No. 667,304. Patented Feb. 5, 1901.

O. F. FEIX.

LEATHER DRESSING CYLINDER.

(Application filed Feb. 24, 1900.)

(No Model.)

Fig. 1.

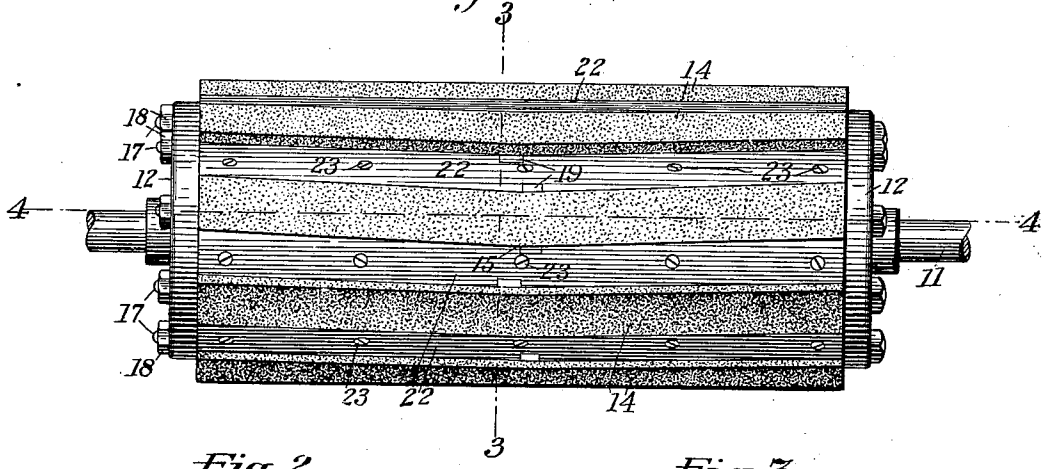


Fig. 2.

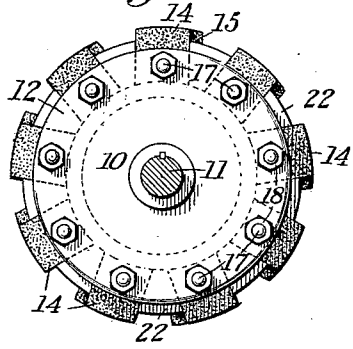


Fig. 3.

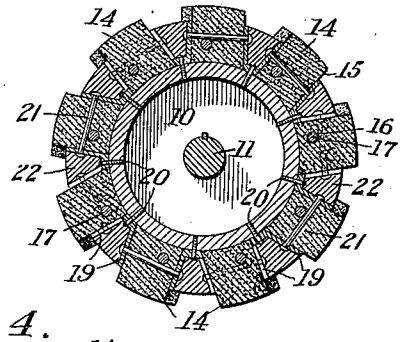


Fig. 4.

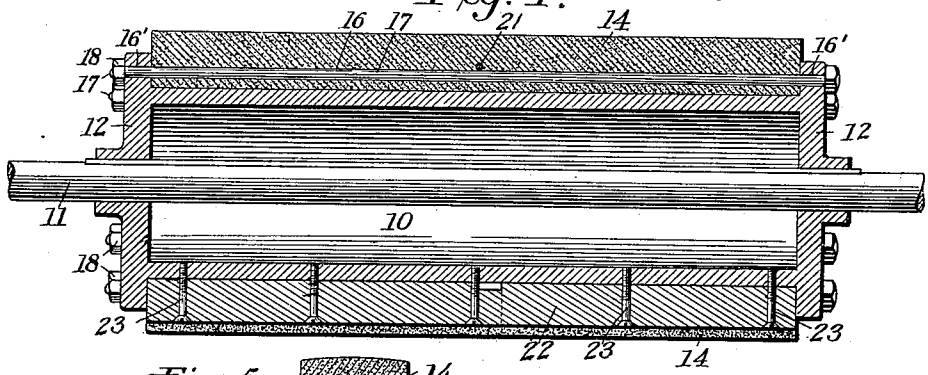
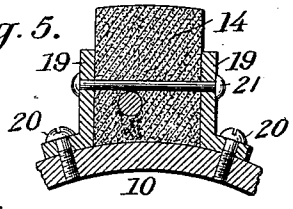


Fig. 5.



