

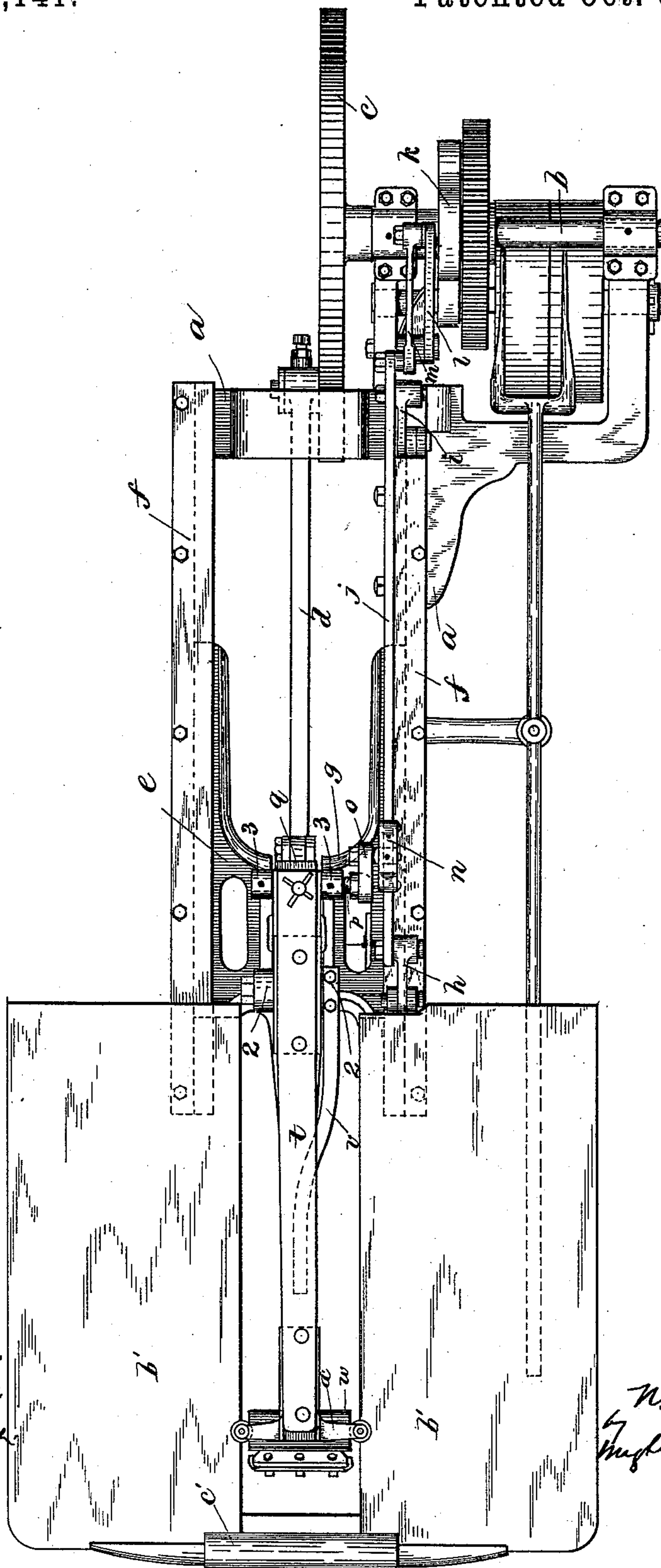
(No Model.)

4 Sheets—Sheet 1.

N. WEBER.
MACHINE FOR SOFTENING HIDES OR SKINS.

No. 392,141.

Patented Oct. 30, 1888.



WITNESSES.

A. D. Harrison.

W. B. Ramsay.

INVENTOR.

N. Weber.

by Hugh Brown Connelley
Attys.

(No Model.)

