

No. 749,398.

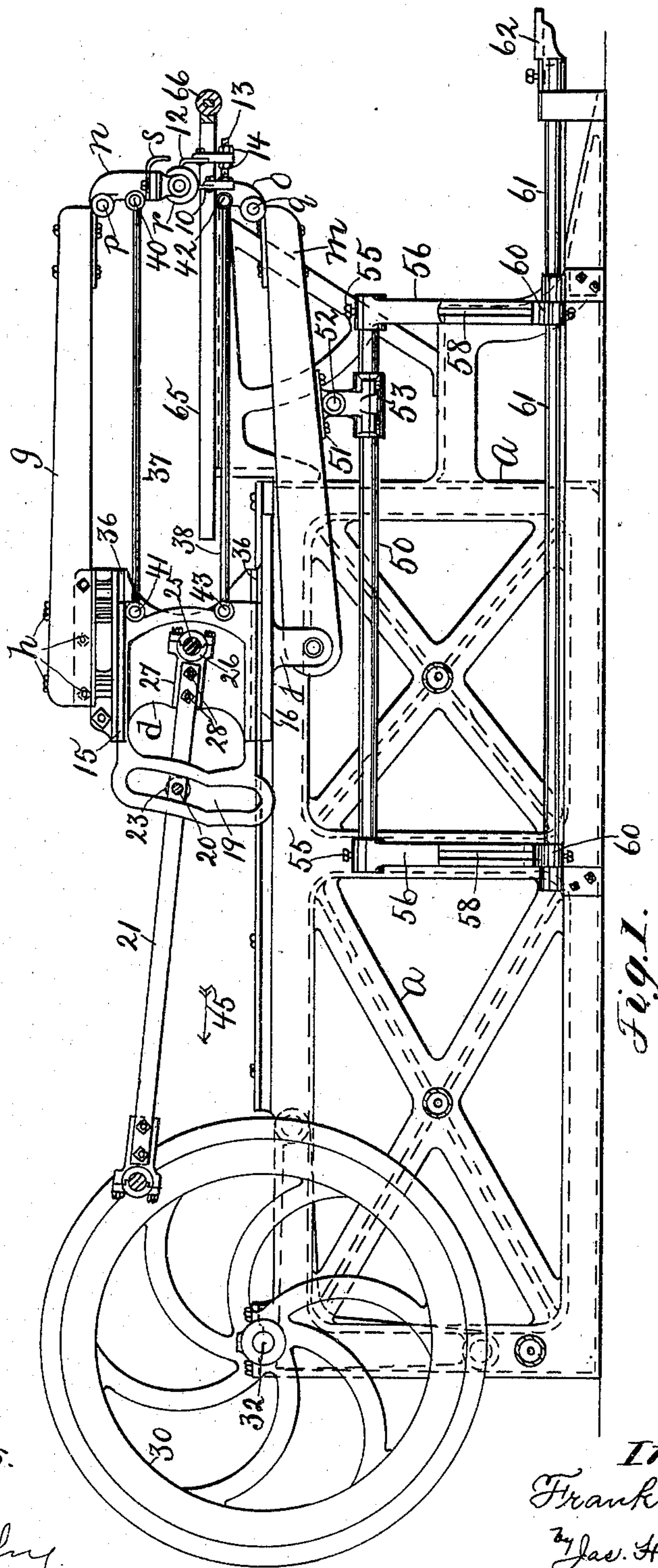
PATENTED JAN. 12, 1904.

F. J. PERKINS.  
STAKING MACHINE.

APPLICATION FILED SEPT. 17, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.

C. A. Clark

J. Murphy

Inventor.

Franklin J. Perkins  
by Jas. H. Churchill  
att'y.



