

No. 694,431.

Patented Mar. 4, 1902.

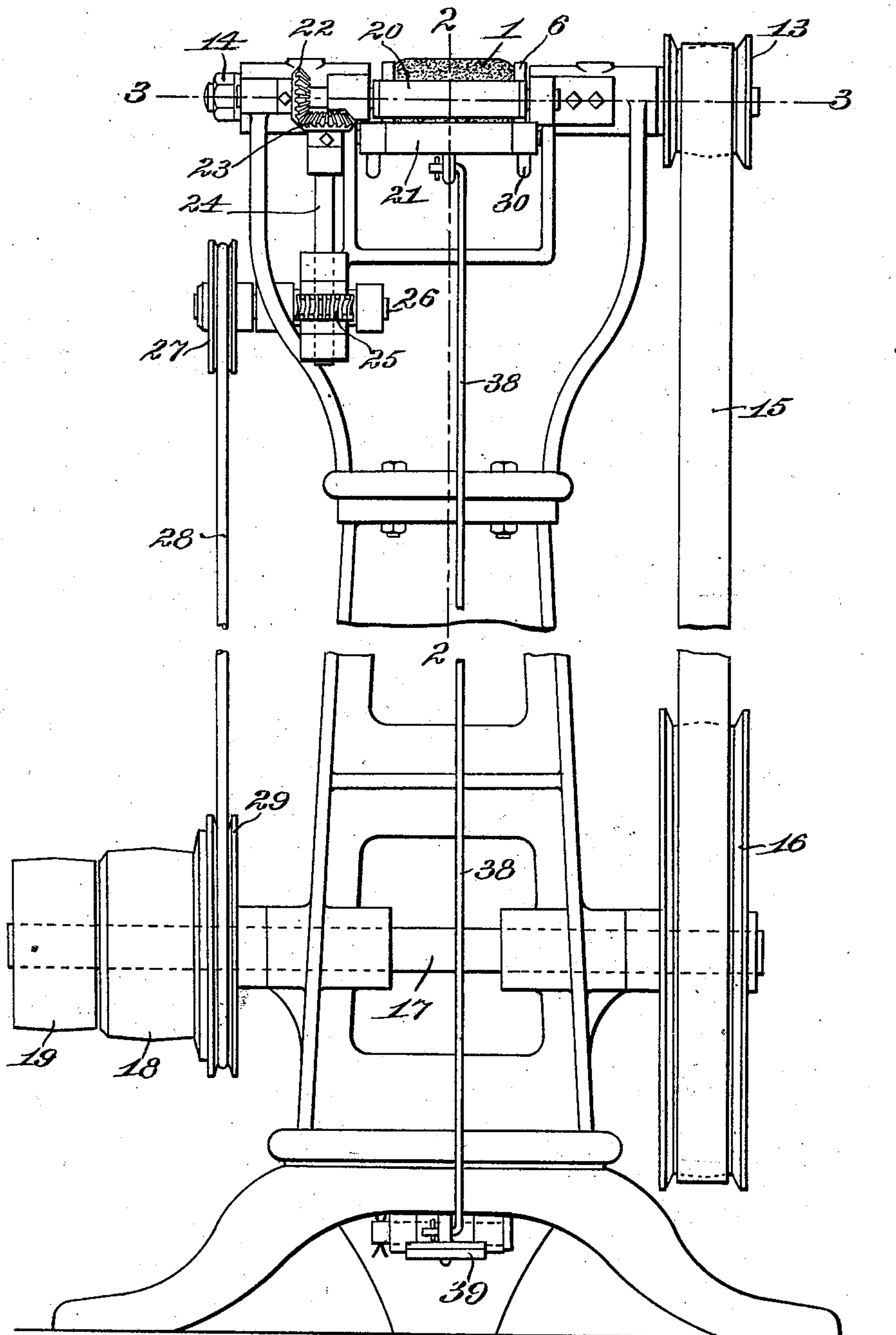
J. R. SCOTT.

MACHINE FOR BUFFING ARTICLES OF LEATHER.

(Application filed Jan. 14, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

Edward S. Day  
Horace Van Couver

Fig. 1.

