No. 675,732. Patented June 4, 1901.

G. A. HENRY.

LEATHER STAKING MACHINE.

(Application filed Jan. 22, 1901.)

(No Model.)

Fig. 1.

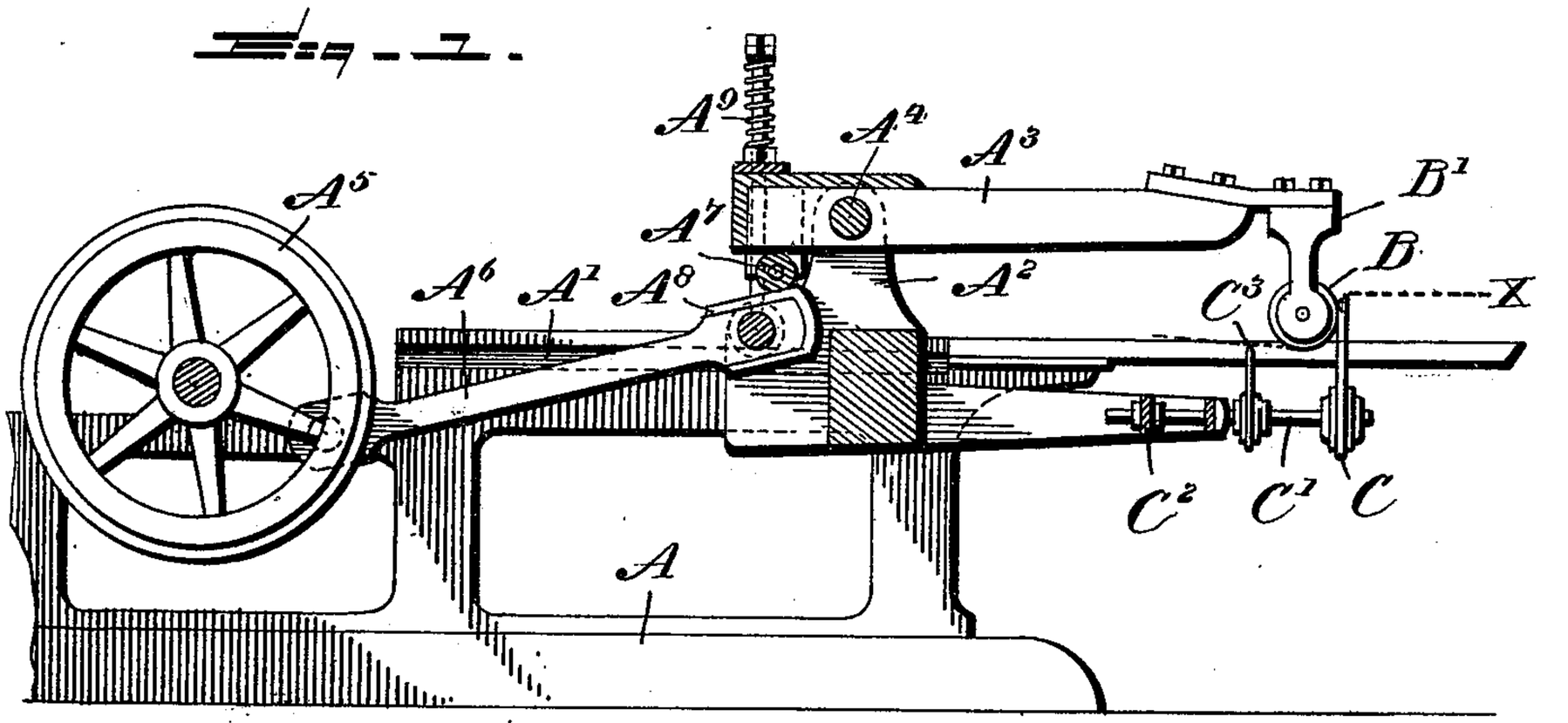


Fig. 2.

