

No. 776,984.

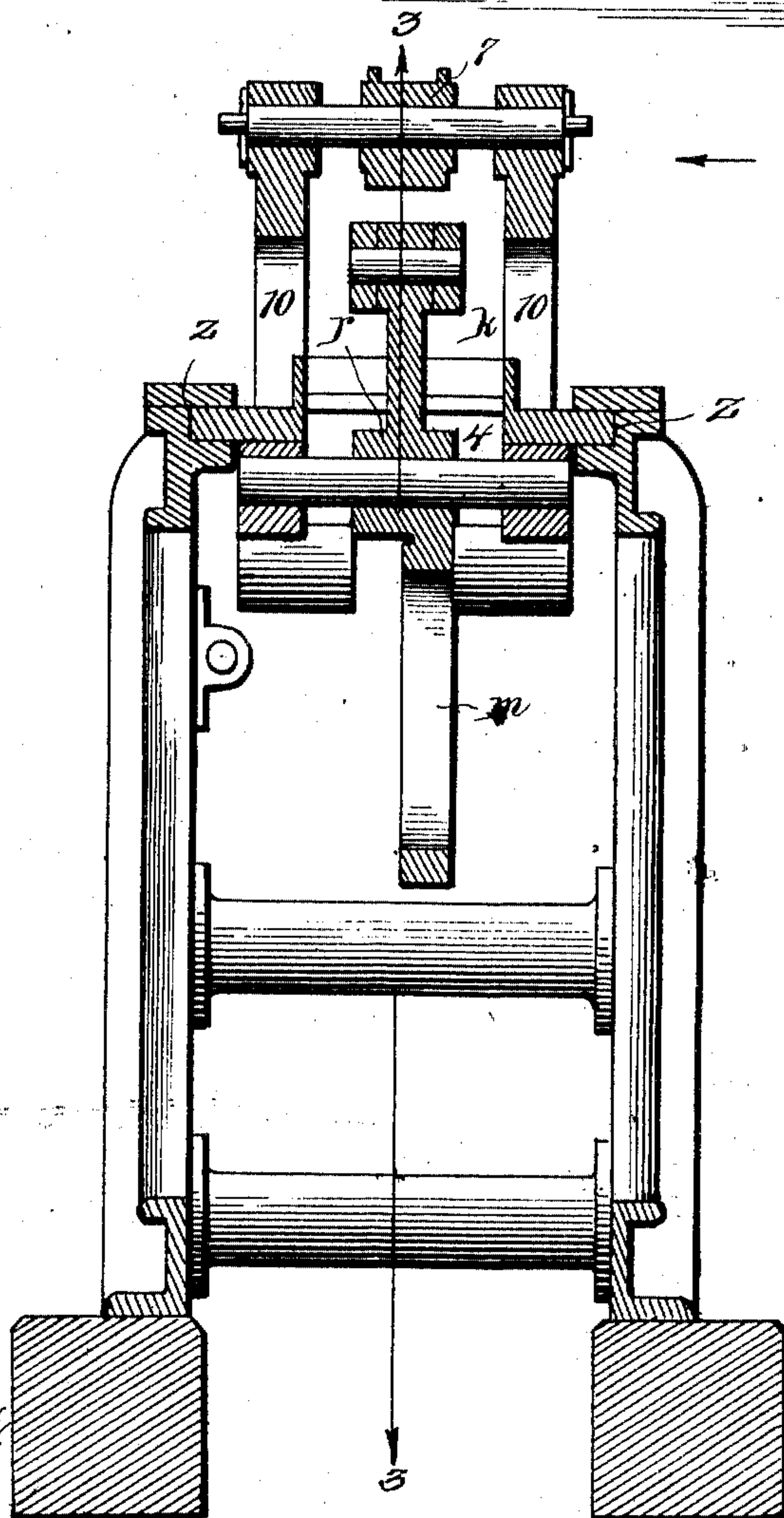
