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CARPET FASTENER

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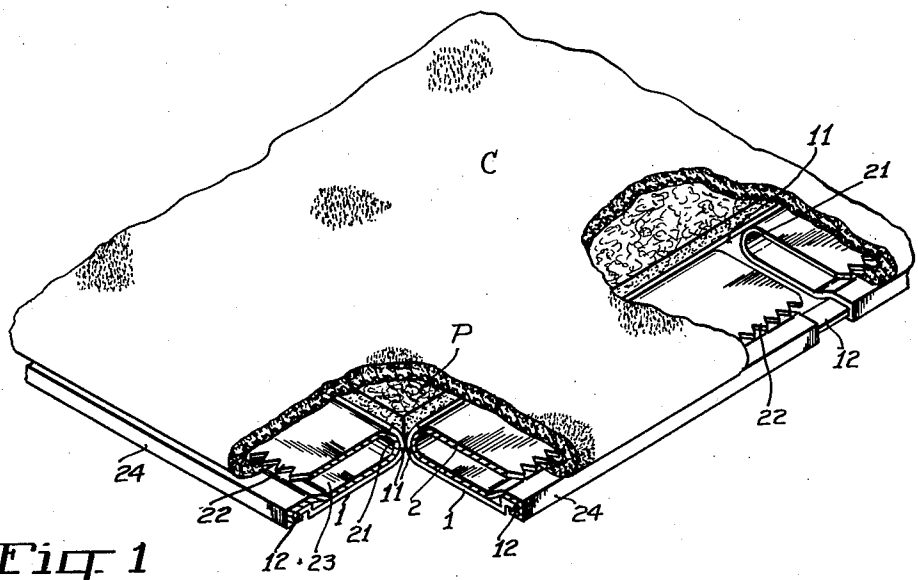


Fig. 1

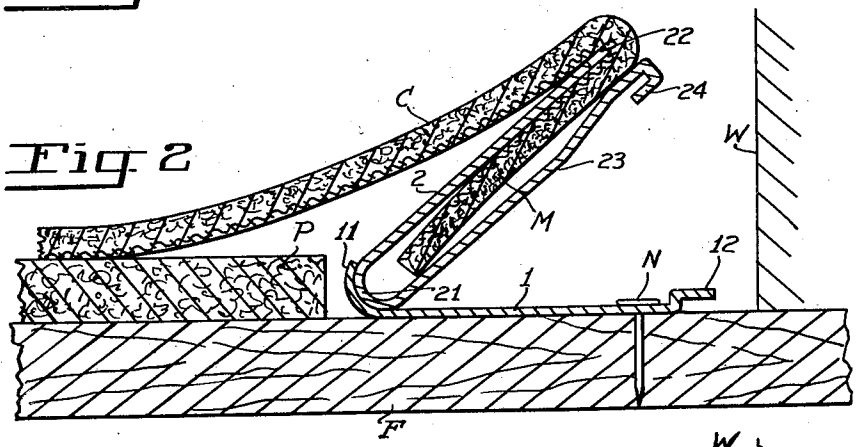


Fig. 2

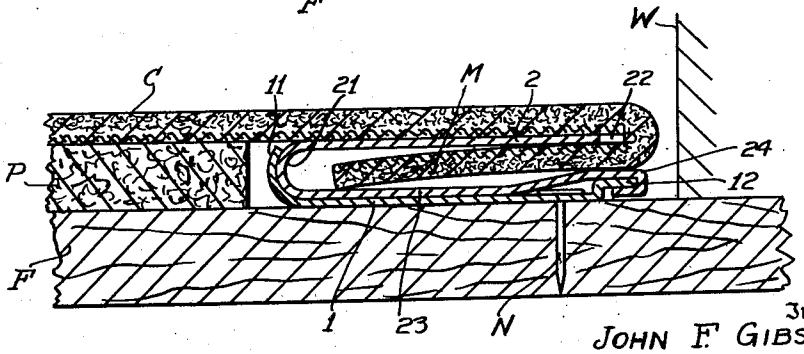


Fig. 3

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CARPET FASTENER

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8 Claims. (Cl. 16—5)

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The present invention concerns generically a device for securing a panel, such as a carpet for a room, to the floor by fastening means which are concealed in use and which stretch it uniformly taut. The use of the device is not necessarily confined to the securing of carpeting, since, for example, it may be employed for holding and stretching fabric wall or ceiling panels, such as are used in the interior finish of airplane cabins, busses, and the like. Two such fastening means, disposed in close parallelism, could hold down adjoining panel edges in such manner as to give the impression of a sewed seam, so that its use is not necessarily confined to margins only of such panels.

