

(No Model.)

A. W. ROGERS.
ABRASIVE COVER FOR BUFFING MACHINES.

No. 523,594.

Patented July 24, 1894.

Fig. 1.

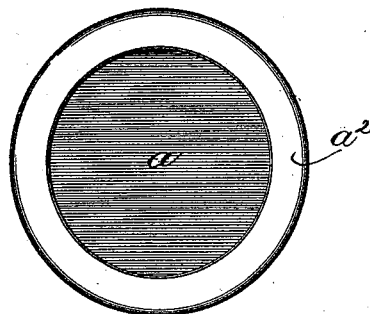


Fig. 5.

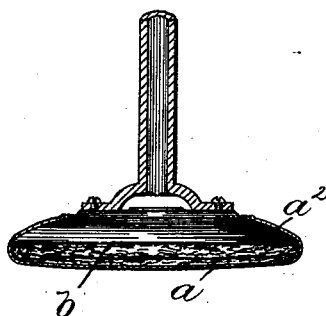


Fig. 2.

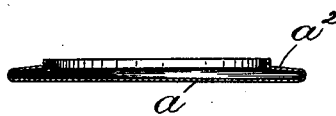


Fig. 6.

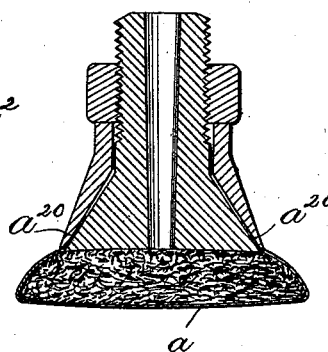


Fig. 3.

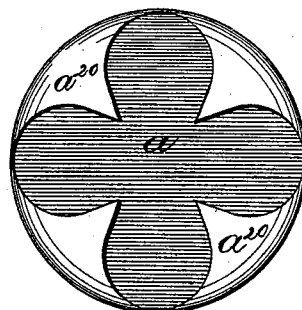
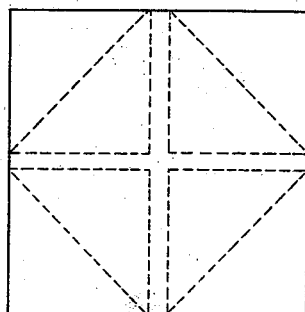


Fig. 4.



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UNITED STATES PATENT OFFICE.

ANDREW W. ROGERS, OF BEVERLY, MASSACHUSETTS, ASSIGNOR TO SIDNEY W. WINSLOW, TRUSTEE, OF SAME PLACE.

ABRASIVE COVER FOR BUFFING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 523,594, dated July 24, 1894.

Application filed April 18, 1893. Serial No. 470,922. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. ROGERS, of Beverly, county of Essex, State of Massachusetts, have invented an Improvement in Abrasive Covers for Buffing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to an abrasive cover for the buffing pad of a boot and shoe buffing machine, such for example as shown in Letters Patent No. 221,647, dated November 11, 1879, to F. Winslow, and C. S. Fifield. In buffing machines of this kind, a yielding or more or less elastic pad or foot is connected with a rotating spindle and is provided with a covering of abrasive material, usually sand paper or emery cloth, which performs the work of abrading the sole of the boot or shoe properly presented to the said rotating pad. The abrasive surface is quickly worn out, and consequently the abrasive coverings have to be frequently renewed, and various plans have been adopted for facilitating the application of the abrasive covering to the pad, such for example as making the cover in the form of a bag or pocket into which the pad or foot of the buffing machine is introduced, the mouth or neck of bag being then shirred and tied about the upper part of the pad, or in some cases the cover, which is itself made in the form of a disk, has an annular piece connected with it which lies above the pad and is clamped to the spool or holder so as to secure both the pad and its cover to said holder. Pad covers of this construction while efficient are very expensive and a less expensive pad cover has been produced by folding back portions of the margin of the piece of abrasive material to lie above the pad for attachment to the pad, or to the spool, spindle, or pad holder by which the pad and its cover are rotated in the machine. This latter construction of the abrasive cover is objectionable for the reason that the fold or crease at the junction of the folded-back or attaching portion with the face or working portion is a straight line thus making the working face polygonal, or at any rate pro-

ducing corners or angles at the periphery of the working face which renders its action upon the material being abraded rough and uneven and also leads to wrinkling or breaking of the abrading surface causing it to wear out much sooner than it otherwise would.