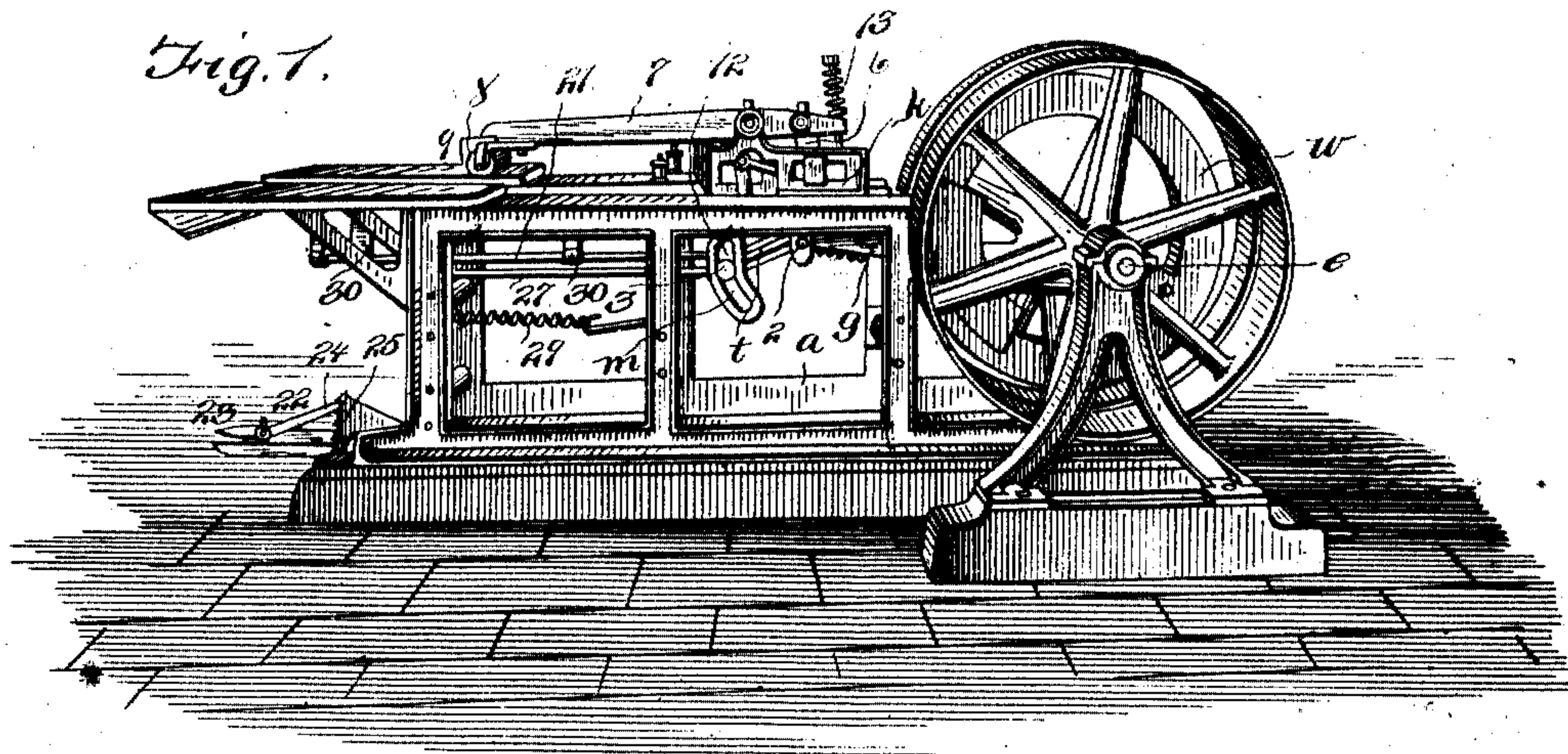
PATENTED DEC. 6, 1904.

