

J. A. Safford, 2, Streets, Street 1.

Splitting Leather.

No. 98888.

Patented Jan. 12. 1870.

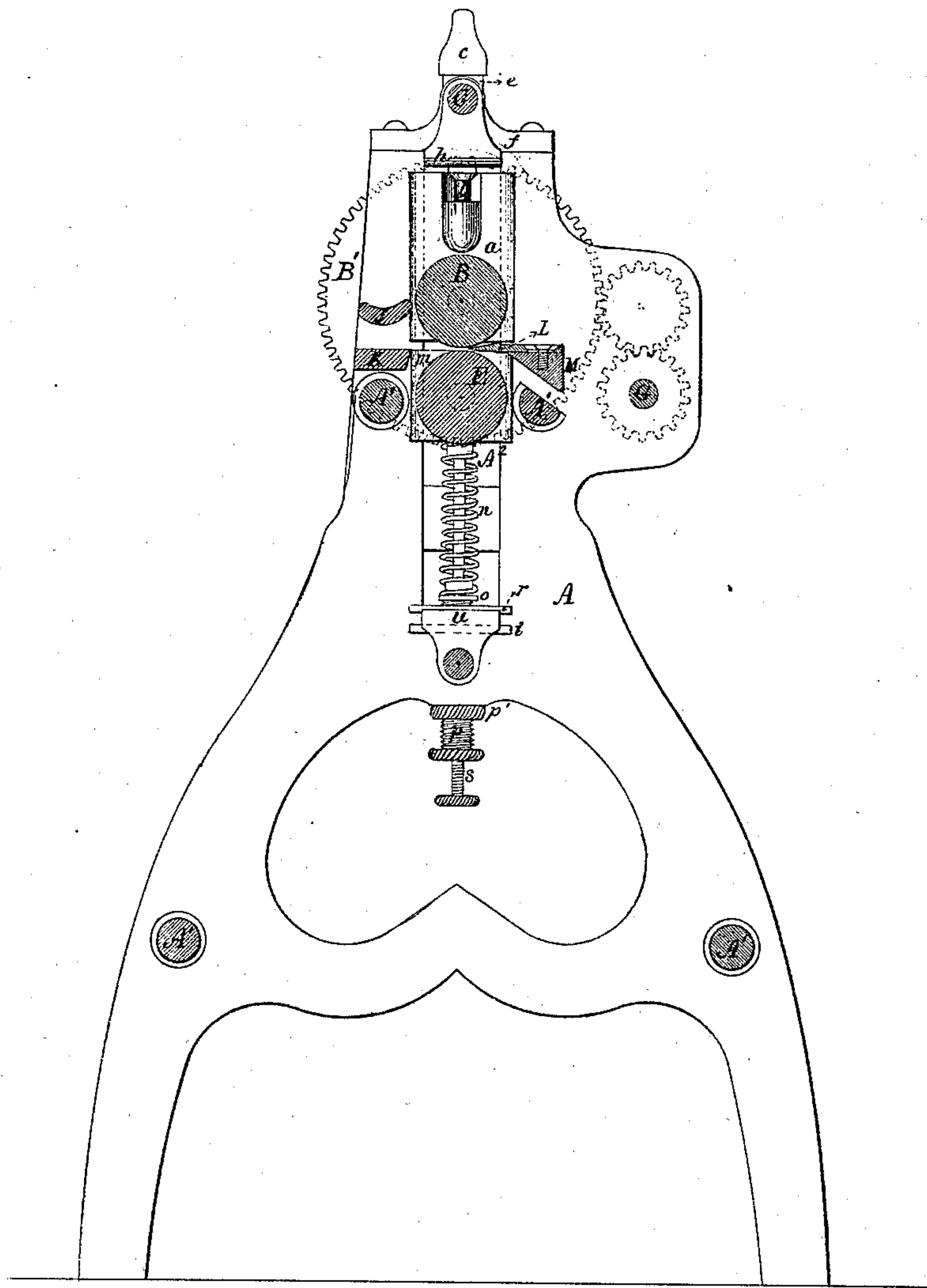


Fig. 1.

Witnesses.

N. C. Lombard
G. D. Whitney

J. A. Safford *Inventor.*

J. A. Safford, 2. Sheets, Sheet, 2.

Splitting Leather.

No. 98,888.

Patented Jan. 18. 1870.

