June 23, 1959 R. H. MacALEESE 2,891,680

REMOVABLE SHELF RETAINER CONSTRUCTION

Filed May 9, 1957 3 Sheets-Sheet 1

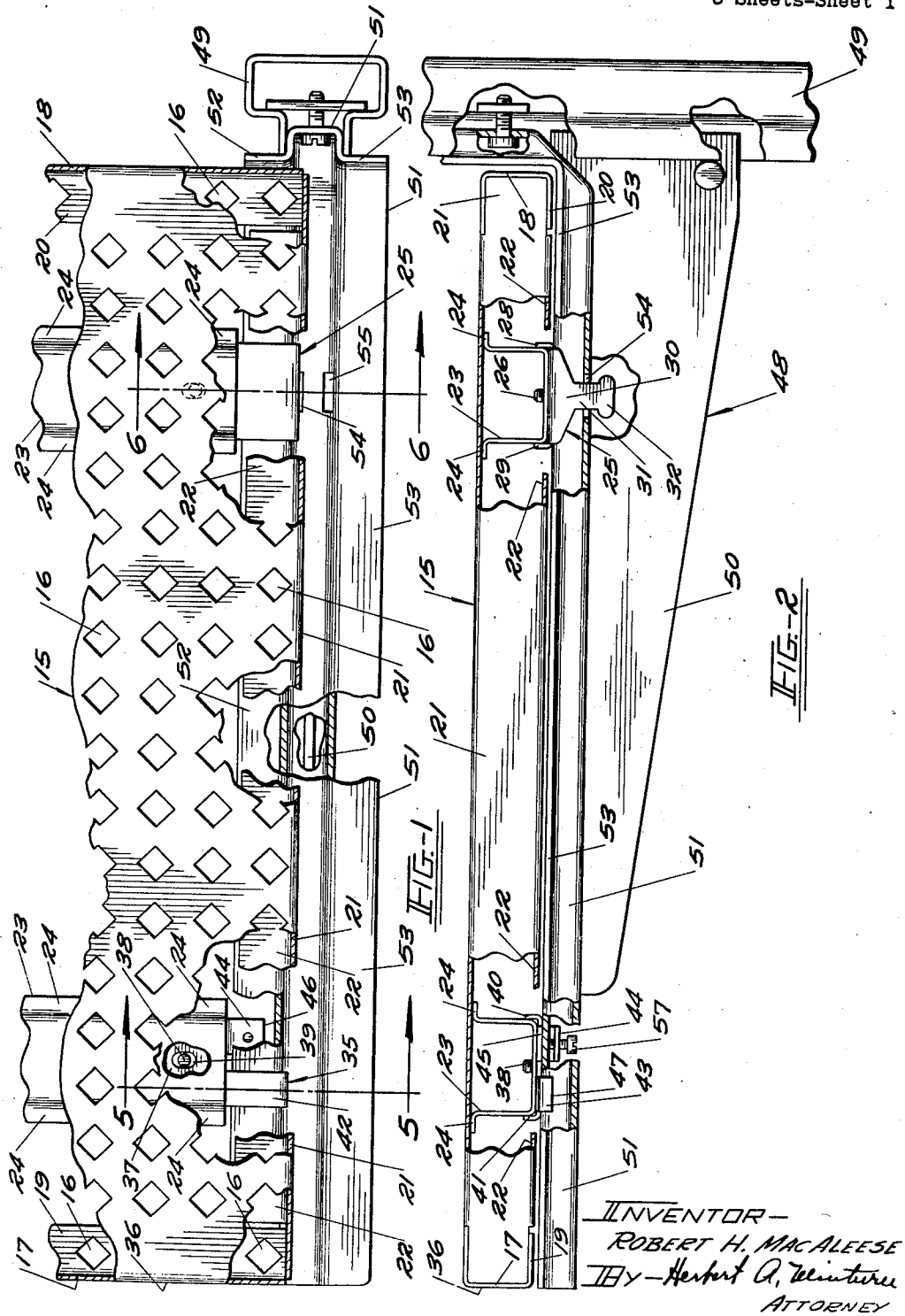


FIG.-1

FIG.-2

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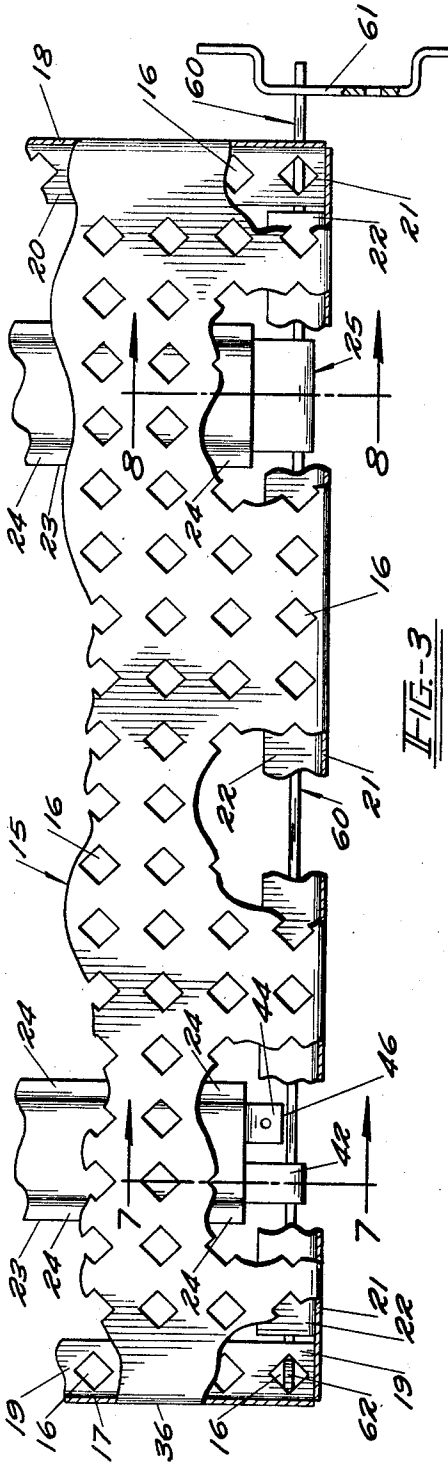