G. W. BAKER.
LEATHER STAKING MACHINE.

APPLICATION FILED JULY 30, 1903.

NO MODEL.

4 SHEETS—SHEET 1.



Witnesses

R. A. Boswell.
A. J. Sidney

Inventor
George W. Baker
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his Attorney

No. 776,984.

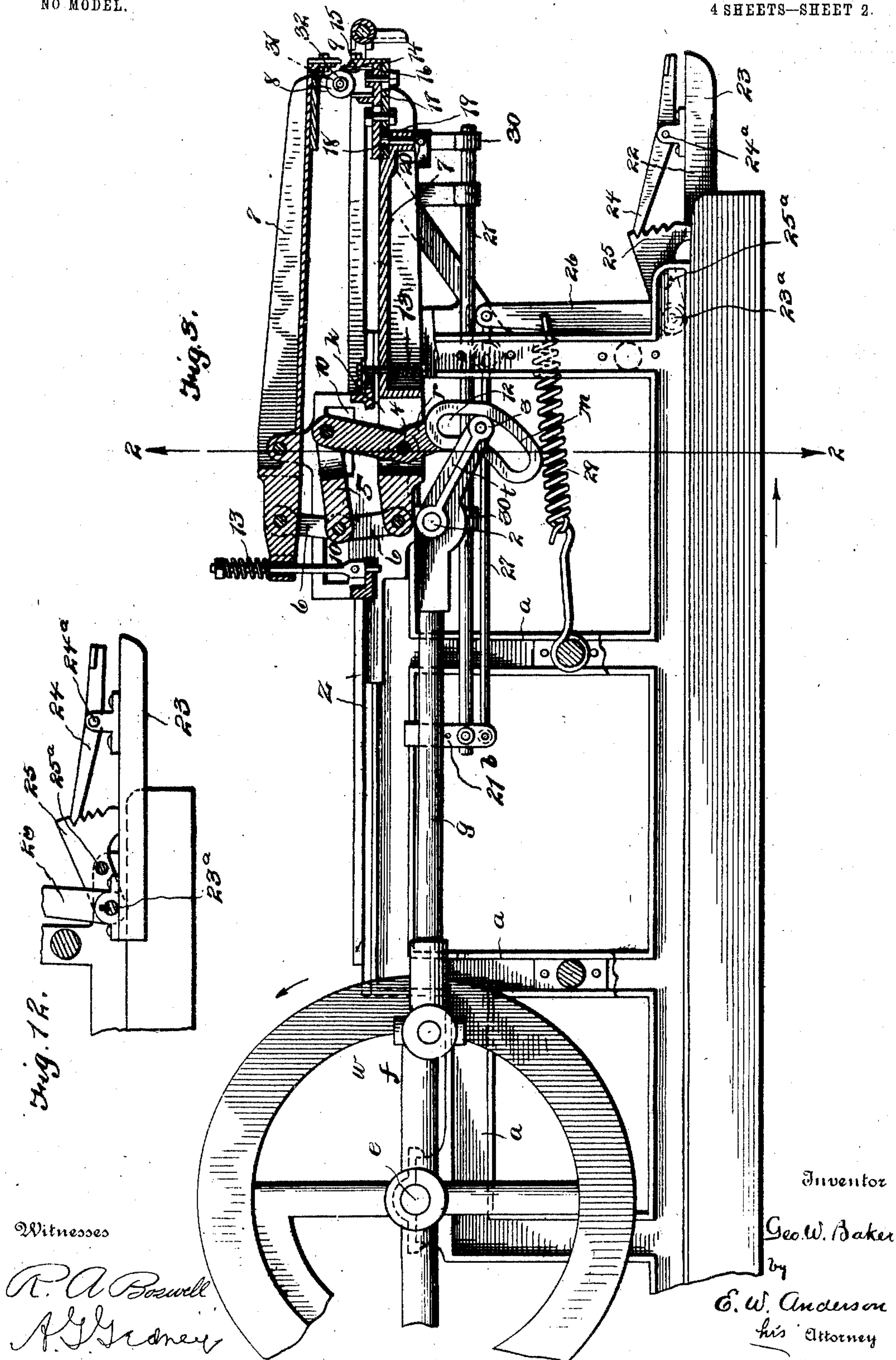
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4 SHEETS—SHEET 2.



