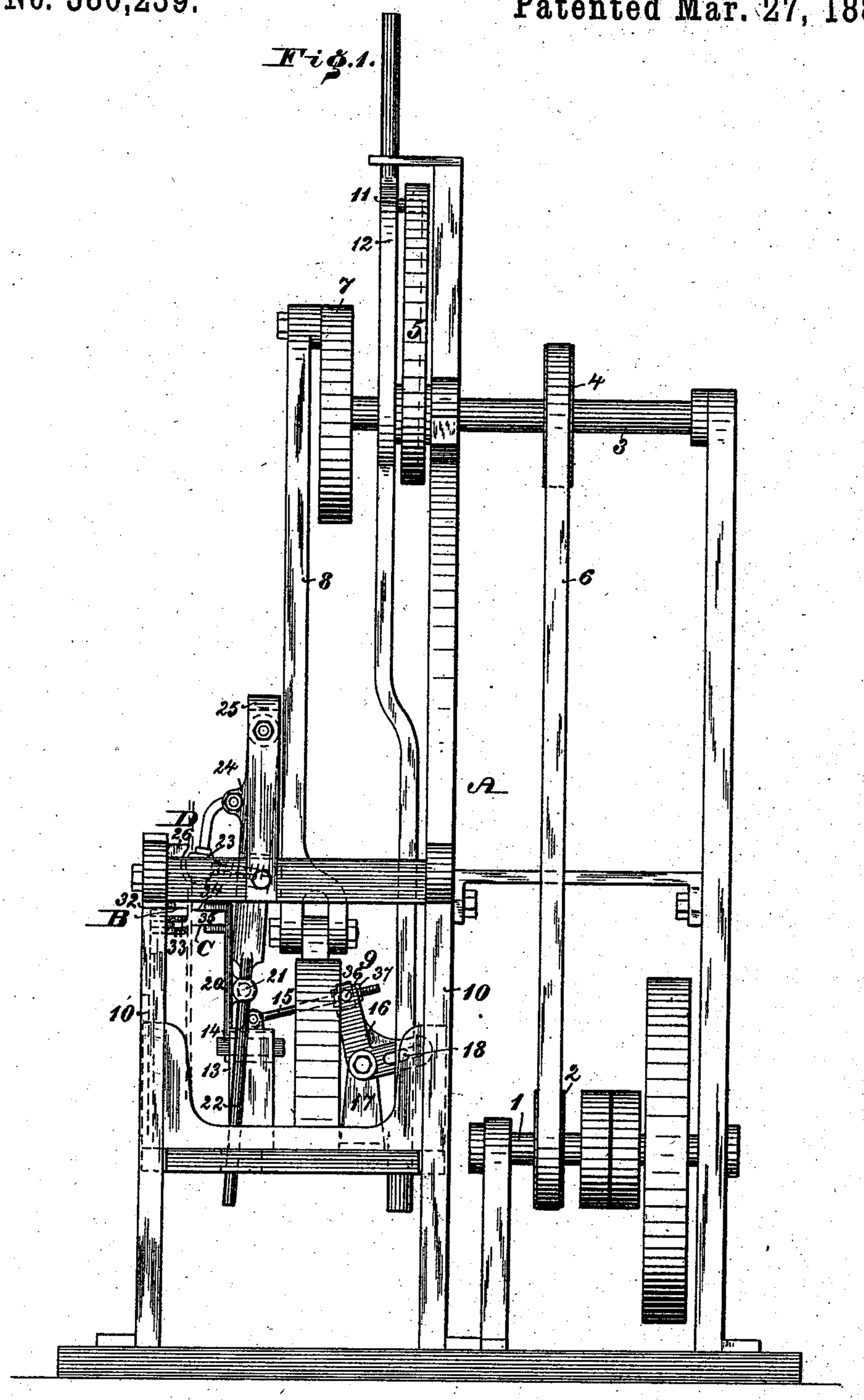
(No Model.) 3 Sheets—Sheet 1.

G. V. ANDERSON.

MACHINE FOR STAKING AND SOFTENING SKINS.

