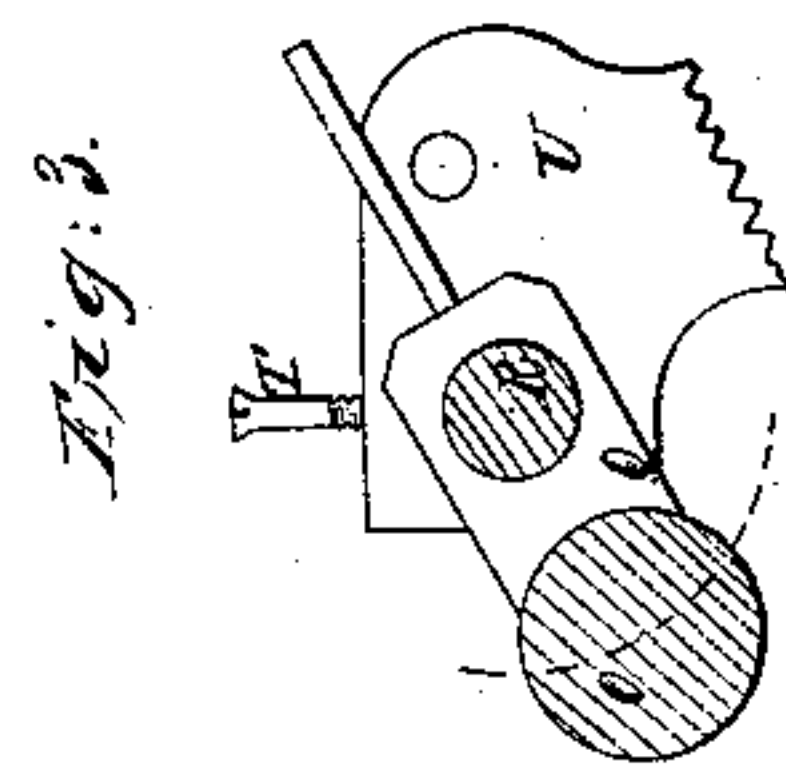
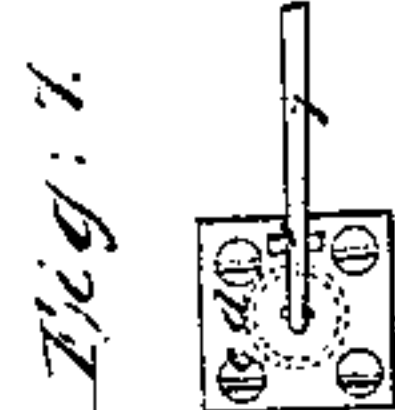