INVENTOR

Jacob R. Scott  
by his Attorney  
Benjamin Phillips

**No. 694,431.**

**Patented Mar. 4, 1902.**

**J. R. SCOTT.**

## MACHINE FOR BUFFING ARTICLES OF LEATHER.

(Application filed Jan. 14, 1901.)

(No Model.)

**3 Sheets—Sheet 2.**

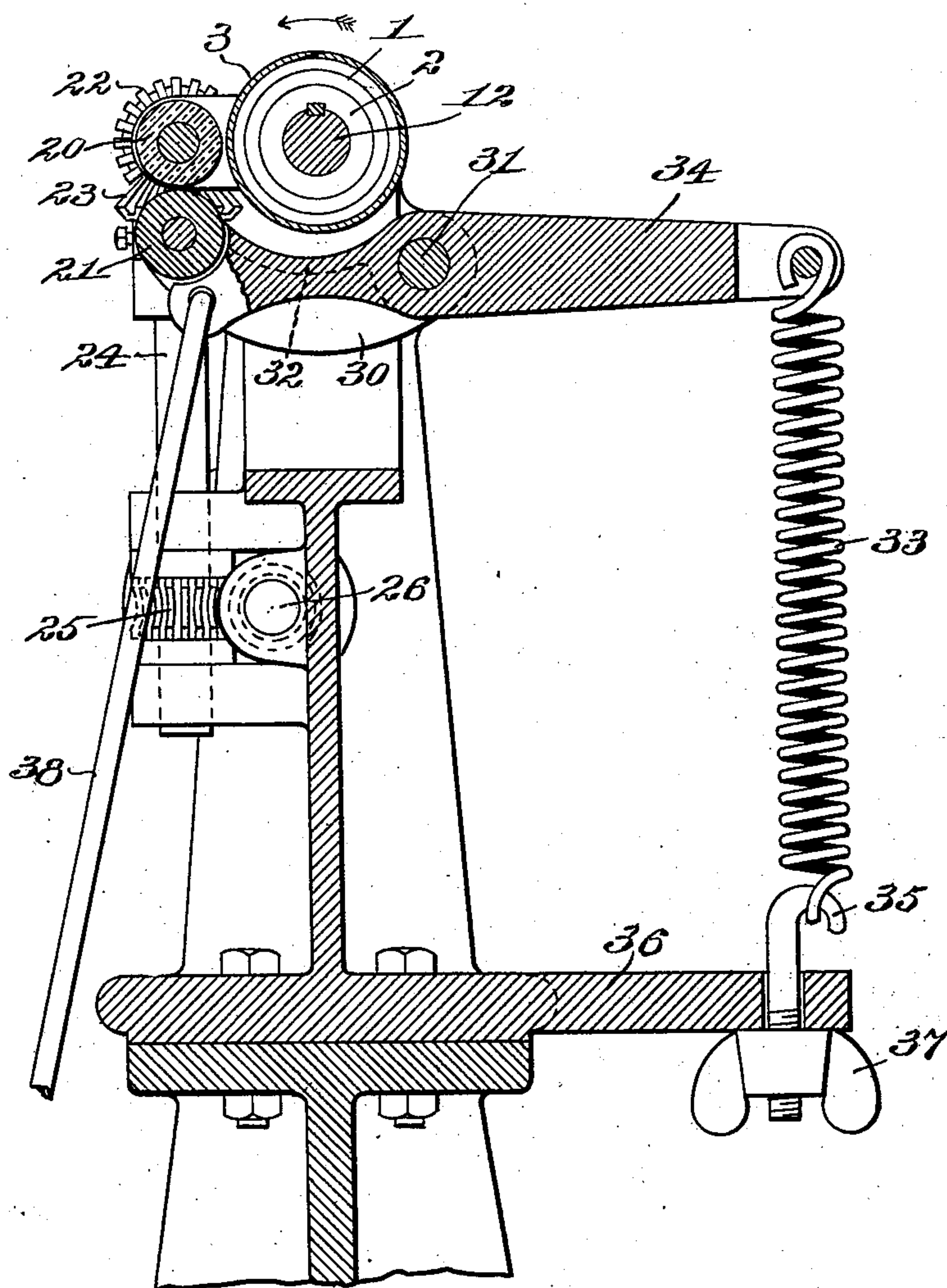


Fig. 2.

WITNESSES

Edward S. Day  
Horace Van Emmer

INVENTOR

Jacob R. Scott  
by his Attorney  
Benjamin Phillips

No. 694,431.

