

(Model.)

2 Sheets—Sheet 1.

J. W. CUBBAGE.

Leather Scouring and Wringing Machine.

No. 235,131.

Patented Dec. 7, 1880.

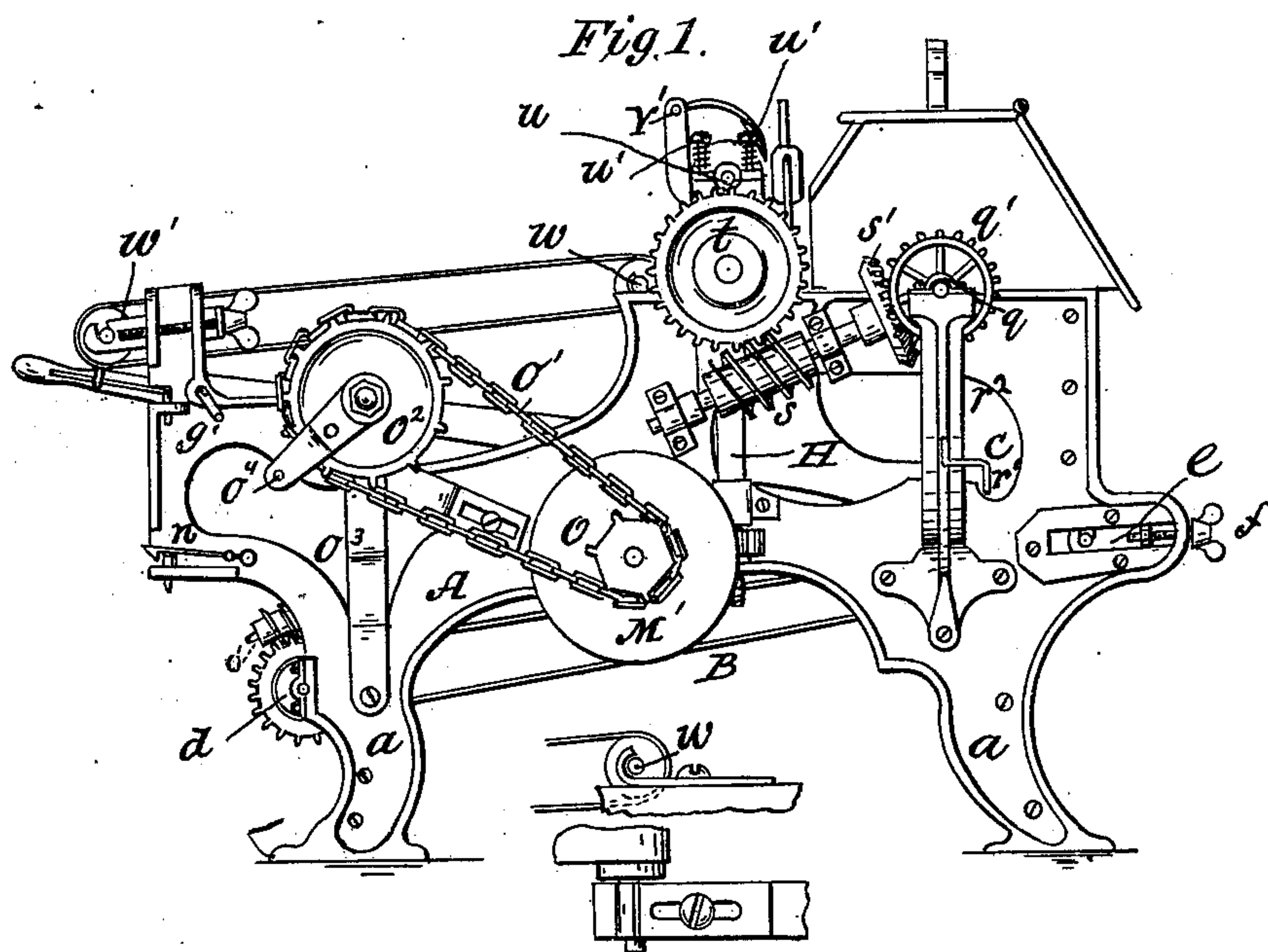
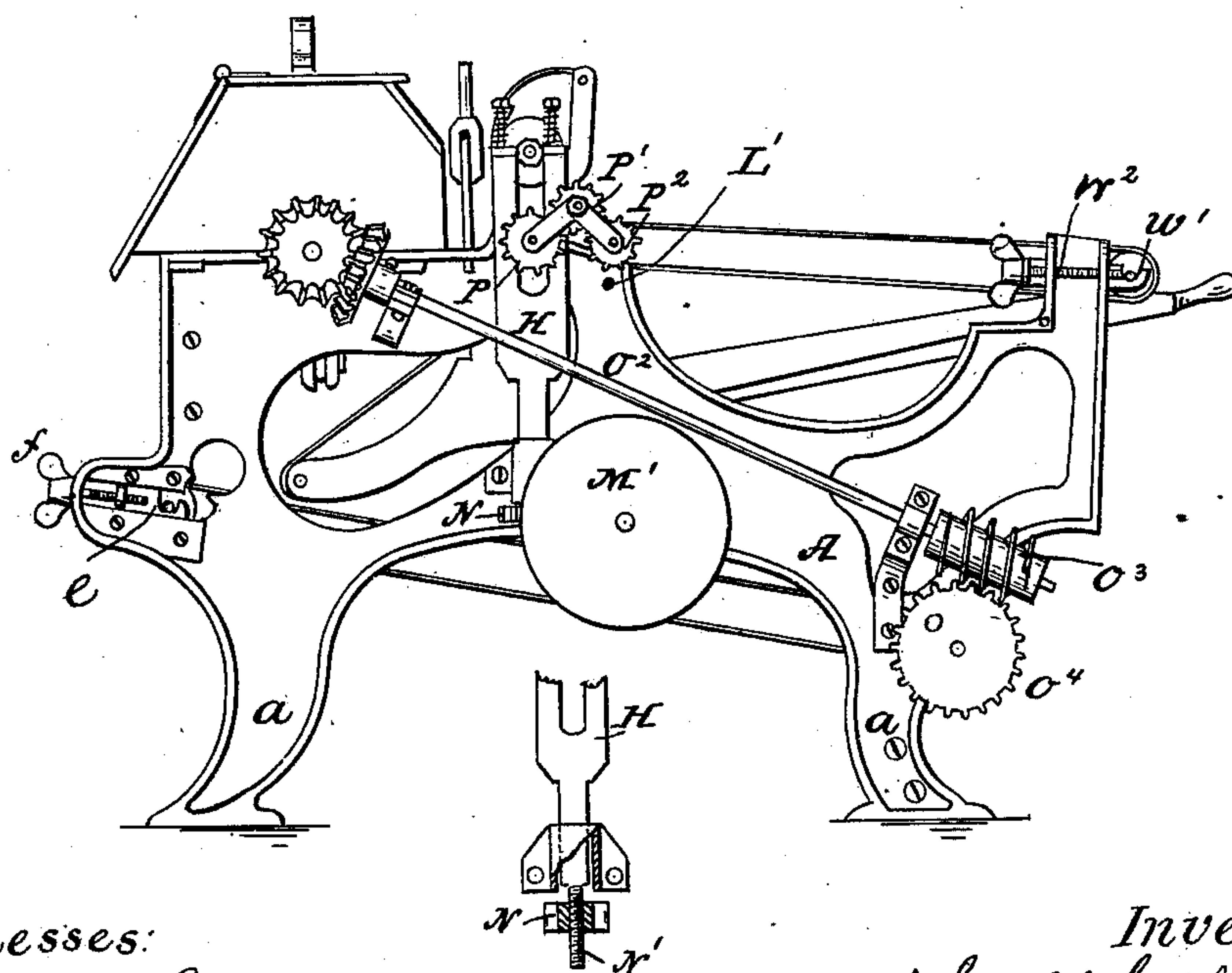


