No. 774,505. PATENTED NOV. 8, 1904.

S. C. BOND.

LEATHER STAKING MACHINE.

APPLICATION FILED FEB. 26, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.

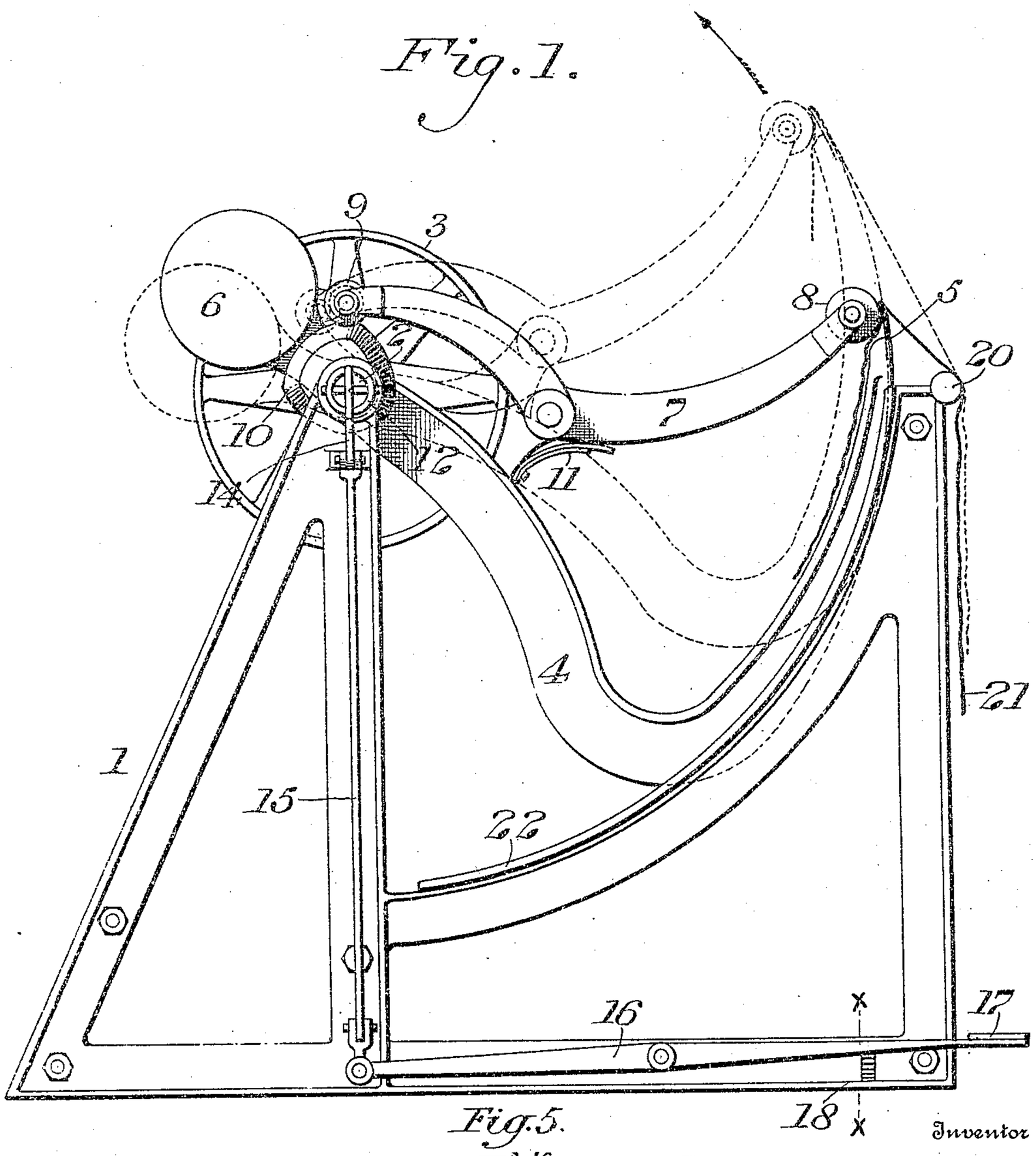
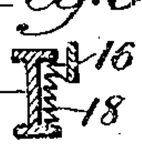


Fig. 5.



