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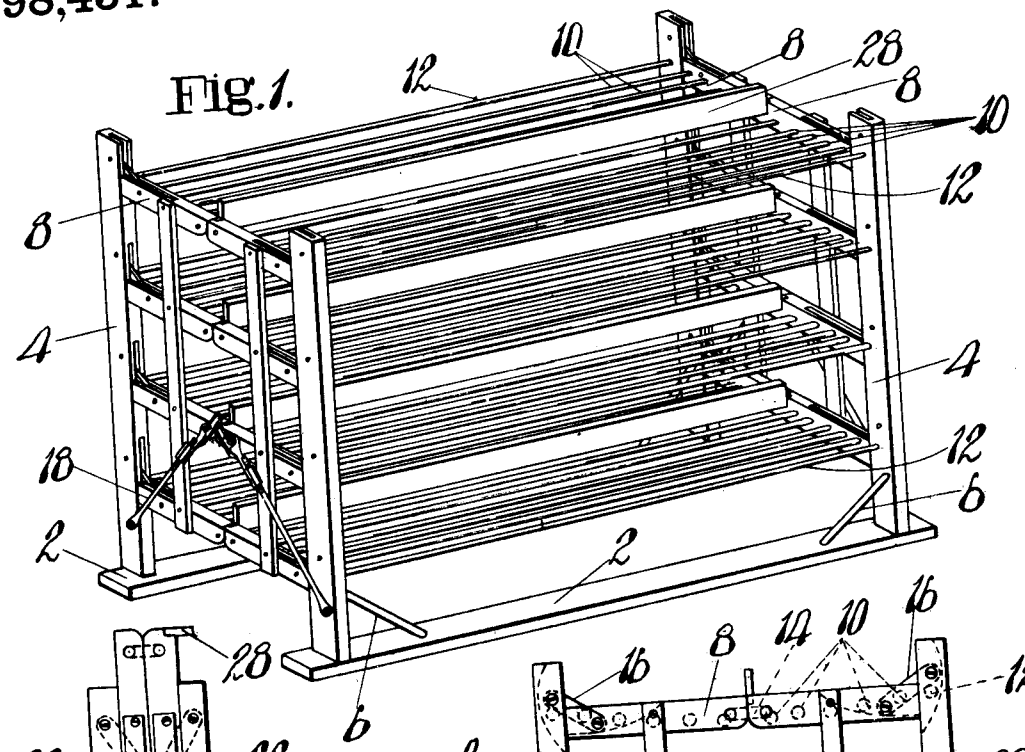
SHOE RACK.

APPLICATION FILED AUG. 14, 1912.

Patented Sept. 19, 1916.

1,198,431.

Fig. 1.



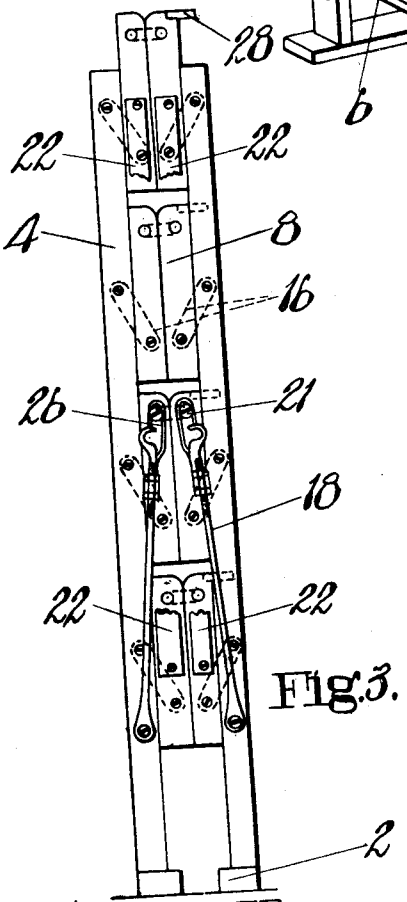


Fig. 3.

