

E. F. O'BRIEN.
SHOE RACK.
APPLICATION FILED APR. 28, 1913.

1,113,818.

Patented Oct. 13, 1914.

2 SHEETS-SHEET 1.

Fig. 1.

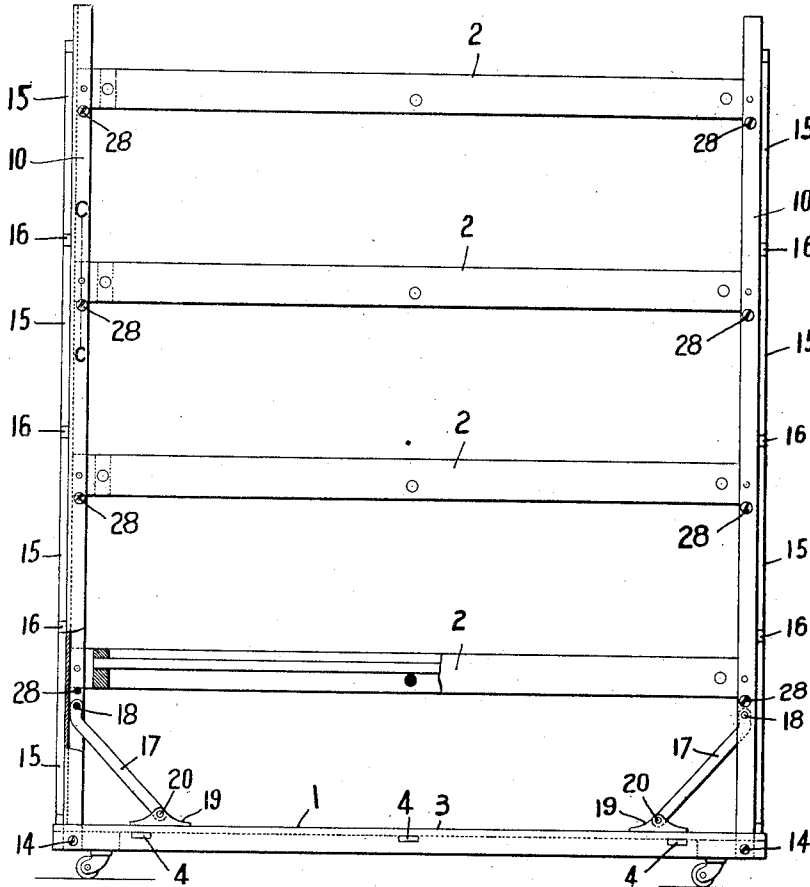
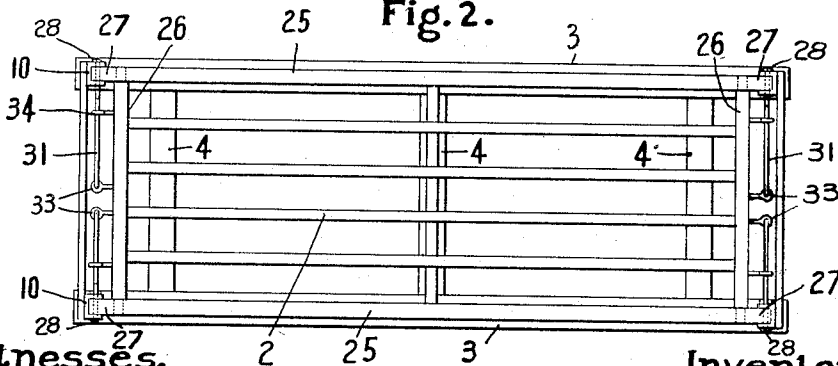


Fig. 2.



Witnesses.

Fred. S. Greenleaf.
Joseph D. Ashe.