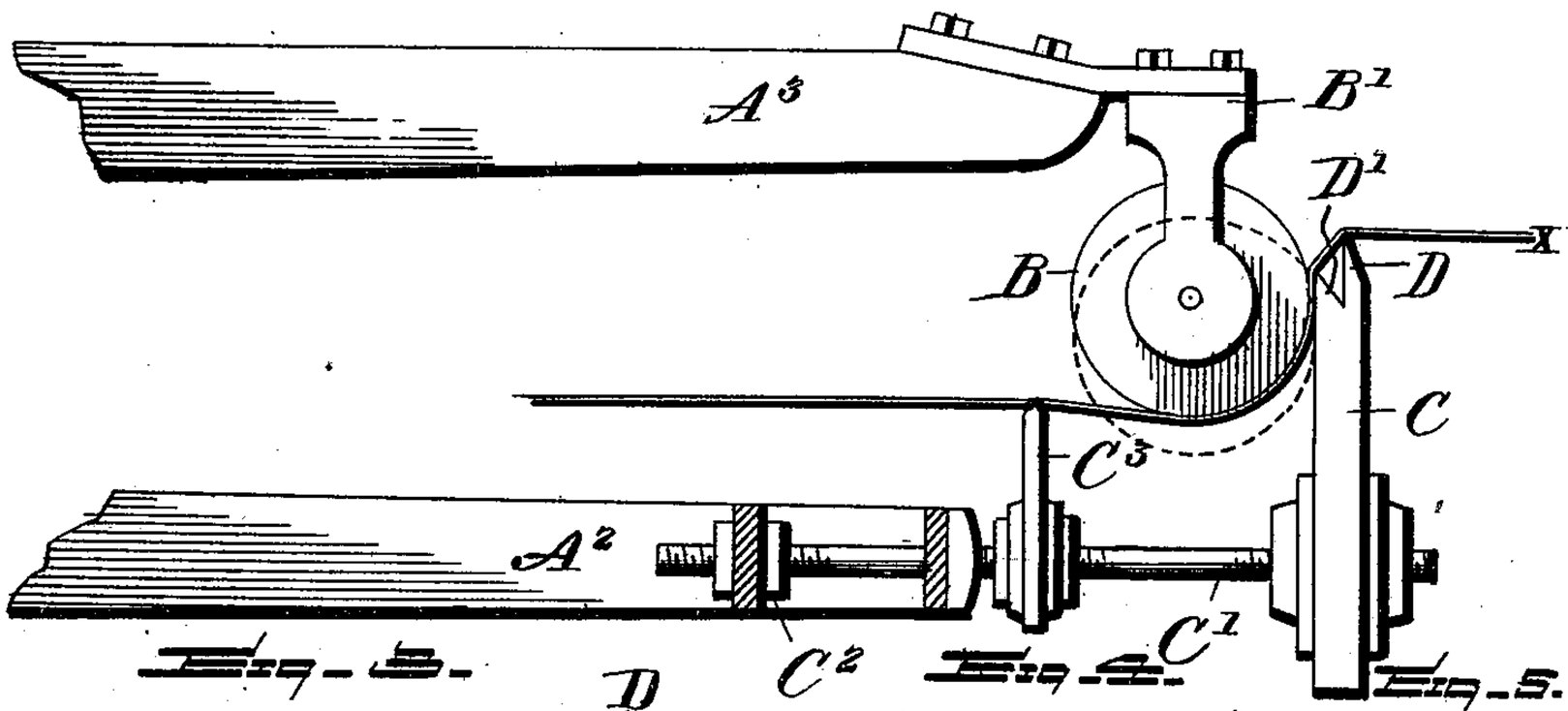
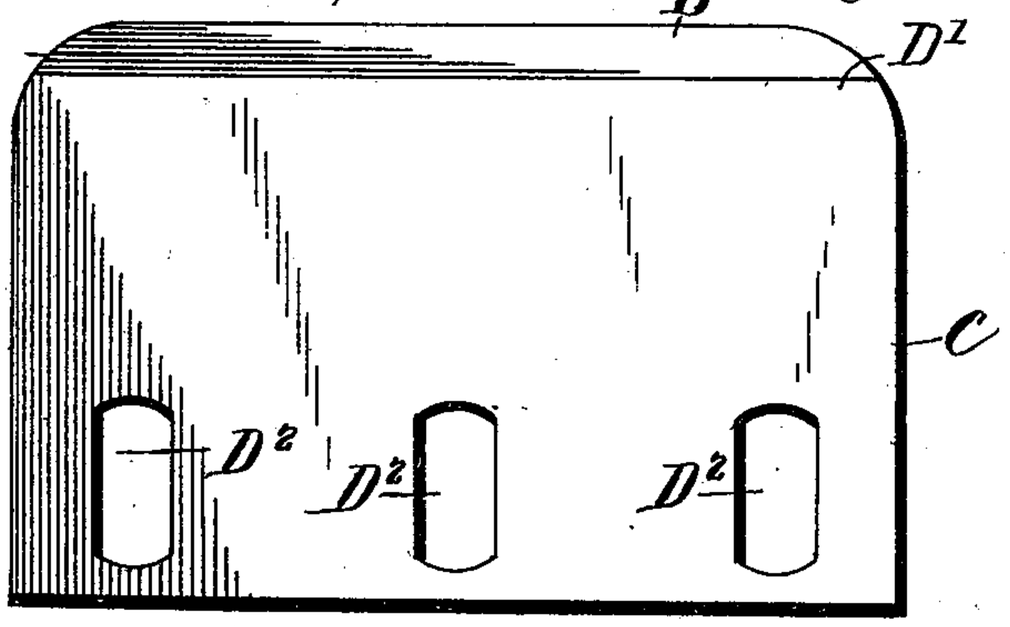
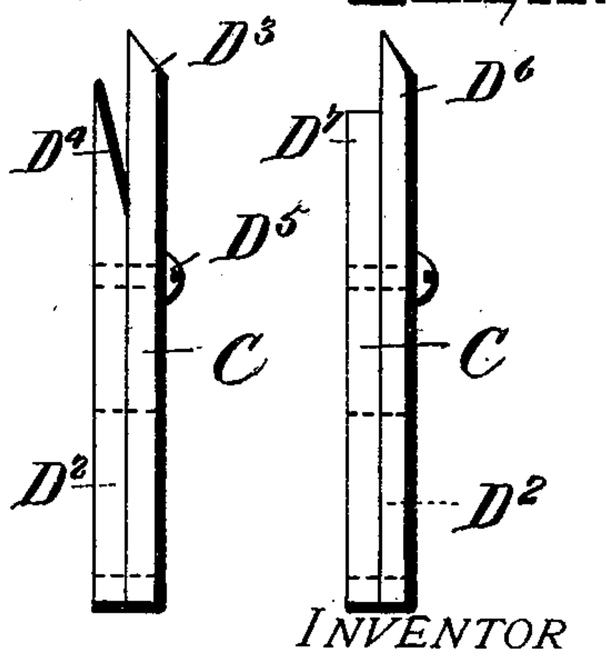