If in the installation of such a fastener great accuracy is required in the location of parts upon the floor, or in the manner of their securement to the floor, it loses all advantage of rapidity of installation, and the attainment of that advantage, through means which need to be only reasonably accurately located when installed, through means which need to be only reasonably accurately located in the process of installation, is one of the important objects of this invention.

Similarly, the aforesaaid advantage of rapidity of installation is lost if great accuracy is required in the location upon or securement to the carpet of parts complemental to the floor-secured parts. In addition, positive disadvantages arise if the carpet-secured parts must be permanently attached thereto. Carpets require occasionally to be taken up and cleaned, and when relaid it is often found that they have stretched, shrunk, or become distorted. Any fastener means which must be permanently secured to the carpet, or which when secured temporarily thereto disfigures the carpet, and which must cooperate with a fastener means permanently located upon the floor, will be found to be incorrectly located after such distortion. Yet, to remove them and relocate them is a tedious job, and if their original engagement disfigured the carpet it is impossible to conceal all such damage when the distorted carpet is relaid.

Another important object of this invention thus becomes apparent, namely, to provide a part complemental to the floor-secured part and itself engageable with the carpet quickly, with a minimum of necessary accuracy and regardless of any previous location relative to the carpet, and which will not damage nor disfigure the carpet.

Together, these parts provide a carpet fastening means securable permanently to the floor and impermanently to the carpet, without regard

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to their previous engagement, if any, and with minimum attention to accuracy, without regard to distortions of the carpet from time to time, and with automatic accuracy in the natural course of the carpet-laying operation, yet withal, without damage to or disfigurement of the carpet, even though it holds the carpet firmly, tautly, evenly, and indefinitely.

It is also an object of the invention to provide such a device the parts of which can be quickly and easily engaged with one another, so that the entire job of laying the carpet is a short, simple one, and which when in such operative position will stretch the carpet tautly and uniformly along all its margins without any serrating or scalloping effect, such as is observed when the carpet is held by spaced tacks.

A further object is to provide a device of this nature which will hold the carpet securely by reason of the tension in the stretched carpet, yet which is readily disengageable for release of the carpet, without deformation or bending of any element of the fastening means, so that the carpet may be taken up and relaid as often as is necessary, as, for example, when it needs cleaning, and all without injury to or disfigurement of the carpet.

With these and similar objects in mind, as will appear more fully hereinafter, my invention comprises the novel carpet fastening means shown in the accompanying drawings, described in this specification, and as will be more particularly pointed out by the claims which terminate the same.

In the accompanying drawings the invention is shown in a presently preferred form, but the principles thereof may be embodied in varying forms, as will appear more clearly hereinafter.

Figure 1 is an isometric view of a corner of the carpet, showing the carpet fastening means in operative position, parts of the carpet itself being broken away for better illustration of the securing means.

Figure 2 is a sectional view transversely of the carpet securing means and of the floor, wall, carpet, and pad, showing parts in the preliminary position, preparatory to securing the carpet, and Figure 3 is a similar view showing parts in the final operative or engaged position.

It is the current practice to lay carpet from wall to wall, and the present device is well adapted to this end. The floor is shown at F and the wall at W. Ordinarily a pad is used in conjunction with such carpeting, and such a pad is shown at P. The carpet is illustrated at C. The pad stops

short of the wall just sufficiently for the location of the securing means close to the base of the wall and just outside the margin of the pad.

The first step in laying the carpet is to secure to the floor a lower strip 1. This strip preferably extends substantially unbroken throughout the length of the floor which is to be covered, and closely adjacent but spaced slightly inwardly from the wall W, or otherwise along and beneath the intended location of the carpet's edge. The spacing, or lack thereof, from the wall is not critical, but a location immediately adjacent the wall is feasible, if desired. The means of securement of the strip 1 may be any that are found suitable, and are typified by the nails N. These are secured at random intervals, and no care need be taken to locate these nails, although preferably they are located somewhat nearer the outer edge of the strip 1 than its inner edge. This strip has an upwardly turned (and preferably curved) flange 11 adjacent or along its inner edge, the height of which should not be great, say, not greater than the thickness of the pad P. While preferably the flange 11 is continuous from end to end of the strip 1, it may, without departure from the spirit of this invention, be constituted by a series of spaced separate upstanding lugs. The outer edge of the strip 1, as indicated at 12, is relieved or spaced slightly upwardly above the floor F, and for wall-to-wall covering it lies closely adjacent the base of the wall W. As will be understood, a strip of this nature is fastened down along all the margins of the area to be carpeted.

