

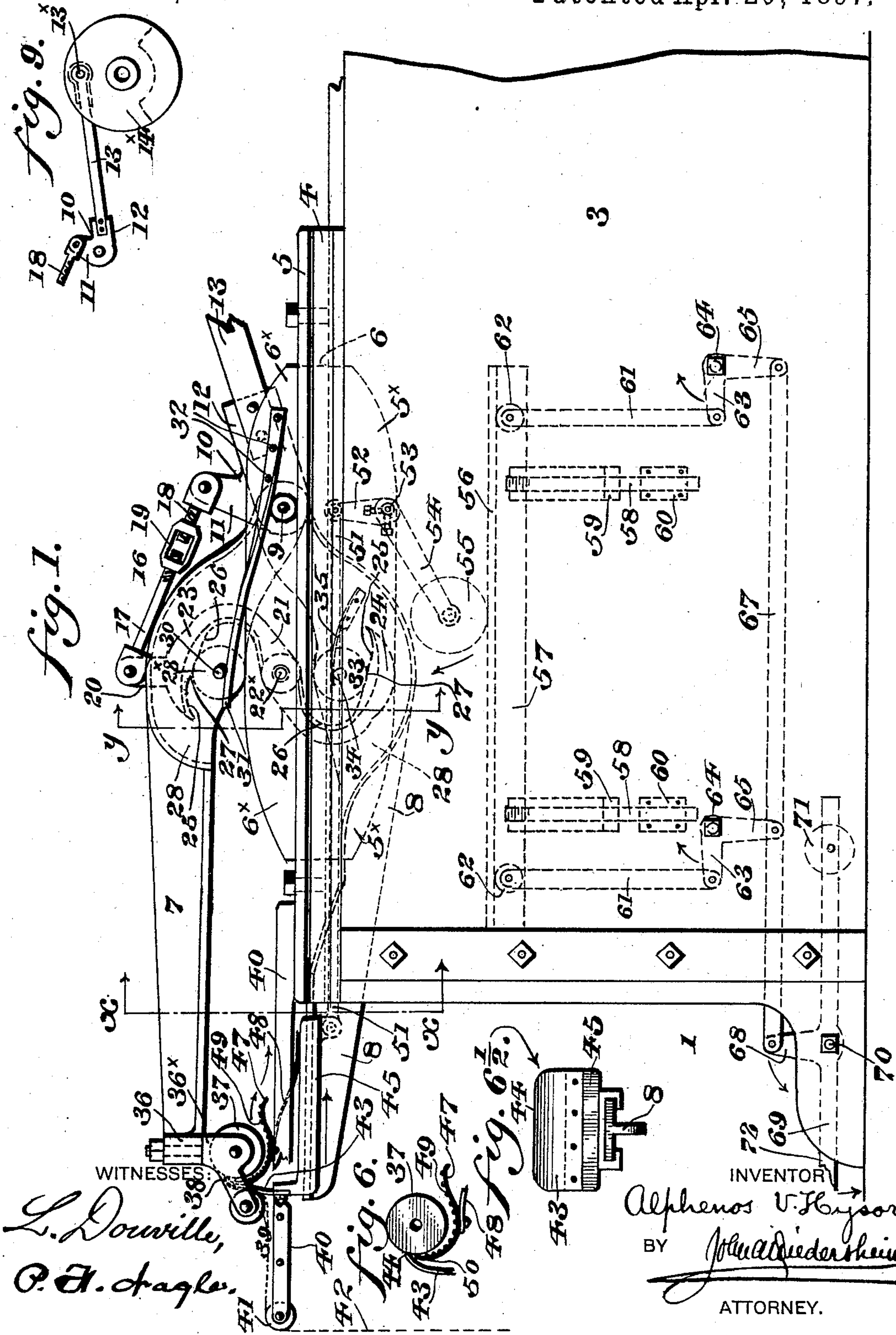
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3 Sheets—Sheet 1.

A. V. HYSORE.  
LEATHER STAKING MACHINE.

No. 580,865.

Patented Apr. 20, 1897.



