precluding upward displacement of the sheet or fabric piece 7. Once the sheet or upholstery fabric has been impaled upon the series of prongs, the prongs may be bent upwardly until their points 14 substantially contact the frame 6 at the approximate location 15. The upholstery material or sheeting will then be securely held against detachment from the frame. Although it is not necessary to so bend the prongs toward the frame, it is preferable that the prongs be of sufficient length to render possible such bending thereof for the purpose related. When the prongs are so bent for locking the fabric in place, they will lie substantially in a plane which is parallel to the plane of the open frame or support 6. It may here be noted that bead 10 forms a smooth and continuous ledge or abutment against which the fabric or other sheet material may rest, thereby minimizing wear and precluding tearing in the region of the prongs. As the fin 13 spans the space between adjacent prongs, so that the bases of the prongs do not meet one another, there can be no severance of the fabric or sheet material along a continuous line where penetrated by the prongs, it being understood that the edge of the fin will not cut the covering material.

Although as shown in Fig. 4, one of the prongs 9 is formed from metal that has been punched from the anchor plate where the aperture 16 appears, it may in some cases be desirable to leave the anchor plate solid, and in that event prongs will be provided at opposite ends of the anchor plate, in close proximity therewith. The anchor plate preferably is curved to conform with the shape of the support or frame 6, when a tubular frame or support provides the foundation for the upholstered structure. The series of anchor plates may be fixed with relation to the frame or support, utilizing a common fastening means such as welds, rivets, screws or the like.

The device of the invention may be fabricated at low cost and with the use of simple machinery on a rapid production basis, using common metal in strip form. Although by way of example the retainer is shown applied to a frame or support which is tubular in form, it should be understood as applicable also to frames or supports which are flat, angular, or of other shape, whether used as seat structures or not. The invention will be found especially useful, however, in upholstering the bases and backs of vehicle seats, theater seats, and the like, but its use is not to be limited thereto.

What is claimed is:

1. As a new combination, an elongated support having a wall, an upholstery retainer in the form of a one-piece longitudinal strip having a bead along an edge thereof, the margin of said edge being inside the bead, a series of coplanar prongs integral with and extending laterally from the opposite edge thereof, said prongs each having a base close to the head and a pointed end remote therefrom, and mounting means in the form of a plate attached to the support for disposing the bead and the prong bases at a fixed distance from the wall of the support, said distance being gauged to the length of the prongs whereby upon bending the prongs at their bases, the points thereof will reach the wall of the support.

2. As a new combination, an elongated support having a wall, an upholstery retainer in the form of a one-piece longitudinal strip having a bead along an edge thereof, the margin of said edge being inside the bead, a series of coplanar prongs integral with and extending laterally from the opposite edge thereof, said prongs each having a base close to the bead and a pointed end remote therefrom, and mounting means in the form of a plate attached to the support for disposing the bead and the prong bases at a fixed distance from the wall of the support, with the bead extending lengthwise of the support at one elevation, and the prong points extending downwardly from the bead at a lower elevation, the distance from the bead to the support wall being limited to ensure contact of the points with said wall when the prongs are bent and turned toward the latter.

3. A structure of the class described, comprising in combination, a tubular frame having an outer side portion and a bottom portion, an upholstery retainer in the form of an elongated metal strip having a bead along an edge thereof, and a series of spaced anchorage plates fixed to the bottom portion of the tubular frame for supporting the bead at a distance forwardly of the outer side portion of the frame, and in spaced relation thereto at an elevation approximating that of the frame bottom portion, a series of coplanar prongs extending laterally from the opposite edge of said retainer and in a direction obliquely downwardly and away from the bead and the side wall portion of the tubular frame, said prongs having points underlying the frame, the prongs being of a length sufficient to dispose the points thereof in contact with the bottom portion of the tubular frame upon bending of the prongs in the general direction of the anchorage plates.

4. A structure of the class described, comprising in combination, a tubular frame having an outer side portion and a bottom portion, an upholstery retainer in the form of an elongated metal strip having a bead along an edge thereof, and a series of spaced anchorage plates fixed to the bottom portion of the tubular frame for supporting the bead at a distance forwardly of the outer side portion of the frame, and in spaced relation thereto at an elevation approximating that of the frame bottom portion, a series of coplanar prongs extending laterally from the opposite edge of said retainer in a direction obliquely downwardly and away from the bead and the side wall portion of the tubular frame, and a reinforcing member in the bead, said member being flexible and of a cross-sectional shape such as to permit bending of the bead with substantially equal facility in all directions in following the contour of the tubular frame.

5. An upholstery retainer in the form of a one-piece flexible metal strip having a single straight edge rolled to form a coextensive bead of uniform diameter, with the margin of the edge terminating in the bead, and a second irregular edge, the latter being cut away at intervals and formed to

provide a series of spaced triangular prongs and spaced mounting plates, pointed ends on said prongs projecting in a direction away from the bead, and bases for the prongs disposed in close proximity to the straight edge of the strip forming the bead.

6. An upholstery retainer in the form of a one-piece flexible metal strip having a single straight edge rolled to form a coextensive bead of uniform diameter, with the marging of the edge terminating in the bead, and a second irregular edge, the latter being cut away at intervals and formed to provide a series of spaced triangular prongs and spaced mounting plates, pointed ends on said prongs projecting in a direction away from the bead, and bases for the prongs disposed in close proximity to the straight edge of the strip forming the bead, the mounting plates being in a plane disposed at an acute angle to a plane which is common to the prongs.

7. In combination, a tubular frame having inner and outer side portions and a bottom portion, and an upholstery retainer in the form of a one-piece elongated metal strip having a straight edge and an irregular edge, the straight edge being rolled to form a bead with the straight edge in the bead, the irregular edge having a series of spaced triangular prongs and spaced mounting plates, pointed ends of said prongs projecting from the irregular edge, said mounting plates being fixed to the bottom portion of the tubular frame and supporting the bead and prongs, the prongs underlying the tubular frame and extending toward the inner side thereof, whereby when

upholstery material is fixed to the prongs and is tightened about the outer edge of the tubular frame, the upholstery material engages the bead.

8. In combination, a tubular frame having inner and outer side portions and a bottom portion, and an upholstery retainer in the form of a one-piece elongated metal strip having a straight edge and an irregular edge, the straight edge being rolled to form a bead with the straight edge in the bead, the irregular edge having a series of spaced triangular prongs and spaced mounting plates, pointed ends of said prongs projecting from the irregular edge and being disposed below said frame, each prong being of such length that the points can engage the bottom portion of the frame when bent in the direction of the frame, said mounting plates being fixed to the bottom portion of the tubular frame and supporting the bead in spaced relation thereto at an elevation approximating that of the frame bottom portion.

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