Another plan that has been disclosed for applying the abrasive material to the pad, consists in employing a central attachment to fasten the abrasive disk to the pad, which necessitates the stiffening of the abrasive disk to enable the parts toward the periphery to be carried around with the foot, by the central attachment. This plan also involves the formation of a depression or indentation in the central part of the disk to receive the fastening by which it is attached to the foot, thus removing a portion of the effective abrasive surface at the middle of the disk.

The object of the present invention is to provide a simpler, less expensive, and more efficient abrasive cover for the pad of a buffing machine than those heretofore used, and the cover forming the subject of this invention has a substantially circular working face with portions outside of the working face turned upward and inward, the material of which the abrasive cover is made being molded or formed so that the fold or crease at the junction of the upwardly and inwardly turned portions with the working face is curved to correspond properly with the periphery of the pad. The said inwardly turned portion may be either a complete annulus forming a flange to lie over the top of the pad or it may extend only along portions of the periphery of the pad, but in either case the crease or fold is molded or formed to prevent a curve instead of a straight line at the periphery of the pad thus removing the objection to pad covers having folded attaching portions as heretofore constructed. A curved molded edge stiffens and supports the marginal portion of the working face, and the abrasive cover thus produced although less expensive, is more efficient and durable than those having a separate annular top or attaching portion connected with the periphery of the abrasive disk.

A pad cover embodying this invention may

be used in connection with pads of various kinds and may be connected therewith in any suitable manner.

Figure 1 is a plan view of an abrasive cover for buffing machines embodying this invention; Fig. 2 a transverse section thereof; Fig. 3 a plan view showing a modified construction; Fig. 4 a diagram of a blank from which a cover such as shown in Fig. 3, may be produced; Fig. 5 a sectional view showing a pad cover of the kind represented in Figs. 1 and 2, applied to a pad and Fig. 6 a sectional view showing a pad cover of the kind represented in Fig. 3, applied to a pad and pad holder.

The abrasive pad cover shown in Figs. 1, 2 and 5, is believed to be the most perfect embodiment of the invention, although the form shown in Figs. 3 and 6, has some advantages and can be produced at a lower cost. The pad cover in either case has a substantially circular and even or unindented working face α which is the part that mainly performs the abrading operation and has a part continuous with the said abrading surface which is turned upward and inward as shown at α^2 or is practically folded back over the working face so as to lie above the foot or pad of the buffing machine as shown in Fig. 5, to thus form an overlying attaching portion by which the working portion α is held upon the foot and caused to rotate therewith.

In the construction shown in Figs. 1 and 2, the folded marginal or attaching portion α^2 is in the form of a continuous annulus or intumed flange extending entirely around the pad cover and the material is formed or molded so that the fold or line of junction of the working face with the marginal or attaching portion is curved instead of made up of straight lines as is the case when the material is simply folded without being also molded or formed to a curve at the fold.

I have jointly with S. W. Winslow invented a process which will form the subject of another application for Letters Patent, by which an abrasive pad cover of the kind shown in Figs. 1 and 2, may be made with a molded or curved edge and with a continuous intumed flange α^2 wholly free from crimp or plait, and without fullness which would tend to make the flange grow loose and fail to hold tightly on the pad. A pad cover of this kind may be securely held upon a pad b such as shown in Fig. 5, of an expansive nature, solely by the pressure of the pad against the interior of the pad cover between its working portion and the overlying flange and it is consequently unnecessary with a pad and pad cover of this kind to provide any other fastenings to secure the cover to the pad, although a fastening might if desired be applied without altering the nature of the pad cover.

