

E. HOPE.
FINISHING MACHINE.
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1,227,622.

Patented May 29, 1917.

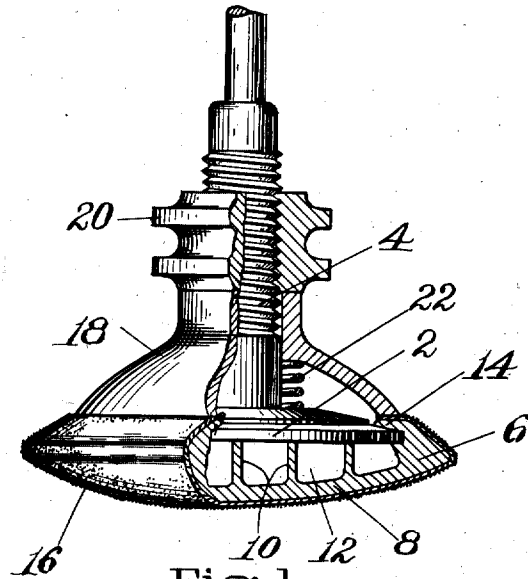


Fig. 1.

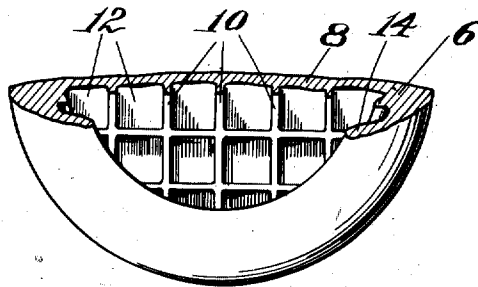


Fig. 2.

WITNESSES.

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UNITED STATES PATENT OFFICE.

ERNEST HOPE, OF LEICESTER, ENGLAND, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

FINISHING-MACHINE.

1,227,622.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERNEST HOPE, a subject of the King of England, residing at Leicester, Leicestershire, England, have invented certain Improvements in Finishing-Machines, 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 finishing, buffing, abrading or similar machines and is particularly applicable to that class of buffing machines known as the Naumkeag type. In machines of this type an upright rotary spindle carries at its lower end a support on which an abrasive cover is stretched in suitable condition for use upon the tread faces of boots and shoes to effect an abrading or buffing operation.

The object of this invention is to provide an improved support for the abrasive or other cover which, while being more resilient and durable than the supports hitherto employed for this purpose, shall also be cheap to manufacture.

To this end a feature of the invention consists in the provision of a pad, which may be formed of rubber or similar material, that is provided with internal projections adapted to bear upon the body part of the spindle holder to resiliently support the abrasive or other cover against the pressure of the work. The projections preferably are formed as ribs and they may conveniently be arranged to intersect each other to form inclosed air spaces or pockets between them. By making the edges of the ribs and the part of the holder against which they bear of suitable configuration, the air within the inclosed spaces will be imprisoned and will act as a pneumatic support to increase the resiliency of the pad.

A convenient embodiment of the invention will now be described, reference being made to the accompanying sheet of drawings, but it is to be understood that the invention is not confined either to the precise construction set forth or to the exact arrangement described, since both the construction and arrangement may be varied, while the spirit of the invention still is maintained.

In the drawings,

Figure 1 is an elevation partly in section of a buffing device comprising a holder and

a pad embodying this invention secured in position on the holder; and

Fig. 2 is a plan of part of the pad.

In the buffing device shown, the holder comprises a circular disk-shaped head or support 2 secured to or formed upon the lower end of a screw threaded stem 4. The stem is secured to a spindle which is rotated by mechanism of any suitable character. The pad 6 also is circular in form and is somewhat larger in diameter than head 2. The working part or facing 8 of the pad is molded to a convex shape thus presenting a smooth outer surface for the support of the work member. Upon the inner surface of the facing a plurality of ribs 10 project which, in the arrangement shown, are constructed to cross or intersect each other at substantially right angles so as to form a series of regular polygonal pockets or cells 12. The lower surface of the head 2 preferably is plane and the inner edges of the ribs 10 are arranged to lie in substantially a common plane so that when the pad is in operative position the facing 8 not only is mechanically supported by the ribs 10 bearing on the lower face of the head, but also is pneumatically supported by the air which is imprisoned between the walls of the ribs and the surfaces of the head 2 and facing 8. It will be obvious that the ribs need not cross each other at right angles nor need they be equally spaced apart, as in the construction shown, although this arrangement affords a very convenient and satisfactory construction. The pad preferably is molded of india rubber, the ribs, facing, and an inturned rim or flange 14, which is molded about the margin or periphery of the pad, all being integral. The flange 14 projects inwardly toward the axis of the pad and is provided for the purpose of securing the pad in operative position in the holder. This flange is first sprung over the head 2, the abrasive or other cover is stretched over the pad, as indicated at 16 in Fig. 1, and a cover plate 18, which is slidably mounted on the stem 4, is then brought down upon the flange and the rim of the cover. A nut 20 that is threaded on to the stem above the cover plate 18 is screwed down against the cover plate to clamp the rim 14 and work member 16 firmly against the head 2. This arrangement affords a cushion which is sufficiently firm to support the abrasive cover or

other work member 16 but possesses that degree of resiliency necessary to the successful operation of machines of this character.

In order to assist the workman in separating the cover plate 18 from the head 2 of the holder when the abrasive cover is to be removed or replaced by a new one, a helical spring 22 is mounted loosely upon the stem 4 of the holder between the cover plate 18 and the disk 2. This spring also is of advantage in maintaining the parts of the holder separated during the removal or replacement of the covers.

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

1. In a machine of the character described, the combination with a disk-shaped head having an outer supporting face, of a pad comprising a circular facing of rubber molded to a convex shape, its outer surface affording a continuous support for a work rubbing member of sheet material, said facing being of greater diameter than said head and having integral ribs projecting from its inner surface with their edges bearing against the supporting face of said head, said ribs being formed to intersect each other to provide air pockets extending continuously from the inner surface of said facing to said supporting face, a marginal flange formed about the periphery of said facing and extending inwardly over the edge of said head, and means for clamping said flange against said head.

2. A pad of the character described, comprising a circular facing of rubber affording a continuous support for a work rubbing member of sheet material, said facing

having integral ribs projecting from its inner surface, said ribs intersecting each other to form air pockets extending continuously from the inner surface of said facing to the inner edges of the ribs, and a marginal attaching flange integral with said facing and ribs and extending inwardly from the periphery of said pad toward the axis of the pad.

3. A buffing machine for boots and shoes, having, in combination, a rotary spindle, a head carried thereby, a rubber pad having a continuous convex facing and supporting ribs integral therewith, said ribs being constructed to form in conjunction with said head air pockets extending from the inner surface of said facing to the under surface of said head, an abrasive cover stretched over said pad, and means for clamping said pad and cover to said head.

4. A pad for supporting an abrasive cover comprising a facing of rubber affording a continuous support for a work rubbing member of sheet material, said facing having integral ribs projecting from its inner surface, said ribs intersecting each other to form air pockets extending continuously from the inner surface of said facing to the inner edges of the ribs, and a marginal attaching flange integral with said facing and ribs.

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

ERNEST HOPE.

Witnesses:

JOHN RICHARD LAW,
CLAUD BENNION.