Patented Mar. 4, 1902.

J. R. SCOTT.

MACHINE FOR BUFFING ARTICLES OF LEATHER.

(Application filed Jan. 14, 1901.)

(No Model.)

3 Sheets—Sheet 3.

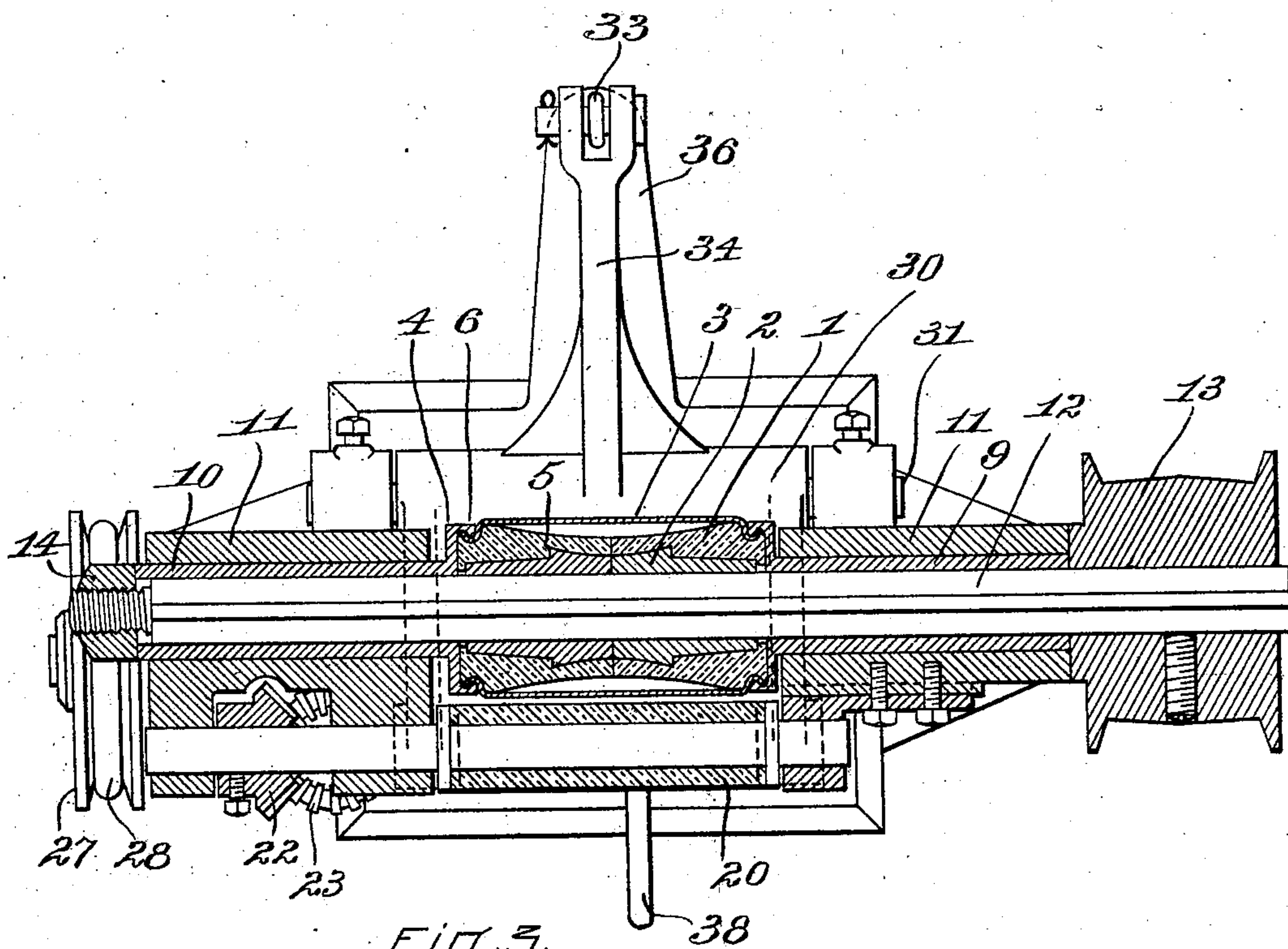


Fig. 3.