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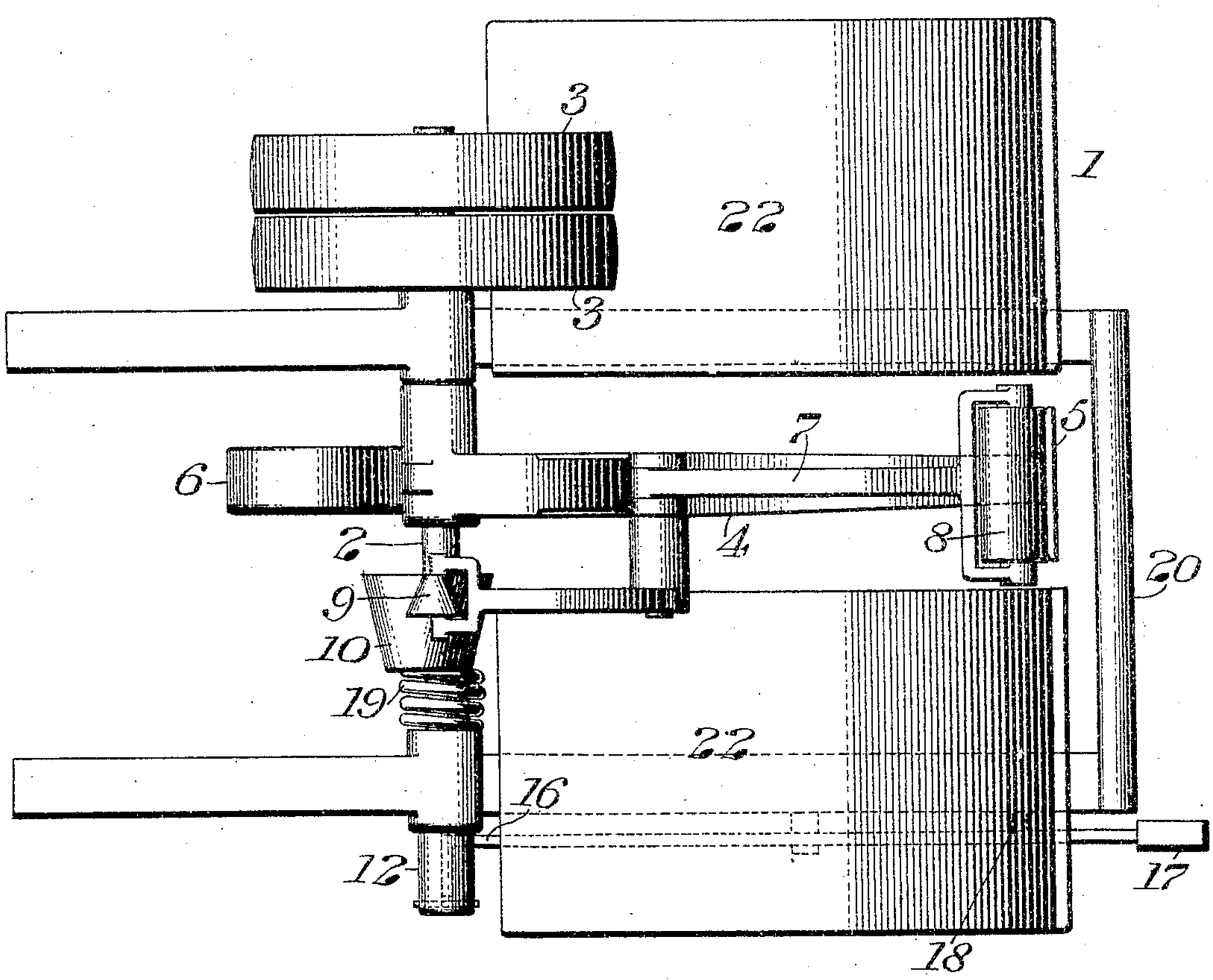
NO MODEL. 3 SHEETS—SHEET 2.

Fig. 2.



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NO MODEL. 3 SHEETS—SHEET 3.

Fig. 3.