FIG. 3

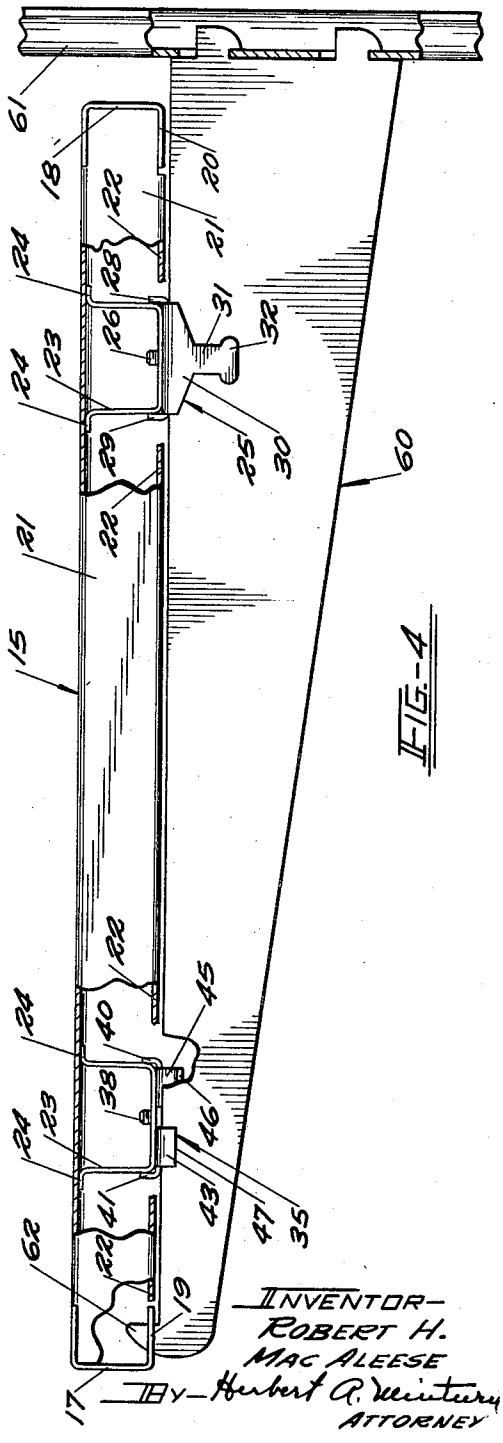


FIG. 4

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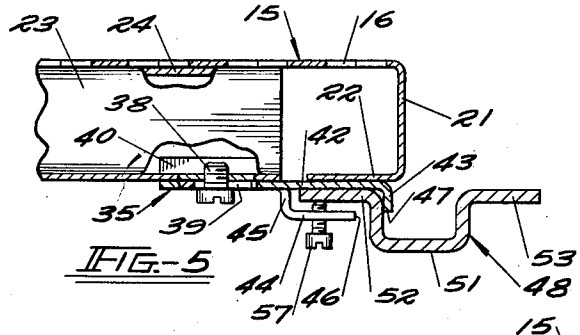