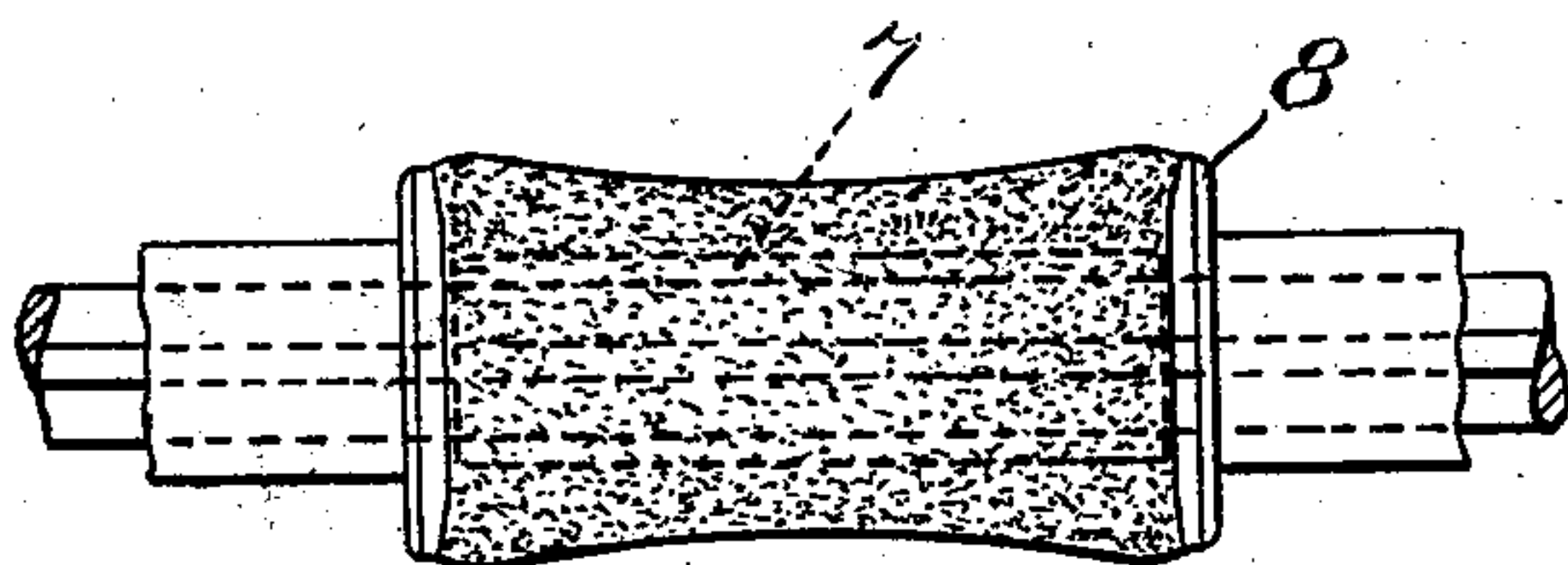
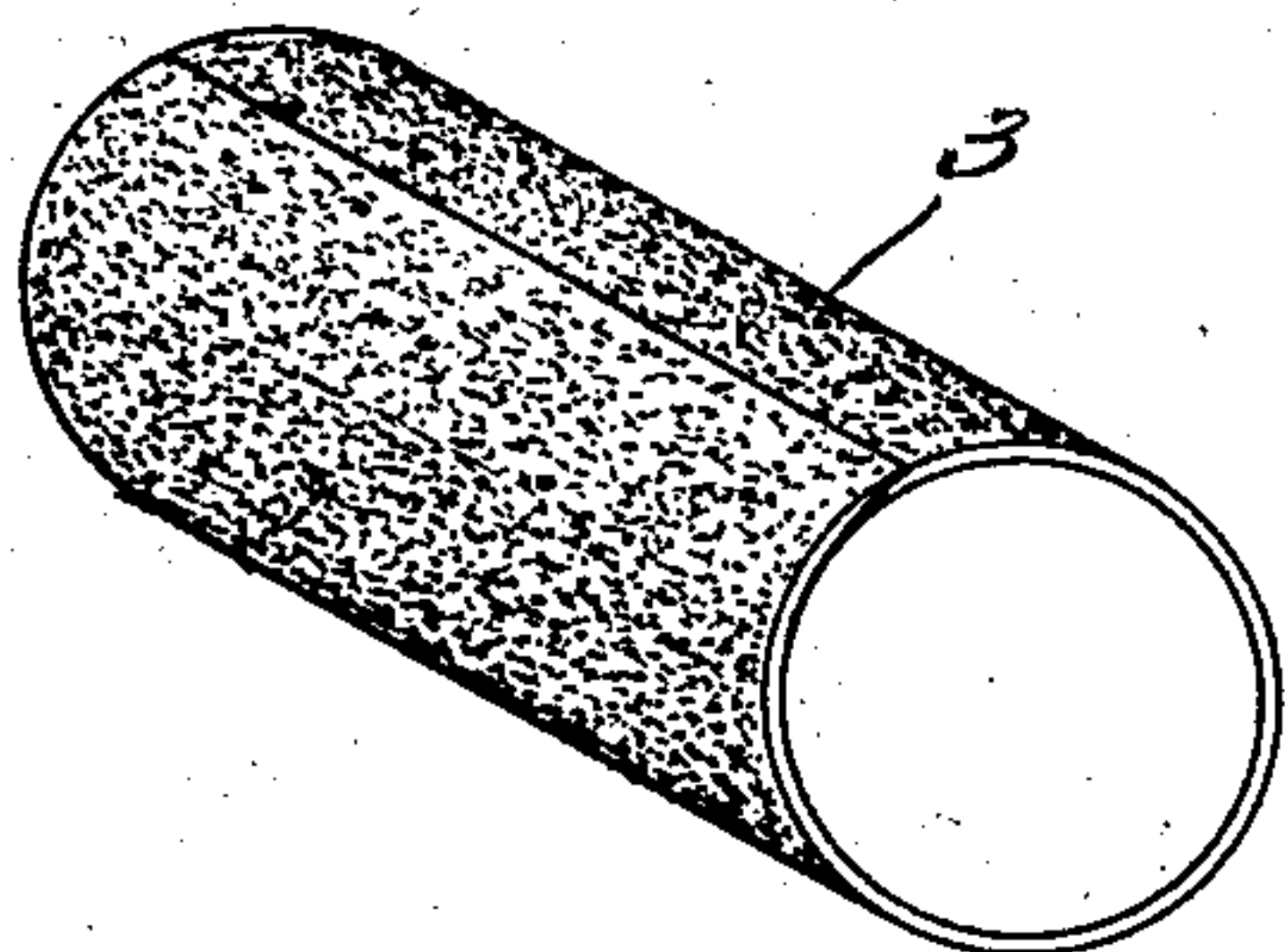