4 Sheets—Sheet 2.

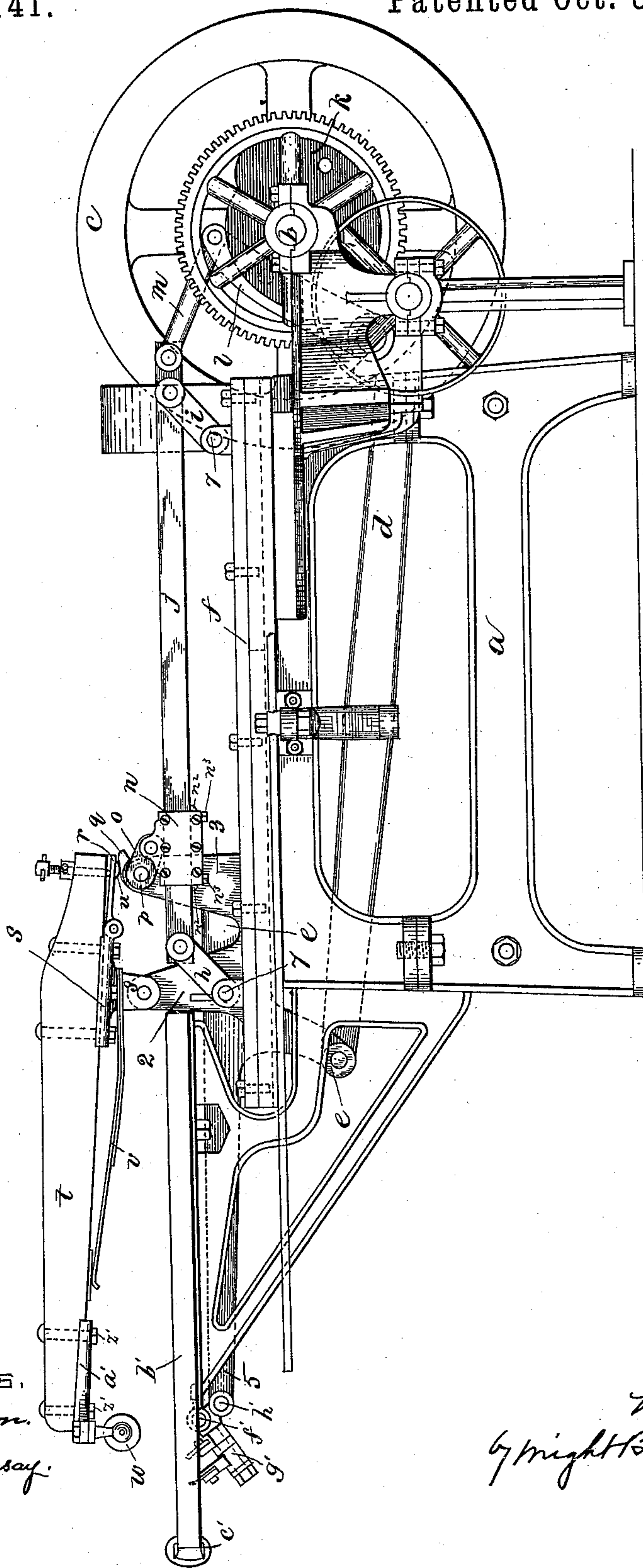
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Fig. 2.



WITNESSES.
A. D. Hanson.
W. B. Ramsay.

INVENTOR,
N. Weber,
by Wright Brown Connelley,
Attys.

(No Model.)

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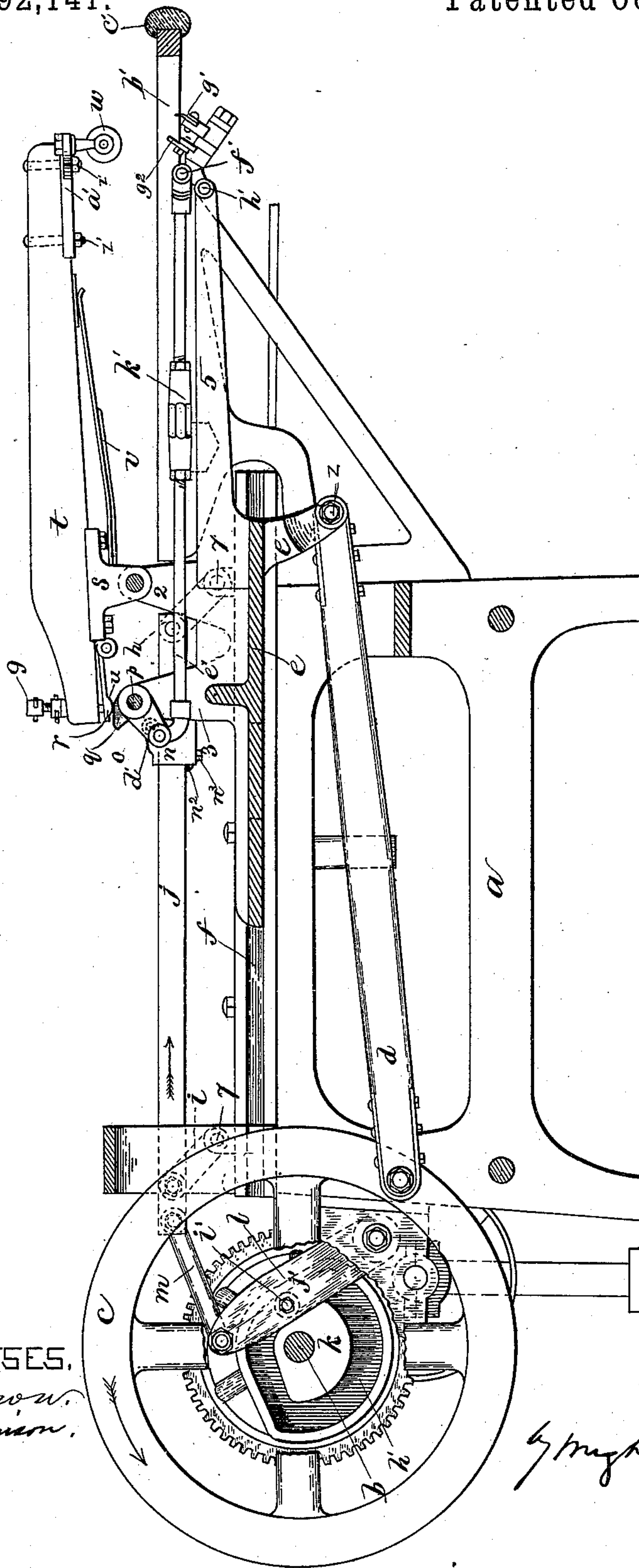
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FIG. 3.