No. 380,239. Patented Mar. 27, 1888.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

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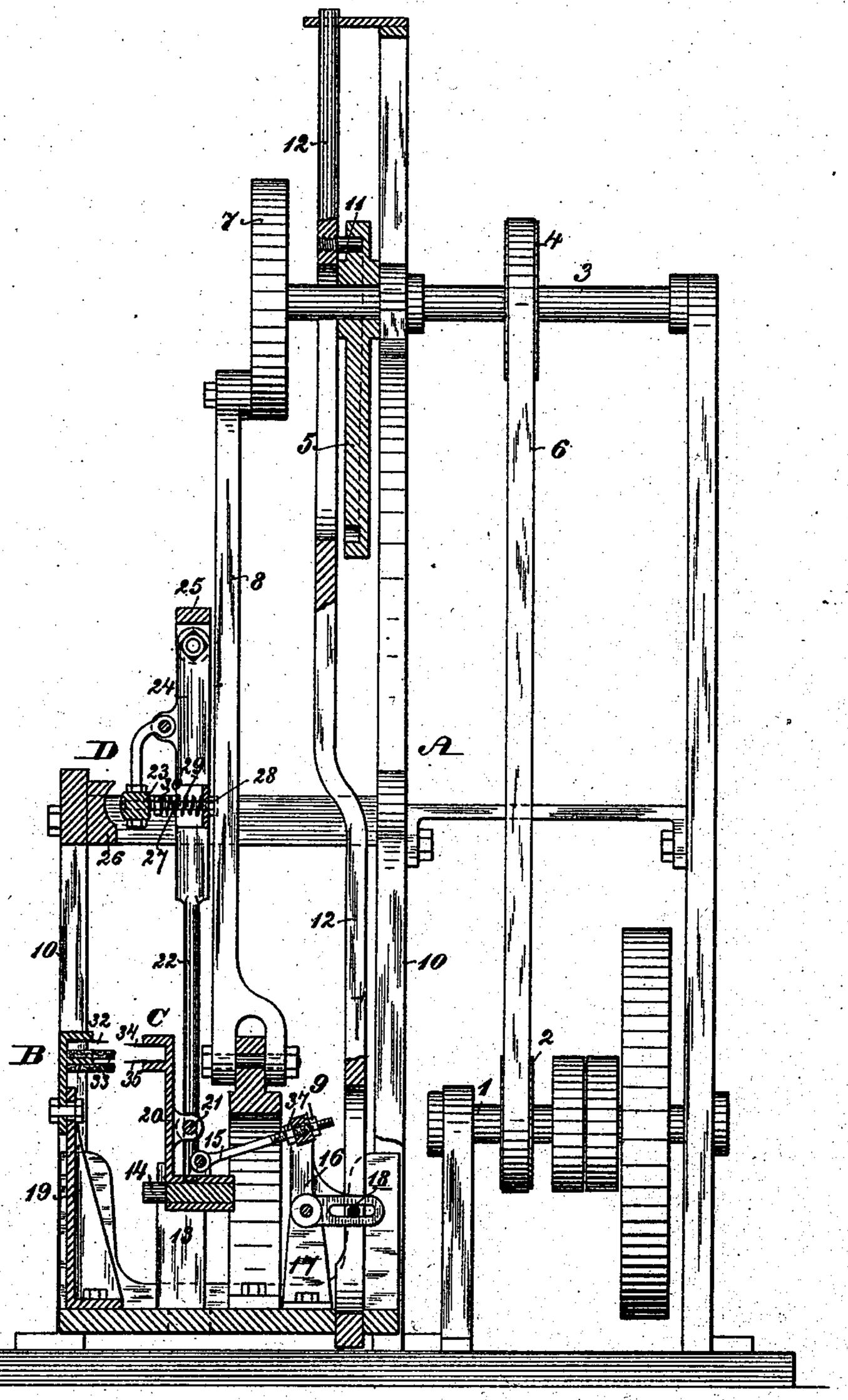
Fig. 2.



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MACHINE FOR STAKING AND SOFTENING SKINS.

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Fig. 3.