Fig. 4.

Fig. 5.



WITNESSES

Edward S. Day  
Horace Van Euren

INVENTOR

Jacob R. Scott  
by his Attorney  
Benjamin Phillips



# UNITED STATES PATENT OFFICE.

JACOB R. SCOTT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## MACHINE FOR BUFFING ARTICLES OF LEATHER.

SPECIFICATION forming part of Letters Patent No. 694,431, dated March 4, 1902.

Application filed January 14, 1901. Serial No. 43,193. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB R. SCOTT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Buffing Articles of Leather; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to machines for buffing articles of leather.

The object of my invention is to provide a simple and efficient machine for buffing unfinished boot and shoe counters, stiffeners, and similar articles of leather.

With this object in view my invention consists in the devices and combinations of devices hereinafter described and claimed.

A preferred form of my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view in front elevation of a machine for buffing unfinished counters, stiffeners, and similar articles embodying the same. Fig. 2 is a central longitudinal sectional view on the line 2 2 of the upper portion of the machine shown in Fig. 1. Fig. 3 is a sectional plan view on the line 3 3 of Fig. 1. Fig. 4 is a view of a modified form of buffing-roll, and Fig. 5 is an isometric view of the tubular abrasive covering.

The machine shown in the drawings is designed especially for buffing the rough and irregular surface of unfinished boot or shoe counters or stiffeners. In manufacturing boot and shoe counters from thin stock a portion of the surface of the counter is not acted upon by the skiving-knife, and where the stock is of an inferior grade the skived surface is rough and irregular. These counters are therefore in an unfinished state, and in order to finish the counters to adapt them for use it is necessary to subject the rough and irregular surface to the action of a buffing roll or pad. The machine shown in the drawings provides a simple and efficient means for performing this work.