Fig. 2.



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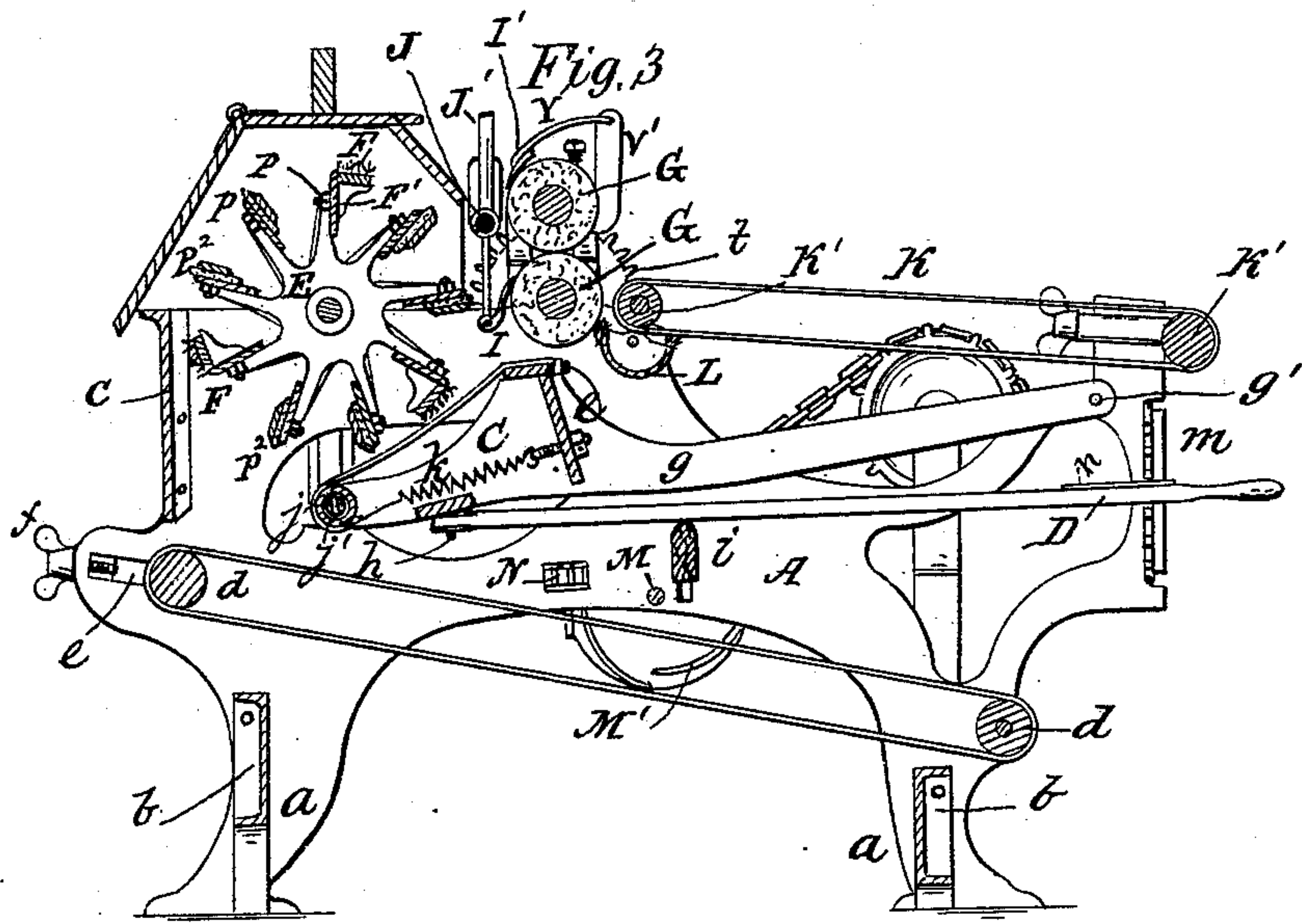