An upper member 2 is separate from or independent of the lower strip 1, but is provided with a downwardly directed flange 21 at its inner edge (preferably curved complementally to the curvature of flange 11), which by engagement with the flange 11 constitutes a stop or hinge connection permitting the outer edge of the member 2 to swing downwardly and outwardly, when engaged with the carpet in a manner shortly to be described, until the member 2 is in horizontal position. The member 2 may be considered as a strip, and while it might, like the strip 1, be continuous along the entire edge of the carpet, it is preferred that it be formed as a series of shorter strips, so that in effect it becomes, along each edge of the carpet, an interrupted strip.

This strip 2 has an edge 22, which may, if desired, be serrated for firmly engaging the carpet, which edge 22 is engaged with the firm under side or back of the carpet, somewhat inwardly from its edge, and the carpet is then turned downwardly and under beneath the strip 2. The strip 2 is thus disposed in operative position between the carpet, which is above it, and the turned-under marginal fold M below it.

Means must be provided to hold the strip 2 thus swung down into operative position. To that end the upper member 2 may constitute the upper leg of a U-shaped member, the lower leg 23 of which extends outwardly generally parallel to the strip 2, and spaced from the latter just sufficiently to receive between them the marginal fold M of the carpet. The member 23 is primarily a fastening or retaining means, and to this end is provided with a downwardly and inwardly directed hook 24 at its outer edge, the purpose of which is to engage about and beneath the edge 12 of the lower strip 1.

The location of the flange 11 and the edge 12 of the strip 1 with relation, respectively, to the bend or flange 21 and hook 24 of the upper strip 2, are important. While the relative spacing of 11 and 12, or of 21 and 24, is not critical, these several parts should be so located that when the member 2, engaged as shown in Fig. 2 with the edge of the carpet, is swung downwardly about the hinge connection at 11, 21, the hook 24 will not pass over the edge 12 until, when the member 2 is in horizontal position, the latter is pushed first outwardly toward the wall, while it is, at the same time, being pressed downwardly, and then, when the hook 24 has passed over the outer edge 12, if the member 2 is permitted to move or is pulled inwardly, the hook 24 is engaged over the edge 12, in the manner shown in Figure 3. In this position tension in the rug tends to hold the parts in engagement, yet always it is possible to push the carpet outwardly or toward the wall sufficiently to disengage the hooks 24 from the edge 12, whenever it is desired to take up the carpet.

As is obvious, the operation of laying the carpet consists in first securing the strips 1 at the intended locations of the several edges of the carpet, employing the tacks or nails N. Now the marginal portion M of the carpet, along one edge, is engaged along a straight line between the legs of the U-shaped member 2, 23, and this edge of the carpet is held down by hooking the hooks 24 over the edge 12. A second edge is fastened in the same manner, this second edge being preferably one at an angle to the edge first secured. Then the opposite edges of the carpet, in turn, are engaged with the members 2, 23, and the latter are rotated about their hinge connection at 11, 21 to draw the carpet taut and stretch it. Each strip 2, 23 along an angularly disposed edge slides readily lengthwise of its strip 1, though the two are engaged, and this makes tensioning a simple operation. Each section of the strips 2, 23 is engaged in succession with the edge 12 of its strip 1, and when the last strip 2, 23 is so engaged the operation is complete. I have laid a 9 x 12 carpet in this fashion in a total of nine minutes, including the location and nailing down of the strips 1.

The serrations at 22, if employed, will not permanently injure the carpet, and if, when the carpet is relaid after cleaning, the edge 22 does not engage it at the same location as before, no harm is done, for the carpet has not been injured, nor is its appearance affected by these securing means. Since there is no necessity to bend the upper strip 2 relative to any other part, its position relationship to the element 23 being fixed and it being independent of the lower strip 1, the parts of the fastening means may be made sufficiently stiff and rigid that they will not readily bend under forces generated by the laying of the carpet, or by its use.