FIG.-5

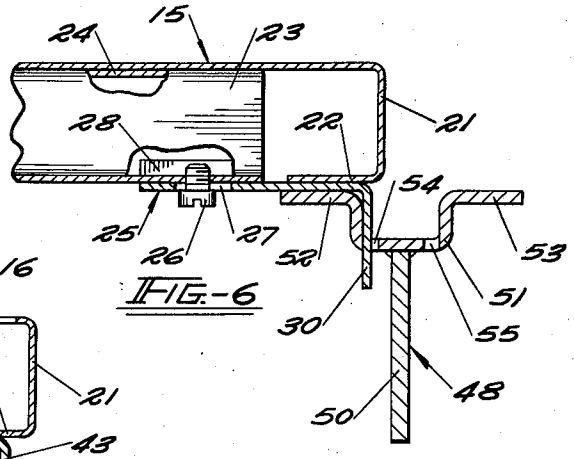


FIG.-6

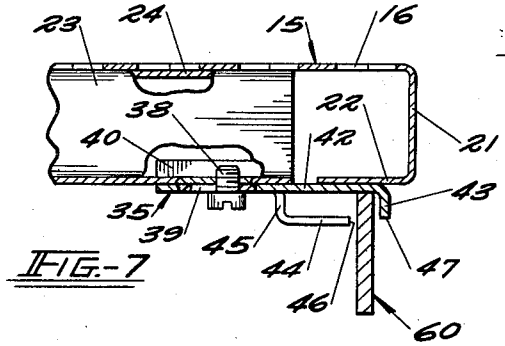


FIG.-7

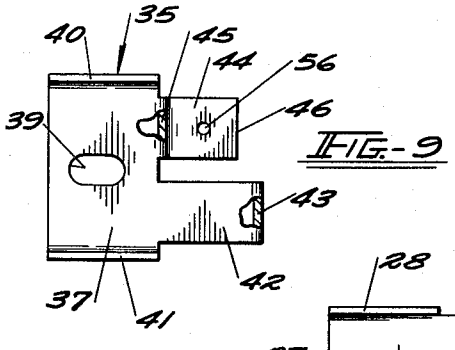


FIG.-9

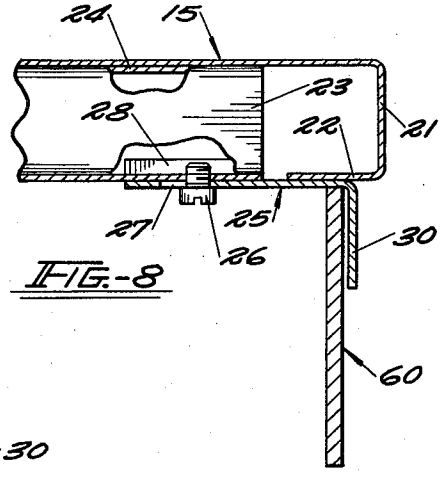


FIG.-8

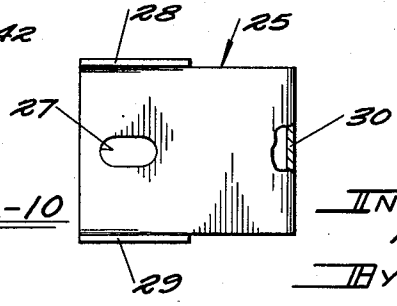


FIG.-10

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REMOVABLE SHELF RETAINER CONSTRUCTION

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Application May 9, 1957, Serial No. 658,082

2 Claims. (Cl. 211—135)

This invention relates to shelf construction such as is commonly employed in displaying of wares in stores and the like, particularly where the display is intended to be changed from time to time requiring different locations of shelves and different spacing apart to the end that there must be some means for retaining the shelves in position and at the same time permitting quick interchange of shelves for different displays and arrangements.

The invention relates particularly to that type of construction where there are shelf hangers supported from vertical members such as columns, and across which hangers the shelves may be removably placed. Where merchandise is being placed upon shelves of this kind, and the merchandise is taken down from time to time and then replaced in attempting to make sales, the shelves must be held securely in position not only in fore and aft relation to the hangers, but also transversely thereacross in longitudinal directions of the shelves themselves.

Different forms of hangers are encountered, but primarily they are of two classes, namely a hanger having laterally turned flanges from its upper side, and a knife type hanger which is essentially a length of metal, the upper edge of which is normally a single thickness of the metal.

A primary object of the invention is to provide a structure which will interengage with the hangers of the two types indicated in such manner that the shelves may be readily positioned over the hangers and securely located and retained in positions guarding against accidential displacement.