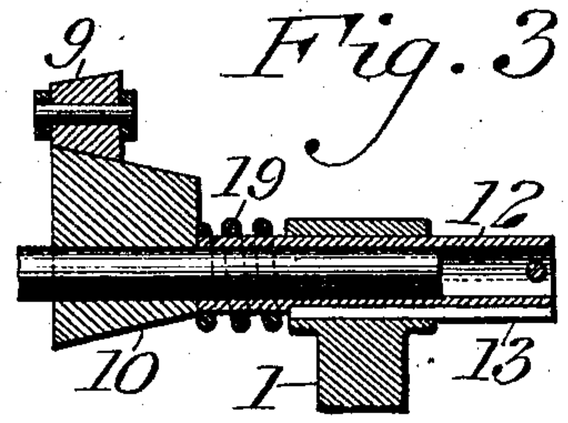
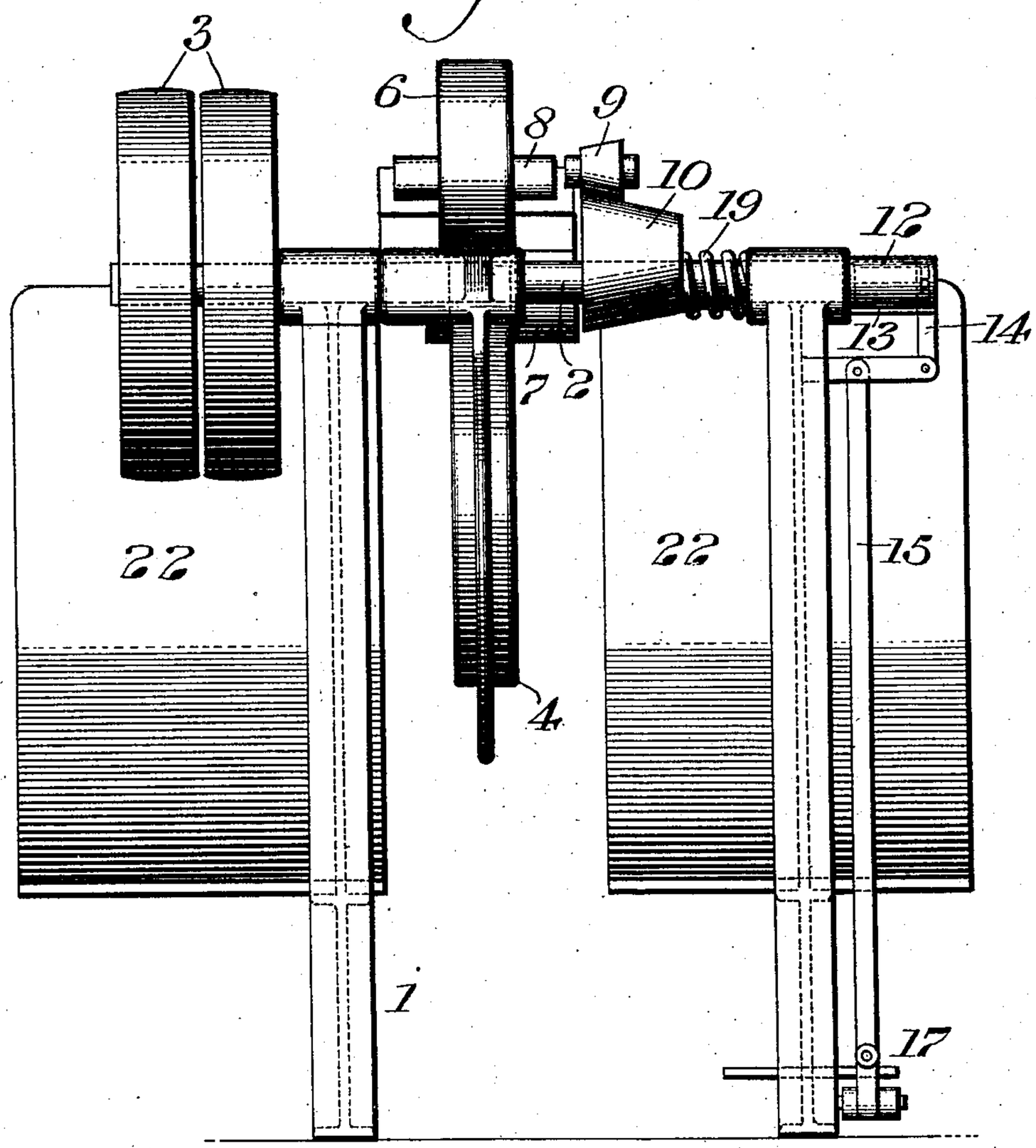


Fig. 4.



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No. 774,505. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

SAMUEL C. BOND, OF WILMINGTON, DELAWARE.

LEATHER-STAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 774,505, dated November 8, 1904.