Fig. 3. Fig. 4. Fig. 5.





WITNESSES:
Wm. F. Doyle.
Alfred T. Gage.

INVENTOR
George A Henry,
BY E. B. Stocking
Attorney

UNITED STATES PATENT OFFICE.

GEORGE A. HENRY, OF WILMINGTON, DELAWARE, ASSIGNOR OF ONE-HALF TO WILLIAM B. CLERK, OF SAME PLACE.

LEATHER-STAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 675,732, dated June 4, 1901.

Application filed January 22, 1901. Serial No. 44,295. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. HENRY, a citizen of the United States, residing at Wilmington, in the county of Newcastle, State of Delaware, have invented certain new and useful Improvements in Leather-Staking Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to leather-staking machines, and particularly to the construction of machine embodying a staking-blade and gripping-roller.

The invention has for one object to improve the construction of staking-machines heretofore used, in which the felt or rubber roll rested upon a stretching-blade, thereby frequently injuring the roll and damaging the hide or skin operated upon. To this end the staking and pressure edges are herein located at one side of the gripping-roll and in advance thereof, whereby the contact of the roll upon the edge of the blade is prevented.

A further object of the invention is to provide a plurality of edges, one of which acts upon an extended area of the skin to stretch and scrape the same, while the other acts upon a limited area to perform a stretching function under a greater tension than the tension upon the extended area.

Other objects and advantages of the invention will hereinafter appear in the following description and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a longitudinal section through an ordinary form of staking-machine having my invention applied thereto. Fig. 2 is an enlarged elevation of the gripping-roll and coöperating blade. Fig. 3 is an elevation of one of the blades. Fig. 4 is a modified form in which the pressure and staking edges are formed from separate plates, and Fig. 5 is a further modification of such a blade.

Like letters of reference indicate like parts throughout the several figures of the drawings.

For the purpose of illustrating the application of the present invention I have shown the same in connection with a staking-machine of well-known and ordinary construction, in which the frame A is provided at its upper part with a guideway A′, in which a reciprocating jaw A^2 is adapted to move. Upon the upper portion of this jaw an oscillating arm A^3, comprising the upper jaw, is pivoted, as at A^4. For the purpose of reciprocating the jaws a suitable driving-wheel A^5 is mounted in the frame and connected to the jaw A^2 by means of a pitman A^6. The end of the upper jaw A^3 is provided with a friction-roll A^7, adapted to ride upon the end A^8 of the pitman, and thus produce the oscillation of the upper jaw against the tension of the spring A^9.