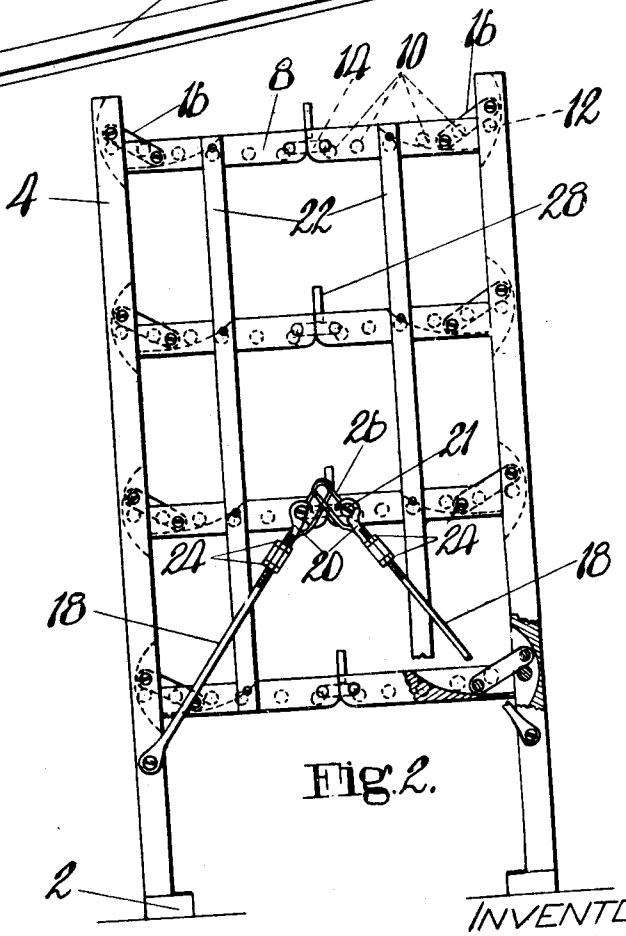


Fig. 2.

WITNESSES.

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SHOE-RACK.

1,198,431. Specification of Letters Patent. Patented Sept. 19, 1916.

Application filed August 14, 1912. Serial No. 715,038.

To all whom it may concern:

Be it known that I, WILLIAM R. FORSYTH, a citizen of the United States, residing at Swampscott, in the county of Essex and Commonwealth of Massachusetts, have invented certain Improvements in Shoe-Racks, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to racks of the type commonly used in shoe factories to hold shoes while they are being transported from one part of the factory to another.

It is the chief object of the invention to devise a rack of this character which can be folded up into a small space when it is not in use but which shall be very rigid and substantial when extended, and which furthermore shall be so constructed that its rigidity will not be appreciably affected by wear. One embodiment of the invention in which these objects are attained is disclosed in the accompanying drawings.

Referring to the drawings, Figure 1 is a perspective view of a rack constructed in accordance with this invention; Fig. 2 is an end elevation of the rack extended in its operative condition certain of the parts being shown in section; and Fig. 3 is an end elevation of the rack folded up.

The rack shown comprises two sills 2, each having mounted thereon two corner standards 4 which are braced by suitable stay rods 6. These standards constitute the supports for a series of pairs of shelves, the member of each pair being arranged side by side in substantially the same horizontal plane and the pairs being arranged one above the other with a suitable space between them for the reception of the shoes. Each shelf comprises two opposite end bars 8 and several long rods or dowels 10 having their ends secured in these bars. Each shelf also includes an additional rod or dowel 12 that forms the extreme outside edge of each shelf and is not supported in the end bars but has its ends fastened in the corner standards 4. The dowels 12 serve to brace the standards 4 against any racking movement longitudinally of the rack. The two bars at each end of each pair of shelves have their inner ends connected together by a link 14 which is set into slots formed in the lower sides of the bars. These bars are rounded on the lower side of each end to form surfaces concentric with the axes of the pivots by which the link 14 is supported, so that the bars may swing upwardly relatively to each other; but the upper portions of the contacting end faces are flat to prevent any swinging movement of the bars in the opposite direction. The outer end of each bar 8 is connected to one of the standards 4 by a link 16, which is set into slots cut in the bar and in the standard and is pivoted to both the standard and the bar. It will now be evident that, when the middle portions of the shelves are swung upwardly, the outer portions will tip downwardly relatively to the standards, and that this movement can be continued until the parts assume the positions in which they are shown in Fig. 3 with the bottom surfaces of each pair of bars 8 in contact with each other and the upper surfaces of the bars in contact with the sides of the standards 4. The rack thus folds up into a space equal in width to the combined thickness of one pair of standards and one pair of end bars.