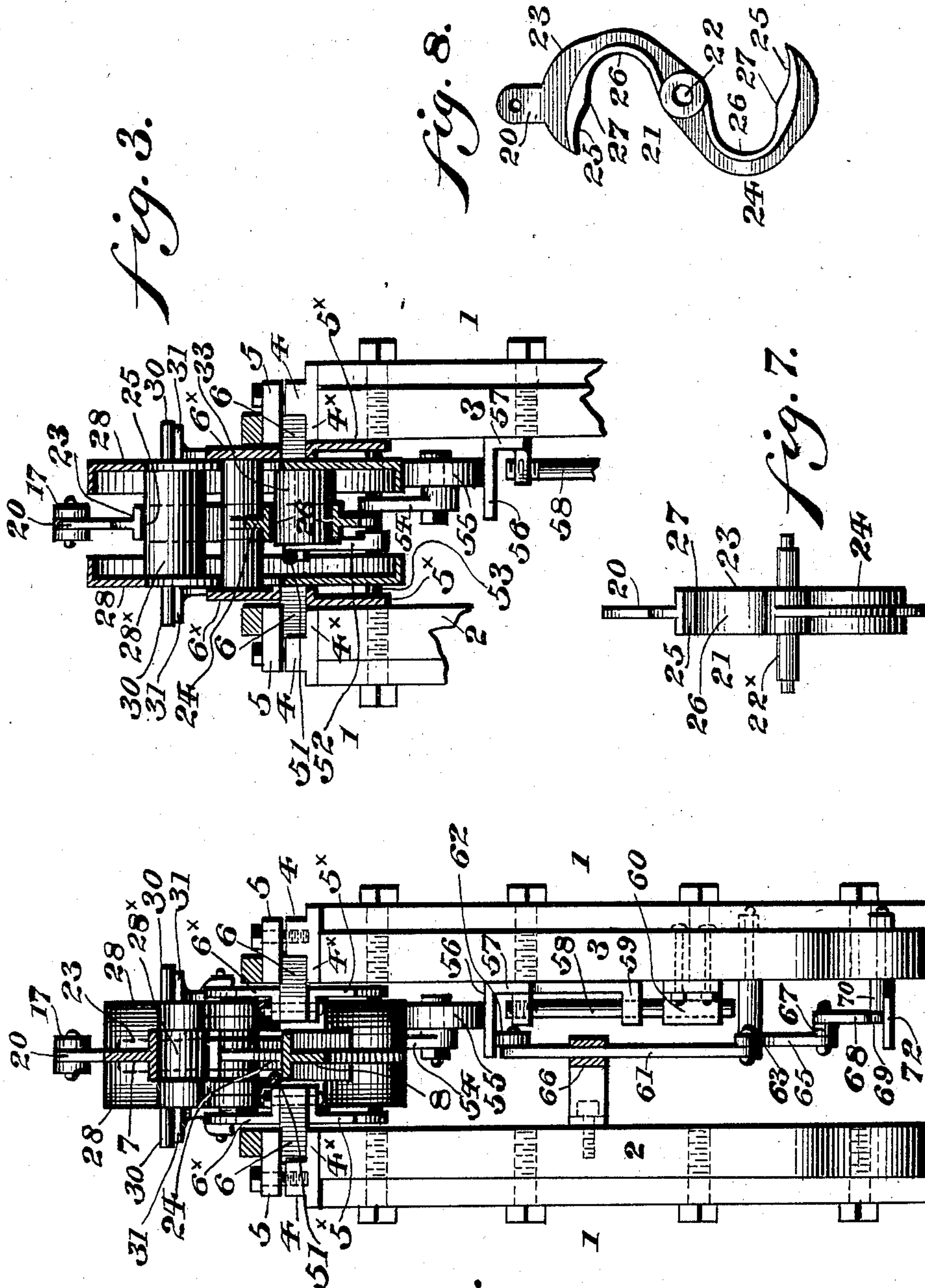
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WITNESSES:  
*L. Douville,*  
*P. H. Hagler.*

*fig. 2.*

INVENTOR  
*Alphonos V. Hysore*  
BY *John A. Diederheim*  
ATTORNEY.



(No Model.)

