W. A. REED.

PAD HOLDER.

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1,143,725.

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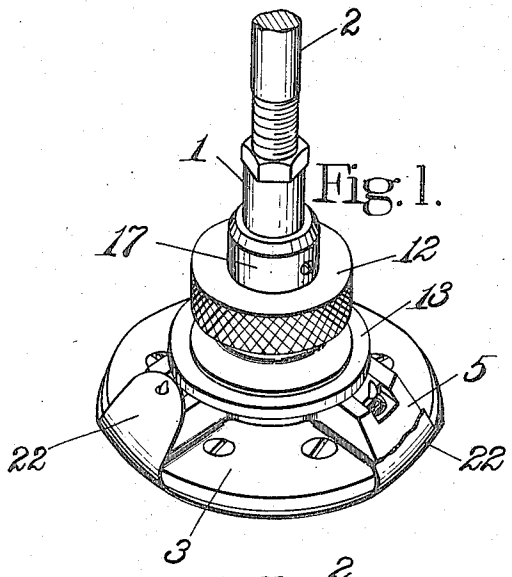


Fig. 1.

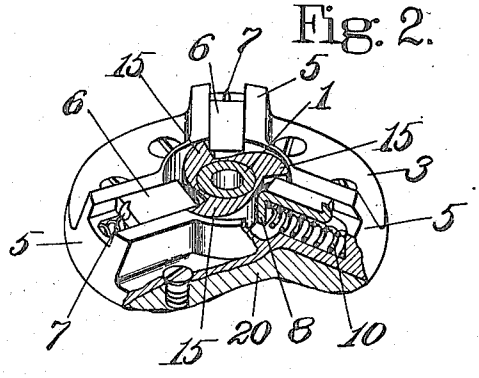


Fig. 2.

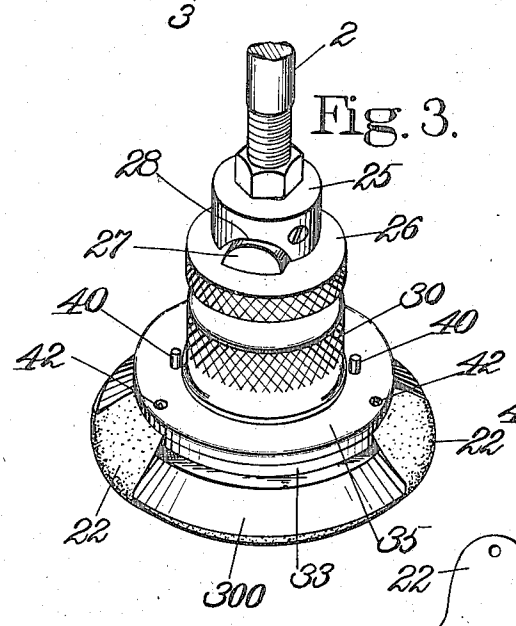


Fig. 3.

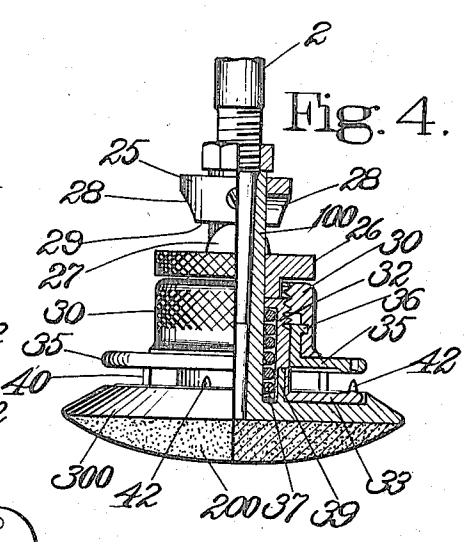


Fig. 4.

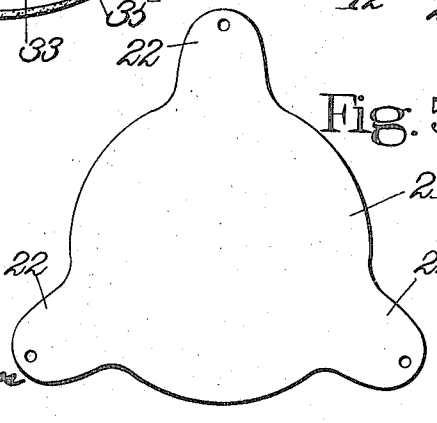


Fig. 5.