At the outer end of the oscillating upper jaw a gripping-roll B is mounted by means of a bracket B′ or any other desired device, which roll may be of any preferred material—for instance, of felt or rubber. At the outer end of the lower jaw A^2 the blade C is mounted by means of a rod C′, adjustably secured to the jaws, as shown at C^2, and at the rear of the blade C a pad C^3 is provided, which causes the skin to lie flat against the surface of the roll B. The blade C and the pad C^3 are located at opposite sides of the roll B and may be adjusted upon the rods C′ by suitable locknuts, as shown in Fig. 2, so as to vary their relative distance apart dependent upon the diameter of the roll or the character of the material operated upon.

The blade C is provided with an edge D, comprising a staking or scraping blade. While in a different horizontal and vertical plane, a pressure edge D′ is provided, against the vertical face of which the roll B will bear to place the skin under tension and hold the same during the stretching action. The blade C may be provided with slots D^2 to permit vertical adjustment thereof, as this adjustment may be used to determine the extent of contact between the roll B and the pressure edge D′ which governs the tension or stretching action in the limited area between the staking and pressure edges.

In Fig. 4 a modified form is illustrated in which the staking edge D^3 is formed of an independent piece of material from the pressure edge D^4, each of these, as well as those shown in Fig. 2, being beveled upon its up-

per face, so that the wear from contact with the skin produces a sharpening action and reduces the necessity for removing the edges to a minimum. The edges shown in Fig. 4 may be secured together by any desired means—for instance, a screw or bolt D^5. In the form shown in Fig. 5 the staking edge D^6 is similar to that shown in Fig. 4, while the pressure edge D^7 has a horizontal upper face. In the scraping action upon the skin a quantity of fine material removed from the skin collects in the space between the staking and pressure edges of the blade, requiring a removal of such material, while the form shown in Fig. 5 does not leave any space for the collection of such material.

In the operation of the machine it will be understood that the end X of the hide or skin is held by any desired means, and as the jaws reciprocate toward this end of the skin the roll B is raised to open the jaws. When the full forward movement has taken place, the roll descends to grip the skin, as shown in Fig. 1, and during the return reciprocation draws the staking or scraping jaw D of the blade C along the surface of the skin to most advantageously effect the stretching and scraping action sought in this class of machine. During this action the pressure edge has, by contact with the roll B, grasped the free end of the skin and exerts thereon a stretching action greater than that between the staking edge and the fixed end of the skin, owing to the extended area of contact of the roll with the face of the pressure edge, thereby extending the area of frictional contact and producing a main stretching and scraping action followed by a stretch under greater tension in a limited area.

It will be seen that the location of the blade having the staking and pressure edges in advance or at one side of the roll entirely obviates the possibility of the roll bearing upon a blade to puncture or injure either the skin or the elastic material of the roll. It is also apparent that the location of the two edges immediately adjacent and in different vertical and horizontal planes brings the skin at such an angle over the edges of the blade that a primary stretching and scraping action is secured to the best advantage, while the secondary stretching under greater tension is effected, and the arrangement of parts is such that the roll may move downward, so as to hold the skin into contact with the face of the blade next the pressure edge, and thereby greatly extend the area of frictional contact and the consequent tension of the stretching action. While the blade has been described as adjustable to effect this extended frictional contact, the same may also be secured by adjusting the extent of movement of the roll by any well-known mechanical expedients, it being preferable that the roll engage the straight face of the pressure edge to the extent found necessary in securing the proper tension for stretching.

It is obvious that changes may be made in the details of construction and configuration of the several parts without departing from the spirit of the invention as defined by the appended claims.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a staking-machine, the combination with a roll, of a blade having independent staking and pressure edges at one side of said roll; substantially as specified.

2. In a staking-machine, the combination with a roll, of a blade having independent staking and pressure edges at one side of said roll, and a pad at the opposite side of said roll at a distance from said blade greater than the diameter of the roll; substantially as specified.

3. In a staking-machine, a blade having a staking edge and an independent pressure edge in a different vertical and horizontal plane; substantially as specified.

4. In a staking-machine, a blade having a staking edge and an independent pressure edge in a different vertical and horizontal plane, each of said edges having an inclined upper face; substantially as specified.

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

GEORGE A. HENRY.

Witnesses:
D. W. HUGHES,
GEORGE W. MORGAN.