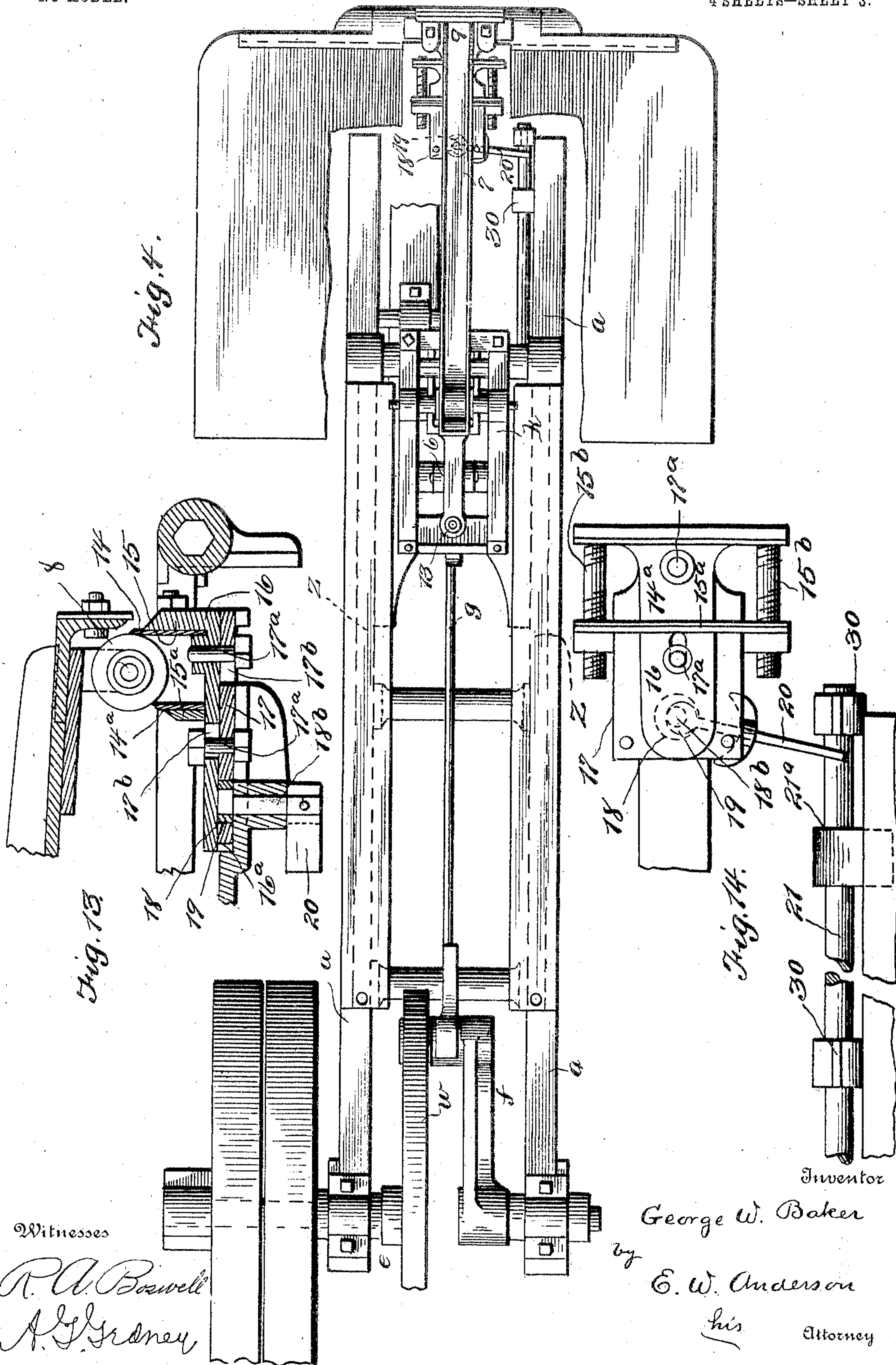
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4 SHEETS—SHEET 3.



