

Sept. 1, 1942.

J. J. KNAPE

2,294,504

SHOE RACK

Filed Aug. 22, 1940

2 Sheets-Sheet 1

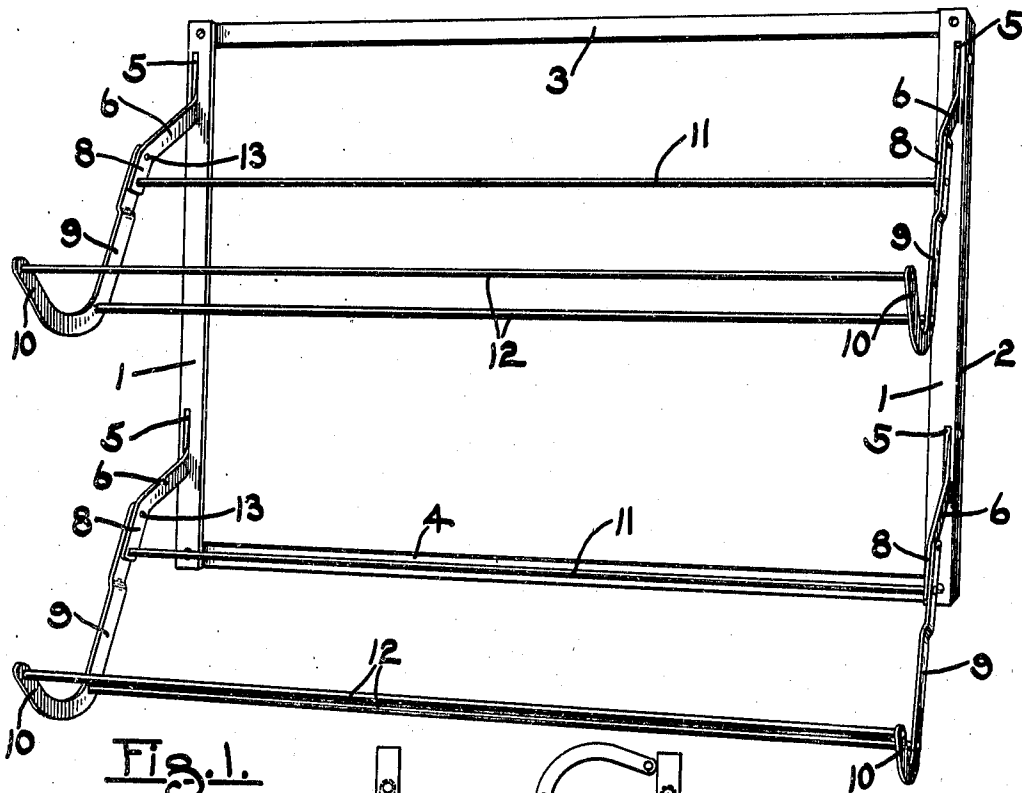


Fig. 1.

Fig. 2.

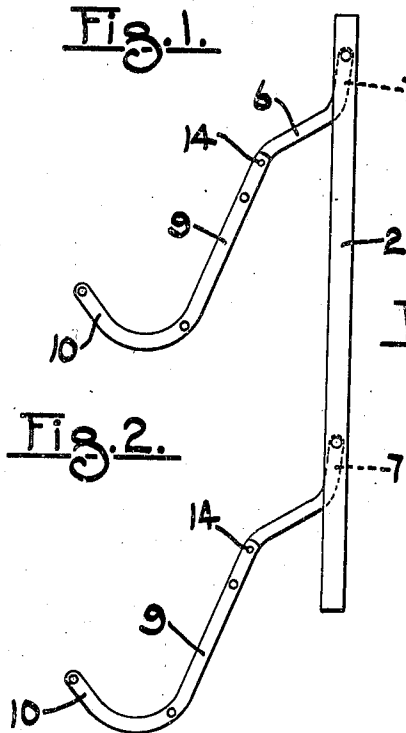


Fig. 3.

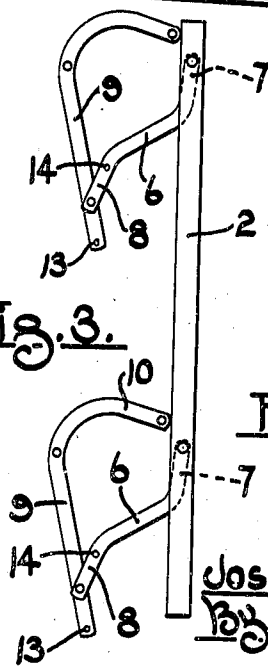
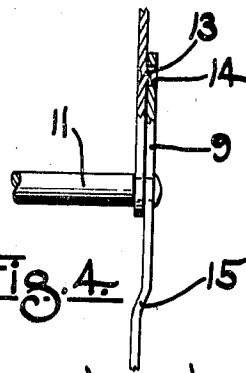


Fig. 4.