WITNESSES.

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PAD-HOLDER.

1,143,725. Specification of Letters Patent. Patented June 22, 1915.

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To all whom it may concern:

Be it known that I, WILLIAM A. REED, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Pad-Holders, 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 machines for operating upon the bottoms of boots and shoes and is illustrated in connection with a pad holder for a buffing machine. In machines of this class it is customary to provide at the end of a rotatable spindle a pad holder comprising a yielding support for the abrasive pad or cover and clamping means to secure said pad in position.

An object of the invention is to provide a pad holder about which the pad is yieldingly drawn at all times and from which the pad may be readily detached.

To this end one feature of the invention comprises a buffing pad, a holder, a member movable with respect to said holder and adapted to engage said pad, a spring acting normally to move said member in a direction to draw said pad about said holder, and means for compressing said spring. This and other features of the invention including certain details of construction and combinations of parts will be described in connection with an illustrative device and pointed out in the appended claims.

Referring now to the accompanying drawings, Figure 1 is a perspective of a pad holder in which the present invention is embodied, showing a three-strap pad attached thereto, a portion of one of said straps having been broken away; Fig. 2 is a detail perspective of a portion of the holder shown in Fig. 1, with part of the device in cross section; Fig. 3 is a perspective of a modified form of pad holder showing a three-strap pad attached thereto; Fig. 4 is a view, half in elevation and half in section, of the holder illustrated in Fig. 3; and Fig. 5 is a plan of a three-strap pad ordinarily used in buffing machines which operate upon boots and shoes, said pad being made of sandpaper, emery paper, or any other suitable abrading material.

Referring now to Figs. 1 and 2, the numeral 1 indicates the stem of a buffing pad holder constructed to be attached to the lower portion 2 of the usual rotatable spindle provided in buffing machines of this type. The holder comprises a circular base 3 which is preferably integral with the stem 1 and has secured upon its outer face a covering of yielding material such as felt 20 which serves as a backing for the abrasive pad. Upon the upper face of the base 3 are formed a plurality of radially disposed slideways 5, preferably three in number, if a three-strap pad is to be used. Each slideway 5 has formed therein a recess to receive a spring 10, and blocks 6 are provided to slide in the slideways 5 as shown. These sliding blocks 6 may be provided with prongs 7 at their outer ends to engage the straps of the buffing pad and with a depending portion or shoulder 8 at their inner ends to engage the springs 10 which exert a force tending to hold the blocks 6 in their inner operative position as shown in Fig. 2. A thumb nut 12 is rotatably mounted on the stem 1 and has formed upon its lower portion three cams 15 one for each block 6, each cam being adapted to engage an adjacent shoulder 8 upon one of the blocks. A partial rotation of the thumb nut 12 in a counter clockwise direction, as viewed in Fig. 2, thus causes the cams 15 to act upon the shoulders 8 and thereby to move the blocks 6 outwardly in opposition to the force of the springs 10. The sliding blocks 6 are held from vertical movement by a flange 13 on the thumb nut 12; and the thumb nut in turn is prevented from rising by a collar 17 which is adjustably fastened to the stem 1 by a set screw.

The device is manipulated as follows:—With the parts in position as shown in Figs. 1 and 2, in which the pad is tightly drawn about the pad holder, the thumb nut 12 is given approximately a quarter turn thereby bringing the cams 15 into engagement with the adjacent shoulders 8 of their respective blocks and thus moving the blocks outwardly and holding them in their outward position. The pad 21 may then be removed and replaced by a new one, and the straps of the new pad hooked over the prongs of the sliding blocks as will be readily understood. The nut 12 is then turned back to its former position, whereupon the springs 10 force the sliding blocks inwardly and thereby yieldingly adjust, tighten, smooth, and

stretch the pad 21 over the backing 20. It should be particularly noted that when the nut 12 has been given a quarter turn or thereabout from the position shown in Figs. 1 and 2, the sliding blocks 6 will be held securely in their outward positions until the nut is rotated in the opposite direction.