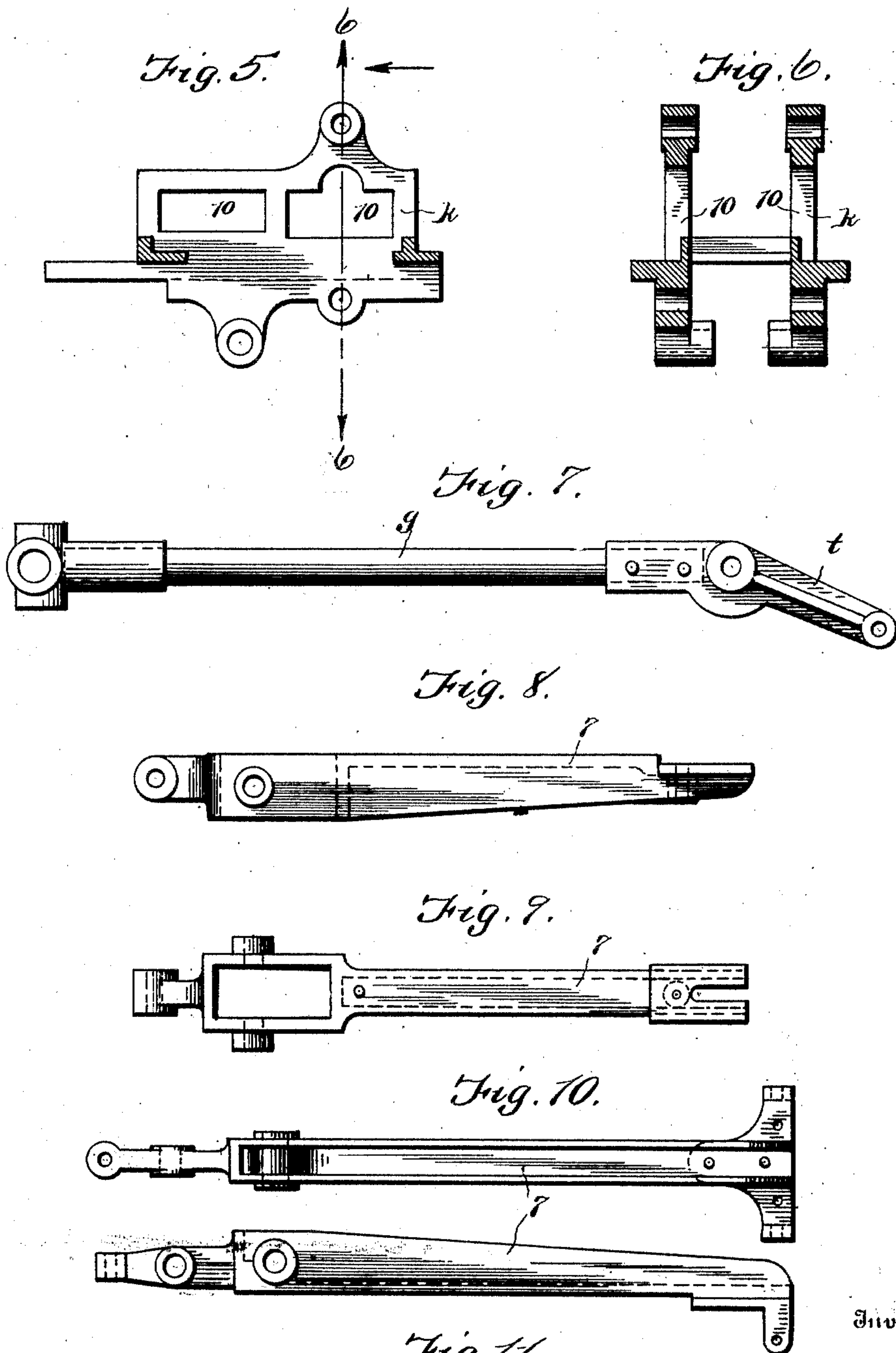
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NO MODEL.

4 SHEETS—SHEET 4.



Witnesses

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Fig. 11.

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UNITED STATES PATENT OFFICE.

GEORGE W. BAKER, OF WILMINGTON, DELAWARE.

LEATHER-STAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 776,984, dated December 6, 1904.

Application filed July 30, 1903. Serial No. 167,613. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BAKER, a citizen of the United States, and a resident of Wilmington, in the county of Newcastle and State of Delaware, have made a certain new and useful Invention in Leather-Staking Machines; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view. Fig. 2 is a longitudinal vertical sectional view. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a plan view. Fig. 5 is a side view of the slide-head. Fig. 6 is a transverse section of the same. Figs. 7, 8, 9, 10, and 11 are views of details. Fig. 12 is a detail view showing the treadle and connections. Fig. 13 is a sectional view showing the staking-knife and adjacent parts. Fig. 14 is a top view showing the adjustable plate and tappet-arm.

The invention relates to roller-staking machines for working leather; and it consists in the novel construction and combinations of parts, as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the letter *a* designates framework provided with bearings for the main shaft *e*, carrying the fly-wheel *w* and the crank *f*, to which is pivoted the connection-bar *g*, which is connected to the slide-head *h*, reciprocating on bearings *Z* of the frame. Forward of the pivot connection 2 to the slide-head the connection-bar has an oblique extension *t*, which is provided with a wrist-pin and roller 3, engaging the slot-cam *m* at the lower portion of the lever *r*, which is provided with a fulcrum at 4 in connection with the slide-head. To the upper arm of this lever is pivoted a connecting-bar 5, which is pivoted to the adjacent ends of the toggle-lever sections 6, the outer ends of which are pivoted to the shorter power-arms of the operating jaw-levers 7 7, whereof the upper one carries the staking-roller 8 and slicker or fiber bearing 9 and the under one the staking-blade, these