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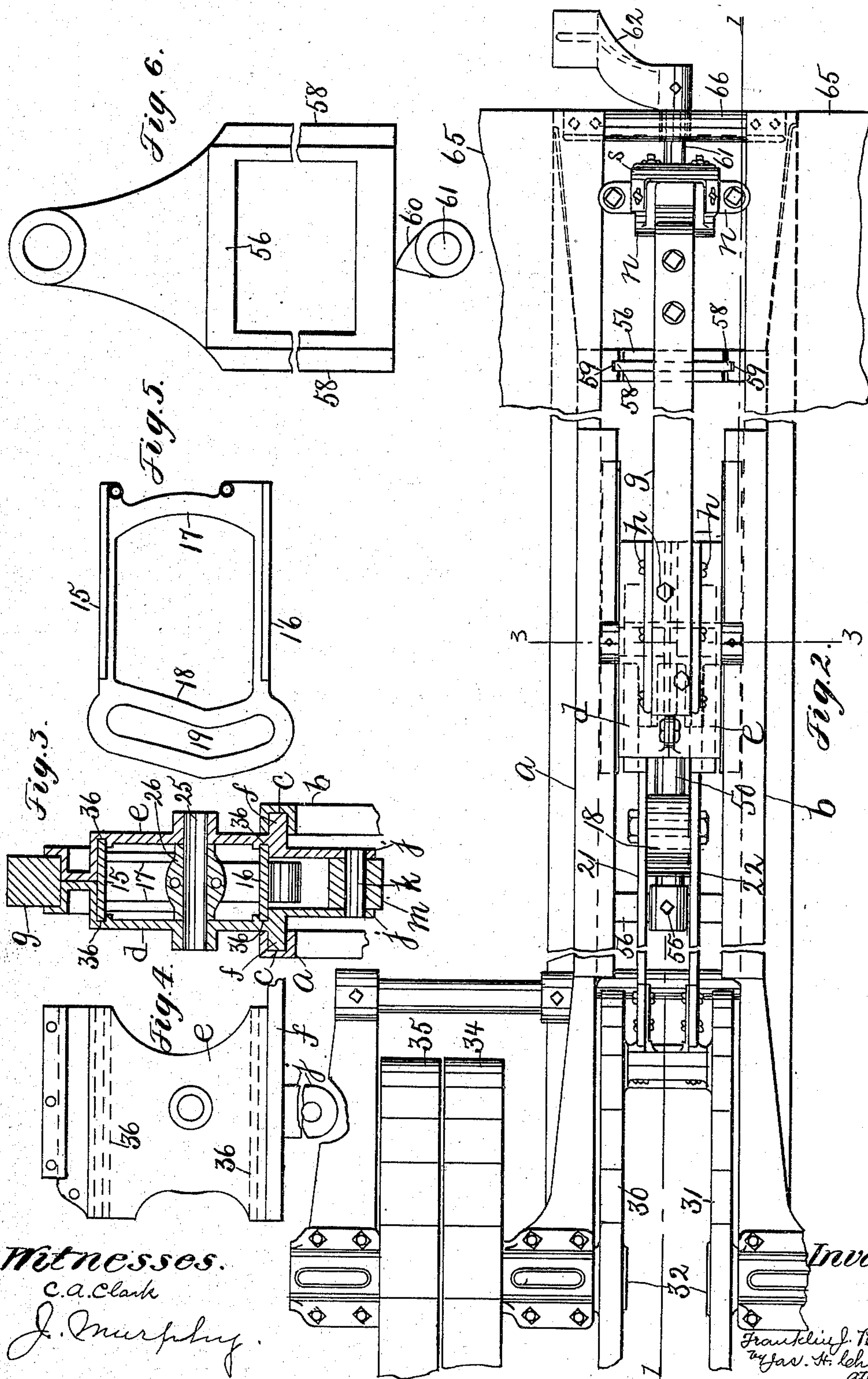
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2 SHEETS—SHEET 2.



Witnesses.

C. A. Clark

J. Murphy

Inventor.

Franklin J. Perkins  
by Jas. H. Lehighill  
att'y.



# UNITED STATES PATENT OFFICE.

FRANKLIN J. PERKINS, OF WOBURN, MASSACHUSETTS, ASSIGNOR TO  
VAUGHN-ROOD MACHINE COMPANY, OF PORTLAND, MAINE.

## STAKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 749,398, dated January 12, 1904.

Application filed September 17, 1903. Serial No. 173,513. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLIN J. PERKINS, a citizen of the United States, residing in Woburn, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Staking-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a machine for treating hides, skins, and leather, and more particularly to a machine which is especially adapted for use in putting out, stretching, or staking leather.