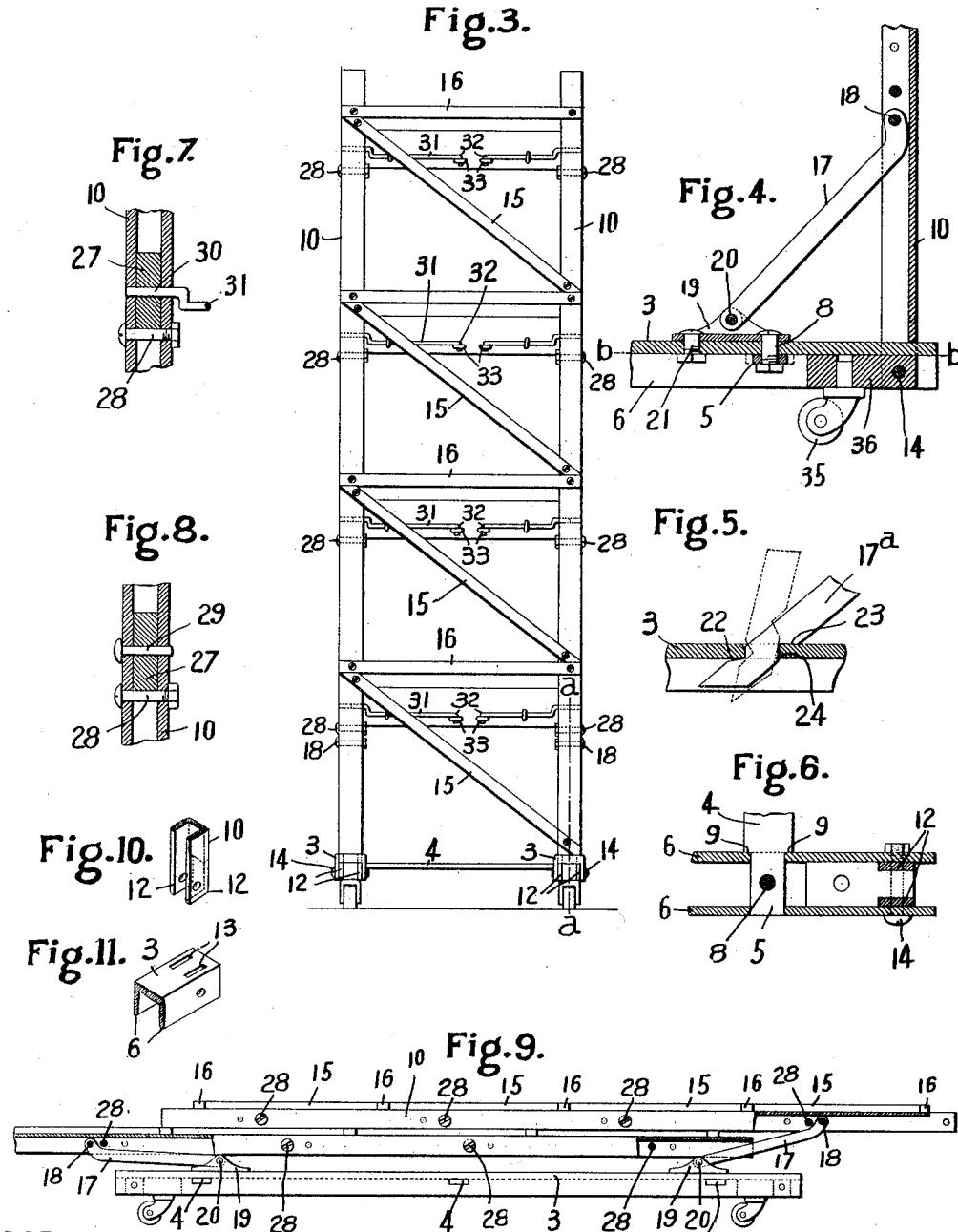
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

EDWARD F. O'BRIEN, OF SOMERVILLE, MASSACHUSETTS.

SHOE-RACK.