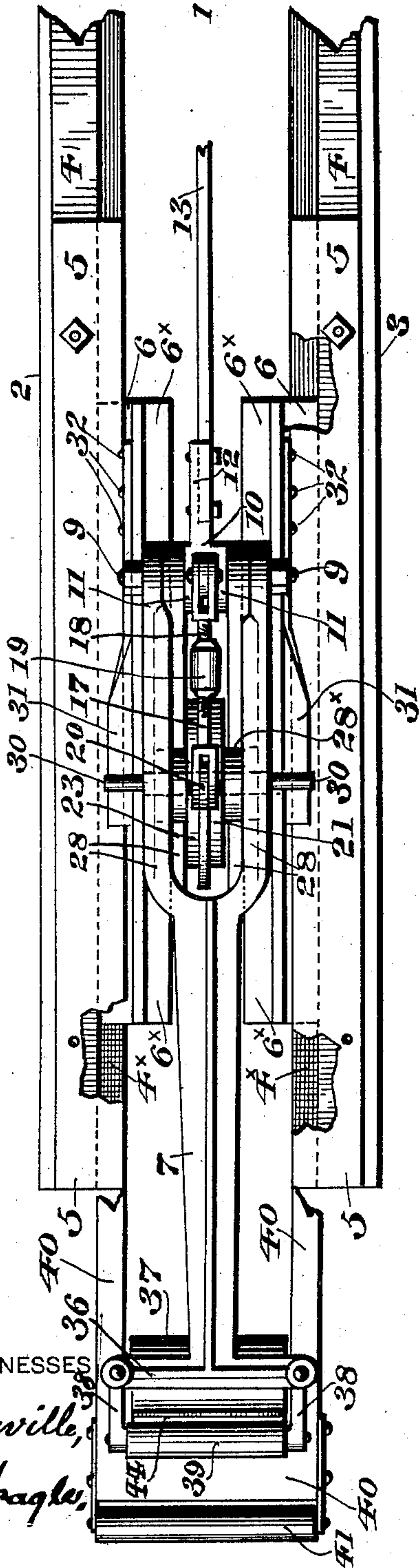
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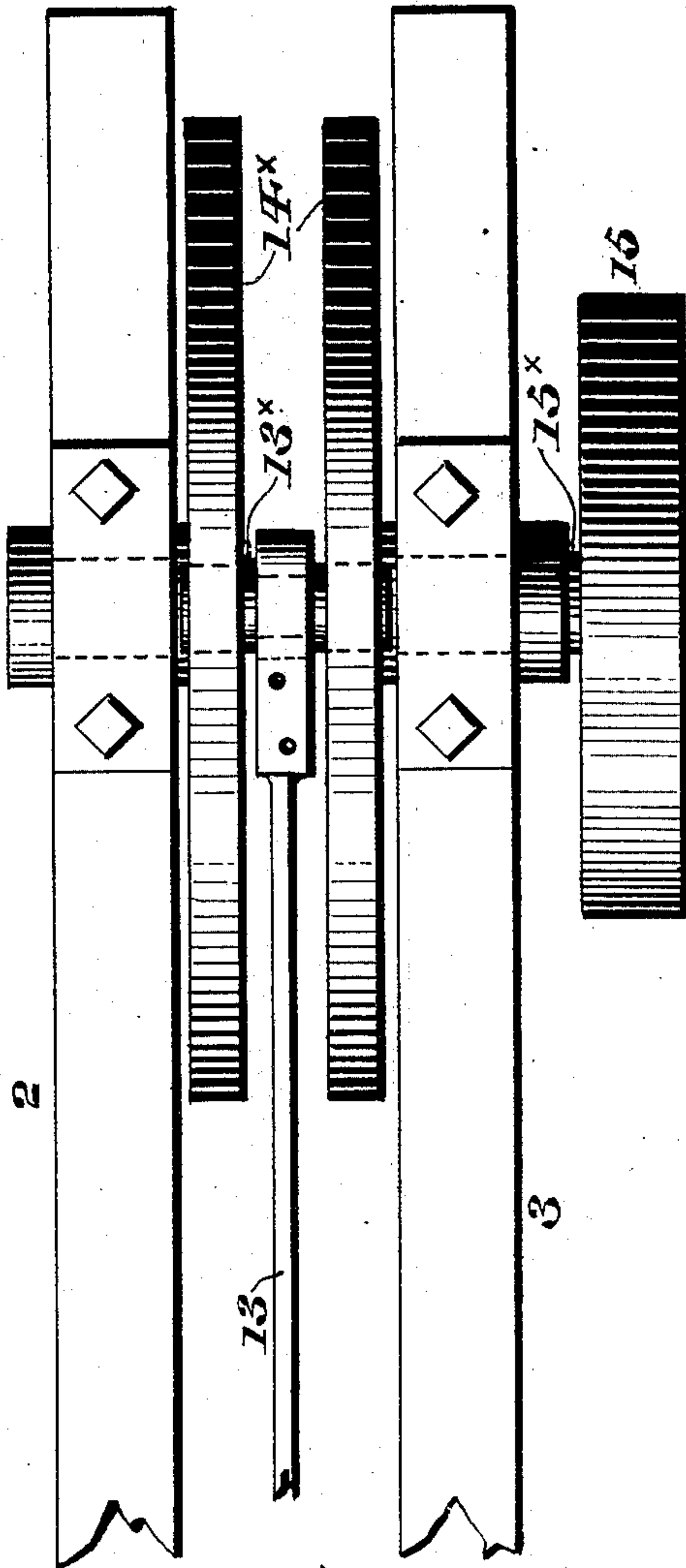
fig. 4.