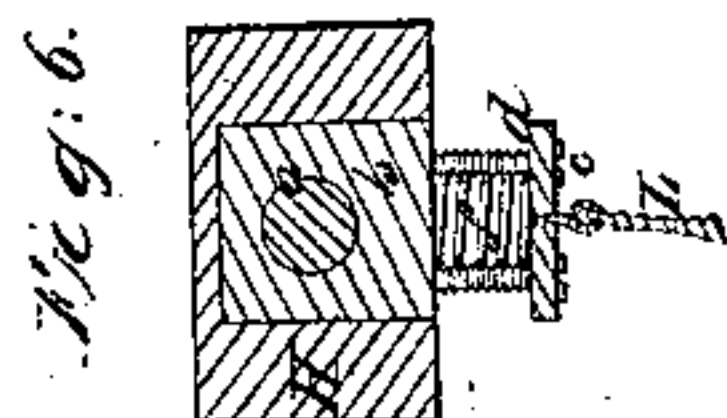
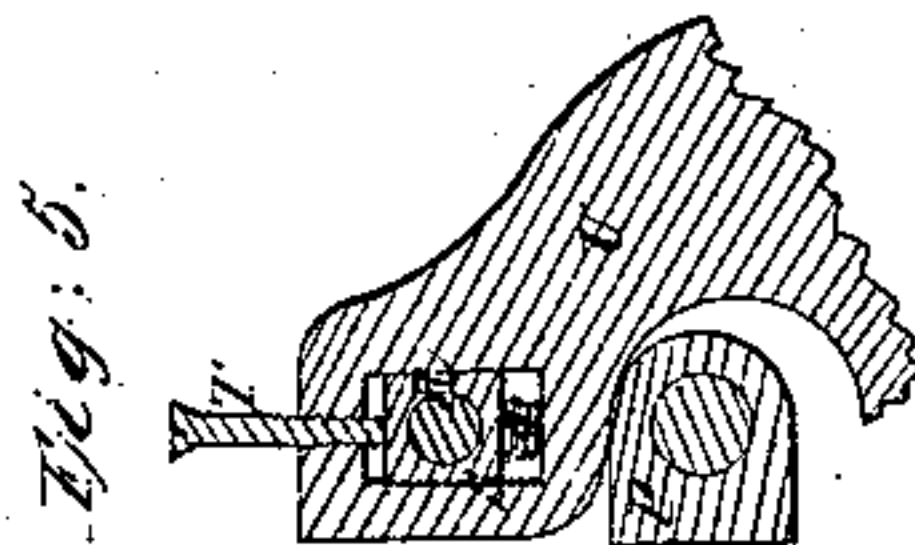