Referring to the drawings, in which like

characters of reference indicate like parts, and particularly to Fig. 3, 1 represents a buffing-roll composed of flexible material, such as rubber, and provided with a rigid metallic core 2, which extends nearly to the ends of the roll. The covering 3, of abrasive material, is shown separately at Fig. 5 and consists of a sheet bent into tubular form with its edges overlapped and permanently secured together by adhesive. In order to avoid a ridge at the overlapped edge, the edges are beveled off, as shown. This tube of abrasive material is slipped over the roll 1 and held thereon by bulging the roll to grip the inner surface of the tube. The roll is preferably bulged at its ends, whereby its surface is made concave longitudinally of the roll, and the covering of abrasive material bridges the concave surface, as shown. The abrasive covering is thus yieldingly supported and can conform to the curved or irregular surface of an unfinished counter or similar article brought into contact therewith. By bridging the concave surface of the roll the covering of abrasive material confines a body of air between itself and the roll, which forms a pneumatic cushion for the covering. To allow the tubular covering to be more readily slipped over the roll, the roll and its rigid core is preferably made in two sections, as shown in Fig. 3, whereby the covering can be slipped over one section and the other section inserted into the open end of the tube.

The means for bulging the roll at its ends to grip the tubular covering consist of clamping-disks 4 at each end of the roll, which are arranged to bear against the ends of the roll and bulge it into the form shown in Fig. 3. The roll may be cylindrical in form or the surface may be concave longitudinally thereof before the roll is bulged. The flexible material of the roll is preferably rubber, and in order to prevent the roll bulging except at the ends the core 2, upon which the rubber is molded, is provided with a shoulder 5. The clamping-disks 4 may be provided with overhanging flanges 6, between which and the roll the covering 3 is gripped, or these flanges may be omitted and the bulging of the roll alone depended upon for holding the covering in



position. In Fig. 4 I have shown a slightly-modified form of roll in which the rigid core consists of a cylindrical sleeve 7, and the means for bulging the roll consist of beveled-faced disks 8, which do not extend beyond the periphery of the roll.

Referring to Fig. 3, it will be seen that the clamping-disks 4 are carried by rotatable sleeves 9 and 10, mounted in bearings in the upper portion of the machine-frame 11. Through these sleeves and through the buffing-roll extends a driving-shaft 12, having a splined connection with the sleeves and with the core of the roll, so that the sleeves and roll rotate with the shaft. At one end the shaft 12 is provided with a driving-pulley 13, the hub of which bears against the end of the sleeve 9, and at the other end the shaft 12 is provided with a nut 14, screwed thereon, which bears against the end of the sleeve 10 and serves as a means for forcing the sleeve 10 endwise of the shaft. By this construction it will be seen that the thrust of the nut 14 is taken by the hub of the pulley 13 and that by screwing up the nut the roll will be compressed between the clamping-disks 4. By unscrewing the nut 14 the shaft 12 can be removed, leaving the sleeves 9 and 10 in position in their bearings and allowing the buffing-roll to be removed. By arranging the sleeves 9 and 10 to remain in their bearings when the shaft 12 is removed the accumulation of dust or dirt or other foreign substances in the bearing is prevented. The shaft 12, and through it the buffing-roll, is given a rapid movement of rotation by means of a belt 15, passing over the driving-pulley 13 and over a driving-pulley 16, secured to the main driving-shaft 17, journaled in the lower portion of the frame of the machine. The shaft 17 is provided with suitable fast and loose pulleys 18 and 19, by means of which it is driven from any suitable source.

Means are provided for feeding a counter-blank and holding its unfinished surface in contact with the roll. This means consists of a pair of feed-rolls arranged to feed the blank in a plane passing through the buffing-roll, and thereby hold the blank in contact with the buffing-roll unsupported at the point of contact. Referring to Fig. 2, 20 and 21 designate the feed-rolls, the upper roll 20 being mounted to rotate in fixed bearings in the upper portion of the machine-frame at one side of the buffing-roll. This roll is provided with a yielding surface, preferably of rubber, which yields to accommodate itself to the curved surface of the counter and is positively driven from the driving-shaft 17 by the following mechanism: To the shaft of the roll 20 is secured a beveled gear 22, which meshes with a similar gear 23 at the upper end of a short vertical shaft 24, journaled in bearings in the upper portion of the machine-frame. At its lower end the shaft 24 is provided with a worm-gear 25, with which engages a worm upon a short horizontal shaft 26. The shaft