WITNESSES

L. Douville,  
P. H. Hagley,

fig. 5.



INVENTOR

Alphonos V. Hysore  
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# UNITED STATES PATENT OFFICE.

ALPHENOS V. HYSORE, OF WILMINGTON, DELAWARE, ASSIGNOR TO FRANK F. SLOCOMB, OF SAME PLACE.

## LEATHER-STAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 580,865, dated April 20, 1897.

Application filed March 14, 1896. Serial No. 583,252. (No model.)

*To all whom it may concern:*

Be it known that I, ALPHENOS V. HYSORE, 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 Leather-Staking Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel construction of leather-staking machine in which provision is made for effectively treating the hides, skins, &c., and for stripping from the same loose flesh prior to further treatment, means being provided for causing suitable jaws to open and close at proper intervals by means of novel devices.

It also consists of a novel construction of mechanism for operating said jaws in unison, whereby the friction is reduced to a minimum and the action rendered positive and capable of easy adjustment.

It also consists of a novel construction of spring or scraper and a knife, all of which are adapted to be moved into juxtaposition with a roller attached to one of the jaws of the machine.

It also consists of a novel construction of mechanism whereby the said spring and its adjuncts can be adjusted by the foot according to requirements.

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

Figure 1 represents a side elevation of a leather-staking machine embodying my invention. Fig. 2 represents a section taken on line *x x*, Fig. 1. Fig. 3 represents a section taken on line *y y*, Fig. 1. Fig. 4 represents a plan view of the machine, certain portions of the same being broken away. Fig. 5 represents, on an enlarged scale, a plan view of the actuating mechanism, showing the pulley and crank to which power is initially applied. Fig. 6 represents a detail view of the left-hand end of the attachment to the lower jaw, (seen in Fig. 1,) the same being shown in detailed position. Fig. 6½ represents a front view of Fig. 6. Figs. 7 and 8 represent front and side elevations of a novel construction of a cam removed from the machine, which is employed to actuate

the jaws thereof. Fig. 9 represents, on a reduced scale, a side elevation of a portion of the structure seen in Fig. 5.

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

Referring to the drawings, 1 designates the framework or housing of the machine, the same consisting of the uprights 2 and 3, within and upon which the principal operative parts of the machine are supported.

4 designates the lower member of the ways, mounted on said housing 1, the same extending longitudinally of the framework and having mounted thereupon the plate or bar 5, which constitutes the upper member of said ways, said member 4 having the inwardly-projecting flange 4<sup>x</sup>, upon which reciprocate the heads or slides 6, one on each side of the machine, which have attached to the upper and lower sides thereof the angular-shaped members 6<sup>x</sup> and 5<sup>x</sup>, respectively, said heads and their adjuncts to be hereinafter designated as the "carriage."

7 and 8 designate upper and lower jaws, respectively, which have the pin 9 connected thereto, said pin passing through a suitable portion of the flange or angular-shaped members 6<sup>x</sup>, attached to said heads 6.

The upper and lower jaws 7 and 8 are provided with the forked or U-shaped recesses 28 at their rear extremities, within the ends of which is pivoted the bell-crank 10, the pin 9 passing through said jaws and bell-crank, as will be understood from Figs. 1 and 4. The bell-crank is composed of the members 11 and 12, the latter having one end of the connecting-rod 13 attached thereto, while its other end is engaged by the crank-pin 13<sup>x</sup> of the crank mechanism 14<sup>x</sup>, as will be understood from Figs. 5 and 9, said cranks being of the usual construction and mounted upon the shaft 15<sup>x</sup>, to which the pulley 15 is attached, to which latter the initial power is applied, and said cranks being of the usual construction, therefore requiring no further description.