I claim as my invention:

1. Means to fasten and stretch a panel of carpet or the like, comprising a lower strip securable to the floor or similar support along and beneath the intended location of the carpet's edges, a separate upper strip disposable with its outer edge snugly at the bend between the carpet and an under and inwardly turned marginal fold thereof, means hingedly interengageable between the respective inner edges of the upper and lower strips to limit inward movement of the upper strip and for downward and outward swinging of the upper strip while so interengaged, into horizontal position, and an outward extension of the upper strip, downwardly and inwardly hooked at its outer edge, disposed beneath such marginal fold in position to engage such hooked edge beneath the outer edge of said lower strip by slight outward sliding movement relative to the lower strip when

the upper strip is in its downwardly swung position, followed by slight inward sliding movement, and disengageable from said lower strip by the reverse movements.

2. Means to fasten and stretch a panel of carpet or the like, comprising a lower strip securable to the floor or similar support along and beneath the intended location of the carpet's edges, an upper member of U-shape in cross-section to receive the carpet's margin, and to fold the same under with one leg of the U uppermost and disposed between the carpet panel above and the marginal fold below, the other leg of the U being then disposed beneath the marginal fold, hinge means interengageable between the inner edges of said lower strip and said U-shaped member for downward and outward swinging of the latter into horizontal position, and means interengageable between the outer edges of said lower strip and the lower leg of the U-shaped member, and held in such engagement by the inward tension of the carpet, to prevent upward swinging of said U-shaped member.

3. Means to fasten and stretch a panel of carpet or the like, comprising a lower strip securable to the floor or similar support, along and beneath the intended location of the carpet's edges, a flange upstanding from the inner edge of said strip, the outer edge of said strip being disposed slightly above the floor, a U-shaped member lying, in carpet-fastening position, horizontally above said strip, with the carpet's margin folded downwardly about its upper, outer edge and lying between its legs, said upper, outer edge being serrated to grip the carpet, and the lower, outer edge of said U-shaped member being hooked downwardly and inwardly, the U-shaped member being of such width, relative to said lower strip, that its inner bend will hingingly engage with the upstanding flange of said lower strip, and its hooked edge, upon swinging downwardly into horizontal position, can be engaged about the outer edge of said lower strip only by outward and then inward movement of the U-shaped member, the parts being held in such engagement by the inward tension of the carpet.

4. Means to fasten and stretch a panel of carpet or the like, comprising a lower strip securable to the floor along and beneath the intended location of an edge of the carpet, an upper strip disposable with its outer edge snugly at the bend between the carpet and an under and inwardly turned marginal fold thereof, means for operative interengagement between the inner edges of the upper and lower strips, formed and arranged to define a stop limiting inward sliding movement of the upper strip, and also a fulcrum support for swinging movement of the upper strip about its inner edge, both such movements relative to said lower strip, and complemental means carried by and interengageable between said strips by inward sliding movement of the upper strip after the latter has been swung downwardly into horizontal position, to retain said upper strip in such downwardly swung position until the same is slid outwardly for release.

5. Means to fasten and stretch a panel of stiff carpet or the like, comprising a lower strip securable to the floor or similar support beneath an appreciable length of and at the intended location of the carpet's edges, a disconnectible upper strip disposable with its outer edge snugly at and biting into the bend between the carpet and an under and inwardly turned marginal fold thereof, means interengageable between the inner edges of the upper and lower strips to limit bodily inward movement of the upper strip and of the carpet edge engaged thereby, but not upward swinging thereof about said means as a fulcrum, under the pull of the tensioned carpet, and further means interengageable directly between said strips after the upper strip has been swung downwardly about such fulcrum into horizontal position, to retain the upper strip in such downwardly swung position.

6. Means for the purpose stated in claim 5, and constructed and arranged as therein defined, wherein the means to limit bodily inward movement of the upper strip relative to the lower strip is arranged to accommodate unlimited bodily outward movement of the upper strip, and wherein the interengageable retaining means are arranged for interengagement by bodily movement of the upper strip in the outward sense, after its downswinging into horizontal position, relative to the lower strip, followed by inward engaging movement of the upper strip under the tensional force of the carpet.

7. Means to fasten and stretch a panel of carpet or the like, comprising a generally flat lower strip securable to the floor or similar support along and beneath the intended location of the carpet's edges, said strip having upstanding stop means along its inner edge, a wholly separate and separable upper strip also generally flat, to fit snugly within and to bite into the bend between the carpet and an inwardly and under turned marginal fold thereof, the inner edge of the upper strip bearing hingedly against said stop means of the lower strip, and latching means interengageable directly between the upper and lower strips, outwardly from their hingedly engaged inner edges, to retain the upper strip in downwardly swung, carpet-tensioning position.

8. Means as defined in claim 7, wherein the outer edge of the upper strip is serrated, and constitutes the sole connection between the carpet and the fastening and stretching means.

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