1,113,818.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD F. O'BRIEN, a citizen of the United States, residing at Somerville, county of Middlesex, State of Massachusetts, have invented an Improvement in Shoe-Racks, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to shoe racks and has for its object to provide a novel shoe rack which can be readily folded in a compact space when it is not in use, or when it is to be transported, and to provide a novel metal framework construction for the shelves which is very rigid, and also to provide a novel means for supporting the shelves from and securing them to the framework structure, and otherwise to improve shoe racks all as more fully hereinafter described and then pointed out in the appended claims.

Referring now to the drawings wherein I have illustrated a selected embodiment of the invention from which the principle of the invention will be readily understood, Figure 1 is a front view of a shoe rack made in accordance with the invention; Fig. 2 is a top plan view of Fig. 1; Fig. 3 is an end view; Fig. 4 is an enlarged section on substantially the line *a-a*, Fig. 3; Fig. 5 is a detail of a modified form of the invention; Fig. 6 is a section on the line *b-b*, Fig. 4; Fig. 7 is an enlarged section on substantially the line *c-c*, Fig. 1; Fig. 8 is a view similar to Fig. 7 showing a modified form of the invention; Fig. 9 is a side view showing the shoe rack folded; Fig. 10 is a perspective view of the lower end of one of the corner pieces of the end upright; Fig. 11 is a perspective view of one end of one of the side sills.

My improved shoe rack comprises a metal framework and shelves which are detachably sustained thereby.

The framework herein shown comprises a base member designated generally by 1 and two end uprights by which the shelves 2 are supported. While the base member may have any suitable construction it is herein shown as being formed by two side sills 3 each preferably having a channel-iron

shape, and cross pieces 4 which tie the side sills together. The channel iron side sills 3 are arranged with the channels directed downwardly, and the cross pieces 4 are preferably formed at their ends with tongues or tenons 5 which are inserted through apertures formed in the two sides 6 of the channel-iron side sills 3, each tongue 5 being bolted to the side sill by a bolt 8, as clearly seen in Fig. 4. I will preferably form the apertures in the flanges 6 so that the tongue 5 will occupy a position directly beneath the top of the channel member 3 and in engagement therewith. The tenons 5 are of less width than the cross pieces 4 thereby to form shoulders 9 which engage the inner wall of the side sills 3, as shown in Fig. 6, and when the cross pieces and side sills are bolted together by the bolts 8 a rigid base is formed.

As stated above, the shelves 2, which may be of any suitable shape or construction, depending on the particular use to which they are to be put, are supported by end uprights, and in the present embodiment of the invention, each end upright is formed by two or more connected posts 10 which are preferably channel-shaped. These posts 10 can conveniently be made of commercial channel iron or they may be specially made, it being immaterial so long as they have a channel shape, and they are arranged so that the channels thereof face inwardly. The lower end of each corner piece is forked shape, this result being secured by cutting away the back or cross portion of the channel member as shown at 11 in Fig. 10, thereby to form the two extending wings 12. The side sills 3 are provided with apertures 13 through which the wings 12 extend, the channel-iron corner pieces being of a less width than the channel-shaped side sills 3 so that the wings 12 will lie inside of the side flanges 6 of the side sills 3, as clearly seen in Fig. 6. The posts 10 are herein shown as connected to the side sills 3 of the base by bolts 14 which extend transversely through the side flanges 6 of the side sills 3 and through the wings 12.

The two corner pieces of each end upright are connected together by suitable braces 15, 16 so as to make a rigid structure. The end uprights are held in vertical position

by means of braces connecting the corner pieces 10 with the side sills 3, these braces having such a construction as to permit the end uprights to be folded down onto the base. In the embodiment of the invention shown in Figs. 1 and 4, these braces are shown at 17 and are pivotally connected at their upper ends to the corner pieces 10, as shown at 18. Said braces are also pivotally connected to the side sills 3, this being herein accomplished by securing to each side sill a block or bracket 19 to which the lower end of the brace 17 is pivoted as at 20. The brackets 19 are shown as so situated that the bolt 8 which connects the cross piece 4 to the side sills can also be used for securing the bracket to the side sill, and in Fig. 4 I have shown an additional bolt 21 for this purpose.