Witnesses

B. G. Foster

W. J. Bruckhof

By Otto F. Feix, Inventor

E. G. Siggers

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

OTTO FELIX FEIX, OF GLOVERSVILLE, NEW YORK, ASSIGNOR OF ONE-HALF TO GODFREY GOTTSCHALK, OF SAME PLACE.

LEATHER-DRESSING CYLINDER.

SPECIFICATION forming part of Letters Patent No. 667,304, dated February 5, 1901.

Application filed February 24, 1900. Serial No. 6,363. (No model.)

To all whom it may concern:

Be it known that I, OTTO FELIX FEIX, a citizen of the United States, residing at Gloversville, in the county of Fulton and State of New York, have invented a new and useful Abrasive Cylinder for Leather-Dressing Machines, of which the following is a specification.

My invention relates to improvements in leather-dressing machines, particularly a machine of the class disclosed by United States Letters Patent No. 636,970, issued to me on November 14, 1899, in which an abrasive cylinder is used in connection with a yieldable pressure-roll.

One object of the invention is to provide an abrasive cylinder of an improved type especially designed to dress skins or leather in a manner to allow straightening of the skin in lateral directions to obviate wrinkling thereof and also minimize heating of the leather due to the friction of a rapidly-rotating dressing-cylinder therewith.

A further object is to provide for the expeditious renewal of the abrasive material when worn and to secure firm clamping of such material to the cylinder in a manner to wholly overcome liability of the parts working loose.

Further objects and advantages of the invention will appear from the subjoined description, and the novelty in the construction and arrangement of parts will be defined by the claims.

In the drawings, Figure 1 is a plan view of an abrasive cylinder for leather-dressing machines constructed in accordance with my invention. Fig. 2 is an end elevation thereof. Fig. 3 is a transverse section taken in the plane of the dotted line 3 3 on Fig. 1. Fig. 4 is a longitudinal sectional view through the cylinder and one of the abrasive slabs thereon, showing the means for securing the slab firmly in place, the plane of the section being indicated by the dotted line 4 4 on Fig. 1. Fig. 5 is an enlarged detail sectional view through the securing means for the abrasive slab.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

The core 10 of my improved abrasive cylinder is in the form of a hollow drum, provided at its ends with heads through which pass the longitudinal shaft 11, the latter serving as the means for revolubly mounting the abrasive cylinder in the machine. This hollow core is provided at its ends with the annular rims or flanges 12, which protrude beyond the surface of the core on which the abrasive slabs 14 are seated. A series of these abrasive slabs are provided in the construction of the improved abrasive cylinder, and the slabs are arranged longitudinally of the cylinder and in spaced relation one to the other. Each abrasive slab is of angular formation, so as to provide a crest or angle 15 at the middle thereof, thereby making the two portions of the slab lie in divergent relation to each other and at angles to the longitudinal axis of the cylinder. These angular slabs are seated on the core in corresponding positions, so that the inclined portions of the slabs will occupy parallel relations and the crests or angles 15 of the series of slabs will be in the same circumferential plane. Each slab is provided with a longitudinal passage or opening 15, and the slab is arranged between the rims or flanges 12 for its longitudinal passage 16 to coincide with openings 16′ in the rims. The fastening bolts or rods 17 extend through the rims and the abrasive slabs for the threaded ends of said bolts to extend beyond the cylinder, and the nuts 18 are screwed on the said bolts, whereby the latter serve to hold the slabs on the drum-like core.

To contribute to the security of fastening of the slabs and to reinforce the cylinder as an entirety, I have provided means disposed centrally on the cylinder to engage with the abrasive slabs and secure the latter at points intermediate of their length. These means consist of a pair of clamping-plates 19 for each abrasive slab, the plates of each pair being seated on the core and on opposite sides of the slab at the angle or bend thereof. The plates are fastened to the core by screws 20, and they are provided with radially-disposed sections which embrace the sides of the slab, the offstanding sections of the plate lying within the working face of the slab, where-

by the bolts 21 may be passed through the clamping-plate and transversely through the slab at the middle portion thereof, so as to assist in holding the central portion of the slab against radial movement under the centrifugal action of the cylinder, which is designed to be rotated at a comparatively high speed.