Fig. 4.

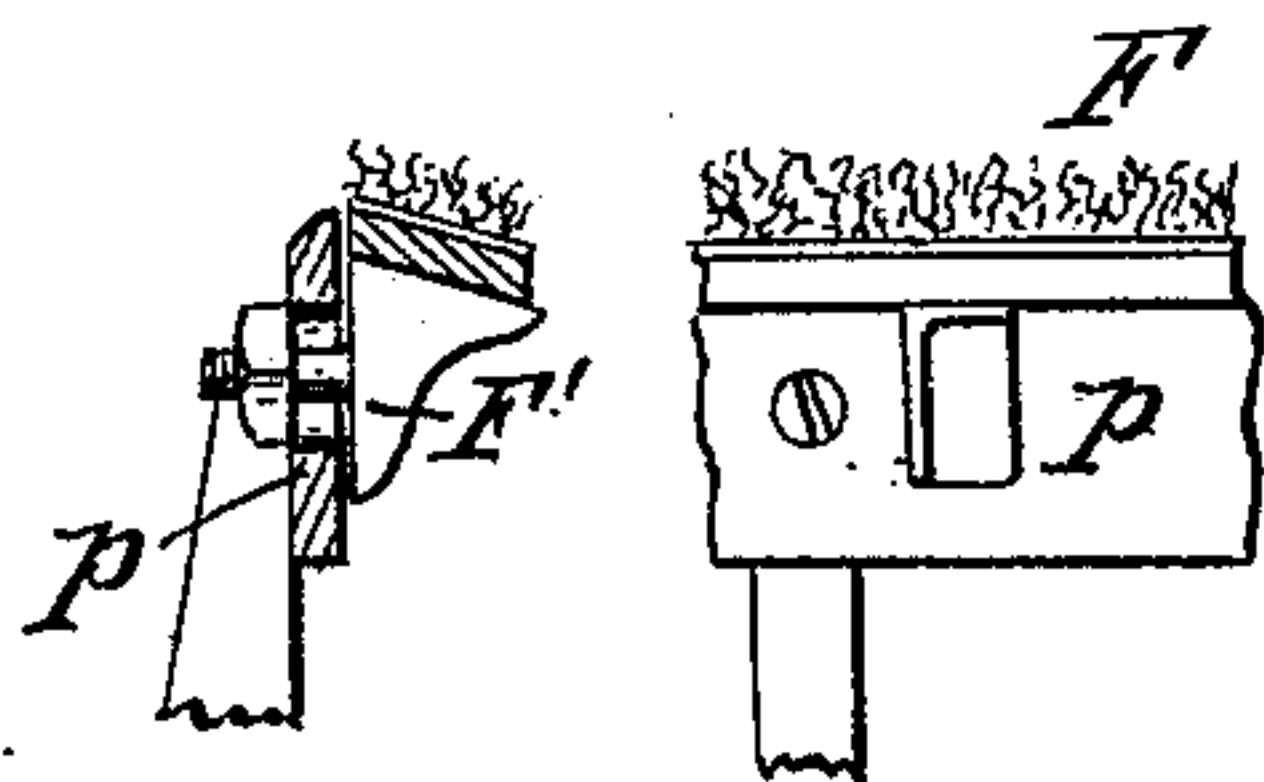


Fig. 5.

