C. E. GOLDTHWAIT.

BRACE FOR GRATED SHELVES.

APPLICATION FILED MAR. 21, 1917.

1,273,215. Patented July 23, 1918.

FIG. 1.

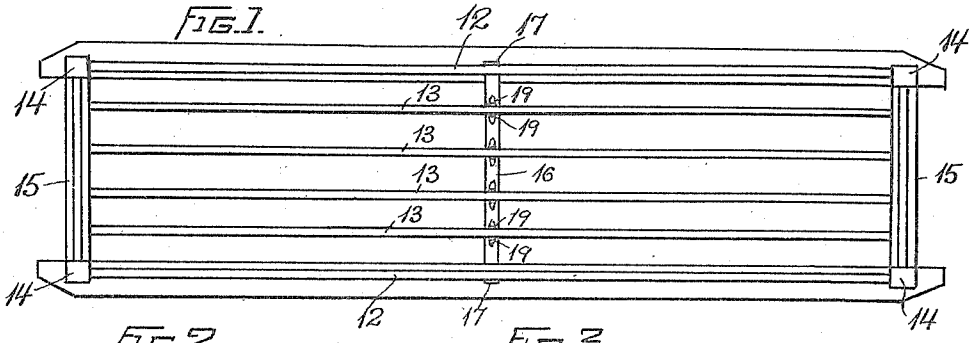


FIG. 2.

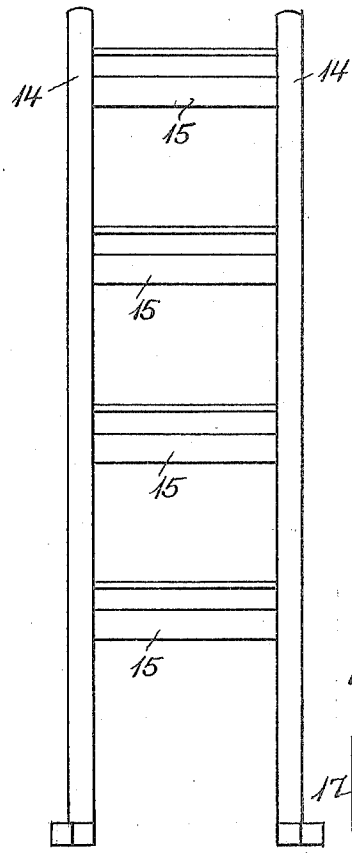


FIG. 3.

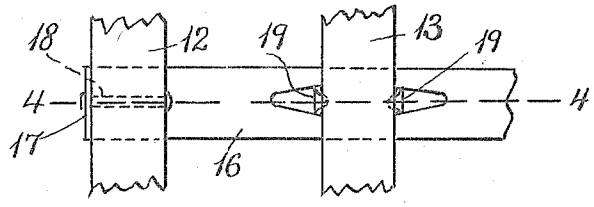


FIG. 4.

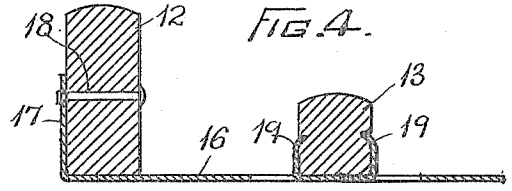


FIG. 5.

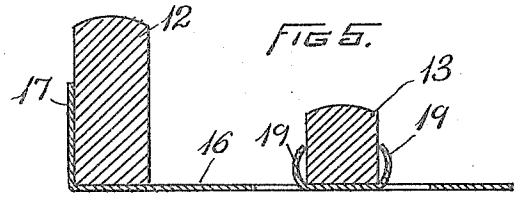
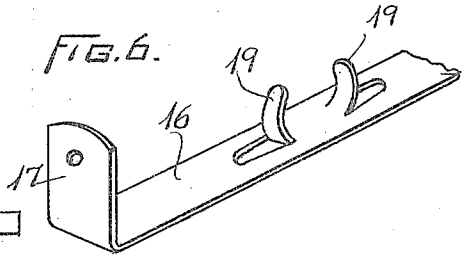


FIG. 6.



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BRACE FOR GRATED SHELVES.

1,273,215. Specification of Letters Patent. Patented July 23, 1918.

Application filed March 21, 1917. Serial No. 156,288.

To all whom it may concern:

Be it known that I, CARL E. GOLDTHWAIT, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Braces for Grated Shelves, of which the following is a specification.

This invention relates to grated shelves such as those employed in racks for supporting shoes in a shoe factory, a common form of shoe rack embodying a main frame, including uprights and horizontal grated shelves, secured to said uprights, the members of the shelves being horizontal wooden bars spaced apart to form a shoe-supporting grating.

Owing to the fact that the bars or shelf members are of considerable length and are made of wood, they are liable to be displaced in various directions midway between the ends of the shelves. It is the object of my invention to give a grated shelf the desired stability at its mid-length by simple and inexpensive means, adapted to be quickly and conveniently applied and secured; without involving removal of material from the shelf members and the consequent weakening of the same to any appreciable extent.