The abrasive stone may consist of any suitable material—such, for example, as emery or corundum—and it is to be observed that the series of abrasive slabs are spaced at intervals circumferentially around the cylinder. In these intervals are arranged the filler blocks or strips 22, which may be of wood or any other suitable material. These filler blocks or strips engage laterally with the abrasive slabs, and they extend throughout the length of the core to engage with the rims or flanges at opposite ends of the cylinder. The filler blocks or strips are coextensive in length to the slabs, and they are secured to the core by the transverse screws 23.

One of the important features of the invention consists in the spacing of the abrasive slabs and the arrangement of the intermediate filler blocks or strips within the plane of the working faces of said abrasive slabs. This arrangement of the parts provides air-spaces in alternation with the working faces of the abrasive slabs. It is to be understood that the cylinder is driven or rotated at high speed, and practical experience with a cylinder having a continuous abrasive surface has shown that the skin or leather under treatment is liable to be heated and the quality of the leather deteriorated, owing to the frictional contact of an abrasive surface on a rapidly-rotating cylinder with the lever. By spacing the abrasive slabs so as to form the intermediate air-spaces the leather is given an opportunity to cool in the interval between the contact of the spaced abrasive surfaces therewith, whereby the leather may be treated without injury thereto.

Another important advantage secured by the abrasive cylinder of my invention is due to the angular formation of the abrasive slabs. The hide or skin is fed to the cylinder at the angle or crest of the slabs lying at the central portion of the cylinder, and the divergent faces of these slabs have a tendency to deflect the skin or hide equally in opposite directions toward the flanks or edges of the skin, thus making ample provision for the straightening out of any wrinkles which may form in the skin or hide and minimizing any tendency to cut or damage the skin. I have also found that the spacing of the abrasive slabs to form the intermediate air-spaces and the rapid rotation of the abrasive cylinder has a tendency to create a circulation of air lengthwise of the cylinder, which assists in cooling off the skin when heated by the frictional engagement of the abrasive slabs with the skin. This adaptation of the cylinder enables it to be run at an increased rate of speed as compared with abrasive cylinders of ordinary leather-dressing machines, and the cylinder is thus adapted to produce a velvet-like face or nap on any kind of a skin, such mode of treatment being especially useful in finishing glove-leather of the kind known to the art as "undressed kid."

It is to be observed that the cylinder of my invention is built up in a manner to secure the abrasive slabs so solidly to the core that the tendency to fly apart under the centrifugal action of high speed is minimized; but at the same time provision is made for ready removal of the abrasive slabs when they become worn. The wooden strips or blocks may be removed and planed down when the abrasive blocks become worn to such an extent that the working faces thereof are merely flush with the filler strips or blocks; but it is evident that the abrasive slabs and the filler-strips may be replaced at any time by fresh slabs and strips.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts, while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described the invention, what I claim is—

1. An abrasive cylinder for leather-dressing machines comprising a core, a series of abrasive slabs and spacing devices seated against the face of the core in alternating arrangement, each of said slabs and spacing devices being provided with individual retaining means.

2. An abrasive cylinder for leather-dressing machines comprising a core, a series of abrasive slabs arranged longitudinally of, and seated against the core, and bolts or rods passing through the slabs and fastened to the core, as set forth.

3. An abrasive cylinder for leather-dressing machines comprising a core, a series of abrasive slabs seated against, and arranged longitudinally on, said core, central clamps secured to the core and to the abrasive slabs, and bolts which fasten the end portions of the slabs to the core, as set forth.

4. An abrasive cylinder for leather-dressing machines comprising a core, a series of angular abrasive slabs secured on the core in spaced relation one to the other, and filler-strips secured to the core in the intervals between the slabs and having their outer faces terminating within the working faces of said slabs, as set forth.

5. An abrasive cylinder for leather-dressing machines comprising a core provided with the rims or flanges, a series of angular abra-

sive slabs seated longitudinally on the core between the rims or flanges thereof, the bolts or rods passing through the slabs and secured to the rims or flanges, and the filler-strips secured to the core in the intervals between the abrasive slabs and lying within the working faces of the slabs, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

OTTO FELIX FEIX.

Witnesses:

RICHARD KING JACKSON,

JOHN K. BELDING.