16 designates a connection extending from the bell-crank 10 to the S-shaped cam 21, to be hereinafter referred to, said connection consisting of the threaded rods 17 and 18, which have the turnbuckle or other adjust-



ing device 19 interposed therebetween, whereby the throw or extent of movement of the cam 21 can be adjusted.

The cam device 21, whose construction will be best understood from Figs. 7 and 8, is provided with a lug 20, to which the end of the connection 16 is attached, said cam device being constructed in substantially the shape of the letter **S** and consisting of the members 23 and 24. The central portion of said cam has the hole 22 therein, through which passes the stud or pin 22<sup>x</sup>, which serves as a journal or fulcrum therefor, the extremities of the same being mounted in the flange or angle-irons 6<sup>x</sup>, as will be understood from Fig. 1. The operative faces of said cam 21 are provided on their opposite sides with the curved or arc-shaped working faces 25 and 26, which meet at the point 27, the relative position of each of said faces with respect to each other and the upper and lower portions 23 and 24 being apparent from Figs. 7 and 8.

28<sup>x</sup> designates a cylinder or antifriction-roller which is mounted so as to contact with the curved working faces 25 and 26 of the upper members 23 of the cam 21, the said roller having the journals or studs 30 projecting from either end thereof and passing through the sides of the upper jaw 7 and resting upon the free ends of the springs 31, whose other ends are attached to the flanges 6<sup>x</sup> at the point 32. In like manner the roller 33 is placed in position beneath the fulcrum 22<sup>x</sup>, so as to contact with the curved working faces of the lower member 24 of the cam, said latter roller having the journals or studs 34 extending therefrom and through the depending flanges 5<sup>x</sup>, their extremities having the free ends of the springs 35 bearing thereupon, the latter being attached to the flanges 5<sup>x</sup>, as will be understood from Fig. 1.

36 designates a frame which is mounted near the extremity of the upper jaw 7, said frame having the sides 36<sup>x</sup> depending therefrom, in which the roller 37 is journaled.

38 designates forwardly-projecting arms which extend from said sides 36<sup>x</sup> and have journaled therein the roller 39.

40 designates a stationary table which is suitably supported and has the stationary frictional breast-pad 41, which is a solid emery or corundum stone of suitable shape and is mounted on the forward end of said table 40, against which the skin or hide 42 to be staked is held by the operator, as will be hereinafter explained.

43 designates a knife which has its upper end 44 bent toward the roller 37, the lower extremity of said knife being attached to a bed or plate 45, which is adapted to be moved according to requirements, so as to bring said knife toward or away from the roller 37.

47 designates a scraper or yielding pad which is attached to the yielding support 48, the latter being secured to the sliding bed or plate 45, which moves on suitable ways on the lower jaw 8, as seen in Fig. 6½. The upper

surface 49 of said scraper 47 may be smooth or provided with a suitable material, such as corundum or emery, depending on the nature of the work to be done, so as to impart to the portion thereof adjacent to said roller 37 a roughened or serrated appearance, as will be understood from Figs. 1 and 6, it being noted that the upper end 50 of the scraper 47 is bent so as to terminate adjacent the bent-up exterior of the knife 44.

51 designates a rod which extends in the present instance longitudinally to the housing, and has one end attached to a lug or a bed or plate 45, the other extremity of said rod being pivotally attached to the arm 52, which is mounted on the rod 53, which latter is journaled in the members 5<sup>x</sup>.

54 designates a depending arm, which is also attached to said rod 53 and has journaled in its lower extremity the roller 55.

56 designates an angular or other shaped plate which is adapted to be in contact with said roller and support the same, said plate having the members 57 and a lug thereon, to which the rod 58 is attached, the latter passing through the lower lugs 59, which are attached to said member 57, and said rod being guided in the ways 60.

61 designates connecting-rods which are pivotally connected in their upper extremities by the stud 62 to the members 57, the lower extremities of said levers 61 being pivotally attached to the arms 63 of the bell-cranks 64, which are suitably fulcrumed and have the extremity of the other arm 65 pivotally attached to the longitudinally-extending bar 67, it being understood that there are two levers and bell-cranks and their adjuncts, as will be seen in Fig. 1.