For the purpose of locking the rack in extended condition two pairs of latches are provided, one pair at each end of the rack, each latch consisting of a rod 18 pivoted on one of the standards 4 and having a hook 20. Two studs 21 are fixed respectively to the bars 8 near their inner ends in position to be engaged by the hooks of one pair of latches, thus locking the bars and, consequently, the shelves, at the extreme limit of their extended movement. The shelves of each vertical series are all connected together by two bars 22 at opposite ends of the rack, each bar being pivoted to all the members of one series of end bars 8, so that the locking of one pair of shelves in the manner above described locks all the shelves against movement relatively to the standards. The bars 22 serve the further purpose of causing the end bars to swing more or less together during their movement in collapsing or extending the rack.

It should be noted that the non-adjacent ends of each pair of bars 8 have flat end faces that abut firmly against the sides of the standards 4 when the rack is extended, as shown in Fig. 2, and serve as transverse braces for the rack. The bracing action of these bars will not be appreciably affected

by wear of the pivot pins of the links inasmuch as the lost motion produced in this manner will merely allow the bars 8 to drop to lower positions but their ends will still abut firmly against the sides of the standards.

When the pivot pins of the links become worn, producing the result just described, it will be necessary, in order to lock the rack firmly against collapse, to shorten the latches. For this purpose the hooks 20 are made adjustable on the pivoted rods 18 and they may be clamped in any adjusted position by means of nuts 24 that are threaded on to the rods and engage opposite sides of the hooks. Preferably, the hooks 20 are each provided with a slotted extension 26 arranged to engage continuously the locking stud 21 to prevent the hook from swinging away from it.

A partition board 28 is supported between each pair of shelves by setting its ends into mortises formed at the ends of two opposite end bars 8. This partition prevents the shoes from sliding from one shelf on to the other, which otherwise would occur due to the fact that the shelves are inclined toward the center of the rack.

While the rack shown is of the type usually referred to as a "double rack," that is, a rack having a series of pairs of shelves as distinguished from a rack having a series of single shelves, it will be evident that this invention is equally applicable to a rack of the latter construction. It is obvious also that the invention is as applicable to a rack having shelves of the pin type as to a rack having shelves of the dowel type, as in the construction shown.

When the rack is in use, it will be extended and locked in this condition as shown in Figs. 1 and 2; but when it is desired to ship or store the rack, or when for any other reason it is not in use, it may then be unlocked and collapsed in the manner above described.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. A folding shoe rack comprising corner standards, a vertical series of shelves, each shelf having end bars, links suspending said bars from said corner standards and forming the supports for said shelves, and means for locking the rack in extended condition, comprising a rod, a hook adjustable thereon, a pin engageable by said hook, and a guard loop loosely confining said rod to said pin.

2. A folding shoe rack comprising corner standards, a vertical series of pairs of shelves the members of each pair being arranged side by side, each pair of shelves having opposite pairs of end bars, link connections between the inner ends of each end pair of bars, a link connection between the outer end of each bar and one of the corner standards, a vertical bar pivotally connected to the members of each vertical series of end bars, a latch pivoted to each corner standard, studs on the end bars of one pair of shelves arranged to be engaged by said latches, and a partition for each pair of shelves supported by the end bars of one of the shelves.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM R. FORSYTH.

Witnesses:
JOHN H. MCCREADY,
WILLIAM B. KING.