WITNESSES,
H. Brown.
A. D. Hammon.

INVENTOR

N. Weber.

Wm. H. Brown & Co.,
Attys

(No Model.)

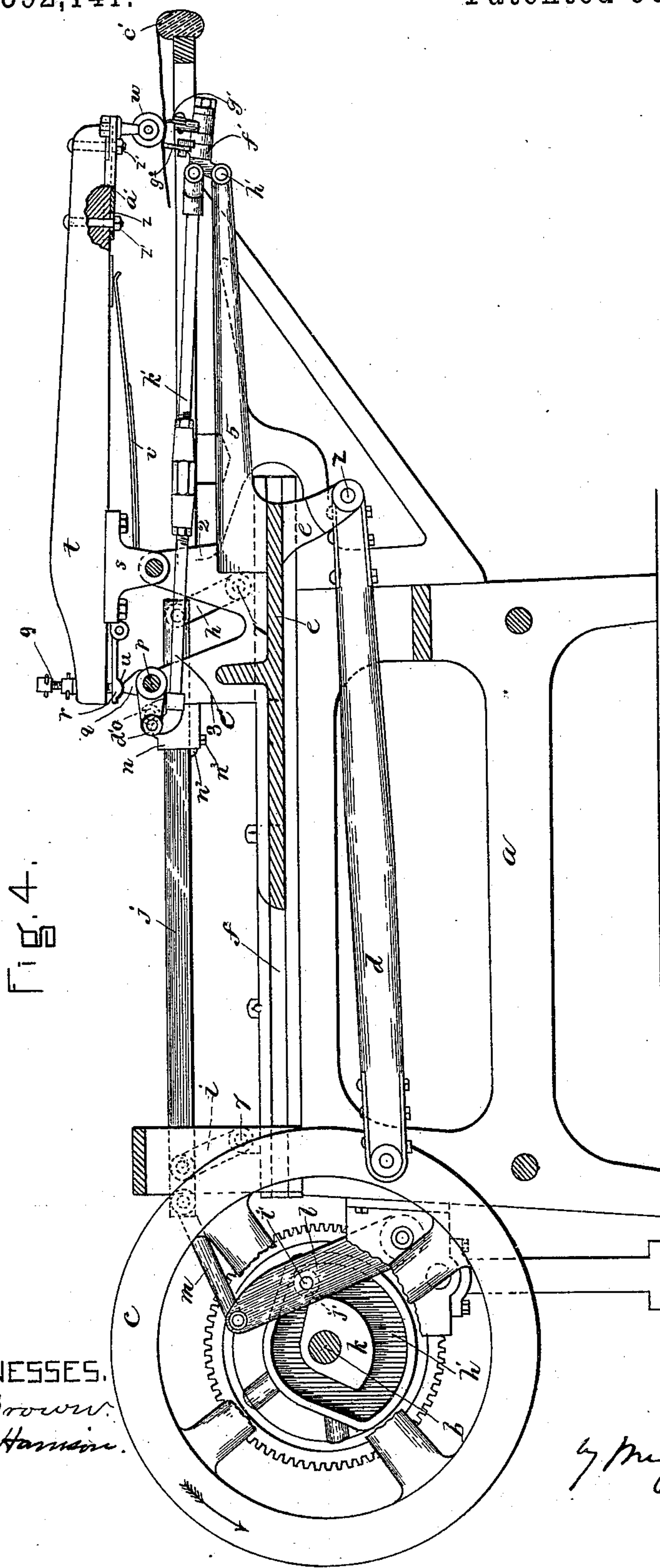
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WITNESSES.