A further primary object of the invention is to accomplish the result indicated by means of exceedingly simple and relatively low priced produced brackets normally secured to the individual shelves wherein the brackets will cooperate with the hangers and interengage them by simple placement across the hangers.

These and many other objects and advantages of the invention will become apparent to those versed in the art in the following description which is made in reference to the accompanying drawings, in which—

Fig. 1 is a view in top plan and partial section of a fragmentary portion of a shelf in a mounted position on a hanger;

Fig. 2 is a view in side elevation and partial section;

Fig. 3 is a view in top plan and partial section of a fragmentary portion of a shelf mounted upon a different type of hanger;

Fig. 4 is a view in side elevation and partial section of the structure mounted on the modified hanger;

Fig. 5 is a view in vertical transverse section on the line 5—5 in Fig. 1;

Fig. 6 is a view in vertical section on the line 6—6 in Fig. 1;

Fig. 7 is a view in detail in vertical section on the line 7—7 in Fig. 3;

Fig. 8 is a view in vertical section of a detail on the line 8—8 in Fig. 3;

Fig. 9 is a view in top plan and partial section of a shelf attaching bracket; and

Fig. 10 is a view in top plan and partial section of a second bracket to be attached to the shelf.

A metal shelf generally designated by the numeral 15 is possibly of the type which is perforated, herein shown as by diagonally disposed rectangular holes 16 entirely across its upper extent. The shelf has front and rear flanges 17 and 18 from which extend one toward the other the flanges 19 and 20. Each end of the shelf 15 is formed in like manner to have the downturned portion or flange 21 coextensive with the width of the upper side of the shelf 15, and from the lower end of this portion or flange 21 there is an inturned foot or flange 22. The flanges 17, 18, and 21 are not perforated but the inturned flanges 19 and 20 only are in each instance perforated in the same manner as is the top of the shelf. These perforations 16 are arranged in equally spaced apart alignment both longitudinally and laterally of the shelf 15, and there is a single row of the perforations in the two feet indicated.

