March 21, 1961 S. KREBS ET AL 2,975,904

INDUSTRIAL APPARATUS

Filed Oct. 27, 1958

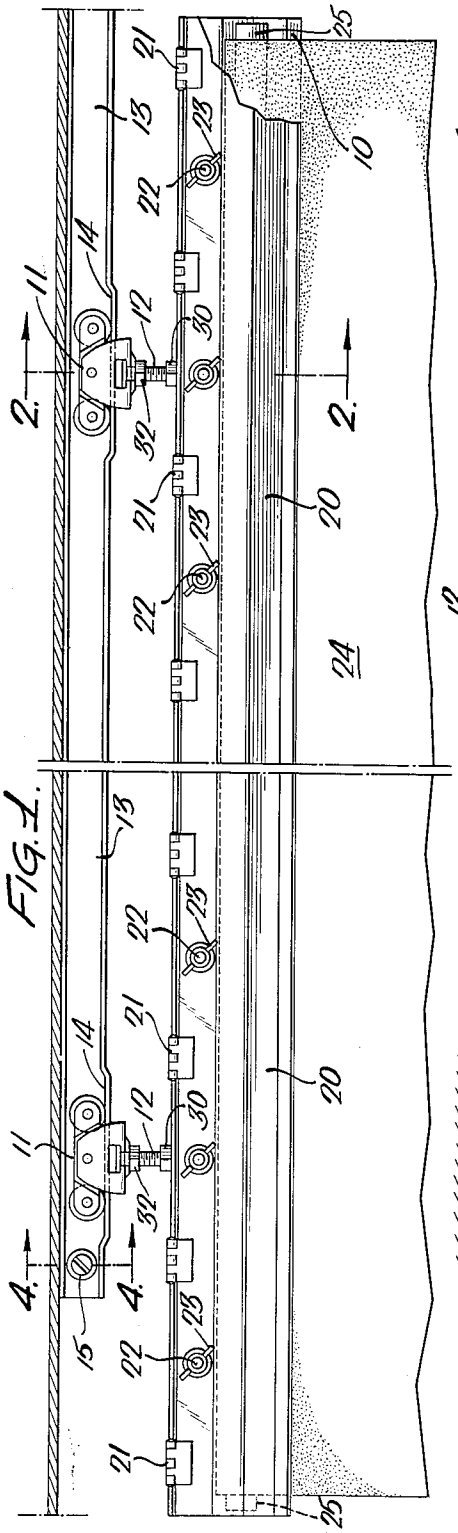


FIG. 1.

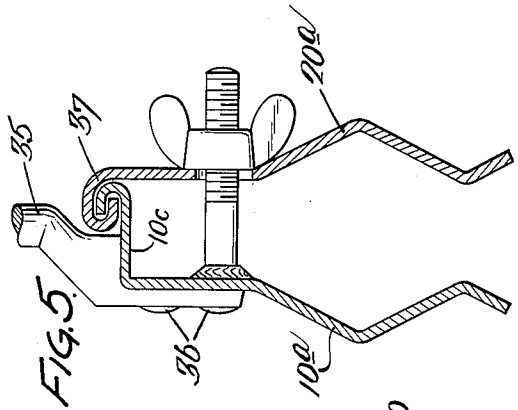


FIG. 5.

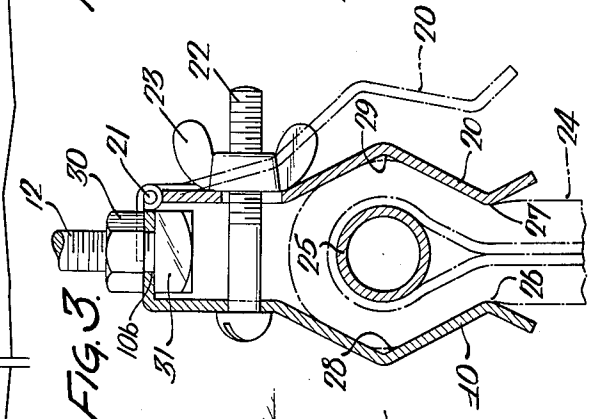


FIG. 3.