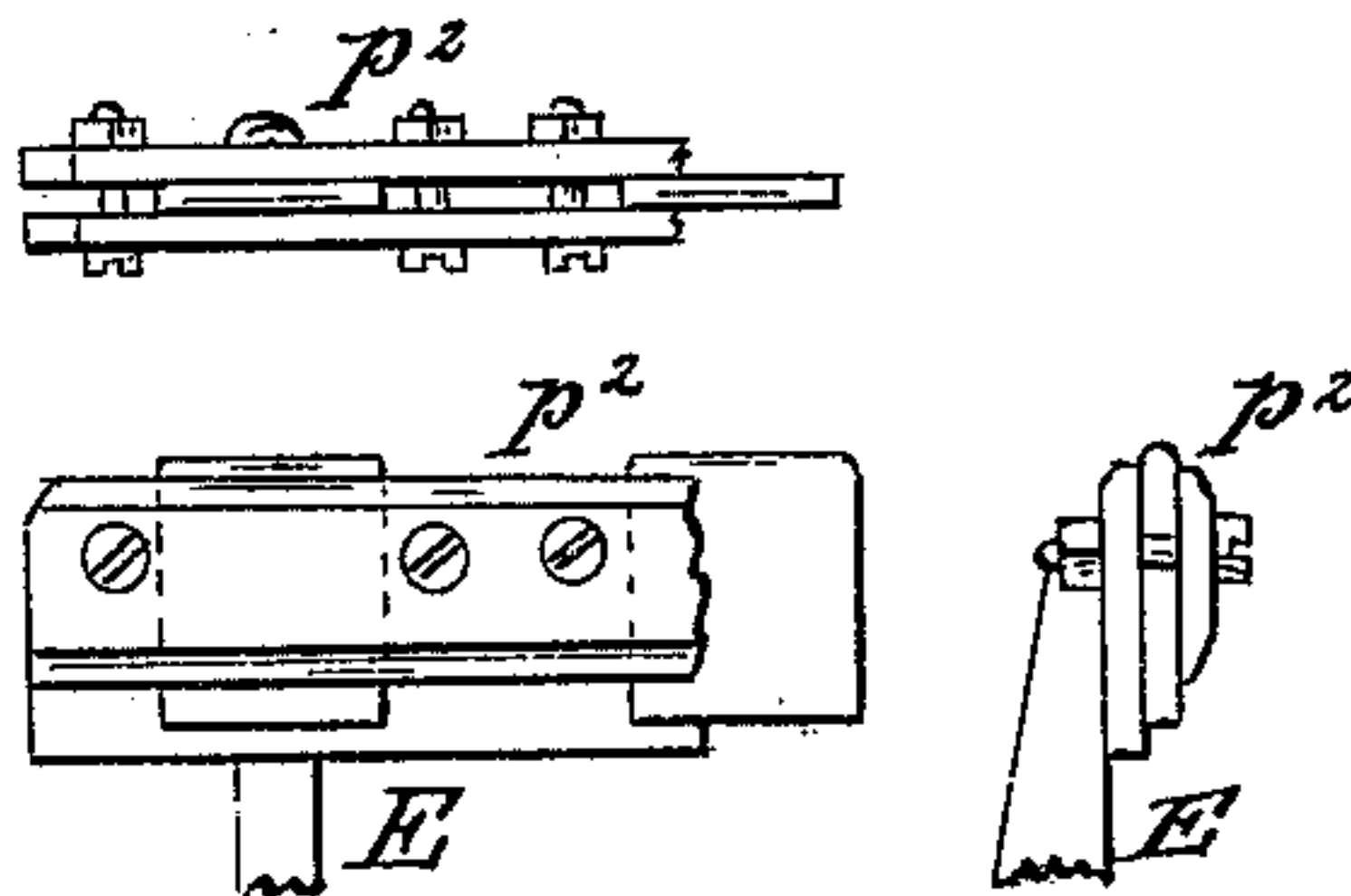


Fig. 6.