These flanges 17, 18 and 21 give a depth to the shelf, and within the spacing of the flanges from the underside of the shelf proper, there are fixed a plurality of U-shaped channels 23, two of these channels 23 being shown in Figs. 1 and 2 to extend longitudinally across the shelf 15. The channels 23 are fixed to the underside of the shelf 15 in any suitable manner, such as by spot welding through outturned flanges 24 extending from each side of the channel 23 in each instance.

A bracket generally designated by the numeral 25, Fig. 10, is attached to the underside of the rearmost channel 23, Figs. 2 and 6, by means of a screw 26 passing through a slot 27 in the bracket so that the bracket 25 may be adjustably positioned along the end of the channel member 23. The bracket 25 has upturned arms 28 and 29 straddling the underside of the channel 23 so as to prevent rotation of the bracket 25 about the screw 26. The bracket 25 is generally a plate-like member, and extends beyond the end of the channel 23, Fig. 6, and on its end removed therefrom has a downturned tongue 30. The tongue 30 decreases in width to a parallel side, neck portion 31, and then widens into a foot 32, this portion 31 and the foot 32 being in a common plane with the upper portion of the tongue 30 as it leaves the bracket major portion 25.

A bracket 35, Fig. 9, and Figs. 1 and 2, is fixed to the underside of the end of the channel member 23 positioned near the forward edge 36 of the shelf 15. This bracket 35 has a major plate 37 which is carried up against the underside of the channel member 23 indicated and is there secured adjustably by means of a screw 38, Fig. 5, by the screw 38 passing through a slot 39 in the plate 37. The bracket has arms 40 and 41 upturned to bear along the sides of the channel 23, Fig. 2, so as to hold the bracket 35 against rotation about the screw 38.

A tongue 42 extends from and in the same plane of the plate 37 outwardly away from the end of the channel member 23, to which the bracket 35 is attached, and then has a downturned foot 43. This tongue 42 extends from one side of the plate 37 in spaced apart relation from a second tongue 44 which extends from the plate 37 in a plane spaced therebelow by means of an interconnecting arm 45, Fig. 5. The terminal end 46 of the tongue 44 is spaced inwardly from the downturned terminal end 47 of the foot 43.

The shelf 15 has these brackets 25 and 35 similarly attached to opposite ends of the two channels 23, where the shelf would be positioned over a pair of hangers. Referring first to that form of the hangers as shown in Figs. 1 and 2, the hanger generally designated by the numeral 48 is supported in any desired manner prefera-

bly adjustably along a vertically disposed post 49, the exact means for supporting and adjusting the hanger 48 therealong not entering into the present invention. The hanger 48 consists in this particular form of a vertically disposed blade 50, across the top edge of which is secured a generally channel shaped member 51 having outturned flanges, Figs. 1 and 5, designated by the numerals 52 and 53. These hangers 48 have a length extending from the column or post 49 a distance sufficient to permit the shelf 15 to lie thereacross. The channel member 51 is provided with a pair of spaced apart slots 54 and 55, one on each side of the blade 50. These slots 54 and 55 are in fact openings entirely through the channel member 51. In positioning the shelf 15 on the hangers 48, the shelf is brought up to the hangers so that the tongue 42 of the bracket 35 will be on the topside of a flange 52 and the lower tongue 44 be entered thereunder. With this positioning of the two tongues, the shelf 15 is pushed rearwardly of the hanger in each instance and then in the rearmost position of the shelf, the foot 32 of the bracket 25 is dropped through the notch 54. The weight of the shelf 15 is sufficient to prevent accidental lifting of the shelf from the position resting on the channel member 51 of the hanger 48, and pushing the shelf longitudinally of the hanger will cause the projections on the foot 32 to hook under the ends of the hole 54 depending upon the shifting of the shelf so that the shelf does not tend to shift upwardly by its portion adjacent the columns or posts 49. Since the tongue 44 is under the flange 52, the forward end of the shelf cannot lift and since the foot 43 of the tongue 42 drops down on the innerside of the channel member 51, the shelf 15 is held against travel longitudinally of the shelf, aided of course by the entrance of the foot 32 through the notch 54 at the rear portion of the hanger 48. As indicated in Fig. 1, the end of the shelf 15 will come to substantially the center line of the channel member 51 so that a second shelf (not shown) may be brought up from the other side of the hanger to be likewise engaged over and with the same channel member 51.