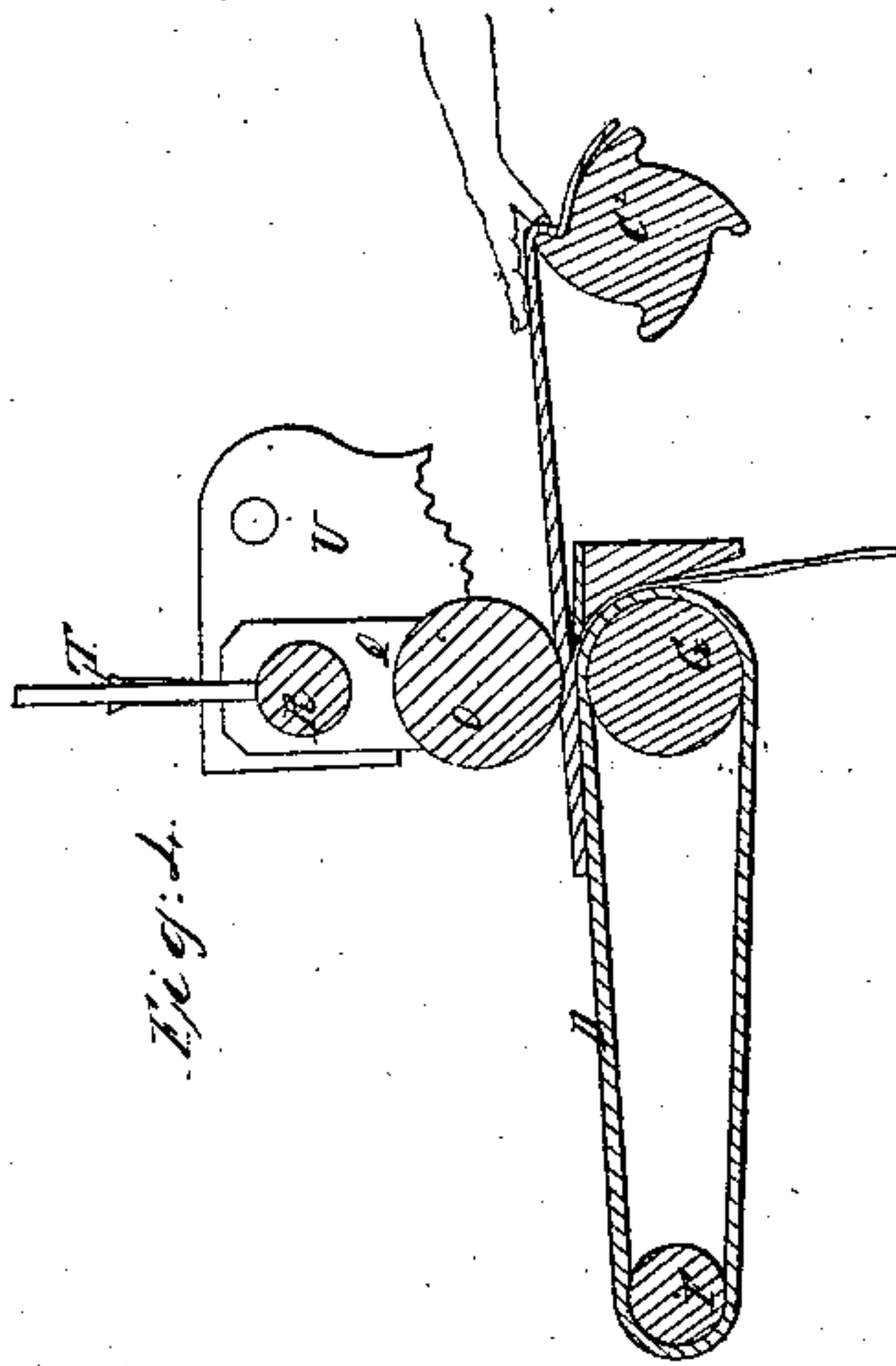