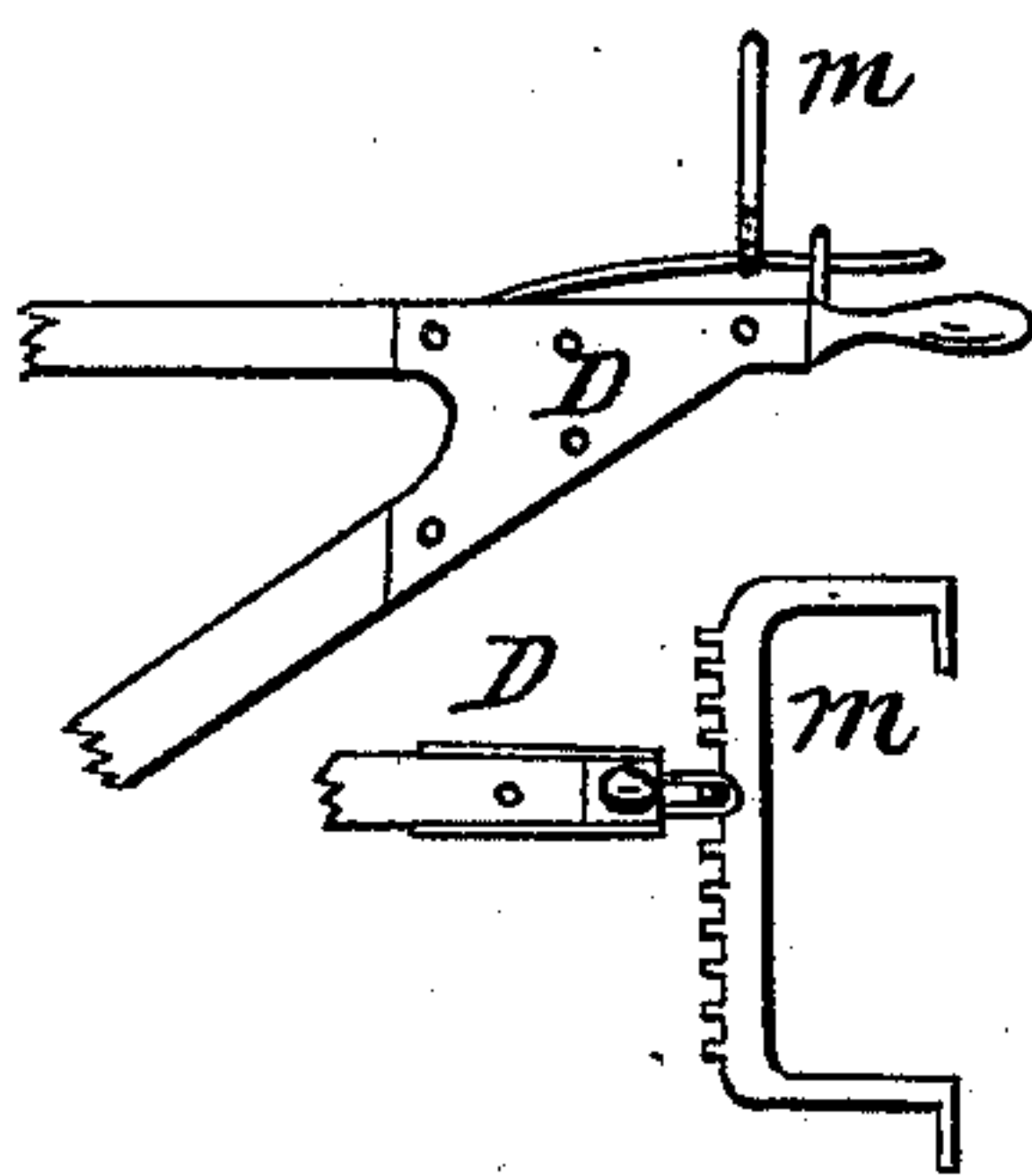


Fig. 7.