H. Brown.

A. D. Hanson.

INVENTOR.

N. Weber.

by Wright & Brown & Co.
Atty.

UNITED STATES PATENT OFFICE.

NICHOLAS WEBER, OF LYNN, MASSACHUSETTS.

MACHINE FOR SOFTENING HIDES OR SKINS.

SPECIFICATION forming part of Letters Patent No. 392,141, dated October 30, 1888.

Application filed May 14, 1888. Serial No. 273,796. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS WEBER, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful
5 Improvements in Machines for Stretching and Softening Hides or Skins, of which the following is a specification.

This invention relates to machines for stretching or softening a hide or skin by a scraping
10 action on the flesh side thereof, produced by the operation of a roll of yielding material and a blade or scraper arranged in suitable relation to said roll to press an interposed sheet
15 or piece of leather directly against said roll, means being employed whereby said roll and blade are moved alternately backward and forward in unison, and means whereby said
20 roll and blades are closed upon the interposed material during the backward movement, as shown in the Jesson patent, reissued August 23, 1887, No. 10,860.

The invention consists in the organization of mechanism, hereinafter described and claimed, whereby the roll and blade are reciprocated,
25 and are alternately closed upon the material and separated therefrom.

Of the accompanying drawings, forming a part of this specification, Figure 1 shows a plan view of my improved machine. Fig. 2
30 is a side elevation of the same. Fig. 3 is a side elevation, partly in section, of the opposite side of the machine, with portions of the driving-wheel broken away to show more clearly some of the operative parts. Fig. 4 is a view
35 similar to Fig. 3, with the portions of the mechanism in a different position.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the frame of the machine, in which is journaled a driving-shaft, *b*, with its attached driving-wheel *c*. To said driving-wheel *c* is attached a connecting-rod, *d*, which rod is connected at its other
40 end to a carrier, *e*. Said carrier is adapted to be reciprocated in guides *f*, formed on the frame of the machine, and is provided with standards 2 2 and 3 3 and an arm or extension, 5.

h i represent two arms, which are pivoted at
50 7 7 to the frame *a*, their upper ends being pivoted to a guide-rod, *j*. (Shown most clearly in Fig. 2.) Said guide-rod is adapted to be re-

ciprocated by means of a cam, *k*, on the driving-shaft through a lever, *l*, pivoted at its lower end to the frame, and a rod, *m*, connecting the
55 guide-rod *j* and the lever *l*, the arrangement being such that when said guide-rod is reciprocated it will be raised and lowered by the oscillations of the arms *h i* on their pivots. *n*
60 represents a slide fitted to move on the guide-rod *j*, to which slide is pivoted an arm, *o*, which is attached to and adapted to give a partial rotary motion to a rock-shaft, *p*. Said shaft has a toe or cam, *q*, formed on it, and is journaled in bearings on standards 3 3 of the car-
65 rier. The cam *q* bears against an adjustable metal plate, *r*, which is pivotally connected at one end to a casting, *s*, which supports the beam *t*, said plate *r* having on its under side at the point of contact with cam *q* a slightly
70 rounded projection or chafing-piece, *u*.

t represents the holder for the roller or upper jaw, *w*, said holder being a lever or beam, preferably of wood, bolted to the casting *s*, the
75 latter being pivoted to the arms 2 2 of the carrier *e*. Said beam is adapted to be oscillated on its bearings, and is normally held in a raised position by a spring, *v*, as shown in Figs. 2 and 3.

w represents the upper jaw, which is preferably a roller of yielding material, as rubber,
80 as in the patent above mentioned. Said roller is adapted to rotate in suitable bearings in a casting, *a'*, secured to the under side of beam *t*.

b' represents a table having secured at its
85 outer end a rubber cushion, *c'*, to enable the operator to better hold the skin during the scraping action by bearing the same against said cushion with his body. Said table has an opening in the center thereof to permit
90 the jaws to operate on the skin. (See Figs. 1 and 4.)

