SPECIFICATION

In the accompanying drawings:

Figure 1 is a vertical longitudinal section of the shoe holder and stretcher embodying my invention. Fig. 2 is a vertical longitudinal section taken on line 2—2, Fig. 4. Fig. 3 is a fragmentary detached top plan view, partly in section, of the device for adjusting the side plates. Fig. 4 is a vertical transverse section taken on line 4—4, Fig. 2. Fig. 5 is a top plan view of the frame with a portion of the bracket in position. Fig. 6 is a top plan view of the frame showing all of the clamping devices. Fig. 7 is a horizontal longitudinal section taken on line 7—7, Fig. 1.

Similar characters of reference indicate corresponding parts throughout the several views.

1 represents an upright angular bracket bar whose upper end is arranged to be adjustably secured to the wall or other stationary member and whose lower end extends downwardly and forwardly away from said wall and is secured to a shoe frame upon which the shoe is supported and stretched. 2 is a swivel arm having a socket 2a which receives the upper end of said bracket bar, the latter being vertically adjustable relatively to said arm by means of a screw 3 which is threaded in said arm and adapted to engage any one of a plurality of vertically disposed series of adjusting grooves 4 arranged annularly on the upper part of said bracket bar. The swivel arm is pivotally mounted on a bracket 5 by means of a bolt 5a, or the like, so as to swing vertically relatively thereto the adjacent abutting faces of the arm and the bracket being provided concentrically with their pivotal connection, with complementary annular rows of ratchet-shaped clamping teeth 9, 9a, so that heavy pressures on the lower end of the bracket bar will not disturb the adjustment of the arm relatively to the bracket 5. Said bracket may be secured to a wall or other stationary fixture in any suitable manner.

The lower end of the bracket bar is provided with a pair of longitudinal forwardly extending clamping prongs 6 whose upper faces are provided with serrations or ratchet-shaped teeth 7. Adapted to be secured to said prongs is a frame 8 which is provided with a pair of transversely arranged retaining members, loops or bridges 10 which form longitudinal openings or sockets between said bridges and the frame that are adapted to receive the ends of the prongs 6. The lower forward parts of said loops or bridges are abrupt or square cornered and thereby adapted to engage the vertical faces of the serrations 7. Pivoted mounted on the lower rear side of said bracket bar so as to be capable of lateral movement is a cam or clamping lever 11 provided with a pair of inclined, cam or wedge faces 12 which are adapted to bear against a transverse rib 13 formed on the lower face of said bracket bar adjacent to said clamp lever. The bottom face of said lever bears against the upper face of the main frame 8, so that when said lever is turned, the frame and the bracket bars are forced apart causing the prongs 6 to firmly engage the loops of said frame. This main frame is preferably constructed in the form of a plate and is adapted to bear against the inner side of the front part of the bottom of the shoe to be held and stretched. For the purpose of preventing any lateral displacement of the frame relative to the bracket bar, the front 100 lower ends of the prongs 6 are provided with downwardly projecting positioning studs 23 which are adapted to engage any desired pair of a number of positioning holes 24 which are arranged in a longitudinal row along each lateral edge of the frame. So that the bracket bar may be adjusted in an arcuate or curved direction and also to permit of accessibility, the front ends of the prongs 6 are curved upwardly and
the clamping lever 11 bears with its lower face against a transversely arranged pair of longitudinally inclined and curved ribs or walls 15.

5. Pivoted mounted at the forward end of the frame by a vertical pin 16 so as to swing laterally is a toe clamping plate 18. The forward end of this plate is provided with a T-shaped head 17 that extends downwardly through an arcuate slot 18 which is formed in the frame concentrically with the pivot of said toe plate, said head being adapted to bear against the lower side of said frame. Arranged between the rear end of said toe plate and the upper face of the frame and turning about the pin 16 is a toe-clamp lever 17° which has wedge-shaped surfaces 18° operating on depending rib 21° on the rear part of the plate 16° to lift the rear end of this plate, thereby tightly pressing down the forward end of the toe plate against the upper face of the frame and pulling up the head 17 against the bottom of the frame. To prevent any accidental displacement of the toe plate after it has been adjusted, the lower forward face of the same is provided with a number of longitudinal downwardly extending teeth 20 which are adapted to engage with a row of upwardly extending complementary teeth 20° arranged on the upper face of the frame adjacent to the slot 18 and concentric with the pivot of the clamp. Above the front end of the main frame is arranged a toe bearing piece 22 whose upper surface is adapted to bear against the inside of the toe portion of the shoe that is being stretched and supported. This toe piece is pivotally mounted on the front part of the toe clamping plate 18° by a ball and socket joint 21, as shown in Fig. 1. This toe piece is shaped somewhat like the half of an egg, the one end being comparatively broad and the other narrow, so that a number of arrangements of said toe piece may be made, to suit the particular shape of the shoe to be stretched, as shown by the different dotted lines in Figs. 5 and 6. In addition thereto the toe plate may be swung laterally into the most advantageous position and there locked so that the range of adjustment to suit varying conditions is considerable.