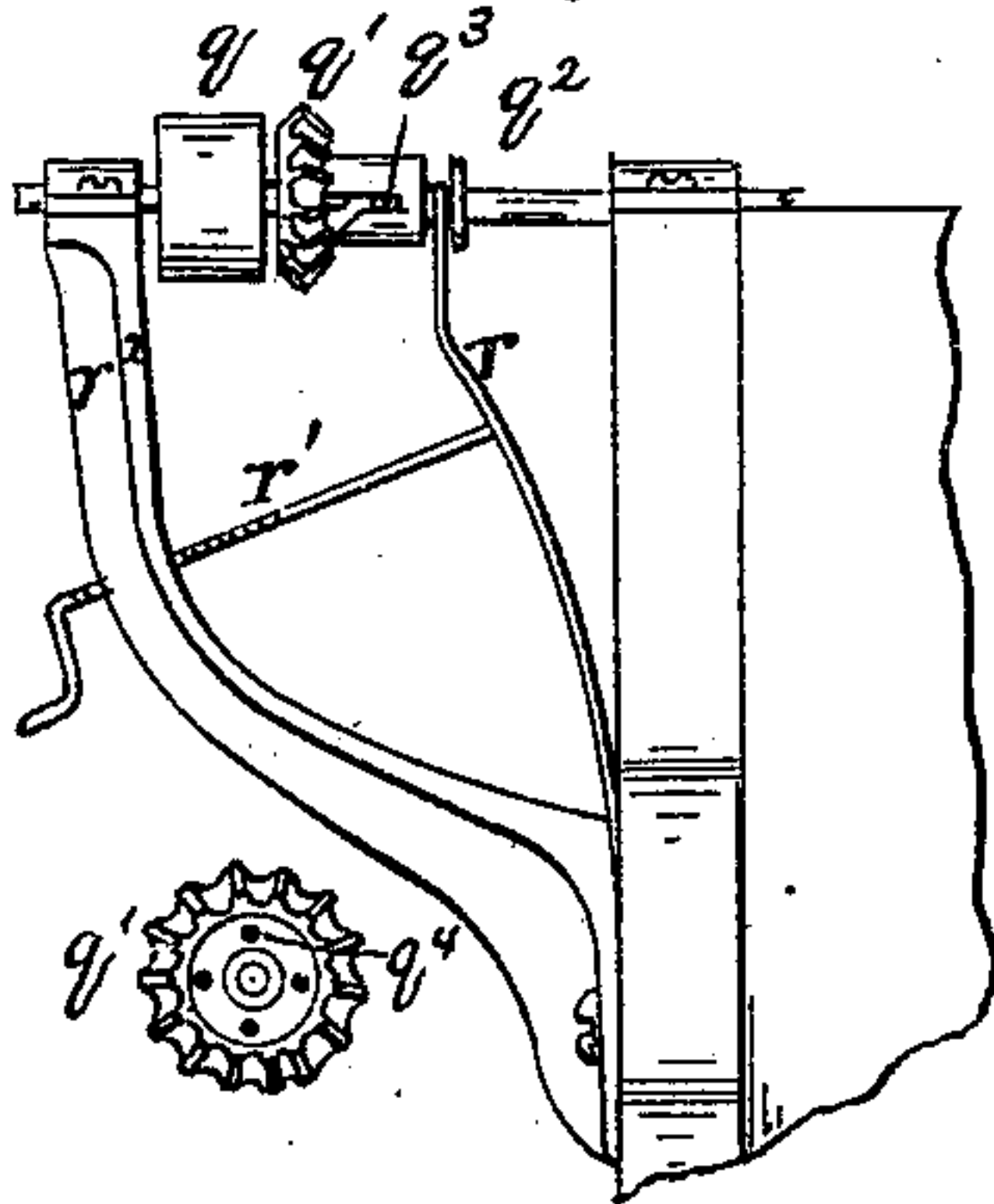
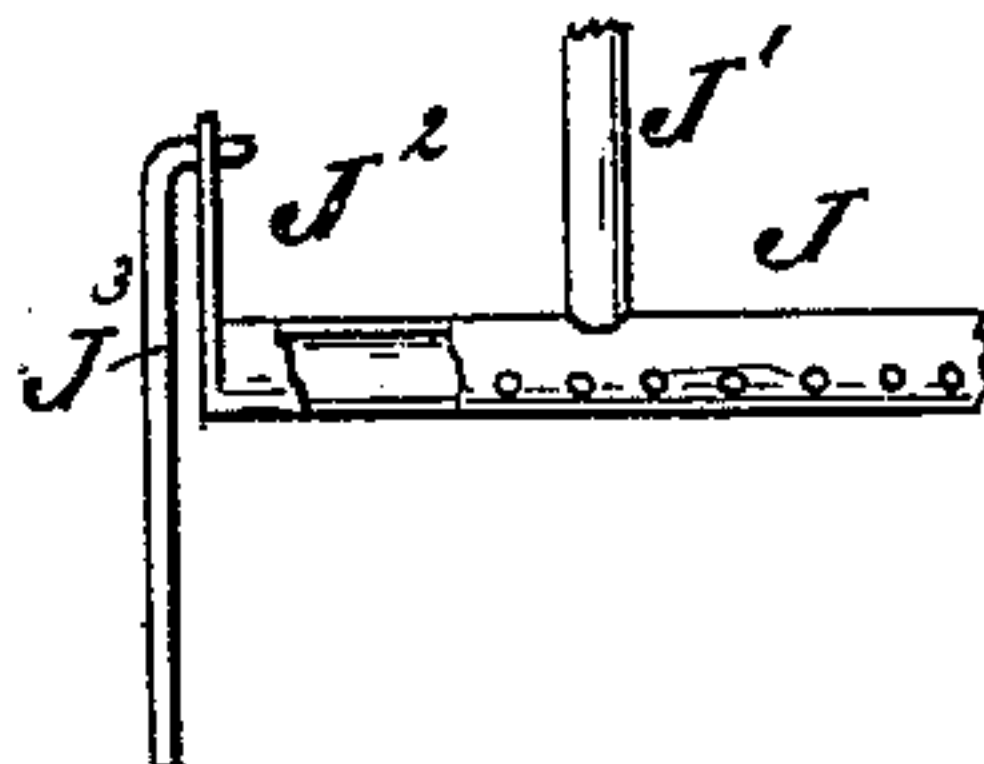


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN W. CUBBAGE, OF GALLIPOLIS, OHIO.

LEATHER SCOURING AND WRINGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 235,131, dated December 7, 1880.

Application filed October 21, 1880. (Model.)

To all whom it may concern:

Be it known that I, JOHN W. CUBBAGE, a citizen of the United States, residing at Gallipolis, in the county of Gallia and State of Ohio, have invented certain new and useful Improvements in Leather Scouring and Wringing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side elevation of my improved leather scourer, wringer, &c. Fig. 2 is a similar view taken from the opposite side of the machine. Fig. 3 is a longitudinal section of the same, and Figs. 4 to 8 are detail views thereof.