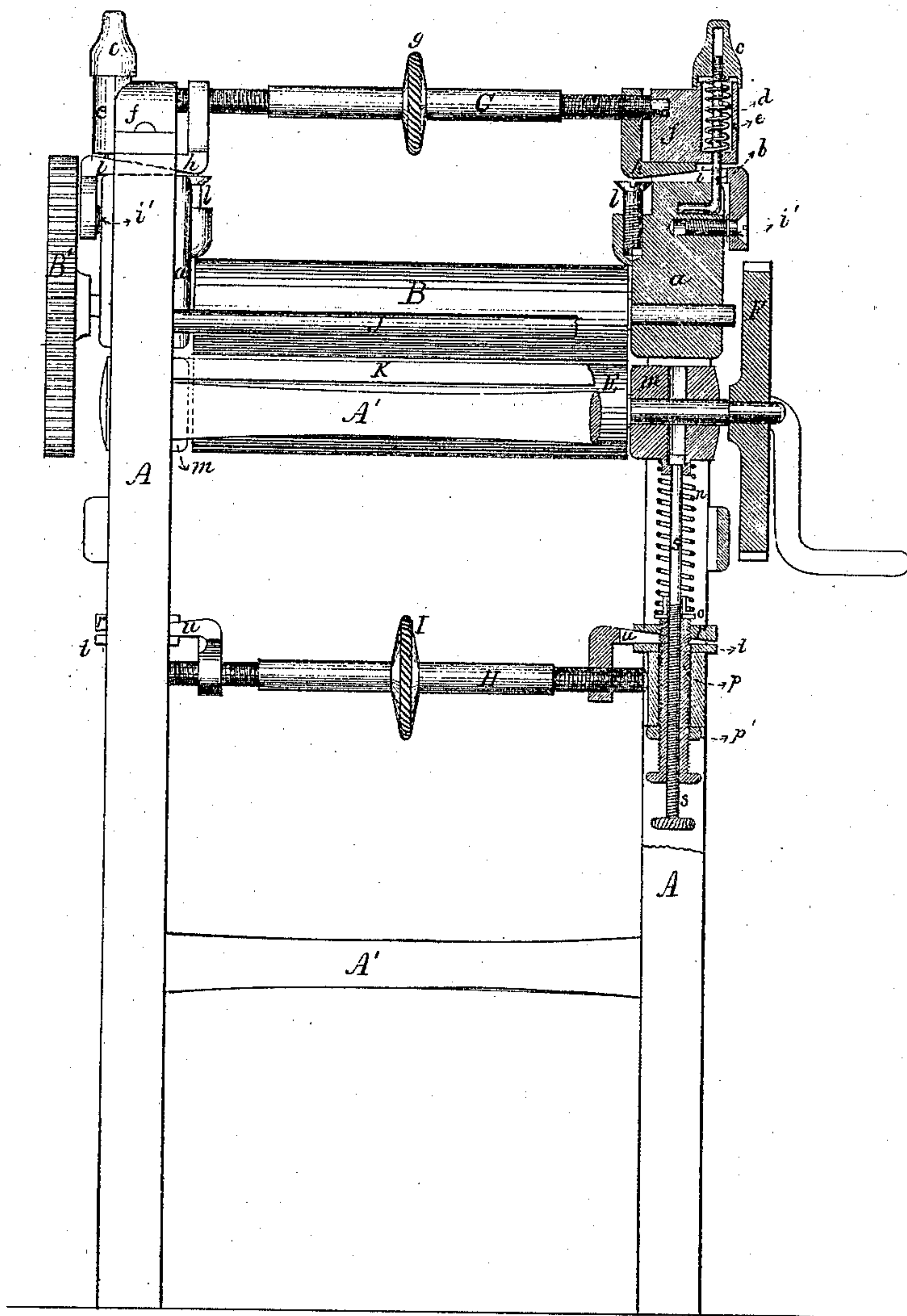


Fig. 2.

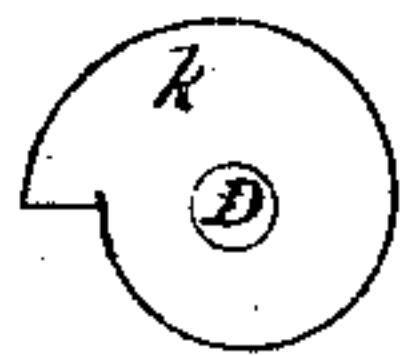


Fig. 4.