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2 Sheets-Sheet 2

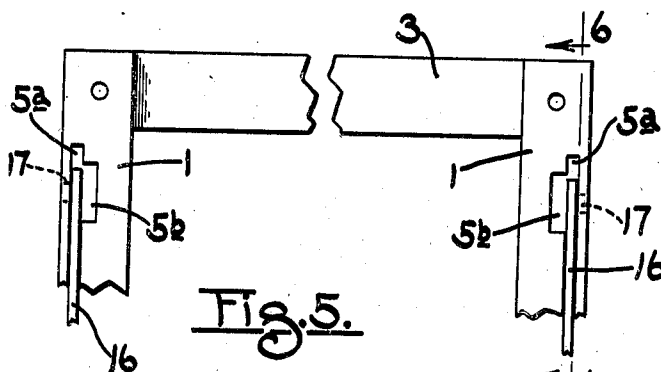


Fig. 5.

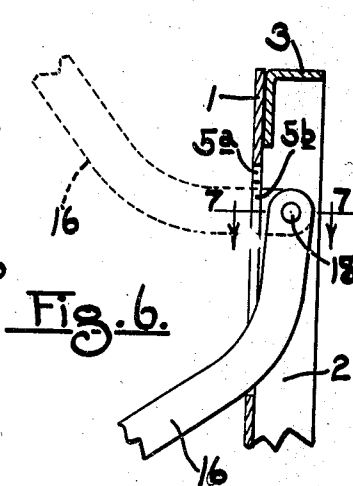


Fig. 6.

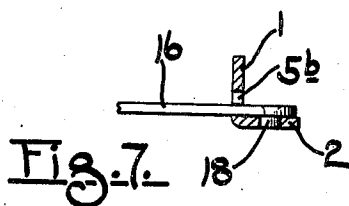


Fig. 7.

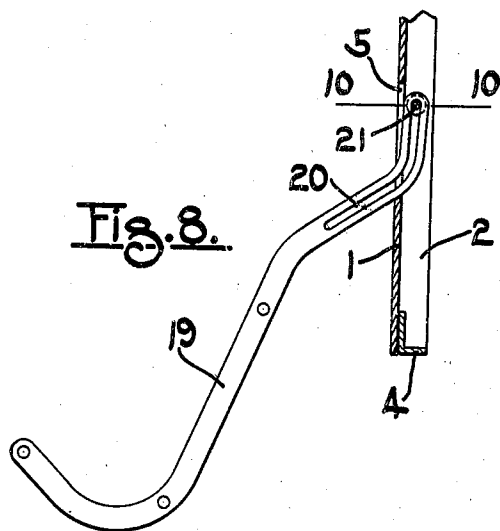


Fig. 8.

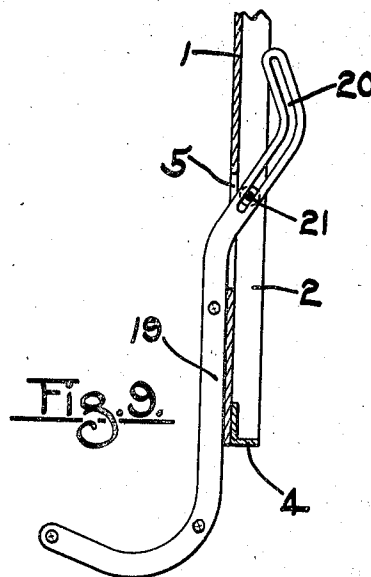


Fig. 9.

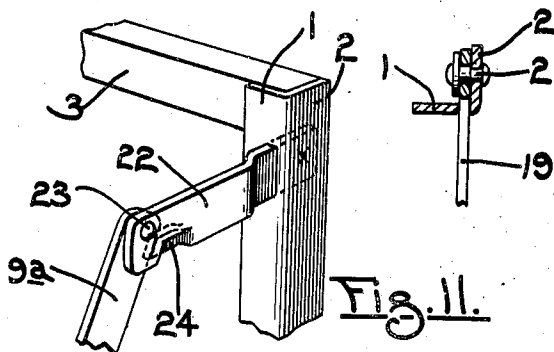


Fig. 10.

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Fig. 11.