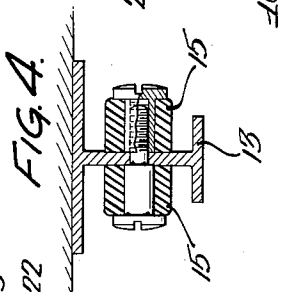


FIG. 4.

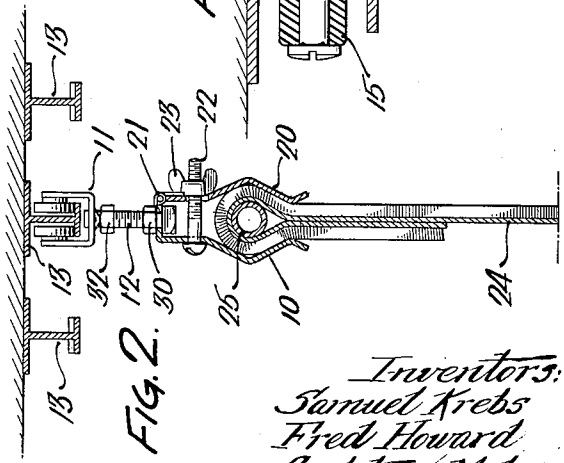


FIG. 2.

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United States Patent Office 2,975,904 Patented Mar. 21, 1961

2,975,904

INDUSTRIAL APPARATUS

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Filed Oct. 27, 1958, Ser. No. 769,792

3 Claims. (Cl. 211—46)

This invention relates to a hanger assembly for supporting heavy pile fabrics such as rugs and carpets without damaging the fabric and without having the disadvantage of flexing.

The present invention represents an improved carpet hanger which is intended to be used, for example, in a carpet or rug display device of the type described in our copending application Serial No. 698,873 now abandoned.

It was found that in supporting the relatively heavier rugs in the previous device, there was insufficient lateral stability in the truss or supporting elements, so that in a 9′ span, which would be the minimum requirement, the truss had a tendency to spring sideways, thereby permitting the rugs to rub against each other in the center portions, and thus making the hangers difficult to operate in the tracks.

The present invention contemplates the use of a substantially rigid supporting channel member on which the rug is suspended without any possibility that the support and/or the rug will be able to spring or bend throughout its width.

A primary object of the invention, therefore, is to provide a rug suspending channel having a web and a pair of flanges, means for clamping said plates in a relatively closed position against a folded fabric which is provided with an enlarging mandrel positioned between the flanges.

A further object is to provide in a device of the character described, a pair of pivoted concave jaws which may be clamped around a mandrel and the fabric to maintain longitudinal rigidity at all times.

Further objects will be apparent from the specification and drawings in which:

Fig. 1 is a side view showing our improved rug hanger suspended from the track of a display device,

Fig. 2 is a transverse section as seen at 2—2 of Fig. 1,

Fig. 3 is an enlarged sectional detail of the lower part of the structure of Fig. 2,

Fig. 4 is a sectional detail as seen at 4—4 of Fig. 1, and

Fig. 5 is a view similar to Fig. 3 but showing a modified hinge for the clamping jaws of the support.

The invention comprises essentially the provision of a rigid channel having two jaws or flanges extending the full width of a carpet. These jaws are provided with a lower concave area which may be arcuate or angular, so that the nip of the jaws is of substantially smaller dimension than a distance enclosed between the jaws but spaced upwardly from the nip. A rug or carpet folded over a mandrel can be securely clamped between the jaws so that it cannot possibly fall out, and there is ample lateral rigidity in the structure of the device to prevent any flexing or bending sideways whatsoever.