Pivotally connected to the rear upper part of the frame and preferably by means of a ball and socket joint 25 is a heel adjusting arm 25° which is arcuate in form, bending backwardly and upwardly. The lower face of said arm is provided with a plurality of adjusting notches 26 which are adapted to engage with a number of notches 27 that are formed on the upper face of an adjusting block 28 so that when said arm is forced downwardly against the upper face of said block the mating notches are caused to engage with each other and thereby prevent relative longitudinal displacement. This block is pivotally connected with a yoke 29 by means of a transverse pivot pin 30, said yoke engaging opposite sides of said block and passing up and over both said block and also the adjusting arm 25. An adjusting screw 31 is threaded vertically in the upper part of said yoke and its lower end bears against the upper face of said arcuate adjusting arm so that when said screw is tightened the yoke is positively clamped to said arm. Pivoted connected to said yoke so as to swing vertically is a heel link 32 which extends backwardly and longitudinally from said yoke. Pivoted connected to the rear end of said link by a ball and socket joint 33 is a heel bearing piece 34° which is adapted to accommodate itself to the contour of the inside of the heel portion of the shoe that is being stretched and supported. The connection between this heel piece and the frame is, in effect, an adjustable toggle so that heavy stretching pressure may be exerted upon the shoe with slight effort and the toggle also locks itself in place after being forced into position. To take the shoe off, merely the reverse motion is necessary.

40 represents two side bearing pieces which are arranged lengthwise adjacent to opposite longitudinal sides of the main frame and are suitably shaped to conform to the inner surface of the side parts of the shoe which is to be stretched and supported. These two side pieces are mounted on the main frame so that they can be drawn together or spread apart to suit the particular shoe which is to be mounted on the holder and stretcher. The preferred means for this purpose which are shown in the drawings are constructed as follows:

41 represents a swivel or supporting frame arranged above the central part of the main frame and mounted on the latter in such manner that the swivel frame is capable of vertical as well as an oscillating movement on the main frame. This is accomplished in the specific instance shown in the drawings by means of a substantially upright post or supporting screw 42 passing with its upper part through an opening in the central part of the front end of the swivel frame and having a coupling head 43 bearing against the upper side of the same, a clamping plate 44 which receives the lower threaded end of the post or screw 42 and is provided on its underside with a T-shaped head 45 which latter passes through a longitudinal slot 46 in the main frame and bears against the underside of the latter, and a spring 47 surrounding the screw 42 and bearing at its lower end against the clamping plate 45 and at its upper end against the underside of the swivel frame, as best shown in Figs. 2 and 4. This clamping plate may be shifted backwardly and forwardly on the main
frame by reason of the cooperating coupling head 44 and slot 46 formed on these parts and after adjustment these parts may be securely clamped in position relatively to each other by means of a rotatable cam or clamping lever 48 which is pivotally mounted on the rear end of the clamping plate 45 so as to swing laterally thereto and provided on its upper side with a cam or wedge face 49 which is adapted to engage with ribs or projections 50 on the underside of this clamping plate, while the underside of this clamping lever bears against the upper side of the main frame. Upon turning this clamping lever in one direction the companion clamping plate will be loosened and can be moved lengthwise on the main frame together with the parts mounted thereon but when this clamping lever is moved in the opposite direction said clamping plate will be pressed upwardly so that the same is tilted and its coupling head engages the underside of the main frame, whereby these parts are securely locked in position.

51 represents a longitudinally movable adjusting pin, block or post which projects with its lower end through a longitudinal guide slot 52 in the swivel or supporting frame while its upper part is provided with a threaded opening 53 which receives a longitudinal adjusting screw 54 arranged above the swivel frame and journaled at its front and rear ends in bearings 55, 56 on the swivel frame so as to be capable of turning about its axis but incapable of moving lengthwise. Upon turning the screw 54 by means of a thumb piece 57 arranged at its rear end the adjusting block 51 will be moved either forwardly or backwardly on the swivel frame.

58 represents two forwardly diverging toggle links which are pivotally connected at their inner or rear ends with the shifting block while their front ends are connected respectively with the inner sides of the side bearing pieces by means of ball and socket joints 59, as best shown in Figs. 1-4. Each of these links is guided between its front and rear ends by engagement of its inner front side with the adjacent side of the front bearing 55, while its outer rear side bears against a longitudinal rib 60 rising on the adjacent part of the swivel frame and each link is confined against vertical movement on the swivel frame by engagement of its underside with the top of the swivel frame while its upper side engages with the underside of a lug or hook 61 projecting forwardly and inwardly from the companion side flange over the top of the respective link, as best shown in Figs. 3 and 4.

Upon moving the shifting block 51 forwardly or backwardly on the swivel frame the links will be caused to diverge more or less or in other words to approach or recede from each other at their front ends owing to the action of the guide on the front part of the swivel frame which engage with the central parts of the links, thereby permitting the side pieces to be shifted to suit the width of the shoe which is intended to receive the holder and stretcher and also permitting the side pieces to be contracted to permit of removing the same from the shoe. By reason of this swiveling connection between the supporting frame and the main frame it is possible for the side pieces to rise and fall and also to tilt either forwardly or backwardly as well as laterally to suit the shape or contour of the shoe which is being mounted on the holder and stretcher.

