(No Model.)

C. KECK.

BURNISHING MACHINE.

No. 454,480. Patented June 23, 1891.

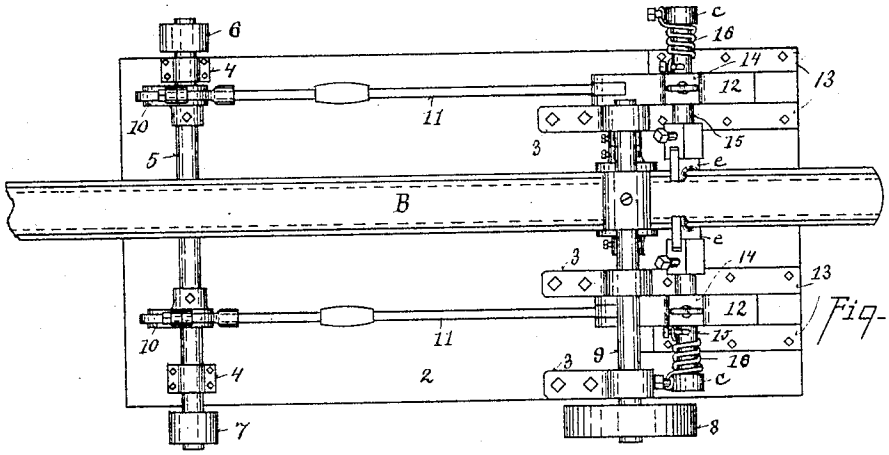

Fig. 1.

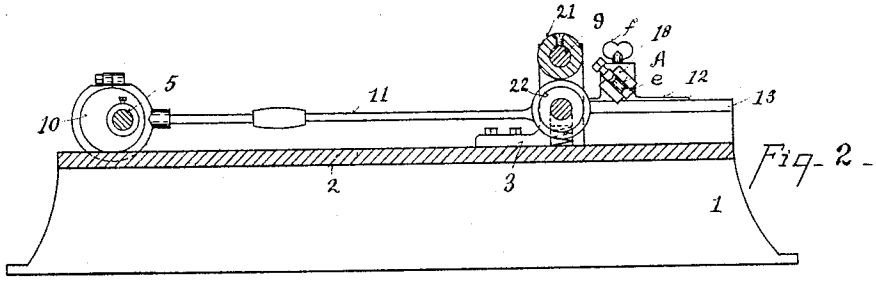

Fig. 2.

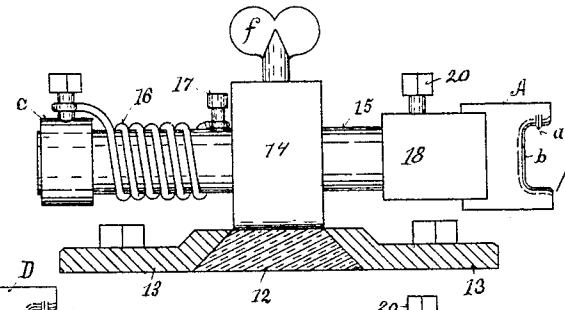

Fig. 3.

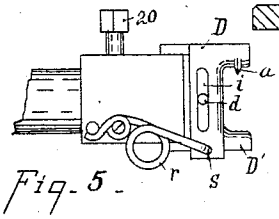

Fig. 5.

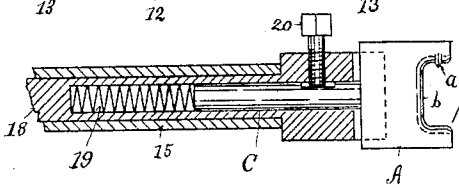

Fig. 4.

Witnesses
C. Miles
Geo. Ashton

Inventor
Christian Keck
By Fisher Attorneys Wood & Byrd

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

UNITED STATES PATENT OFFICE.

CHRISTIAN KECK, OF CINCINNATI, OHIO.

BURNISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,480, dated June 23, 1891.

Application filed September 26, 1890. Serial No. 366,227. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN KECK, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Burnishing and Creasing Machines, of which the following is a specification.

One of the objects of my invention is to crease or configure straps, such as harness-straps, saddle-straps, traces, &c.

Another object of my invention is to simultaneously burnish the edges of the straps while creasing them, if desired, all of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top plan view of my improvement. Fig. 2 is a central vertical section of the same. Fig. 3 is an enlarged side elevation of one of the creasing-jaws. Fig. 4 is a sectional elevation of the creasing-jaw and shank. Fig. 5 is a modification of Fig. 4.

1 represents the base of the machine; 2, the table upon which the working parts are mounted.

3 represents journal-brackets for the shafts of the feed-roll 21 and strap-supporting roll 22, hereinafter referred to.

4 are the bearings for the driving-shaft 5. 6 represents the driving-pulley on one end of shaft 5.

7 represents a pulley upon the opposite side of the machine for transmitting power to the pulley 8, which is mounted on shaft 9.

10 represents eccentrics on shaft 5.

11 represents connecting-rods. These connecting-rods are hinged to slides 12, which reciprocate between ways 13. 14 represents journal-boxes attached to said slides, in which are mounted shafts 15. Said shafts are each provided with a creasing or burnishing jaw A.

a represents a creasing-rib, and when it is desired to burnish the edges of the strap the inner face *b* is made smooth for that purpose. The jaws A A are set opposite each other and are adapted to engage the strap B, as will be hereinafter explained.