68 designates a lug attached to the bar 69, which latter is fulcrumed at the point 70, said lug being pivotally attached to the bar 67 and said bar 69 having a rearwardly-extending portion upon which a movable weight or counterbalance 71 is mounted, while its forward portion terminates in a treadle 72, which is adapted to be actuated by the foot of the attendant.

The operation is as follows: The rotation of the crank-shaft 15<sup>x</sup> will cause the reciprocation of the slides 6 and their adjuncts, which constitute the carriage, by reason of the connecting-rod 13 and the intermediate connections, and it will thus be apparent that by reason of the **S**-shaped cam 21, the rollers 28<sup>x</sup> and 33, and the connection 16, and the bell-crank 10, common to said connecting-rod and cam, a double motion will be imparted to the jaws 7 and 8, the same having a reciprocating movement and at the same time a movement toward or away from each other at the proper intervals, the extent of the movement of the jaws 7 and 8 toward or away from each other being adjusted by means of the turnbuckle 19 or other equivalent device. By depressing or elevating the treadle 72 according to requirements longitudinal move-



ment will be imparted, by reason of the intermediate connections, to the rod 51, and the end 44 of the knife 43 and the spring 47, mounted upon its yielding support, will be moved toward or away from the roller 37 at proper intervals at the volition of the operator. When the jaws are opened and the desired space exists between the end 44 of the knife and said roller 37, the workman places the skin in the position indicated at the left of Fig. 1 in dotted lines and passes the same between the end of the knife 44, the spring 47, and the roller 37, as indicated by the arrows. The jaws at the proper interval will tend to close on said skin, which latter the workman holds tightly while the carriage or jaws move rearwardly, said jaws then staking the skin. The jaws then open and advance, at which period the workman turns the skin, so that a fresh portion of the same may be staked, and thus the operation is continued until the staking is completed and the skin has been treated to the desired degree. The jaws close on the skin during the rearward movement of the carriage and open near the end of the back stroke.

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

1. In a leather-staking machine, a frame, a carriage movable on ways on said frame, upper and lower jaws pivotally connected with said carriage, mechanism for reciprocating the latter, a roller carried by said upper jaw at or near its front end, an **S**-shaped cam on said carriage and rollers on said jaws in contact with said cam, and a knife carried by said lower jaw adjacent to said roller.

2. In a leather-staking machine, a frame, a reciprocating carriage movable in ways on said frame, upper and lower jaws pivoted to said carriage, a roller carried by said upper jaw at the front end thereof, a knife and a scraper carried by said lower jaw, an oscillating cam pivotally connected with said carriage and bearing against rollers on said jaws, and means connected with said cam and the pivot of said jaws for rocking said cam.

3. In a leather-staking machine, a frame, a carriage movable thereon, upper and lower jaws pivoted to said carriage, parallel rollers carried in depending arms at or near the front end of said upper jaws, a stationary plate secured to said frame and carrying at its front end, a frictional breast-pad, in advance of said rollers, said lower jaw having mounted thereon a knife, and a scraper adjacent thereto, said scraper having a corrugated roughened surface, being mounted on a resilient support and having its forward end terminating adjacent said knife.

4. In a leather-staking machine, a frame, a carriage movable thereon, upper and lower jaws pivoted to said carriage, a plurality of parallel rollers carried by the upper jaw at its front end, a bed-plate adjustable on the lower jaw, and a knife and a spring-pressed

scraper secured to said plate, and having their upper ends adjacent to the rear one of said rollers.

5. In a leather-staking machine, a frame, a carriage movable thereon, upper and lower jaws pivoted to said carriage, a knife and a scraper carried by said lower jaw, a roller carried by said upper jaw at its front end adjacent to said knife and scraper, an **S**-shaped cam pivoted to said carriage, rollers journaled in said jaws and in contact with said cam, a bell-crank mounted on the pivotal connection of said jaws, and connected with said cam, and mechanism for reciprocating and oscillating said bell-crank.

6. In a leather-staking machine, a frame, a carriage movable in ways thereon, upper and lower jaws having a common pivotal pin journaled in said carriage, an **S**-shaped cam journaled in said carriage, rollers supported on said jaws and in contact with said cam, a bell-crank mounted on said pivotal pin and having one of its limbs connected by a rod with said cam, and a rotary disk having an eccentric connected with the other limb.