It is evident that this improved shoe holder and stretcher permits one to wear shoes that fit as evenly as do gloves, because any shrinkage or distortion of any part that occurs may be accurately restored to its original shape and further when the shoes are to be polished, the operation is not only greatly facilitated, but thoroughness and a uniform treatment is possible and more particularly on those parts of the shoe which become the most deeply wrinkled.

I claim as my invention:

1. A shoe holder and stretcher comprising a frame, side pieces arranged longitudinally at the sides of said frame, a clamping plate arranged on said frame and longitudinally adjustable thereon and provided with an upwardly extending post, a supporting plate loosely mounted on said post and provided with a longitudinal guide, a compression spring adapted to press said supporting plate upwardly relatively to the frame, a sliding block arranged in the guide of said supporting plate, links pivotally connected at their inner end to said block and at their outer ends to the side pieces, means for adjusting said block relatively to said supporting plate, and means for causing said links to diverge more or less when the block is moved longitudinally on the supporting plate.

2. A shoe holder and stretcher comprising a frame, a toe piece, a toe clamping plate pivotally connected to said toe piece and adjustable arranged on the forward end of said frame, and a heel piece pivotally connected to the rear part of said frame and adjustable relatively thereto.

3. A shoe holder and stretcher comprising a frame, a toe clamping plate adjustably arranged at the forward end of said frame, a toe piece, a ball and socket joint connecting said toe piece to said toe clamping plate, a heel piece, and a toggle connecting the heel piece to the rear part of said frame.

4. A shoe holder and stretcher comprising a frame, a toe clamping plate pivoted to the forward end of said frame and arranged to swing laterally relative thereto, a toe piece...
4. pivotally connected to said clamping plate, a heel piece, and a toggle connecting said heel piece to the rear part of said frame.

5. A shoe holder and stretcher comprising a frame, a heel piece, an arc-shaped adjusting arm pivotally connected at its forward end to the rear part of said frame and provided with a plurality of notches, a heel yoke embracing said adjusting arm and engaging said notches, a link pivotally connected at its forward end to said yoke and at its rear end to the heel piece and a screw arranged on said yoke and bearing against said arm.

6. A shoe holder and stretcher comprising a frame provided with a socket having an abrupt face, a bracket bar provided with a longitudinally extending prong whose lower face is adapted to bear against the top of the frame and whose upper face is provided with serrations which are adapted to bear against said abrupt faces of said socket, and means for pressing said prong upwardly against said bridge.

7. A shoe holder and stretcher comprising a frame provided with a socket having an abrupt face, a bracket bar provided with a longitudinally extending prong whose lower face is adapted to bear against the top of the frame and whose upper face is provided with serrations which are adapted to bear against said abrupt faces of said socket, and means for pressing said prong upwardly against said bridge comprising a rotatable cam lever pivoted on said bracket bar and interposed between the latter and said frame.

8. A shoe holder and stretcher comprising a frame, side pieces arranged on opposite sides of said frame, and means for moving said side pieces toward and from each other comprising a shifting block provided with a threaded opening and movable lengthwise of said frame, links connecting said shifting block with said side pieces, a plate provided with a guideway for said shifting block, and an adjusting screw journaled on said plate and engaging with the threaded opening in said shifting block.

9. A shoe holder and stretcher comprising a frame, side pieces arranged on opposite sides of said frame, and means for moving said side pieces toward and from each other comprising a shifting block movable lengthwise of said frame, links connecting said shifting block with said side pieces, a plate carrying said shifting block and links, and a swivel connection between said plate and frame.

10. A shoe holder and stretcher comprising a frame, side pieces arranged on opposite sides of said frame, and means for moving said side pieces toward and from each other comprising a shifting block movable lengthwise of said frame, links connecting said shifting blocks with said side pieces, a plate provided with an opening and carrying said shifting block and links, and a swivel connection between said plate and frame comprising a head engaging said frame, a screw connecting with said head and passing through said opening in said plate, and a spring interposed between said head and plate.

11. A shoe holder and stretcher comprising a frame, side pieces arranged on opposite sides of said frame, and means for moving said side pieces toward and from each other comprising a shifting block movable lengthwise of said frame, links connecting said shifting block with said side pieces, a supporting plate carrying said shifting block and links, a clamping plate connected with said supporting plate and loosely connected with said frame, and a cam lever pivoted on said clamping plate and interposed between said frame and clamping lever.

12. A shoe holder and stretcher comprising a frame having a longitudinal slot, side pieces arranged on opposite sides of said frame, and means for moving said side pieces toward and from each other comprising a shifting block movable lengthwise of said frame, links connecting said shifting block with said side pieces, a supporting plate carrying said shifting block and links, a clamping plate connected with said supporting plate and provided with a T-shaped coupling head projecting through said longitudinal slot in said frame and engaging with the underside of the latter, and a cam lever pivoted on said clamping plate and interposed between said frame and clamping plate.

PATRICK F. WOODS.