In lieu of the pivotal connection between the braces 17 and the side sills 3 shown in Fig. 4, I may employ the connection shown in Fig. 5. In this embodiment the braces are designated 17^a and each is formed at its lower end with two notches 22 and 23 on opposite sides thereof situated out of line with each other, and the side sills 3 are provided with openings 24 to receive the notched ends of the braces. These openings and the braces are so shaped that the lower ends of the braces can be entered into the openings 24 when the braces occupy the dotted line position Fig. 5, and by swinging the braces into the full line position Fig. 5 the edges of the opening 24 are brought into interlocking engagement with the notches 22, 23, as will be apparent from Fig. 5. This forms a detachable connection between the braces and the sills which is very rigid when the parts are in their operative position.

In order to permit the end uprights to be folded down onto the base 1, as shown in Fig. 9, it will be necessary, of course, to remove the bolts 14 if they are used, and also the shelves 2, after which the end uprights can be readily folded down as shown in Fig. 9 by simply elevating the uprights to withdraw the wings 12 from the sills and then turning the upper ends of the uprights inwardly and swinging them down onto the base. Where the construction shown in Fig. 4 is employed, the end uprights are always permanently connected with the base 1 through the braces 17, but the pivotal connection of the braces 17 with the uprights and base permit the folding operation. Where the construction shown in Fig. 5 is employed, it will be necessary to disconnect the braces 17^a from the base in order to permit the end uprights to be folded onto the base.

As stated above, the shelves 2 employed may have any suitable construction, depending upon the character of the use to which

the rack is to be put. In order to detachably secure each shelf to the end uprights, the shelves are provided at their ends with projections or fingers adapted to enter the channel of the corner pieces 10, and means are provided for clamping said projections or fingers in the channel, and for tying the projections to the channel. In the embodiment of the invention herein shown, each shelf is formed with two side pieces 25 which are connected by end pieces 26. These side pieces 25 project beyond the end pieces at each end of the shelf to form projecting fingers 27 that have the proper shape to fit into the channels of the corner pieces 10. These projecting fingers 27 are sustained on rests in the form of bolts 28 that extend transversely through the sides of the channel members 10, and these same bolts 28 can be used as clamping bolts for drawing the sides of the channel iron together sufficiently to cause them to clamp the projections 27 firmly between them. For tying the shelves to the uprights to prevent the latter from separating from the shelves, I propose to use locking members adapted to be inserted transversely through the sides of the corner pieces 10 and through the projections 27. These locking members may be simply pins 29, as shown in Fig. 8, or may have the construction shown in Figs. 3 and 7, wherein each locking member is provided with a portion 30 to extend transversely through the sides of the corner pieces 10 and the projections 27 and with a shank portion 31 having a downturned end 32 adapted to engage in an eye 33 carried by the end bars 26 of the shelf. In this embodiment the shank 31 of each locking member is shown as extending through a supporting eye 34 carried by the shelf, which serves to hold the pin in proper position. The shank 31 is sufficiently resilient so that it can be readily disconnected from the eyes 33 whenever the pin is to be withdrawn for the purpose of removing the shelf. It will be understood, of course, that there is a locking member of some suitable nature to connect each projection 27 to its corner piece 10.

The construction herein illustrated provides a shoe rack which can be very quickly set up or taken down, which affords a rigid framework for supporting the shelves, and in which the connection of the shelves with the uprights increases the rigidity of the entire structure.

The shoe rack is supported on casters which are herein shown as sustained in filling blocks 36 that are received between the flanges of the channel members 3. These blocks are shown as having an extension which fits between the wings 12 of the corner pieces 10 and through which the bolt 14 passes. This bolt, therefore, serves to hold

the caster-receiving blocks 36 in their proper position.