being arranged at the ends of the long arms of these jaw-levers. The lower jaw 7 and the lever *r* are pivoted upon the same rod 4, such lever *r* being thus located forward of the toggle-sections. The pivot-rod connection 6^a of the adjacent ends of the toggle-lever sections is guided in supporting-ways 10 of the slide-head, so that the jaw-levers move in unison in their operation, and the toggle-levers are firmly supported in their work. The reciprocating motion of the slide-head and jaw-levers is effected by the crank-arm and its connection-bar, while the opening and closing of the jaw-levers is effected by the slot-cam of the pivoted arm *r* of the slide-head. The lower part of the cam-slot *m* is circularly curved on a center coinciding with the pivot connecting the connection-bar to the slide-head, and the upper portion of the cam-slot has a tangential relation to the curved lower portion at a slight angle, as at 12, but sufficient to cause the opening and closing of the operating-arms of the jaw-levers in relation to the work. When, however, the wrist-pin of the extension of the connection-bar is engaged in the curved lower portion of the cam-slot, the jaw-levers have their operating ends closed on the work, this closure continuing until the wrist-pin becomes engaged with the tangential portion of the cam-slot. Springs 13, in connection with the jaw-levers and the slide-head, serve to counterbalance the weight of the long arms of said jaw-levers and to provide for their facile movement, the opening and closing of the jaw-levers being, however, effected in a positive and even manner by the cam and toggle mechanism.

The staking knife or blade 14 is secured to the upright flange 15 of the plate 16, which is adjustably attached by bolts 17^a to lower slide-plate 17. Upon loosening these bolts these plates may be adjusted by movement of said bolts in the slots 17^b. The rear staking-blade 14^a is secured to upright flange 15^a, having an adjustable bolt connection at 15^b with the plate 16. The plates 16 and 17 have movement of reciprocation in slideway 16^a by rotation of cam-head 19, having a bearing or seat 18 in the lower slide-plate. The stem 18^b of this cam-head 19 is provided with a tappet 20, extending laterally and designed to be en-

gaged by arms 30 to rotate the cam-head 19 and move the staking-blades forward or backward to a slight extent to increase or decrease the pressure of the staking-blades upon the staking-roller. The stops 30 are fast upon a longitudinally-adjustable slide-rod 21, having bearings in the frame at 21^a and carrying a slide 28 at its rear end portion, such rod being operated by the treadle 23, pivoted to rod 23^a, having an upright arm 26 fast thereto, rod 27 connecting the upper end of arm 26 with slide 21^b. In this way upon depression of the treadle the arm 26 is moved forwardly upon its pivot, the rod 21 and its stops 30 being also moved forwardly. These arms 30 are arranged upon rod 21 just beyond stroke-distance, so that the tappet 20 in the position assumed when the staking-blades are in normal position will in the course of the stroke ordinarily not contact therewith. Upon depression of the treadle, however, the arms 30 are moved forwardly, as aforesaid, whereupon the tappet as it moves rearwardly in the course of the stroke will strike the rear arm 30 and be turned thereby and the staking-blades adjusted by the action of cam 19. In order to fix this adjustment of the treadle and of the arms 30, the pawl-lever 24, pivoted at 24^a to the treadle, is engaged with the stationary ratchet-arm 25, connected to rod 23^a and bolted to the frame at 25^a. Upon the release of the pawl-lever 24 from ratchet-arm 25 the spring 29, connecting arm 26 with the frame, will return said parts to their normal positions, when the tappet 20 in its movement will strike the forward arm 30 and be turned backwardly to return the staking-blades to their normal positions. If an increase of pressure is desired and the staking-blades are to be adjusted to a greater extent, the treadle is depressed to a greater extent and its adjustment fixed by engagement of the pawl-lever 24 with the lower teeth of the ratchet-arm 25. The adjustment of the staking-blade is, it will be observed, in the direction of the radius of the roller and horizontal, so that it is direct pressure applied at the level of contact without shifting the edge of the staking-blade in a tangential manner. There is therefore no liability to injure the leather when the adjustment for increase of pressure is made during the working of the staking roller and blade, and as there is no change of level of the line of contact with the leather, which is always operated between the edge of the staking-blade and the same level on the roller-face at about the horizontal axial plane of the roller, the work is true and easily governed by the operator, who is not required to allow for change of position of the knife-edge with reference to the roller, whereby said edge would be thrown out of the proper working position above mentioned, this position providing for a suitable bend of the leather over the edge of the blade. If more

pressure of the staking-blade is required, the pawl is caused to engage the ratchet one tooth lower down. An adjustment of two teeth lower down gives more pressure, and so on, while all pressure may be taken off instantly at the will of the operator through the treadle device, so that his hands are free at all times to handle the leather.