This invention relates to improvements in machines for tanners' use, principally for scouring, to aid the tanning of and wringing leather, and for working hides out of the bate. It is further applicable for breaking and softening hard dry hides, as well as unhairing and slicking hides; and the nature of my invention consists of the combination and arrangement of parts, substantially as hereinafter more fully set forth and claimed.

In the accompanying drawings, A A indicate side supports or castings, with suitable legs, *a a*, which are connected together by transverse pieces *b*, and the side pieces or supports by the end board, *c*, all securely bolted in position.

B is a rearwardly-inclined endless apron encompassing rolls *d d*, one journaled in fixed boxes at the rear end of the machine, and the other journaled in sliding boxes *e*, operated in slots in the forward ends of the supports A by the adjusting or thumb screws *f*. This permits of the tightening up of the belt or apron, as occasion may require, and also of slackening up on it to relieve it of strain when not in use. This apron conducts away waste water and matter falling from the leather or hides above undergoing treatment.

C is the work-table upon which the leather (or hides) is worked or treated while being scoured or otherwise acted upon by the work-

ing-wheel, presently described. This table has two side bars, *g*, with their rear ends hung upon the removable rod *g'* at the rear end of the machine. The forward end of the table is supported, so as to yield more or less vertically to any undue pressure exerted thereon while working the hides or leather, upon the forward ends of a two-armed lever, D, connected detachably to the under side of the table. Short projections or studs *h*, depending from the table, enter apertures in the forward ends of the lever to form the connection between them. The fulcrum of the lever D is a cross-bar, *i*, vertically adjustable in the side supports or pieces, A, to permit of adjusting the height of the table when needed. The table also has a flexible or elastic surface, with one end secured to a cross-bar fastened upon elevations of the bars *g*, while its forward end is carried around or rather against a series of small cylinders or rolls, *j*, slipped upon a rod or bar, *j'*, secured in the forward ends of the bars *g*, as clearly shown in Fig. 3. It is then connected to a series of springs, *k*, in turn bolted or otherwise secured to a board, *l*, of the table.

The series of short cylinders *j* permit the flexible table to give or yield at any one or more points to lumps or from any other cause, while the springs keep the table properly stretched and tightly drawn.

The rear end of the lever is adapted to engage and be held at any desired height of adjustment by a rack, *m*. The rack *m* has its arms pivoted in the rear end of one of the supports A, so as to permit it to be swung from one side of the support to the other, and is secured in a fixed position by a spring-pawl, *n*. The rack, being adapted to swing, can be turned out of the way of removing the work-table.

E is the working-wheel, with its shaft hung upon the upper edge of the forward ends of the side pieces, A, and having a cog-wheel, *o*. This wheel gears with a pinion, *o'*, on a shaft, *o²*, hung in boxes on one side of the machine, and having a worm, *o³*, gearing with a pinion, *o⁴*, on the shaft of one of the rolls of the waste-discharge apron B, to impart motion to said apron. This arrangement permits of the simultaneous operation of the working or scouring wheel and the waste-delivering apron B.

The wheel E has series of radial arms or spokes attached to each of a number of hubs fitted upon the shaft, and secured to these arms or spokes are longitudinal peripheral boards p , arranged edgewise to the periphery. Some of these boards have connected to them right-angularly-arranged boards or brushes F, which are capable of vertical adjustment by means of nutted screw-bolts passing through slots in the boards and formed with brackets F', fastened to the backs or boards of the brushes, as seen in Figs. 3 and 4. These brushes wipe or remove surplus water from the leather or hides. Other of these boards p have connected to them parallel boards p' by bolts, with intermediate spaces to receive and permit of the clamping between them of stones or scourers p^2 . These stones or scourers are disposed around the wheel, say about two consecutive rows, extending in the direction of the length of the wheel to a brush, by which arrangement, as the leather (or hides) is acted upon or scoured by the scourers, such will be followed by the action of a brush, and thus scour and simultaneously wipe off the sediment and the water after it has had the effect to clean, and with the scourers to open the pores and soften the leather or hides.

Upon the shaft of the scouring or working wheel is a band-pulley, q , with an attached gear-wheel, q' , and a clutch-sleeve, q^2 , all three being loose upon the shaft, while projecting transversely through and from the shaft is a pin, q^3 , and from the side of the gear-wheel q' projections q^4 .

The clutch-sleeve q^2 has slots indenting it to receive the pin q^3 , to cause it to turn with the scourer-shaft. It is also capable of sliding upon the shaft, to enable it to be slid up to and its slots to receive the projections q^4 upon the wheel q' , in engagement with which it is held by a spring, r , to cause the band-pulley q and wheel q' to revolve with the shaft.

A hand or crank screw, r' , working in a bracket, r^2 , of one of the side pieces, A, is adapted, by turning the screw with the hand, to permit of releasing and applying the clutch-sleeve, as occasion may require.

Hung obliquely in boxes on one side of the machine is a shaft with a screw or worm, s , and a pinion, s' , which engages with the gear-wheel q' . This gearing, in connection with a pinion on one of the feed-rolls, presently described, permits of the simultaneous operation of the feed-rolls and the scourer.