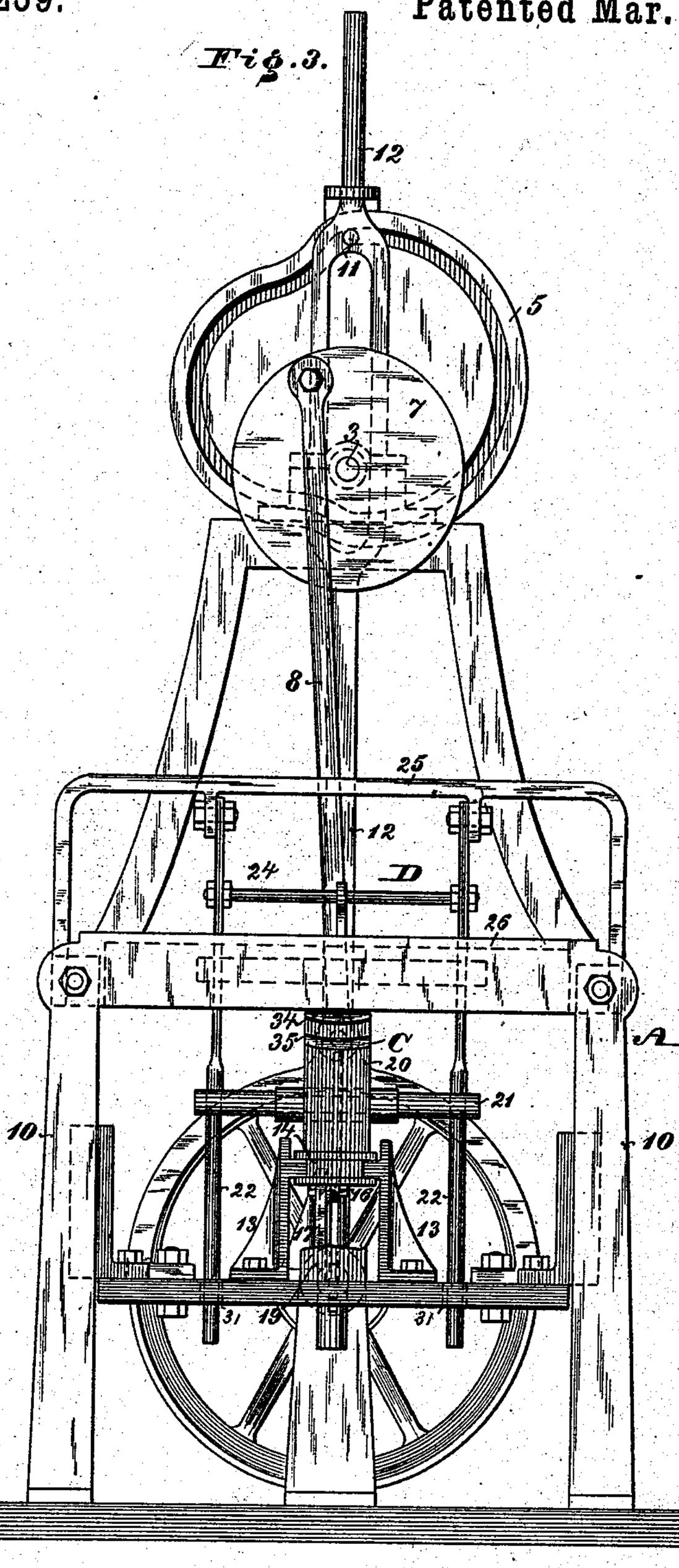
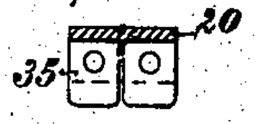


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE V. ANDERSON, OF WILMINGTON, DELAWARE, ASSIGNOR OF SEVEN-SIXTEENTHS TO CHARLES W. GOUERT, OF SAME PLACE.

MACHINE FOR STAKING AND SOFTENING SKINS.

SPECIFICATION forming part of Letters Patent No. 380,239, dated March 27, 1888.

Application filed December 24, 1887. Serial No. 258,892. (No model.)

To all whom it may concern:

Be it known that I, GEORGE V. ANDERSON, a citizen of the United States, residing at Wilmington, in the county of New Castle, State of Delaware, have invented a new and useful Improvement in Machines for Staking and Softening Skins, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a machine for staking and softening skins, embodying novel means for operating the clamp which holds the skins while being staked and softened, novel construction of the knives, novel means for opening and closing the knives, and novel means for adjusting the pressure of the knives against the skins.