In the embodiment of the invention shown in Figs. 3 and 4, the stem 100, holder 300 and backing 200 are similar to those described in connection with Figs. 1 and 2. A thumb nut 26 is arranged loosely upon the stem 100 and has upon its upper face two cams 27 arranged to engage a collar 25 which is secured to the stem 100 by a set screw. The collar 25 has recesses 28 which receive the cams 27 when the parts are in the position shown in Fig. 3. The thumb nut 26 bears with its lower face against a clamping device, which comprises a lower clamping member 32 having a circular base or flange 33, and an upper clamping member or ring 35 which is operated by a nut 30 threaded upon the hub of the member 32. A recess in the interior of the lower clamping member 32 is provided for a spring 37 which bears at one end against the upper wall of said recess and at the other end against the base 300 of the holder, thus tending to maintain the member 32 and consequently the entire clamping device in extreme upward position with respect to the base 300. The ring 35 is loosely held by the nut 30, said ring having a hub provided with a projecting annular rib 36 which fits in a corresponding groove in said nut. The lower member 32 of the clamping device is held to rotate with the holder 300 but may move vertically with respect thereto when permitted by the position of the nut 26. To this end pins 39 are fixed in the base 300 of the holder and extend into sockets in the member 32. It is desirable to maintain the clamping ring 35 in a fixed angular position with respect to the flange 33 of the lower clamping member, and for this purpose pins 40 carried by the flange 33 extend into holes in the clamping ring as best shown in Fig. 3. In order to secure a firmer hold upon the straps of the pad than might be obtained by merely clamping said straps between the ring 35 and the flange 33, pins or prongs 42 may be formed or mounted upon the flange 33, said pins extending into sockets in the clamping ring 35 when said ring is moved into clamping position.

The manipulation of this form of the invention is as follows:—The parts of the device being in the position shown in Fig. 3 with a pad in place, the cams 27 in the recesses 28 of the collar 25, and the spring 37 acting to hold the clamping device in uppermost position, the nut 26 is rotated so that the cams 27 will bear against the lower face 29 of the collar 25. This movement will force the clamping device downwardly against the pressure of the spring 37 and loosen the tension upon the straps 22. The nut 30 is then rotated to lift the clamping ring 35 from engagement with the flange 33 and to clear the pins 42 from the ring 35. The device will then be in the position shown in Fig 4 in which position the old pad may be removed and replaced by a new one. The nut 30 will then be rotated in order to clamp the straps of the pad between the ring 35 and the flange 33 after which the nut 26 will be rotated to permit the cams 27 to be received in the recesses 28, whereupon the spring 37 will lift the whole clamping device and draw the pad yieldingly about the backing.

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

1. In a device of the class described a pad, a holder, movable means for engaging said pad at its edges, resilient means located between said movable means and said holder arranged to exert a continuous tension upon said pad through said movable means to draw said pad smoothly about said holder, and means for compressing said resilient means to relieve said tension.

2. In a device of the class described a pad having perforated tabs, a holder, movable means provided with prongs for engaging said perforations, resilient means located between said movable means and said holder arranged to exert a continuous pull on the edges of said pad to draw it smoothly about said holder, and means for compressing said resilient means to relieve said pull.

3. In a device of the class described, a pad holder, a buffing pad, a plurality of movable clamping members on said holder arranged to secure said pad to said holder, and yielding means to move said clamping members into operative position to draw said pad about said holder.

4. In a device of the class described, a pad holder, a buffing pad, a plurality of sliding blocks upon said holder having provision for engagement with said pad, yielding means for actuating said blocks in one direction, and means to move said blocks simultaneously in the opposite direction.

5. In a device of the class described, a pad holder, a buffing pad, a plurality of movable clamping members on said holder to secure said pad to said holder, yielding means to move said clamping members in one direction, and a thumb nut on said holder having cams formed thereon to move said clamping members in the opposite direction.

6. In a device of the class described, a pad holder, a buffing pad, slideways on the upper face of the holder, sliding blocks in said slideways, prongs on each block adapted to

engage the strap of a buffing pad, springs to actuate the sliding blocks, and a plurality of cams arranged to move the sliding blocks against the pressure of said springs.

7. In a device of the class described, a pad holder, a three-strap pad, clamping members upon said holder arranged to engage the straps of said pad, yielding means to actuate said clamping members independently whereby a yielding tension is put upon each strap, and means simultaneously to relieve said straps from said tension.

8. In a device of the class described, a pad holder, a plurality of movable clamping members mounted on said holder and arranged to engage said pad, yielding means for moving said members inwardly to draw said pad about said holder, and cams for moving said members outwardly, said cams being constructed and arranged to hold said members in their outward position.

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

WILLIAM A. REED.

Witnesses:

CHESTER E. ROGERS,

RUTH E. WARD.