UNITED STATES PATENT OFFICE

2,294,504

SHOE RACK

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Application August 22, 1940, Serial No. 353,699

3 Claims. (Cl. 211—38)

This invention relates to racks and is more particularly directed to racks for supporting shoes or other like articles. Due to the characteristic configuration of racks of this nature, which are usually composed of a vertical supporting frame and outwardly extending supporting means for the articles, they are usually awkward to pack for shipping purposes if it is necessary for them to remain in their normal operative position.

My invention consists in constructing racks of this general nature which are capable of having the article supporting portions thereof either retractable toward the supporting frame or removable therefrom altogether so that a plurality of them may be more easily nested together when they are being packed for shipment.

I have devised various specific ways in which this object may be accomplished, each of which includes the general object of being able to retract or dismantle the rack for shipment.

To the accomplishment of the foregoing and related ends said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims, said means constituting however but a few of the various ways in which the principle of the invention may be employed.

The annexed drawings and following description set forth in detail certain mechanism for accomplishing the desired result and in said annexed drawings, wherein like reference numerals refer to like parts throughout the various views:

Fig. 1 is a perspective view of a shoe rack disclosing one embodiment of my invention.

Fig. 2 is an end elevation thereof.

Fig. 3 is also an end elevation thereof but showing the article supporting means in a retracted position.

Fig. 4 is an enlarged fragmentary vertical section through one end of the device.

Fig. 5 is a fragmentary front elevation of a rack showing a modification of my invention.

Fig. 6 is a fragmentary vertical section taken substantially on the plane of line 6—6 of Fig. 5.

Fig. 7 is a fragmentary horizontal section taken substantially on the plane of line 7—7 of Fig. 6.

Fig. 8 is a fragmentary part section part end elevation of a further modification.

Fig. 9 is a view similar to Fig. 8 but showing the article supporting means in retracted position.

Fig. 10 is a fragmentary horizontal section taken substantially on the plane of line 10—10 of Fig. 8, and

Fig. 11 is a fragmentary perspective view of a still further modification.

Referring now more particularly to the drawings and more especially to the embodiment of the invention disclosed in Figs. 1 to 4 inclusive, the rack itself is composed of a supporting framework which includes spaced apart vertical end

members each of which has a front flange 1 and a rearwardly extending flange 2. These end members are connected by the upper and lower cross members 3 and 4 which are also preferably of angular formation. In the forward flange 1 of each frame end member a vertical elongated slot 5 is located.

In this form of my invention each of the article supporting means includes an end member 6 which has an upwardly extending rear portion 7 and a downwardly extending forward portion 8. The portion 7 thereof extends upwardly and rearwardly through the slot 5 and is permanently secured at its upper end to the rearwardly extending flange 2 such as by riveting, welding or any other desired means. The remainder of this support includes end members, a portion of each of which extends downwardly and forwardly from the forward portion 8 as indicated at 9 and terminates in a curved upwardly extending portion 10. A rod 11 extends between the forward ends of the portions 8 and pivotally secures thereto the portions 9 of the article supporting means. A plurality of other rods 12 extend between the lower portion of the end members to form supports on which shoes or other articles may be placed.

The lower portion of this supporting rack is adapted to be moved either upwardly or downwardly about its pivotal point on the rod 11 but may be held in its normal operative position by means of the mechanism shown more clearly in Fig. 4 where it will be seen that a small protuberance 13 extends outwardly from each of the lower portions 8 and is received in an opening 14 in the upper end of the portion 9. This portion 9 is provided with an offset 15 as shown so that the lower portion thereof will be in direct alinement with the permanently secured member 6. When the rack is in its normal operative position as shown in Figs. 1, 2 and 4, the protuberance 13 will be received in the opening 14 and hold the rack in this position, but in order that the packing of these racks for shipping purposes may be facilitated, it is merely necessary to exert an upward pressure on the forward end 10 to break the locking engagement between the protuberance 13 and the opening 14 whereupon the rack may be swung upwardly to the position shown in Fig. 3, in which position it is obvious that less space will be occupied by a single rack and that a plurality of them may be more easily nested together for shipping purposes.

In the particular embodiment of my invention as disclosed in Figs. 5, 6 and 7 a form is disclosed which permits the complete removal of the article supporting rack from the frame. The supporting frame employed in this modification is similar to the one previously described which in-

cludes the vertically spaced apart end members having flanges 1 and 2 and the upper and lower angular cross bars 3 and 4 except that the elongated slot in the forward flange 1 is of a slightly different configuration. The slot in this modification is indicated at 5a and near its upper end it is provided with a lateral enlargement 5b. The article supporting rack itself, instead of being formed of two portions, may be made from a single length of bar material constituting the end members 16 which are connected together by the cross rods in the usual manner. Each end member is adapted to be inserted in the slots 5a and at its upper end is provided with an outwardly extending pivot pin 17 adapted to be received in an opening 18 in the rearwardly extending flange 2. When the rack is in its normal operative position it rests upon the lower end of the slot 5a as shown in Fig. 6, but when it is to be dismantled for shipping purposes, it may be moved upwardly about its pivotal point to the dotted line position shown in Fig. 6 whereupon the enlargement 5b will permit the removal of each pivot pin 17 from its opening 18 after which the rack may be removed entirely from any connection with the supporting frame.