Figure 1 represents a side elevation of a machine for staking and softening skins embodying my invention. Fig. 2 represents a vertical section thereof. Fig. 3 represents a front view thereof, partly broken away; and Fig. 4 represents a bottom plan view of one of the knives.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents the frame of the machine, and 1 the driving-shaft thereof mounted thereon and carrying the pulley 2. On the top of the frame is mounted the counter-shaft 3, carrying a pulley, 4, and cam 5. Passing around the pulleys 2 and 4 is a belt or band, 6, whereby motion is communicated to said cam. The shaft 3 also carries a crank-wheel, 7, to which is attached the rod 8, the lower end whereof has pivoted to it the carriage 9, which is guided in the uprights 10 of the frame A. Entering the groove of the cam 5 is a pin, 11, which is secured to the vertical bar 12, the upper end of said bar being slotted to embrace the shaft 3, and the lower end passing freely through the carriage 9. Rising from the carriage are supports 13, on which is mounted a horizontally-arranged slide, 14, which is connected by a rod, 15, with the upper limb of the elbow-lever 16, which has a horizontal axis on the support 17, rising from the carriage 9. The lower limb of said lever 16 is slotted, and passing through the same is a pin, 18, which is connected with the lower end of the bar 12, it being noticed that said bar is vertically slotted to permit the play of said lower limb of the elbow-lever 16.

B represents the stationary knife, and C the movable knife, of the machine, said knives being arranged horizontally and projecting toward each other. The knife B is secured to the standard 19, connected with the carriage 9. The knife C is secured to the standard 20, connected with the slide 14, whereby said knife C may be moved to and from said knife B. Mounted on the slide 14, and journaled in attachments secured to the standard 20, is a horizontally-arranged rock-shaft, 21, having openings in its ends for the passage of the guide-rods 22 of the clamp D of the machine, said clamp consisting of the bar 23, which is secured to the swinging frame 24, pivoted or hinged at its upper ends to the cross-head 25, supported on the frame A, said frame having opposite to the bar 23 a bed, 26, which constitutes part of the clamp mechanism, it being noticed that the faces of the bar and bed are tongued and grooved, so that one may enter the other. The bar 23 is connected with the frame 24 by bolts 27 and nuts 28, said bolts being circled by springs 29, which bear against the back of the frame 24 and nuts 30 on said bolts, whereby the bar of the clamp is held properly to its work, and may be adjusted and is permitted to yield under extraordinary strain.

In the carriage 9 are slots 31, which permit the passage of the ends of the guide-rods 22 when said carriage is raised, it being noticed that the guide-rods depend from the frame 24.

The knife B consists of an upper blade, 32, of curved form, and pads 33 below said blade 32. The knife C consists of blades 34 35, both of curved form, the lower blade, 35, being split or divided at its center and adapted to come between the pads 33 of the knife B, the upper blade, 34, engaging with the blade 32 of said stationary knife B.

The operation is as follows: Power is supplied to the shaft 1, whereby the machine is set in motion. As the clamp D is opened, a skin is placed between the bed 26 and bar 23, and said bar advances, whereby it forces the skin against the bed and firmly holds the same, it

being noticed that the skin depends between the knives B C. Owing to the elevation of the bar 12 and the position of the pin 11 in the groove of the cam 5 the bar 12 is now raised, whereby as the elbow-lever 16 is raised by said bar the slide 14 is advanced, and with it the knife C, so that the knives B C grip the opposite sides of the skin. The carriage 9 now descends, and as the knives are held closed together against the skin the latter is worked or staked and softened. When the carriage has made its full descent, the bar 12 is lowered by the cam 5 and pin 11, whereby the elbow-lever 16 is lowered and the slide 14 returned, thus withdrawing the knife C from the skin and releasing the latter. The motion of the slide also withdraws the clamping-bar 23, whereby the skin is released, said withdrawal being accomplished by the action of the slide 14, rock-shaft 21, and guide-rods 22, said rock-shaft being connected with the slide, and said rods passing through the rock-shaft and secured to the swinging frame 24. The carriage again rises, and when to its full height the clamp and knives again close on the skin, so that on the next descent of the carriage the skin as held will again be subjected to the staking and softening operations of the knives. Owing to the pads 33, the knives are prevented from beginning the work on the skin with severity, thus avoiding tearing or injuring the same.