The present invention has for its object to provide a simple and efficient machine for the purpose specified; and to this end the said machine is provided with a reciprocating tool-carrier and a reciprocating device for operating the tools carried by said carrier, which reciprocating device is movable with the carrier and independent thereof to effect the opening and closing of said tools, as will be described. Provision is also made for raising and lowering the lower tool-carrier to position it with relation to the upper tool-carrier, so as to adjust the pressure of the operating-tools on the material being treated. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a longitudinal section of a staking-machine embodying this invention, the section being taken on the line 1 1, Fig. 2; Fig. 3, a detail in section on the line 3 3, Fig. 1; and Figs. 4, 5, and 6 details, on an enlarged scale, to be referred to.

The machine herein shown as embodying this invention is provided with a framework comprising the side frames *a b*, separated from each other and provided with suitable guideways *c*, (see Fig. 3,) in which slides a reciprocating frame, which may be made as herein shown and comprises two halves or parts *d e*, having side flanges or ribs *f*, which enter the guideway *c*. The parts *d e* support at their upper ends an arm *g*, which may be of wood or other suitable material and which is firmly secured to said parts by bolts or screws *h*, some of which may serve to fasten together

the two halves or parts *d e*. The parts *d e* are provided, as herein shown, with depending lugs *j*, which support the pivot *k* of a lever or lower tool-carrying arm *m*, which also may be of wood and which is located between said lugs and in line with the upper tool-carrying arm *g*.

The arms *g m* have secured to them at their front ends tool-holders *n o*, which may be pivoted to said arms at *p q* and which are provided with suitable tools adapted for the particular work to be performed. In the present instance the holder *n* is shown as provided with a rubber or other roll *r*, rotatably mounted in said holder, and a piece or pad *s*, of metal or other suitable material, and the lower holder *o* is shown as provided with a scraper 10 and with a knife or blade 12, which latter is adjustable with relation to the scraper 10 and for this purpose is mounted on the threaded rod 13, extended from the holder *o*, and is secured in its adjusted position by the nuts 14.

The tool-holders *n o* are moved so as to open and close the tool, and in accordance with this invention this result is effected by a device which is supported by the reciprocating tool-carrier and which is bodily movable independent thereof. The device referred to may be made as herein shown, (see Figs. 1, 2, 3, and 4,) and consists of an upper plate 15, a bottom plate 16, connected together at their front ends by vertical webs or bars 17 and at their rear ends by a substantially central web, plate, or bar 18, provided with a vertically-arranged cam-slot 19, into which extends a stud or projection 20, joining two parallel connecting bars or rods 21 22, (see Fig. 2,) the said stud preferably having mounted on it an antifriction-roller 23. The connecting bars or rods 21 22 are pivotally attached to the sliding tool-carrier, and for this purpose the parts or halves *d e* of said carrier support a pivot-pin 25, upon which is loosely mounted a hub 26, provided at its ends with cranks or arms 27, to which the connecting-rods are fastened by the bolts or screws 28, the opposite ends of said connecting-rods being pivotally connected in a similar manner



to crank disks or wheels 30 31 on a shaft 32, supported by the framework of the machine and driven in any suitable manner, it being shown as provided with fast and loose pulleys 34 35.

The top and bottom plates 15 16 of the tool-actuating device are fitted to slide in suitable guideways 36 in the two parts or halves *d e* of the tool-carrier, (see Fig. 3,) and the said actuating device is connected to the tool-holders *n o* by the rods 37 38, the rod 37 being pivotally connected with the tool-holder *n* at 40 and with the actuating device at 41 and the rod 38 being pivotally connected at 42 with the tool-holder *o* and at 43 with the said actuating device.

By reference to Fig. 1 it will be seen that rotation of the crank-shaft 32 reciprocates the tool-carrier, which slides in the guideways *c* in the framework of the machine, and that the tool-actuating device is simultaneously reciprocated with said tool-carrier by reason of its connection with the connecting-rods 21 22. During the greater part of the stroke or movement of the tool-carrier in opposite directions the reciprocating tool-actuating device has practically a fixed position or relation to the tool-carrier; but at or about the time the tool-carrier reaches the end of its stroke in either direction the tool-actuating device is moved bodily on the tool-carrier to open or close the jaws or operating-tools. In practice at or about the time the tool-carrier has reached the end of its stroke in the direction indicated by the arrow 45, Fig. 1, which may be considered its forward stroke, the cam-slot 19, acting on the stud or roller 23, slides the tool-actuating device on the tool-carrier and moves the tool-holders outward to open the jaws or tools and release the work, thereby permitting the operator to shift the skin or work so as to bring a fresh or untreated portion of the same in line with the operating-tools. On the return or backward movement of the tool-carrier and the tool-actuating device the cam-slot 19 maintains the tools or jaws open until at or about the time the said carrier has reached the end of its backward stroke or is beginning its forward stroke, at which time the said cam-slot slides the tool-actuating device in the direction indicated by the arrow 45 and closes the jaws or tools upon the work.