In the embodiment of the invention as shown in Figs. 8, 9 and 10, again the supporting frame is formed as before with the same slots 5 in the forward flanges 1. The supporting racks have end members of bar material indicated at 19 having the same configuration as before described except that the upper end portions thereof are provided with an elongated slot 20 which follows the configuration of the upper end thereof. The rearwardly extending flanges 2 near the upper end of the slots 5 are provided with headed pins 21 which extend through the slots 20 and are adapted to traverse said slots from end to end. When the racks are in their normal operating position as shown in Fig. 8 the pins 21 will be at the upper end of the slots 20 and the rack end members 19 will rest upon the lower ends of the slots 5, but when it is desired to retract and make more compact the device for shipping purposes, the pins 21 may be made to traverse the slots 20 to the lower ends thereof so that the supporting racks will assume a position shown in Fig. 9. In this position it will be obvious that the complete devices may be nested and shipped in a smaller amount of space than would be necessary if the racks were left in their normal operative position.

In the modification shown in Fig. 11 the lower part of the rack is of substantially the same configuration as those shown and described previously and that part of the rack which extends upwardly is indicated at 9a. The function of the rack here is similar to those heretofore described except in the manner of fastening to the frame. An arm 22 is located within a slot in the front flange 1 and is secured to the rearwardly extending flange 2 of the end member such as by welding or any other desired means.

This arm then extends forwardly and has pivotally mounted thereon at 23 the end of the rack 9a. It is to be noted that the pivotal point is adjacent the upper edge of the arm 22 because the lower edge of said arm is offset slightly as at 24 in the direction of and at the same side to which the end 9a of the rack is secured.

This offset 24 then acts as a stop means for the pivotal movement of the rack because, while it may be moved upwardly to its desired position

for packing and shipping, in use the rear edge thereof will bear against the offset 24 and hold it in position for use.

There may be other ways in which the principle of my invention may be carried out but I have shown and described those preferred embodiments of my invention which are the most simple to operate and the most economical from the standpoint of manufacture.

Other modes of applying the principles of my invention instead of the ones here explained may be employed if the structure herein disclosed be changed, provided, however, that the means stated by any of the following claims or the equivalent of such stated means be employed.

I, therefore, particularly point out and distinctly claim as my invention:

1. A rack of the class described adapted to be folded to occupy less space for packing purposes comprising, a supporting frame having spaced apart parallel vertical end members of angular form, a vertical slot in one of the flanges of each end member, a bar having a downwardly extending forward end and an upwardly extending rear end received in each of said slots and pivotally secured to the other of the flanges of each angular end member, a second bar having an upwardly curved forward end and an upwardly extending rear end pivotally secured to the forward end of each of said first named bars, a plurality of rods extending between said second bars, a lateral protuberance on each of the first named bars above the lower end thereof, and an opening in the upper end of each of the second bars to receive said protuberance and hold the rack in operative position, but releasable therefrom to permit folding the second bars and connecting rods toward said frame.

2. A rack of the class described adapted to be folded to occupy less space for packing purposes comprising, a supporting frame having spaced apart vertical end members, a vertical slot in each end member, a bar having a downwardly extending forward end and an upwardly extending rear end received in each of said slots and pivotally secured to an end member, a second bar having an upwardly curved forward end and an upwardly extending rear end pivotally secured to the forward end of each of said first named bars, a plurality of rods extending between and connected to said second bars, a lateral protuberance on each of the first named bars, and an opening in the upper end of each of the second bars to receive said protuberance and hold the rack in operative position, but releasable therefrom to permit folding the second bars and connecting rods toward said frame.

3. A rack of the class described adapted to be folded to occupy less space for packing purposes comprising, a supporting frame having spaced apart vertical end members with slots therein, a bar extending forwardly from each end member and passing through the slot therein pivotally secured at its rear end to each end member behind the slot, a second bar pivotally connected to each of the first named bars having rods extending therebetween and connected thereto to form means for supporting articles, a lateral protuberance on each of the first named bars, and an opening in each of the second bars to receive said protuberance and hold said means for supporting articles in operative position, but releasable therefrom to permit folding said means toward said frame.

JOSEPH J. KNAPE,