The staking knife or blade 14 is upright or vertical, its working edge being on a level with the axis of the staking-roller. In this way pressure of the knife upon the roller will not dig into or cut the leather being operated upon, inasmuch as there is no direct pressure of the knife-edge upon the roller, the pressure being exerted by the substantially parallel inner knife-face near its edge and the adjacent roller-face, the action of the knife-edge being of a scraping character and in no sense a digging or cutting action.

It will be noted that the cam device for adjusting the staking-blade is of self-holding character.

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

1. In a leather-working machine, the combination of a slide-head, upper and lower lever-jaws pivoted to said head and carrying respectively a staking-roller and a staking-blade, toggle-sections connecting said jaws and head, a connecting pivot-rod for said toggle-sections, guideways and supports of said slide-head for said rod, a cam-slotted lever pivoted upon the pivot-rod of said lower jaw forward of said toggle-sections and having a connection therewith, a driving-shaft, and the connecting-rod for said shaft and head having an extension engaging said slotted lever, substantially as specified.

2. In a leather-working machine, the combination with a vibratory lever-jaw, of a horizontally-adjustable holding-plate carrying a staking-blade, and means for adjusting said blade, comprising a cam engaging said plate and having a tappet-arm, a treadle, and means in connection with the treadle for operating said arm and cam, substantially as specified.

3. In a leather-working machine, the combination with a vibratory lever-jaw, of a horizontally-adjustable holding-plate carrying a staking-blade, a cam engaging said plate, and having a tappet-arm, a reciprocatory rod having stop projections for engagement with said tappet-arm, and means for operating said rod, substantially as specified.

4. In a leather-working machine, the combination of a driving-shaft, a slide-head, a connecting-bar for said shaft and head having an angular extension, opposite lever-jaws, toggle-sections connecting said slide-head and jaws, the cam-slotted lever engaged by said angular extension, and having a connection with said toggle-sections, one of said jaws carrying the staking-roller and the opposite jaw carrying

a horizontally-adjustable holding-plate, a staking-blade carried by said holding-plate, a cam for adjusting said plate, a treadle, and means in connection therewith for operating
5 said cam, substantially as specified.

5. The combination with a leather-staking machine, of a horizontally-adjustable staking-blade, self-holding means for adjusting said blade, and treadle-operated means for actuat-
10 ing said self-holding means, substantially as specified.

6. The combination with a leather-staking machine, of a horizontally-adjustable staking-blade, and a self-holding cam device for ad-
15 justing said blade, substantially as specified.

7. The combination with a leather-staking machine, of a horizontally-adjustable staking-blade, a self-holding cam device for adjusting said blade, and treadle-operated means for
20 actuating said cam device, substantially as specified.

8. In a leather-staking machine, the combination of a horizontally-adjustable staking-blade, a cam device for adjusting said blade,
25 treadle-operated means for actuating said cam device, and means for fixing the adjustment thereof, substantially as specified.

9. A leather-staking machine having in combination a horizontally-adjustable staking-
30 blade, a cam device for adjusting said blade

and having a tappet-arm, a reciprocatory rod having projections for engagement with said arm, treadle-operated means for adjusting said rod, and means for fixing such adjustment
35 comprising a pawl-lever pivoted to the treadle, and a stationary ratchet engaged by said pawl-lever, substantially as specified.

10. In a leather-staking machine, the combination of a horizontally-adjustable staking-blade, self-holding means for adjusting said
40 blade, treadle-operated means for actuating said self-holding means, and means for fixing the adjustment of the treadle comprising a pawl-lever pivoted to the treadle, and a stationary ratchet engaged by said pawl-lever,
45 substantially as specified.

11. In a leather-staking machine, the combination of a staking-roller, a horizontally-adjustable vertical staking-blade having its
50 upper working edge on a level with the axis of said roller, self-holding means for adjusting said blade, and treadle-operated means for actuating said self-holding means, substantially as specified.

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

GEORGE W. BAKER.

Witnesses:

HERBERT C. EMERY,
JENNIE M. WRIGHT.