It will be noted that in the construction shown the weight of the shelves is taken entirely by the bolts 28, and that the locking members 29 or 30 serve merely to tie the shelves to the end uprights, so as to prevent the latter from spreading. The folding up of the rack when it is to be stored or transported involves merely the removing of the locking members 29 or 30, the removal of the shelves 2, and the removal of the bolts 14, if they are used, and the setting up of the rack involves merely the reverse of these operations. It is not essential that the bolts 14 be used for when the rack is set up and the shelves are in place, the posts 10 will be securely held in position without the use of these bolts. Under some circumstances, however, it may be desirable to use these bolts 14 for securing the posts 10 to the sills 3, and I have, therefore, illustrated the bolts, but as stated above, their use is optional. Where the bolts are not used, the folding down of the rack will be facilitated somewhat, as will be obvious.

Where the construction shown in Figs. 4 and 9 is employed, that is where the brace 17 is hinged both to the side sills 3 and the posts 10, the folded rack will occupy a space slightly longer than the base 1 as shown in Fig. 9, this being due to the fact that the folding of the end uprights down onto the base carries the lower ends of the uprights beyond the ends of the base.

Where the construction shown in Fig. 5 is employed the uprights can be folded onto the base in such a way so as not to project beyond the end of the base. This is so because the uprights are entirely disconnected from the base when they are folded down.

While I have illustrated herein some preferred embodiments of my invention, I do not wish to be limited to the constructional details shown and I desire to state that any specific terms employed are used in a descriptive and generic sense and not for the purposes of limitation, as the scope of the invention is set forth in the following claims.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a shoe rack, the combination with end uprights, each provided with a vertically-extending channel-shaped member, of shoe-supporting shelf members sustained by the uprights and each having integral therewith at each end a projection extending longitudinally of the shelf and entering between the sides of the channel-shaped members, and means to clamp said projections between said sides.

2. In a shoe rack, the combination with

end uprights each comprising two channel-shaped corner pieces, of shelves supported by the uprights, and each having at each end two projections to enter between the sides of the channel-iron corner pieces, and means to clamp the projections between said sides.

3. In a shoe rack, the combination with end uprights each comprising two channel-shaped corner pieces, of shelves supported by the uprights, and each having at each end two projections to enter between the sides of the channel-shaped corner pieces, supporting bolts extending transversely through the corner pieces and on which said projections rest, and means to tie the shelves to the corner pieces.

4. In a shoe rack, the combination with end uprights each comprising two channel-shaped corner pieces, of shelves supported by the uprights, and each having at each end two projections to enter between the sides of the channel-shaped corner pieces, supporting bolts extending transversely through the corner pieces and on which said projections rest, and locking members extending transversely through the corner pieces and said projections.

5. In a shoe rack, the combination with a base having connected side sills, of end uprights, each comprising two connected channel-shaped corner pieces, each corner piece being forked at its lower end, and the arms of the fork entering apertures in the side sill, means to detachably connect said forked lower ends of the uprights to the side sills and shelves supported by said corner pieces.

6. In a shoe rack, the combination with a base having two channel-shaped side sills, of end uprights, each comprising two connected channel-shaped corner pieces, each corner piece having at its lower end two wings which enter apertures in the side sill, bolts extending transversely through the side sills and wings for securing the corner pieces to the sills, and shelves supported by the corner pieces.

7. In a shoe rack, the combination with a base having two channel-shaped side sills, each having two openings at each end, of end uprights each formed with two posts forked at their lower ends, said forked ends of the posts extending through the openings in the sills, shelves supported by the posts, caster blocks located in the channels of the sills and between the forked ends of the posts, and a bolt extending transversely through the sills, forked ends of the posts and caster blocks for detachably connecting the parts.

8. In a shoe rack, the combination with a base, of end uprights each comprising connected corner pieces, means for detachably

connecting the lower end of each upright to the base and braces hinged to the uprights above the base and connected to the base to allow the uprights to be folded down onto the base when the lower ends thereof are disconnected from the base.

In testimony whereof, I have signed my

name to this specification, in the presence of two subscribing witnesses.

EDWARD F. O'BRIEN.

Witnesses:

BERTHA F. HEUSER,
LOUIS C. SMITH.

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