The lower tongue 44 is provided with a hole 56 therethrough so as to receive a screw 57 screw-threadedly therethrough, preferably of the self-threading type, to extend upwardly and abut the underside of the hanger flange 52. This insures a positive fixing of the shelf 15 to the hanger, although the screw 57 may be omitted if desired.

Referring to Figs. 3 and 4 where the blade type of hanger is illustrated, the hanger generally designated by the numeral 60 is made of a single thickness of metal, the rear end of which engages the upright post of column 61 while the forward end of the hanger 60 has an upturned finger 62. The shelf 15 is laid across at least a pair of these hangers 60, to have the finger 62 extend upwardly, Fig. 3, through one of the openings 16 so as to hold the shelf against travel in a fore and aft direction along the hanger 60. The bracket 35 has its downturned foot 43 positioned on one side of the hanger 60 whereas the tongue 44 approaches the opposite side of the hanger 60 to have the end 46 come into close proximity to the hanger, Fig. 7.

The other bracket 25 has its down turned tongue 30 extending along the side of the hanger 60, Fig. 8. Thus, even though the hanger 60 be of a single thickness of metal, prone to vibrate or even bend in directions longitudinally of the shelf, that bending is prevented by reason of the two brackets 25 and 35 by their extensions extending downwardly on respective sides of the hanger 60.

Thus the same brackets 25 and 35 may be employed either for the horizontally turned flanges of the U-channel type of hanger or for the single thickness hanger confined to a vertically disposed plane. It makes no difference which type of hanger may be employed, since the shelf, by reason of its perforations along the inturned feet are present for the knife type hanger, and the brackets are equally well adapted for not only that type of hanger but also the channel type which does not require use of the perforations in those feet. The perforations 16 across the major area of the topside of the shelf are of course employed primarily to receive feet of partition supporting brackets which are not herein shown since they would only confuse the disclosure, but they are employed in making various displays of goods to be partitioned, one type of goods or quantity of goods from the other.

Therefore while I have shown the invention in the one particular form, it is obvious that mechanical changes may be employed without departing from the spirit of the invention, and I therefore do not desire to be limited to that precise form beyond the limitations which may be imposed by the following claims.

I claim:

1. The combination with a hanger characterized by being a knife-like blade disposed in a vertical plane and prone to bend laterally, of an upturned finger on an end thereof; a substantially rigid shelf; a depending flange at each end of said shelf having a horizontally inwardly extending flange at its lower end; said inwardly extending flange extending across the hanger and having perforations, one perforation receiving the finger; a bracket fixed to the underside of said shelf and extending by a tongue over said hanger; a foot on the tongue downturned along and in close proximity to a side of said hanger; a second tongue on said bracket to one side of and spaced below said first tongue terminating in an end in close proximity to the opposite side of said hanger; and a second bracket fixed to the underside of said shelf and extending across the top side of said hanger; said second bracket having a tongue turned down along the same side of the hanger as does the first tongue of said first bracket; said hanger being resistingly held against lateral bending by reason of the rigidity of the shelf which receives said hanger finger and carries the tongues of said two brackets toward and downturned along the hanger sides.

2. The structure of claim 1 in which said first bracket is positioned on said shelf intermediate said finger and said second bracket.

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