The invention is embodied in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings forming a part of this specification,—

Figure 1 is a top plan view of a shoe rack, the shelves of which are braced in accordance with my invention.

Fig. 2 is an end view of the same.

Fig. 3 is an enlargement of a portion of Fig. 1.

Fig. 4 is a section on line 4—4 of Fig. 3.

Fig. 5 is a view similar to Fig. 4, showing the clamping fingers hereinafter referred to, before they are engaged with the intermediate shelf member.

Fig. 6 is a perspective view of a portion of the brace embodying my invention.

The same reference characters indicate the same parts in all of the figures.

The grated shelves of a shoe rack usually consist of two longitudinal members 12 constituting the outer shelf members and a plurality of members 13 constituting the intermediate members, the members 12 being usually wider than the members 13, and all the members being suitably secured at their ends to the uprights 14 and cross-bars 15 of a shoe-rack frame.

To rigidly connect the members of each shelf midway between the ends of the shelf and thus prevent bending or deflecting of either member, I provide a strap or brace 16 of metal such as soft steel, which is malleable so that the ears formed thereon have little or no resilience and are adapted to be bent, and to retain any form imparted by bending pressure. The end portions of the brace 16 are bent upwardly to form ears 17, formed to bear against the outer sides of the outer members 12 and extend across the under sides of all the members, the ears 17 being perforated to engage rivets 18 securing the ears to the members 12.

The brace is provided between the ears 17 with a plurality of pairs of clamping fingers 19 which are integral with the brace and struck up from the body thereof, as clearly shown by Fig. 6. The fingers 19 and the portion of the brace 16 between their bases constitute a compressible socket, adapted to have a holding-down engagement with an intermediate shelf member 13. The said fingers are originally formed so that the mouth of the socket, or the space between the outer ends of the fingers, is of greater width than the shelf member 13, so that the ears are adapted to receive the shelf member somewhat loosely between them, as indicated by Fig. 5.

The brace is adapted to be applied to the members 12 and 13 by moving it upwardly until it bears against the under sides of the shelf members, the brace being directed so that its ears 17 come to a bearing on the outer sides of the members 12 and its fingers 19 are disposed at opposite sides of the members 13, as indicated by Fig. 5.

It will now be seen that by bending the fingers 19 toward each other, an operation which may be effected by a suitable tool provided for that purpose, the outer ends of the fingers 19 are caused to indent the intermediate shelf members 13, as indicated by Fig. 4, so that a holding-down engagement is established between the fingers and the intermediate members. It will also be seen that the central portions of the members 12 and 13 are securely supported against displacement in any direction by the brace, the latter being secured to the outer

members 12 by the rivets 18. No appreciable removal of material from either of the intermediate shelf members is involved by the attachment of the brace thereto, so that said members are not cut away or weakened, in engaging them with the brace.

The outer ends of the fingers 19 form inwardly projecting spurs, adapted to indent the sides of the shelf members 13, these spurs being conveniently formed by curving the fingers 19, so that their outer ends are inclined inwardly and are adapted to be pressed into the sides of a shelf member 13, as shown by Fig. 4. Each pair of fingers is so spaced from the next pair or pairs, that room is provided between adjacent pairs for the reception of the above-mentioned bending tool. The brace may be conveniently installed by first riveting the ears 17 to the members 12, and then applying said tool to the outer sides of the fingers 19, to bend the fingers.

The brace with the fingers 19, in the condition represented by Figs. 5 and 6, may be supplied as an article of manufacture to makers of grated shelves for shoe racks, or other purposes.

It will be seen that the brace is adapted to be installed with less expenditure of time and labor than would be required if the brace were attached to the intermediate shelf members by independent screws or rivets, the only operations required being first, the riveting of the ears 17 to the shelf members 12 this operation locating the fingers 19 at opposite sides of the intermediate members 13, and, secondly, the bending of the fingers into engagement with the intermediate shelf members. The intermediate members 13, which in a shoe rack have a considerably smaller cross section than the members 12, as indicated by Fig. 4, are not weakened by screw holes and are rigidly secured to the brace against displacement in any direction, the fingers 19, forming stops bearing on opposite sides of the members 13, and preventing said members from springing either horizontally or vertically.

I claim:—

In combination with a grated shelf, a brace composed of an elongated metal strap attached at its opposite ends to two outer shelf members and having between its ends a plurality of pairs of malleable clamping fingers projecting from one side of the brace, and adapted to retain any form imparted by bending pressure, the fingers of each pair being normally spaced apart to permit the interposition of an intermediate shelf member between them, and bent toward each other to engage and hold down said intermediate member, the outer ends of said fingers forming spurs which indent the sides of the intermediate members.

In testimony whereof I have affixed my signature.

CARL E. GOLDTHWAIT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."