26 has secured thereto a driving-pulley 27, over which runs a belt 28, said belt also passing over a pulley 29, secured to the shaft 17. By means of this construction a relatively slow movement of rotation is imparted to the feed-roll 20. The roll 21 is preferably of rigid material and is journaled to rotate freely in a frame movably mounted in proximity to the buffing-roll. As shown, this frame consists of a yoke 30, pivoted at 31 beneath the buffing-roll and at the side opposite the feed-rolls 20 and 21. This yoke is provided with a horizontal web 32, which extends beneath the buffing-roll and coöperates with the feed-rolls in holding the blank in contact with the buffing-roll. The roll 21 is held in contact with the roll 20 by means of a coiled spring 33, connecting the rearwardly-extending arm 34 of the yoke 30 with a hook 35, adjustably secured on arm 36 of the machine-frame by means of a wing-nut 37. As a means for moving the yoke 30 to separate the rolls 20 and 21 to allow the insertion of a counter-blank between the rolls a rod 38 is provided, which connects the frame 30 with a treadle 39 at the base of the machine.

The operation of the machine above described is as follows: The feed-rolls 20 and 21 are arranged, as shown, to feed a counter-blank in a plane which passes through the buffing-roll and in a direction away from the roll. The parts being in the position shown in Fig. 2 the treadle 39 is depressed, thereby swinging the yoke 30 upon its pivot 31 and separating the rollers 20 and 21. A counter-blank is now inserted between the rollers, with its unfinished surface uppermost and the treadle released. The blank is now gripped between the rolls 20 and 21, and its inner end is supported by the web 32 or by the portion of the yoke 30 surrounding the pivot 31. As the rolls 20 and 21 rotate the blank is fed to the left, as viewed in Fig. 2, and held in contact with the buffing-roll, the blank being unsupported at the point of contact of the roll, as will be evident. The blank is forced against the roll with sufficient force to embed itself in the yielding surface of the roll and being unsupported at the point of contact can move toward and from the roll to compensate for the varying thickness of the blank.

It will be understood that the feeding mechanism might be arranged to feed the blank in either direction to the buffing-roll and that other means than those shown and described might be employed for feeding the blank and holding it in contact with the roll. It will also be understood that while I prefer to use the form of roll illustrated in the drawings and above described my invention in its broader aspects is not limited thereto, but contemplates the use of any known or suitable form of roll.

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

1. A machine for buffing articles of leather,



having, in combination, a roll provided with a covering of abrasive material yieldingly supported to conform to the surface of the article, and means for feeding the article and holding it in contact with the roll, substantially as described.

2. A machine for buffing articles of leather, having, in combination, a buffing-roll, means for feeding the article and for holding it in contact with the roll unsupported at the point of contact, substantially as described.

3. A machine for buffing articles of leather, having, in combination, a buffing-roll, feeding-rolls arranged to feed the article in a plane passing through the roll and to hold the article in contact with the roll, substantially as described.

4. A machine for buffing articles of leather, having, in combination, a buffing-roll, feeding-rolls arranged to hold the article in contact with the buffing-roll, and means for separating the feeding-rolls, substantially as described.

5. A machine for buffing articles of leather, having, in combination, a buffing-roll, a mov-

able frame mounted in proximity to the roll, a feed-roll carried by said frame, a cooperating feed-roll, said feed-rolls and frame acting to hold the article in contact with the buffing-roll unsupported at the point of contact, and means for moving the frame to separate the feed-rolls, substantially as described.

6. A machine for buffing articles of leather, having, in combination, a buffing-roll provided with a covering of abrasive material yieldingly supported to conform to the surface of the article, a frame movably mounted in proximity to the roll, a feed-roll carried by said frame, a cooperating feed-roll of flexible material, said feed-rolls and frame acting to hold the article in contact with the buffing-roll unsupported at the point of contact, and means for moving the frame to separate the feed-rolls, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB R. SCOTT.

Witnesses:

FRED O. FISH,

ALFRED H. HILDRETH.