7. In a leather-staking machine, the slides 6, suitable ways therefor, a cam 21 journaled in attachments to said slides, the leather-staking jaws, rollers mounted on the latter, and in contact with the operative faces of said cam, said rollers having journals, springs in contact therewith, a bell-crank mounted on the pivotal pin of said jaws, connections from said cam to said bell-crank, and means for giving to the latter a reciprocating and rocking motion.

8. In a leather-staking machine, the herein-described jaws pivotally mounted, in combination with the cam 21 mounted in a carriage carrying said jaws, the same consisting of the **S**-shaped device having the curved faces or arcs 25 and 26, above or below the center of oscillation, which meet at the point 27 and rollers journaled on said jaws and in contact with said cam, in combination with means for imparting motion to said jaws and cam.

9. In a leather-staking machine, a frame, a carriage movable in ways thereon, upper and lower jaws having a common pivotal connection with said carriage, a roller carried by said upper jaw at or near the front end thereof, a knife and a resilient corrugated scraper mounted on said lower jaw, the forward extremities of said knife and scraper terminating adjacent to said roller, a frictional breast-pad secured to said frame in front of said jaws and mechanism connected with said carriage and jaws for simultaneously reciprocating said carriage and operating said jaws.

10. In a leather-staking machine, a frame, a carriage movable on said frame, upper and lower jaws pivotally connected with said carriage, a cam journaled on said carriage, rollers mounted on said jaws and in contact with said cam, a bell-crank mounted on the pivotal connection of said jaws, a rod, adjustable



in length connected with said cam and one limb of said bell-crank and mechanism connected with the other limb of said bell-crank for reciprocating said carriage and operating  
5 said jaws.

11. In a leather-staking machine, a jaw having a sliding plate thereon carrying a knife and a spring-pressed scraper, said knife and scraper having their upper ends adjacent to  
10 each other.

12. In a leather-staking machine, upper and lower jaws having U-shaped recesses at their rear extremities, a bell-crank connected by a pivotal pin with said jaws and located within  
15 said recesses, a reciprocating carriage, carrying said jaws an oscillating S-shaped cam mounted in said carriage in which said pivotal pin has bearings, a rod connected with said cam and said bell-crank, and means for  
20 oscillating said bell-crank.

13. In a leather-staking machine, having upper and lower jaws, a scraper mounted on a yielding support, carried by a slide mounted on the outer end of the lower jaw and means  
25 for reciprocating said slide, in combination with an upper jaw having a roller thereon adjacent said scraper, the upper surface of the latter being corrugated and faced with corundum or emery.

14. In a leather-staking machine, a pair of jaws, slides in which said jaws are fulcrumed, and an S-shaped cam suitably supported, in combination with connections common to it and to said jaws, a bell-crank pivotally mounted in the latter, a connection from one arm  
35 of said bell-crank to said cam, the other arm of said bell-crank being attached to a connecting-rod, and means for reciprocating the latter.

40 15. In a machine of the character described,

the leather-staking jaws, and the cam 21 for actuating the same, said cam having the upper and lower members provided with the curved faces 25 and 26, which meet at the points 27, in combination with devices common to said jaws and cam for enabling the same to act in unison, and means for oscillating and reciprocating said cam. 45

16. In a leather-staking machine, a suitable framework, a pair of reciprocating jaws pivoted at their inner ends, and movable on said framework, a roller journaled at the outer end of the upper jaw, a slide on the outer end of the lower jaw, a spring mounted on said slide bearing a scraper, and means for reciprocating said slide to adjust said scraper with relation to the roll on the upper jaw. 50 55

17. In a leather-staking machine, a suitable framework, a pair of reciprocating pivoted jaws, a roll on the outer end of the upper jaw, a slide on the outer end of the lower jaw, a spring carrying a scraper mounted on said slide, a rod extending from the latter to a shaft mounted on the jaws, an arm depending from said shaft, a roller mounted on said arm, a plate in contact with said roller, bell-crank levers suitably fulcrumed, links provided with rollers, attached to one end of said bell-crank levers and supporting said plate, treadle mechanism for moving the bell-crank levers, whereby said plate is reciprocated vertically, thus reciprocating the slide on the lower jaw by means of the connections, between said slide and the roll in contact with said plate. 60 65 70

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