G G are the feed-rolls, one having its shaft provided with a pinion, t , gearing with the worm s , as aforesaid, and journaled in boxes upon the upper edges of the side pieces, A. The upper roll is hung in boxes u , resting upon the upper ends of bifurcated or slotted uprights or slides H, suitably supported upon the sides of the machine. The journal-boxes u have a limited upward movement, and are yieldingly held down upon the shaft of the roll by means of springs u' u'' , nutted upon

rods extending above the boxes, as shown in Figs. 1 and 2, to secure pressure upon and to allow for unevenness in the leather or hides as they are fed between the rolls down under the scourer and to and upon the work-table.

To prevent adherence of the leather or hides to the rolls G, scrapers I I' are arranged so as to bear against the rolls, the lower one being held by a spring or otherwise, and the other one, which is hung by arms v , pivoted in uprights r' , suitably secured in position, caused to rest against the upper roll by gravity.

J is a sprinkler, hung between the feed-rolls and the scourer, to sprinkle water upon the leather or hides as they pass from the rolls under the scourer. It consists, mainly, of a serially-perforated tube with a pipe or nozzle, J', to which a hose or pipe may be connected, leading from the supply of water or service-pipe for supplying water to the sprinkler. The tube is provided with upwardly-extending arms J², hung upon uprights or rods J³, attached to the sides A. The leather or hide is fed to the feed-rolls upon the endless apron K, encompassing rolls K'. The shaft of one of these rolls—that contiguous to the lower feed-roll—bears in boxes w , which consist, each, of a hook-shaped or curved plate with a slot in its horizontal portion where it is attached to the upper edge of the sides A, to permit of the adjustment of the said roll to allow for differences in the thickness of the apron without its coming in contact with the lower feed-roll. The boxes w' of the other roll-shaft are capable of adjustment by means of the adjusting-screws w^2 , as seen in Figs. 1 and 2, to allow of stretching or tightening and loosening it, as occasion may require.

L is a trough, preferably with a semicircular bottom and a discharge-spout, L', Fig. 2, and secured under the forward end of the apron K, with its side edges, one resting against the lower feed-roll and the other against the lower side of the apron aforesaid, provided with any suitable material adapted to wipe off the roll and apron, to free them of water while wringing the leather; but, if desired, the trough may or may not have attached to it means for acting on the lower feed roll and apron as aforesaid.

M is a shaft hung in the side supports, A, with wheels M' on its ends, whose blades or teeth are adapted to engage and revolve pinions N, free to revolve upon short screw-shafts N', formed on the lower ends of the uprights H.

As the pinions N are rotated they will effect the vertical adjustment of the standards, to permit of the widening or narrowing of the space between the feed-rolls, to accommodate the thickness of the leather or hides to be passed between them.

A sprocket or rag wheel, O, fixed to the shaft M, with a chain-belt, O', passing around it, and a similar wheel, O², suitably journaled upon a bracket, O³, fastened to one of the side supports, A, and having a crank, O⁴, permits

of the operation of the shaft M, with its wheels, and the consequent vertical adjustment of the standards H, with the upper feed-roll.

The lower feed-roll is geared and imparts motion to the forward roll of the feed-apron K by the gearing P P' P², adapted to permit of the said roll having a relative adjustment to the lower feed-roll, as before stated.

When the operation of wringing is to be performed the supply of water is cut off from the sprinkler, the scourer put out of operation, the work-table removed, and the apron K folded up or under the machine out of the way.

The scourer can be adapted to permit of the slicking and unhairing of the hides by accordingly substituting, in lieu of the stones and brushes, means suited to those ends. It is capable of breaking and softening hard, dry hides.

Having thus fully described my invention, I claim and desire to secure by Letters Patent—

1. The table C, with its flexible surface passed around a series of sectional cylinders, *j*, fitted upon a cross-bar, *j'*, of the table-frame, substantially as and for the purpose set forth.

2. The table C, with its flexible surface passed around a cylinder or bar, in combination with springs *k*, substantially as and for the purpose specified.

3. The combination, with the table C, with its arms *g* hung at the ends of the machine, of

the lever D, fulcrumed upon the bar *i*, and with its outer end adapted to engage with a rack, *m*, substantially as and for the purpose specified.

4. The combination, with the feed-rolls G G, of the scrapers I I', pressing against the rolls by gravity or spring-pressure, substantially as and for the purpose set forth.

5. The sprinkler J, composed of a serially-perforated pipe or tube, suspended by arms J² from standards J³, substantially as and for the purpose set forth.

6. The combination, with the wheel E, of the brush F, having the slotted bracket F', with adjusting-screws, substantially as and for the purpose set forth.

7. The combination, with the lower feed roll and apron, K, of the trough L, with its side edges provided with suitable material to wipe off said roll and apron, substantially as and for the purpose set forth.

8. The combination, with the upper feed-roll-supporting standards, H, having screw-shafts N', provided with pinions N, of the wheels M and their operating mechanism, substantially as and for the purpose set forth.

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

JOHN W. CUBBAGE.

Witnesses:

C. M. SMITH,
JOHN L. GUY.