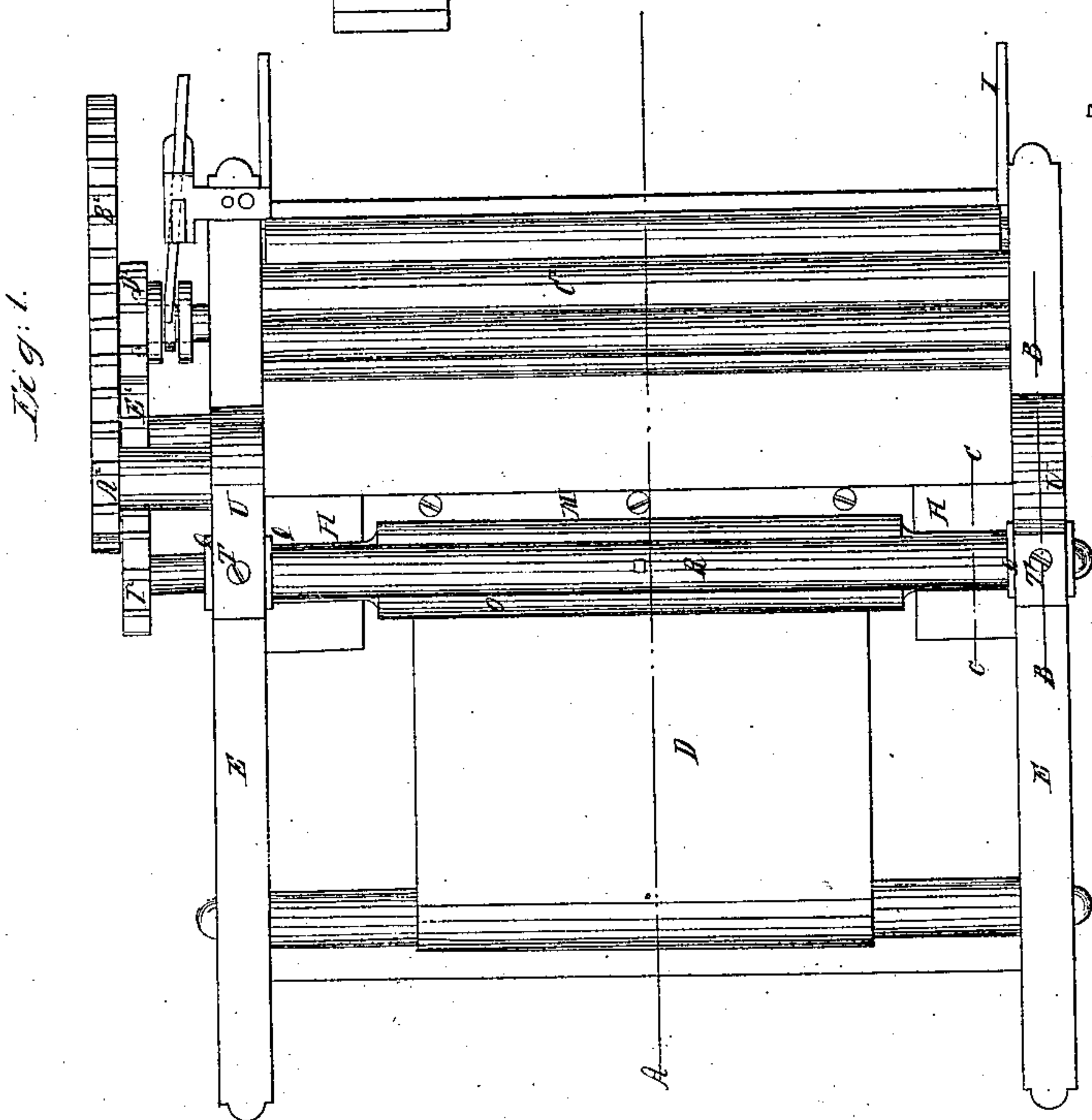
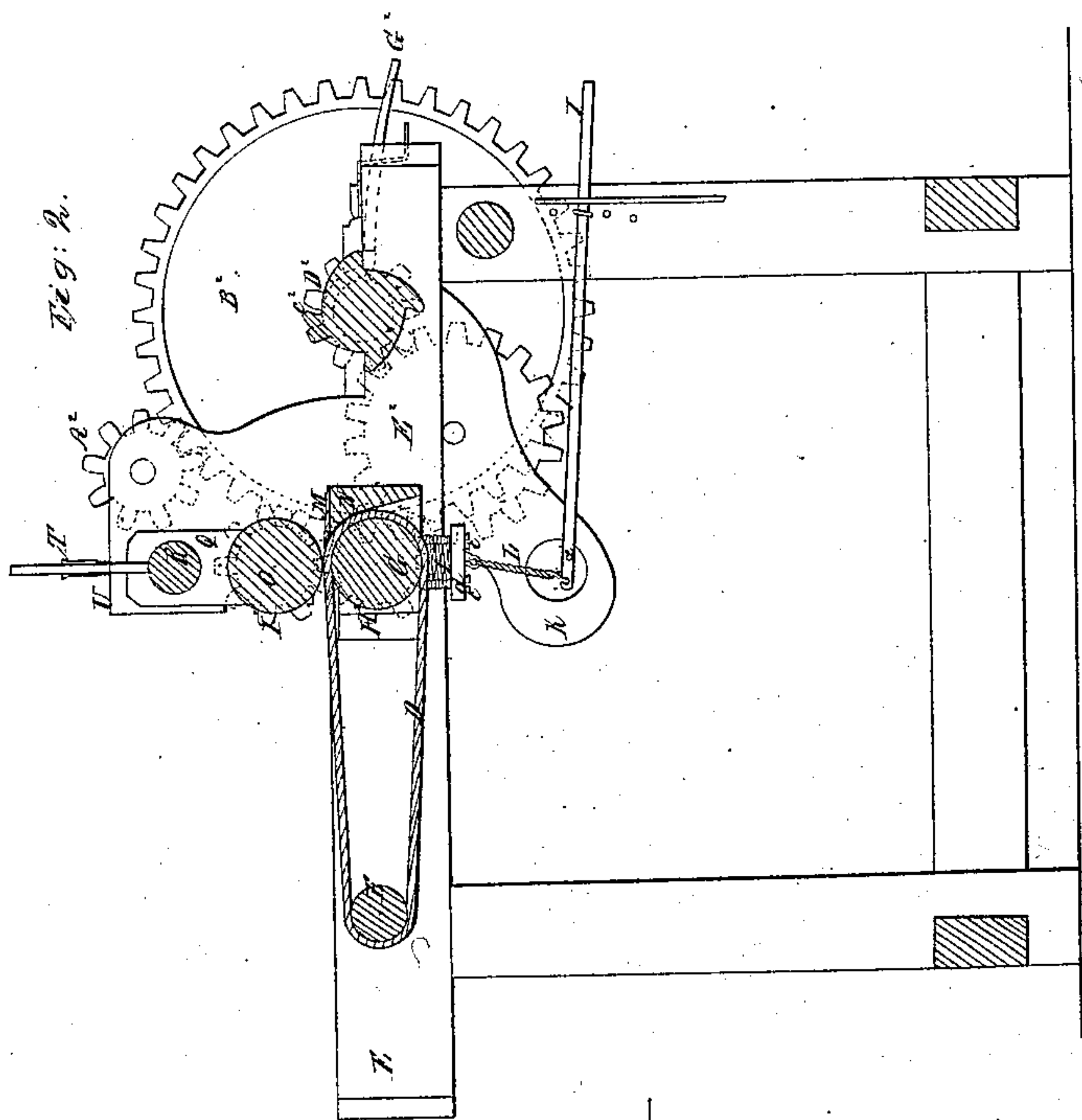