The pad cover shown in Figs. 3 and 6 is of the same nature as the one shown in Figs. 1 and 2, already described, and differs therefrom only in the form of the inwardly folded

or overlying attaching portion which instead of being a continuous substantially uniform flange is composed of a number of projecting portions α^2 , extending from the curved periphery of the working face toward the middle of the pad cover and affording means for connection of the pad and pad cover with a spool or pad holder of the kind shown in Letters Patent No. 221,647, before referred to, which pad holders are now in general use. A pad cover of the kind shown in Fig. 3, may be made from a square blank such as shown in Fig. 4, of any suitable flexible material coated with emery, sand, or other suitable abrasive material, the well known emery cloth of commerce being well adapted for this purpose. The sheets of emery cloth may be cut into square blanks as shown in Fig. 4, without any waste whatever and the corners of the said blank are turned or folded inward as indicated by the dotted lines on said blank, but instead of being merely folded and thus producing straight creases or folds as shown in Fig. 4, the blank is molded or formed so that the crease or line of junction of the working face with the inwardly turned top or attaching portion is stretched to the curved shape shown in Fig. 3, to correspond with the shape of the pad. By this construction the inwardly turned overlying portion serves to stiffen the working face near its periphery and there are no corners or angles around the periphery of the working face to produce wrinkles and thus cause rapid wearing out and destruction of the abrasive surface.

An abrasive cover formed by molding as herein described may have the periphery of the working surface or line of junction of the working surface with the overlying attaching portion a true circle so that the operation of the buffing machine with such a pad cover would be smoother and more perfect than with abrasive covers such as heretofore produced.

The advantages of the present invention are attained on an abrasive cover having a marginal portion turned or folded inward so as to overlie the top of a portion of the pad and being molded to the proper curved shape at the junction of the working face and overlying portion, even when the said overlying portion does not constitute the sole means for attachment to the pad or pad holder as when for example an additional attaching portion is sewed, cemented, or otherwise secured to the overlying portion of the abrasive cover itself, and an abrasive cover so formed with the working face and overlying portion molded to shape as herein described, but with an additional attaching portion connected with the overlying portion is regarded as within this invention.

I claim—

1. An abrasive pad cover for a buffing machine pad composed of a working face; a portion molded to encircle the periphery of the

pad; and a portion adapted to overlie the top of the pad and support the working face thereon, substantially as described.

2. A circular pad or supporting foot for a buffing machine in combination with an abrasive cover having a working face adapted to lie at the under surface of said pad; a portion molded to encircle the periphery of said pad; and a portion adapted to overlie the top of said pad and support the working face thereon, substantially as described.

3. A circular pad or supporting foot of a buffing machine in combination with an abrasive cover having a working face and a marginal attaching portion containing projections adapted to overlie the said pad and support the working face upon the under surface of the said pad, said cover being molded with a circular crease or fold at the junction of the working face and attaching portion, substantially as described.

4. An abrasive pad cover for a buffing machine pad composed of a piece of abrasive material having a portion constituting the working face; a portion molded to encircle the periphery of the foot; and a portion to

overlie the periphery of the foot and cooperate with a fastening clamp above the foot substantially as described.

5. An abrasive cover for a buffing machine pad made from a polygonal blank of abrasive fabric, molded with its corner portions turned or folded upon a curved crease with relation to the included portion which thus constitutes a circular working face, substantially as described.

6. A circular pad or supporting foot for a buffing machine; in combination with an abrasive pad cover, having an even unindented working face with its margin molded to encompass the periphery of said pad, and a portion overlying the upper portion of the pad and serving to hold the abrasive cover in working position thereon, substantially as described.

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

ANDREW W. ROGERS.

Witnesses:

JOS. P. LIVERMORE,
JAS. J. MALONEY.