In the machine herein shown provision is made for moving the lower tool-carrying arm *m*, so as to vary the position of the free end of the same with relation to the upper tool-carrying arm, and thereby vary the pressure of the operating-tools upon the work, and for this purpose the arm *m* is pivotally connected with a rod or bar 50, which may be effected, as herein shown, by a bracket or arm 51, fastened to the arm *m* and secured by a pivot-pin 52 to a box 53, loosely mounted on the rod 50 to slide thereon. The bar or rod 50 is fas-

tened at its ends by screws 55 in sliding supports or frames 56, each of which is provided, as herein shown, with side ribs 58, (see Fig. 6,) which fit into guideways 59 in the side frames *a b*, so that the supports are caused to be moved in a straight line when moved up and down. The tool-carrying arm *m* is moved upward by cams or dogs 60, fast on a rock-shaft 61 and engaging the under side of the guide-pieces 56, the said rock-shaft being supported in suitable bearings in the frame of the machine and provided with a foot-treadle 62, by which it may be turned to elevate the free end of the arm *m*.

It will be observed that the connection between the tool-carrying arm *m* and its elevating mechanism is a loose one, so that the said arm may be reciprocated, while the elevating mechanism remains in a fixed position with relation to the reciprocating tool-carrier.

The side frames *a b* support in any suitable manner the table 65 and breast-roll 66, common to machines of this class.

I claim—

1. In a machine of the class described, in combination, a reciprocating tool-carrier, means to move it, tool-holders pivotally connected with said carrier, an actuating device for said tool-holders reciprocating on said carrier and bodily movable independent of said carrier, means to effect reciprocation of said carrier, and means to effect bodily movement of said actuating device, substantially as described.

2. In a machine of the class described, in combination, a reciprocating frame, means to move it, an upper tool-carrying arm connected with said frame, a lower tool-carrying arm pivoted to said reciprocating frame to permit its tool-carrying end to move toward and away from said upper tool-carrying arm, mechanism movable in a substantially vertical plane and having a fixed position with relation to said reciprocating frame, and means attached to the lower tool-carrying arm intermediate the pivot and the tool-carrying end of said arm and in sliding engagement with said vertically-movable mechanism, substantially as and for the purpose specified.

3. In a machine of the class described, in combination, a sliding frame, means to move it, tool-carrying arms secured to said sliding frame to move therewith, tool-holders movably attached to said arms, an actuating device for said movable tool-holders in sliding engagement with said sliding frame, and means to effect the sliding movement of said actuating device independent of the movement of said sliding frame, substantially as described.

4. In a machine of the class described, in combination, a sliding frame, an upper tool-carrying arm fastened to said frame, a lower tool-carrying arm pivoted to said sliding frame, tool-holders movably connected with said arms, a bodily-movable cam-plate in slid-



ing engagement with said sliding frame, means for connecting said cam-plate with said tool-holders, and means for reciprocating said frame and said cam-plate, substantially as described.

5  
10  
15  
20 5. In a machine of the class described, in combination, a sliding frame, means to move it, an upper tool-carrying arm movable with said frame, a lower tool-carrying arm pivoted to said frame, an elevating mechanism for said lower tool-carrying arm, comprising a bar or rod extended in the direction of the path of movement of the sliding frame, supports for said bar bodily movable in a vertical direction, an arm pivotally connected with said lower tool-carrying arm between its pivot and its tool-carrying end and loosely mounted on said bar or rod to slide thereon, and means to elevate said supports, substantially as described.

6. In a machine of the class described, in

combination, a sliding frame comprising side pieces provided with guideways on their inner sides, tool-carrying arms attached to said frame to move therewith, tool-holders movably connected with said tool-carrying arms, an actuating device for said tool-holders comprising a plate or bar having a cam-slot and provided with ribs or guides which fit into the guideways in the sides of the sliding frame, a crank-shaft, and a rod or bar connecting said crank-shaft with said sliding frame and engaging said cam-slot, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANKLIN J. PERKINS.

Witnesses:

JAS. H. CHURCHILL,  
J. MURPHY.