E. Pratt,

Splitting Leather,

No. 14,430,

Patented Mar. 11, 1856.



UNITED STATES PATENT OFFICE.

ELISHA PRATT, OF SALEM, MASSACHUSETTS, ASSIGNOR TO E. PRATT AND H. P. UPTON,
ASSIGNORS TO E. PRATT AND T. P. PINGREE.

LEATHER-SPLITTING MACHINE.

Specification of Letters Patent No. 14,430, dated March 11, 1856.

To all whom it may concern:

Be it known that I, ELISHA PRATT, of Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Splitting Leather, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—
10 Fig. 1, is a plan; Fig. 2, a vertical section upon the line A, A, of Fig. 1; Fig. 3, a section through the feed rolls, the upper one, or gage roll being swung out of its working position; Fig. 4, a section through the working parts in operation; Fig. 5, a vertical
15 section on the line B, B, of Fig. 1; Fig. 6, a vertical section through the bearings of the lower roll on the line C, C, of Fig. 1; Fig. 7, a view from beneath of one of the
20 plates by means of which the position of the boxes *b* is adjusted.

In leather splitting machines of that class in which the leather passes in between two rolls, the upper or gage roll is held rigidly
25 that it may gage the "grain" to the thickness required and the under roll being held up to its work by springs, is allowed to yield slightly as the thickness of the hide varies. It often happens however that the
30 leather hangs in the machine, and "bags" before the knife; in such cases it becomes necessary to relieve it, either by reversing the operation of the rolls, or in some other way, considerable delay is thus occasioned,
35 and it is often difficult to extricate the hide or to drive it through without injuring both the leather and the machine. To remedy this inconvenience is the object of my present invention which consists in so
40 hanging the lower roll that while it may be allowed to yield as heretofore to accommodate itself to the varying thickness of the split, it may also be depressed out of the way whenever it becomes necessary to re-
45 move or adjust the hide.

To enable others skilled in the art to understand my invention I will proceed to describe the manner in which I have carried it out.

50 My machine is of that class in which the leather is fed in upon an elastic feed apron and is forced or propelled against the edge of the knife by feed rolls.

In the accompanying drawings D, is the
55 elastic feed apron for which Letters Patent

were granted to me on the 19 of December, 1854. The journals *a* (Fig. 6) of this roll run in boxes *b*, which slide in housings H attached to the sides of the frame work E.

d is a plate suspended from the boxes *b*, 60 by the screws C, which pass through holes in the plates, and enter the bottom of the boxes; the plates and boxes are separated by springs *f*, and thus while the lower roll is forced up by the expansion of the springs, 65 it can descend independently of the plates, as the thickness of the leather increases. The distance to which it can ascend being limited by the position of the plates which is regulated by the levers I, pivoted to the 70 brackets K, at *i*.

L, is a connecting rod which unites the short arm of the lever I, with the plates *d*. by means of which the position of these plates is adjusted and the "throat" is 75 adapted to the thickness of the hide to be split.

M, is the stationary knife which is secured to the cross bar N, attached to the housing H. 80

O, is the gage roll which revolves in the boxes P, upon the arms Q; these arms vibrate around another shaft, R the boxes S of which, slide in the standards U, and are gaged by the screws T, to regulate the dis- 85 tance of the roll O from the knife. The springs *g* keep the boxes in contact with the screws.

The power which actuates the machine is applied to the cog wheels A², upon a 90 short shaft projecting from one of the standards V. This wheel engages with the gear B², upon the shaft of the bite roll C², which shaft also carries the pinion D² which may be caused to rotate with the gear B², 95 by means of the clutch F², operated by the lever G².

E² is an intermediate gear that engages with the pinion D², and also with the wheel H², upon the lower feed roll, this latter 100 wheel engages with a similar wheel I² upon the shaft of the gage roll O, by which means these rolls are both driven.

In order to enter the hide promptly between the feed roll, the upper roll O, is 105 swung out of position as seen in Fig. 3, its cog wheel I² at the same time disengaging itself from the gear H², by which it is driven; wherever the gage roll is returned to its place, as in the other figures its wheel 110

I² engages with that upon the lower roll and the two are again revolved together.

Ordinarily the leather is propelled through the machine and against the edge of the knife by driving the feed rolls; in such case the wheel D² is clutched with the gear B², and should the leather "bag" behind the rolls, the operator by placing his hand upon the "bite" roll (Fig. 4) can draw that portion of the hide through and cause it again to run straight. If at any time it becomes necessary to stop the rolls, and draw the leather through, this may be done by unclutching the wheels D² and B² and carrying the leather through solely by the bite roll. When the leather is light and soft it may be drawn through altogether by the bite roll. I am thus enabled in the same machine to draw, and propel at the same time, or to do either one without the other, according to the nature of the leather to be operated upon.

It often happens that the leather hangs in the machine and stops it, it is then difficult to start it either one way or the other, or to extricate it without injury from the rolls. In the above described machine it is simply necessary to depress the lower roll by rais-

ing the levers I, and the difficulty may be instantly removed. It sometimes occurs when the leather is carried through the machine by the rolls, that the "grain" does not rise regularly and evenly over the knife, and is in consequence not left of uniform thickness. I have discovered that this may be remedied by feeding the upper surface of the leather faster than the lower, for this purpose I have made the upper roll of slightly larger diameter than the lower one. I have found when the upper roll is of about $\frac{1}{4}$ inch greater diameter than the lower one with the thickness of the apron added, that the evil is entirely remedied.

What I claim as my invention and desire to secure by Letters Patent is—

So hanging and arranging the lower roll as described, by means of the levers I, connecting rods L and plates *d* or their equivalents, that it may be depressed when required for the purpose of relieving and adjusting the hide as set forth.

ELISHA PRATT.

Witnesses:

JOSHUA PHIPPEN,
W. C. ENDICOTT.