Application filed February 26, 1903. Serial No. 145,156. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. BOND, a citizen of the United States, residing at Wilmington, in the county of Newcastle, State of Delaware, have invented a new and useful Improvement in Leather-Staking Machines, of which the following is a specification.

My invention consists of an improvement in machines for staking and perching leather wherein the principal portions thereof revolve around a common center.

It further consists in providing novel means for opening and closing the jaws of the machine during the revolution thereof.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figure 1 represents a side elevation of a machine embodying my invention. Fig. 2 represents a plan view thereof. Fig. 3 represents a sectional view of a portion of the machine on an enlarged scale. Fig. 4 represents a rear elevation of the machine. Fig. 5 represents a section through the line *x x*, Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the frame or housing of the machine, in which is suitably journaled a shaft 2, which is driven in any convenient manner—for example, through the pulleys 3 on said shaft.

4 designates an arm to which is suitably secured, at substantially one end thereof, the stake or outer staking or perching device 5 and carrying on substantially the other end the counterweight 6, it being understood that the shaft 2 carries the said arm 4.

Pivotally supported on the arm 4 is the lever 7, which carries the inner staking or perching device 8 and also carries the cam-roller 9, which is held in suitable contact with a cam 10 by means of a spring 11, said cam 10 being adapted to be moved longitudinally, but prevented from revolution by reason of a sleeve 12, which is attached to said cam 10, engaging with the feather 13, which is in engagement with the frame or housing 1 of the machine, said sleeve being connected with a lever 14, which is pivotally connected with the rod 15, which is pivotally secured to the lever 16, movably connected with a suitable portion of the frame of the machine and which carries the treadle 17, said lever having a suitable device which is adapted to engage with the rack 18, which constitutes a locking device. A suitable spring 19 holds the cam 10 in normal position, one end of said spring contacting with said cam, the opposite end with a suitable portion of the frame of the machine.

20 designates the breast-roll as in machines of this character and in conjunction with any suitable clamping device enables the operator to hold the skin 21 against the pull of the machine.

22 designates the operating-table, having a suitable space therein for the movement of the parts, as is evident.

The operation is as follows: The machine is started and operated by means of any suitable power and the skin 21 placed upon the operating-table 22 and that portion of the skin that is to be staked or perched over the working space of the table, the inner staking or perching device 8 having receded from proximity to the outer staking device 5 by the action of the cam-roller 9 and the cam 10, which are so arranged that this will occur substantially as the parts start upon their upward movement. The arm 4, carrying the outer staking device 5, will pass beneath the skin 21, while the inner staking device 8 will be upon the upper side of the skin, it being noted that the arc of the operating-table 22 is struck from a point above the center of rotation of the parts, so that the operations above described occur, it being understood, of course, that the arm 4, lever 7, and the parts carried thereby form a complete revolution around a common center, being carried by the shaft 2. As seen best in Fig. 2, the staking device operates through the space between the two side portions of the table. In the continued upward movement of the staking devices the cam 10 and cam-roller 9 are so arranged as to cause the inner and outer staking devices 8 and 5 to close and grip the skin 21 at a point about or substantially opposite to the breast-roll 20, and the said staking devices will con-

tinue or remain in closed position until the skin 21 has passed entirely between said staking or perching devices, the position of the parts being shown in dotted lines in Fig. 1. When the skin has passed between the staking devices, the latter continue their revolution, while the skin returns to the table 22 by gravity and is ready for the next operation of the parts, it being of course understood, however, that, if desired, suitable mechanism may be employed to quickly and positively return the skin to the operating-table, as, for example, by a beater. The contact-pressure of the staking devices may be increased by depressing the treadle 17, which acts, through the lever 16, rod 15, and bell-crank lever 14, to move the sleeve 12 and cam 10 to the right of the drawing Fig. 4, the thrust-spring 19 acting to reduce such pressure when the lever 16 is disengaged from the rack 18.

It will be evident that various changes may be made by those skilled in the art which will come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

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

1. A staking-machine comprising an outer staking device, means for giving a continuous progressive motion thereto and an inner staking device mounted on and movable with said outer device.

2. A staking-machine comprising an outer staking device, means for giving a continuous progressive motion thereto, an inner staking device mounted on and movable with said outer device and means for varying the relative position of said devices during said movement.

3. A staking-machine comprising a rotary stake, a lever mounted on said stake, a staking device on said lever, a roller on said lever and a longitudinally-movable cam operative to move said staking device relatively to said stake.