The shafts 15 are hollow and serve as bearings for shafts 18, which are designed to have a rotary motion, being each normally held in one position by means of the retractile spring 16, one end of which is secured to the shaft by screw 17, passing through a slot in the shaft 15, and the other to the collar *c*. The shaft 15 and collar *c* are held rigidly in position by set-screw *f*. The spring 16 is adjusted so as to set the jaw A at an angle to the vertical plane, as shown at *e*, Figs. 1 and 2. Said burnishing-jaws A A are opposite each other and engage the strap B. The tensile force of the springs 16 tends to hold the jaws at an angle of inclination, so that the upper and lower portion of the projection of the jaw will engage upon each side of the strap B. The friction of the strap tends to turn the jaw to bring its forks to a vertical plane and allows a thicker strap to pass through and still exert a force upon each side of the strap for creasing. In order to adapt these jaws automatically to wider or narrower straps, the space between them to engage different widths of straps, the burnishing-jaw A is mounted upon a spindle C. This spindle enters a socket in the shaft 18 and bears against a retractile spring 19. As a wider strap is introduced between the jaws A A the spindle C compresses the spring 19 to make the requisite space for such strap to pass through, the tension of the spring being sufficient to produce the requisite compression upon the straps.

20 represents a set-screw which prevents rotation and limits the longitudinal motion of spindle C. It will be observed that the eccentric 10 on the shaft 5 drives the connecting-rod 11 and reciprocates the slides 12, so that the burnishing-jaws A rub the surface of the strap with which they come in contact, thereby making a smooth finish.

In Fig. 5 I have shown a modification which dispenses with the use of the oscillating motion of the shaft 15, and is constructed as follows: D D′ represent a duplex burnisher-jaw. *d* represents a pin secured to the jaw-section D′, and the jaw-section D is provided with slot *i*. *r* represents a retractile spring, the forward arm of which engages in the pin *s*, so as to bring the prongs of the jaw-sections D D′ close together to engage a thin strap. If a thicker strap is employed, the spring *r* will yield and allow the jaw-sections D D′ to open and receive a wider strap. This spring should be of sufficient force to impart the requisite pressure for the creasing or burnishing opera-

tion, the inner face of the shank of the jaw-section D being smooth and slightly rounded for burnishing the edges of the strap.

My device may be used without a feeding-support and the strap put through between the jaws; but I prefer a feeding device which consists of the feeding-roll 21, mounted upon the shaft 9, which is driven by means of the pulley 8, and a flanged idler-roll 22 or other support is placed upon the under side of the strap and the strap B fed forward by the movement of the feeding-roll 21. Any well-known form or construction of feeding-roll may be employed.

Mode of operation: The proper sized and shaped tools are placed in position and adjusted on the shaft 18. The strap is fed through, preferably, by the feeding-roll and passed between the burnishing-jaws A. These burnishing-jaws are reciprocated back and forth and rub the straps after the manner of finishing soles of boots and shoes and polish or smooth the parts, at the same time creasing or beading, according to the design or configuration placed in the burnishing-tools. I have shown only one beading-rib *a;* but various configurations of beading or creasing may be employed at pleasure. It will be seen that the burnishing-jaws A may be readily changed by slackening the set-screws 20. By having the burnishing-jaws A yield either vertically or by rotary movement the same set of tools are employed for thick or thin straps with nearly equal facility, thus avoiding the necessity of adjusting the jaws as different kinds of work are applied to it. This is a great advantage, as many straps are constructed thicker at one end than at the other.

In practice I do not move the slides 12, carrying the burnishing-jaws, more than one-half an inch. It is learned from experience that in order to properly burnish or finish the leather the jaws must reciprocate, in order to rub the grain down and make a fine finish. This motion is equally effective in forming creases as well as in burnishing, and I simultaneously accomplish both results in my device.

Having described my invention, what I claim is—

1. A strap-burnishing machine consisting of means for supporting a strap, the reciprocating jaws arranged to engage the opposite edges and sides of the strap, and mechanism for operating the jaws, substantially as described.

2. A strap-creasing machine consisting of the axially-turning and laterally-yielding reciprocating jaws arranged to engage opposite edges of the strap, and mechanism for reciprocating the jaws, substantially as described.

3. A strap-creasing machine consisting of the opposite independent shafts, the laterally-yielding jaws having spindles, springs acting on the spindles to press the jaws toward each other, and means for reciprocating the jaws with their spindles and shafts, substantially as described.

4. A strap creasing and burnishing machine consisting of the laterally-yielding jaws mounted on suitable reciprocating supports and each having a creasing-protuberance and a smooth burnishing-surface, and means for reciprocating said supports with the laterally-yielding jaws, substantially as described.

5. In a creasing and burnishing machine, the jaws A, stepped into the hollow shafts 18 and longitudinally movable upon coiled springs 19, in combination with the rotary hollow shafts 15 and the springs 16, whereby the jaws will yield to straps of different widths and thicknesses, substantially as described.

In testimony whereof I have hereunto set my hand.

CHRISTIAN KECK.

Witnesses:
T. SIMMONS,
C. W. MILES.