In order to adjust the pressure of the knives on the skin, the rod 15 has the end connected with the elbow-lever screw-threaded and the same passed through a rock-shaft, 36, whose bearings are on the upper limb of said elbow-lever. Fitted on said rod are nuts 37, which occupy positions on opposite sides of the rock-shaft 36, and by means of which the throw of the slide 14 may be varied and motion of the knife C consequently adjusted so as to advance to a greater or less extent, thereby regulating the pressure of the knife on the skin. During the motion of the slide and elbow-lever the shaft 36 rocks on its bearings on said lever. The driving-shaft 1 has a power or fly wheel for evident purposes.

In the operation of dressing skins it is important to remove the "bag," as it is termed, from the center toward the edges, thus making the skin as nearly level as possible. This is accomplished by my improvement in a reliable and uniform manner.

The lower blade is preferably split or divided, making two blades when that number is required; but a single blade may be employed, the blade or blades in either case being preferably curved, so as not to be injurious in their action.

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

1. In a machine for staking and softening skins, the stationary knife B and movable knife C, adapted to engage with the inserted skin, and constructed substantially as described.

2. In a machine for staking and softening skins, the knife B, constructed with a blade and pad, and the knife C, constructed of two blades and provided with mechanism, substantially as described, for operating the same, said parts being combined substantially as and for the purpose set forth.

3. In a machine for staking and softening skins, the clamp herein described, consisting of a movable bar, a bed, a movable frame carrying said bar, and a slide-operating mechanism whereby said frame receives forward and backward motions, substantially as described.

4. In a machine for staking and softening skins, the opening and closing knives, in combination with a slide connected with one of the knives, an elbow-lever attached to said slide, and a bar connected with said lever and an operating-cam, substantially as described.

5. In a machine for staking and softening skins, the clamp and knives and a slide connected therewith for opening the same, substantially as described.

6. In a machine for staking and softening skins, the clamp having a stationary bed and a movable bar, a frame carrying said bar, and a rock-shaft connected with said slide and engaged by said frame, substantially as described.

7. In a machine for staking and softening skins, the clamp consisting of a movable bar and stationary bed, said parts being tongued and grooved, substantially as described.

8. In a machine for staking and softening skins, the clamp herein described, having a movable bar connected with its support by rods or bolts, and springs whereby said bar is held to its work and may yield, substantially as described.

9. In a machine for staking and softening skins, the movable knife connected with a slide and elbow-lever by means of a rod which is passed through a rock-shaft mounted on said lever, said rod having nuts on opposite sides of the rock-shaft, whereby the working-pressure on the skin may be adjusted, substantially as described.

10. In a machine for staking and softening skins, a carriage with mechanism, substantially as described, for imparting a rising-and-falling motion to the same, a horizontal slide operating in supports on said carriage, a stationary knife attached to standards connected with the carriage, and a movable knife secured to standards connected to the slide, said parts being combined substantially as described.

11. A frame with a rising-and-falling carriage therein, a horizontal slide operating in supports on said carriage, a stationary knife secured to standards on said carriage, a movable knife secured to standards on the slide, a rod pivoted to said slide, a bell-lever operating said rod, a mechanism, substantially as described, intermediate of said bell-lever, and a driving-shaft for oscillating said bell-lever, said parts being combined substantially as and for the purpose set forth.

12. In a machine for staking and softening

skins, a frame with a rising-and-falling carriage, a horizontal slide operating in supports on said carriage, mechanism, substantially as described, for operating said carriage and slide, a stationary knife connected to a support on said slide, the bed 26, secured to said carriage, and a bar secured to the swinging frame, the latter connected to said sliding frame and operated thereby, said parts being combined substantially as described.

13. In a machine for staking and softening skins, the frame A, with the bed 26 secured thereto, and the frame 24, having the bar 23 adjustably secured thereto, said parts being combined substantially as and for the purpose set forth.

14. In a machine for staking and softening skins, the frame A, with a rising-and-falling carriage, a horizontal slide working in supports on said carriage, a stationary knife secured to said carriage and a movable knife secured to said slide, a bed secured to uprights of the carriage, a pivoted frame having a bar coinciding with said bed, the said pivoted frame being connected to and operated by the movement of the slide, mechanism connected to said slide and intermediate of the same, and a cam on a rotary shaft for operating said slide, and mechanism connected to said carriage and said rotary shaft for operating said carriage, said parts being combined substantially as and for the purpose set forth.

GEORGE V. ANDERSON.

Witnesses:

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