4. A staking-machine comprising a rotary staking device consisting of two coacting portions and means for varying the contact-pressure of said portions during their common rotation.

5. In a staking-machine, a rotary stake, a staking device mounted thereon and a non-rotary cam operatively connected with said staking device to vary the position of said device relative to said stake.

6. In a staking-machine, a rotary stake consisting of two coacting portions and a longitudinally-tapered movable cam bearing against one of said portions and operative to vary the relative positions of said coacting portions.

7. In a staking-machine, a work-table, a stake-arm rotating through an aperture in said table, a lever carrying a staking device pivoted on said stake-arm, a movable cam bearing against said lever and operative to move said lever and means for adjusting the movement of said cam.

8. In a staking-machine, a work-table, a stake-arm rotating through an aperture in said table, a lever carrying a staking device pivoted on said stake-arm, a movable cam bearing against said lever and operative to move said lever, controllable means for moving said cam in one direction and automatic means for moving it in the opposite direction.

9. In a machine for staking or perching, a work-table having a passage through which the stake works, a rotary stake mounted to make a complete revolution, and means for causing said rotating stake to enter below and exit above said work-table.

10. In a rotary machine for staking or perching, a stake mounted to make a complete revolution, a pressure-regulating mechanism cooperating with said stake, and means for locking the same in any position.

11. In a machine for staking or perching, a member mounted for complete revolution and comprising an outer staking device, and an inner staking device carried thereby and coöperating therewith.

12. In a machine for staking or perching, a member mounted for complete revolution and comprising an outer staking device, an inner staking device carried thereby and coöperating therewith, and means common to the inner and outer staking devices for varying the contact-pressure between said inner and outer staking devices.

13. In a machine for staking or perching, a continuously-rotating device comprising inner and outer staking devices, combined with a work-table having an opening through which the staking device operates.

14. In a machine for staking or perching, inner and outer staking devices, both mounted for continuous and rotary movement.

15. In a machine for staking and perching, inner and outer staking devices mounted one upon the other and both constructed for continuous rotary movement in the same direction.

16. In a machine for staking or perching, a staking or perching device adapted to operate on opposite sides of the skin, and means for imparting a continuous rotary motion to said device.

17. In a machine for staking or perching, a staking or perching device adapted to operate on opposite sides of the skin, said device having a continuous rotary movement imparted thereto, a lever secured to said device, a cam-roller attached to said lever, a cam, and means for contacting said cam-roller with said cam.

18. In a machine for staking or perching, a staking or perching device adapted to operate on opposite sides of the skin, said device hav-

ing a continuous rotary movement imparted thereto, a lever secured to said device, a cam-roller attached to said lever, a cam mounted for coöperation with said cam-roller and means for imparting a longitudinal motion to said cam.

19. In a machine for staking or perching, a staking or perching device adapted to operate on opposite sides of the skin, said device having a continuous rotary motion imparted thereto and means of increasing or decreasing the contact-pressure thereof.

20. In a machine for staking or perching, a staking or perching device adapted to operate on opposite sides of the skin, said device having a continuous rotary motion imparted thereto, a cam suitably connected for operating said device, and means for securing said cam from rotating without preventing a longitudinal movement thereof.

21. In a machine for staking or perching, a work-table having a passage therethrough, a staking or perching device adapted to operate on opposite sides of the skin, said device having a continuous rotary motion imparted thereto, a part of said device operating in said passage and means for causing said part of said device to enter below and exit above said work-table.

22. In a machine for staking or perching, a staking or perching device adapted to operate on opposite sides of the skin, said device having a continuous rotary motion imparted thereto, a pressure-regulating mechanism suitably secured to said device and means for locking the same in any position.

23. In a machine for staking or perching, a staking or perching device adapted to operate on opposite sides of the skin, said device having a continuous rotary motion imparted thereto, a longitudinally-tapering cam and cam-roller for operating said device, and means of contacting said cam-roller with any part of the tapered surface on said cam.

24. In a machine for staking or perching, a work-table, a work-space, an arm rotating or revolving through said space, a lever, a cam-roller secured thereto, means for causing said cam-roller to contact with a cam, and means of regulating the throw of said cam.

25. In a machine for staking or perching, an arm mounted for a complete revolution, a cam-roller, a cam mounted for coöperation with said roller, a device for moving said cam and means for returning said cam to its original position.

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