Our improved rug clamp comprises in the preferred form a relatively fixed flange or jaw **10** having a bent portion which forms web **10***b* and which is suspended from trolleys **11, 11** by means of adjustable hanger bolts **12, 12**. The trolleys **11** roll on an inverted T shaped

track **13** (Fig. 4) which is provided with depressed areas **14, 14** at each end thereof to insure that the carpet and the hanger remains in a non-selected position when it is not desired to be displayed. The end of the track **13** is provided with suitable limit stops or bumpers **15, 15** which may be removed in order to initially thread the trolleys **11** on the track. A hinged flange or jaw **20** is pivotally secured to web **10***b* by means of a series of short pin hinges **21, 21**. A series of clamping bolts **22** extend through both jaws **10** and **20** and are provided with wing nuts **23** so that the jaws may be firmly clamped together around a rug or carpet **24** which has desirably been folded over a mandrel **25**. It will be noted that the nip of jaws **10** and **20** at **26** and **27** is shorter than the span between the jaws at their mid positions **28** and **29**. Thus, when the jaws are clamped together by means of wing nuts **23** and bolts **22**, it is impossible for the carpet **24** to fall out of the jaws due to the diameter of mandrel **25**. In addition, the use of the mandrel prevents too sharp a bend in the backing fabric which might otherwise be harmful to the rug or to the backsizing itself. Adjustability of the height of the hinge assembly may be achieved by means of the threaded adjusting nuts **30** and **31**. Nut **32** serves to lock the stud **12** securely in place in the trolleys **11**.

Instead of applying individual pin hinges **21, 21** as shown in Figs. 1 and 3, we may use, if desired, a continuous interlocking hinge of the type shown in Fig. 5. In other respects, the construction of Fig. 5 resembles the construction of Fig. 3 except that the stud **35** is offset and secured to jaw **10***a* by rivets **36** and a modified web construction **10***c* is utilized. This provides sufficient clearance for the interlocking modified hinge element **37** to extend the entire length of the jaws **10***a* and **20***a*.

It will be understood that the use of a hinged clamping element extending the full width of a carpet which may be anywhere from 9′ to 15′ wide greatly assists in maintaining rigid support for the carpet. Furthermore, the present construction permits moving the trolleys **11, 11** closer to each other, thus assisting in preventing flexing between supports. The tubular or cylindrical mandrel **25** together with the formed jaws insure longitudinal rigidity and freedom from flexing.

Having thus described our invention, we claim:

1. A hanger assembly for suspending a full sized pile rug comprising an overhead track of inverted T shape, at least two trolleys movable horizontally along said track, two pairs of rollers on each of said trolleys, a rigid elongated channel member having a web and two parallel downwardly depending flanges for extending substantially the entire width of a rug, a connection between each of the trolleys and the web of the channel, hinge means connecting one of the flanges to the web of the channel, a relatively flat vertically parallel upper surface on each of said flanges, one of said surfaces being contiguous to the hinge means, an outwardly facing concave portion on each of said flanges extending parallel to each other said concave portions being positioned below and contiguous to the flat surfaces, a mandrel positioned between and parallel to the flanges and in said concave portions thereof, and clamping means operative on the flat surfaces for locking the flanges around the rug and the mandrel.

2. A hanger assembly for suspending a full size pile rug comprising an overhead track of inverted T shape, at least two trolleys movable horizontally along said track, two pairs of rollers on each of said trolleys, a depression near one terminus of the track into which the rollers on one of the trolleys drop to prevent unassisted movement of said trolleys, a rigid elongated channel member having a web and two parallel downwardly depending flanges extending substantially the entire width of the

rug, a connection between each of the trolleys and the web of the channel, hinge means connecting one of the flanges to the web of the channel, an inwardly concave area on each of said flanges positioned opposite each other, a relatively flat parallel surface on each of the flanges between the concave area and the web, a plurality of threaded clamping means extending through said flat surfaces and adjustable to permit relative movement of one of the flanges on its associated hinge, and a mandrel positioned in the concave area of the flanges to retain a rug wrapped therearound.

3. A hanger assembly in accordance with claim 2 in which each flange has an outwardly flared lower edge contiguous to and below the concave area.

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