To the rock-shaft *p* is attached an arm, *d'*, which is connected at its outer end with a rod, *e'*. Said rod *e'* is connected at its other end
95 with the holder *f'* of the lower jaw or scraper, *g'*. The holder *f'* and scraper *g'* are constructed and arranged to operate substantially as shown in the Jesson patent, the holder *f'* being pivoted at *h'* to the outer end of the arm 5 of the
100 carrier *e*.

k represents a cam secured to driving-shaft *b* and rotated thereby. Said cam has a groove, *h'*, the path of which is formed to impart mo-

tion to guide-rod *j* through the medium of lever *l* and connecting-rod *m*. A trundle-roll, *z'*, on the lever *l*, enters the cam-groove, so that the said lever is oscillated by the rotation
5 of the cam.

The operative devices are shown in Figs. 1, 2, and 3 in the position they occupy just before the jaws close and grasp the skin, while in Fig. 4 the jaws are shown as closed upon
10 the skin.

By reference to Fig. 3 it will be seen that when the driving-wheel *c* is rotated in the direction of the arrow marked thereon the cam *k* will be so rotated that the lever *l* will be
15 moved in the direction of the arrow marked on guide-rod *j*, Fig. 3, and will move said rod endwise, the arms or links *h i* at the same time raising the rod to the position shown in Fig. 4. This upward movement of the rod *j* also
20 raises the slide *n*, causing the latter by its connection with the arm *o* of the rock-shaft *p* to partially rotate said shaft and raise the cam or toe-piece *q* against the chafing-iron *u* on the under side of beam *t*, thereby raising the rear
25 end of said beam and depressing the outer end of the same and the roll or upper jaw, *w*, thereon, as will be clearly understood by reference to Fig. 4. The partial rotation of shaft *p*, just described, also causes rod *e'* to be drawn back
30 by arm *d'*, and to thereby raise the lower jaw or scraper into position to engage roll *w* on the interposed skin. (See Fig. 4.) The scraping devices remain in the position just described while the carrier *e* is moving forward to stretch and scrape the skin. The cam
35 *k* is formed to hold the lever *l* stationary during the backward stroke of the carrier, and thus causes the guide-rod *j* to remain in its raised position, the slide *n* moving thereon
40 with the carrier during the entire forward stroke. The carrier having completed its backward movement, the cam *k* moves the lever *l* to the position shown in Figs. 2 and 3, which movement lowers guide-rod *j*, thus
45 causing the slide *n* to rotate the rock-shaft *p*, and thereby move the cam *q* and the arm *d'*, so as to allow the beam to be raised by spring *v* and cause the rod *e'* to depress the lower jaw-holder, the jaws being entirely separated from
50 the skin and free to return to their starting position on the skin. The movements above described are continued, the raising of guide-rod *j* during the backward stroke of the carrier closing the jaws upon the skin and the
55 lowering of the same opening the jaws during the forward stroke.

The rod *e'* is made in two sections, connected by a right and left threaded nut, *k'*, so that the length of said rod may be varied to regulate
60 the degree of pressure of the lower jaw upon the skin when said jaw is raised.

I have also provided an adjustable device to regulate the extent of the downward movement of the beam *t*, the same consisting of a
65 screw, 9, passing through the rear end of the beam and bearing on the pivoted plate *r*, and

thereby permitting the adjustment of the beam, as will be readily understood.

It will be seen that the driving-shaft is arranged at one end of the machine and at about
70 the same height as the guides *f*, on which the cross-head or carrier *e* slides, so that the force exerted through the connecting-rod in reciprocating the cross-head and jaws is always as
75 nearly in line with the direction of movement of the cross-head as possible. Hence the power is applied to the best advantage, and the jar and noise attending the operation of the machine are reduced to the minimum.

By reference to Fig. 4 it will be noticed that
80 when the rock-shaft *p* and its cam *q* and arm *d'* are in position to close the jaws the cam is in a vertical position, so that all the pressure which attends the closing of the jaws upon the skin is supported by said cam, the rock-shaft
85 and the bearings of the rock-shaft in the cross-head, the slide *n* and guide-rod *j* being relieved of all strain. The wear of said slide and guide-rod and of the supports of the latter is therefore reduced to the minimum. When it is con-
90 sidered that the slide *n* is in constant movement on the guide-rod, the advantage of having the slide and rod relieved from the pressure occasioned by closing the jaws will be ap-
95 parent.

The casting *a'*, which supports the journals of the roll *w*, is adjustable lengthwise of the beam or lever *t* by means of screws *z'*, which secure said casting to the beam, and slots *z''*,
100 Fig. 4, in the casting through which said screws pass. Adjustment of the roll *w* at right angles to its axis is thus permitted. This adjustability enables the line of contact of the scraping-blades with the roll to be varied, as
105 may be desired.

I have here shown the lower jaw as composed of two blades, *g' g''*. The blade *g'* is provided with a thin scraping-edge adapted to remove the surplus matter from the flesh side of a skin
110 interposed between it and the roll *w*, while the blade *g''* is blunt at its upper edge and serves only to remove wrinkles from the skin in advance of the point where the scraping-blade acts. The lower jaw may have only one blade, if preferred, that being the scraping-blade.
115

The slide *n* is provided with a gib, *n''*, which bears against the under edge of the guide-rod *j*, and with screws *n''' n'''*, whereby said gib may be adjusted to compensate for wear.

I claim—

1. The combination of the carrier adapted to reciprocate in guides on a supporting-frame, means for reciprocating the carrier, the jaw-
120 holder pivoted to an arm on the carrier, the beam or lever *t*, pivoted to the carrier and provided with the yielding roll or jaw at its
125 outer end arranged over the scraping-jaw, a spring which normally raises the lever and roll, the rock-shaft *p*, journaled in the carrier and having a cam, *q*, bearing on the rear end
130 of the lever *t*, and an arm or lever, *d'*, connecting with the lower jaw-carrier, the ar-

5 rangement being such that a partial rotation of said rock-shaft will either close or open the jaws, according to the direction of such rotation, and means whereby the rock-shaft is held in position to close the jaws during the forward movement of the carrier and to open the jaws during the return movement, as set forth.

10 2. The combination of the carrier, means for reciprocating it, the upper and lower jaw-holders, each pivoted to the carrier, the spring *v*, for raising the upper jaw-holder, the rock-shaft *p*, journaled in bearings on the carrier and provided with the cam *q* and arm *d'*, the adjustable shoe *r*, interposed between the
15 cam *q* and the upper jaw-holder, *t*, the adjustable rod *e'*, connecting the lower jaw-holder with the arm *d'*, a cam, *k*, rotated by the driving-shaft of the machine, and intermediate mechanism controlled by said cam,
20 whereby the rock-shaft *p* is held in position to close the jaws during the forward movement of the carrier and in position to open the jaws during the return movement of the carrier, as set forth.

25 3. The carrier, the upper and lower jaw-holders pivoted thereto, the rock-shaft journaled in bearings on the carrier and having the cam *q* and arms *o d'*, the rod *e'*, connecting the arm *d'* with the lower jaw-holder, and
30 the spring *u*, for raising the upper jaw-holder, combined with the slide *n*, connected with the arm *o*, the guide-rod *j*, mounted on links *h i*, the cam *k* on the driving-shaft, the lever *l*, adapted to be oscillated by the rotation of the
35 cam, and the rod *m*, connecting the lever *l* with

the guide-rod *j*, all arranged and operating substantially as described.

4. The beam or lever carrying the roll or upper jaw and provided with the adjustable bearing-piece *u*, combined with the cross-head 40 or carrier, the rock-shaft journaled therein, and the cam on said rock-shaft arranged to bear on the bearing-piece *u*, as set forth.

5. The combination of the cross-head or carrier, a holder, *f'*, having the lower jaw and pivoted to the carrier, the beam or lever *t*, 45 having the upper jaw, and also pivoted to the carrier, the rock-shaft journaled in bearings in the carrier and provided with the cam *q* and arm *d'*, a rod connecting the arm *d'* with the lower jaw-holder, a driving-shaft connected 50 by a rod, *d*, with the cross-head and arranged, substantially as described, relatively to the point of connection of said rod with the cross-head, and mechanism, substantially as de- 55 scribed, operated by the driving-shaft, whereby the rock-shaft is held with its cam in a vertical position during the forward movement of the cross-head and in a depressed position during the return movement of the cross-head, 60 as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 9th day of May, A.D. 1888.

NICHOLAS WEBER.

Witnesses:

C. F. BROWN,
W. C. RAMSAY.