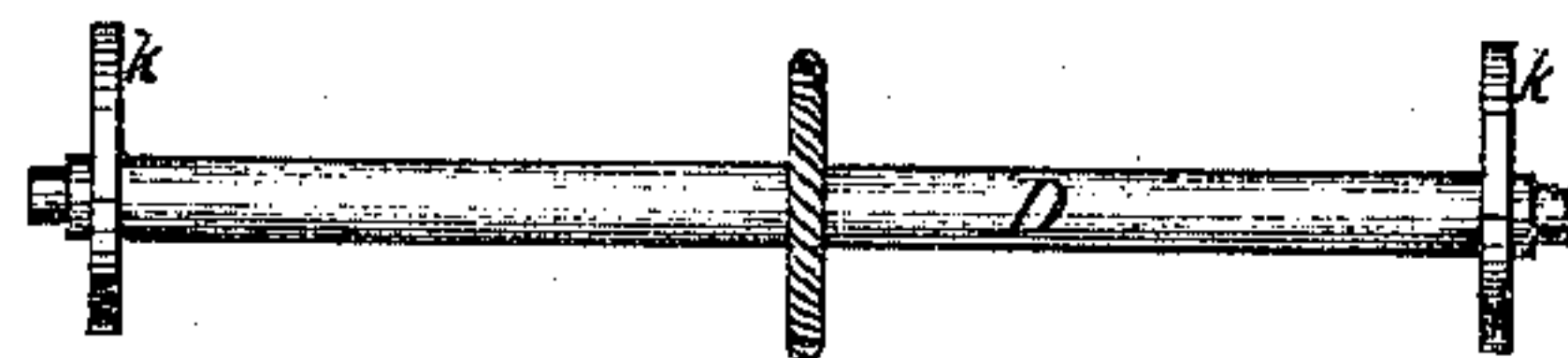


Fig. 3.

Witnesses.

N. Lombard
S. E. Whitney

J. A. Safford Inventor.

United States Patent Office.

JOSEPH A. SAFFORD, OF WINCHESTER, MASSACHUSETTS.

Letters Patent No. 98,888, dated January 18, 1870.

IMPROVEMENT IN LEATHER-SPLITTING AND FLESHING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOSEPH A. SAFFORD, of Winchester, in the county of Middlesex, and State of Massachusetts, have invented certain new and useful Improvements in Machines for Splitting and Fleshing Leather; and I do hereby declare the following to be a full, clear, and exact description of the same, taken in connection with the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical transverse section of a machine embodying my improvements;

Figure 2 is a front elevation of the same, with a portion of the right-hand frame broken away, and showing a partial section of the working-parts; and

Figures 3 and 4 are views of a modification of the device, for adjusting the upper feed-roll.

My invention relates, in the first place, to the manner of hanging and adjusting the feed-rolls; and consists, first, in the use, in combination with a device for simultaneously adjusting both ends of the upper feed-roll, of a device for adjusting either end of said roll independently of the other, for the purpose of levelling said roll, or bringing it parallel with the edge of the knife and the lower roll, as will be more fully described.

It consists, secondly, in the use, in combination with a yielding lower roll, supported upon springs, of set-screws, for regulating the tension of said springs, adjustable holding-down rods, for controlling the position of said roll, and wedges placed beneath the nuts through which said set-screws work, said wedges being operated by a right and left-hand screw, so that both may be moved simultaneously, and thereby raise or lower said yielding roll, without affecting the tension of the springs in the least, while, at the same time, the tension of either spring may be adjusted independently of the other, and, by means of the holding-down rods, the position of the said roll may be controlled at will, the object of this arrangement being to provide a ready means of changing the relation of the yielding roll to the knife, as may be desired, to adapt the machine to the two operations of splitting or fleshing skins.

In the drawings—

A represents the side-frames of the machine, connected together by the girts A'.

B is the upper feed-roll, having bearings in the boxes *a a*, suspended by the rods *b b*, the upper ends of which are provided with screw-collars, *c c*, which rest upon springs, *d d*, enclosed in the cases or cylinders *e e*, forming a part of the caps *f f*, of the frame.

B' is a spur-gear, mounted on the shaft of the feed-roll B, through which power is communicated to it from the driving-shaft G.

C is an adjusting-shaft, provided with a hand-wheel, *g*, and mounted in bearings in the caps *f f*, and has, also, a screw-thread cut on a portion of its length, at

either end, the screw on one end being right-hand, and the other, left-hand.

h h are two wedges or inclined planes, placed beneath the caps *f f*, and resting on the bed wedges *i i*, with their thick ends toward each other, and an ear projecting upward from the inner end of each, having a screw-thread provided to fit the screw C, which passes through them, by means of which they are forced out or in, and thereby simultaneously move both ends of the upper roll.

i i are two bed-wedges, placed between the wedges *h h* and the boxes *a a*, and attached to the boxes *a a*, by means of the adjusting-screws *i' i'*, by means of which they may be moved out or in slightly, for the purpose of levelling the upper roll, and bringing it into a position parallel to the edge of the knife and the lower roll.

Instead of the adjusting-screw shaft C and the wedges *h h* and *i i*, for adjusting the upper roll, the cam-shaft D and cams *k k*, represented in figs. 3 and 4, may be used, the said cams bearing on the top of the heads of the adjustable screws *l l*, represented in fig. 2, the said screws serving the same purpose, in connection with the cams *k k*, that the wedges *i i* do in connection with the wedges *h h* and screw-shaft C.

E is the lower or yielding roll, mounted in boxes *m m*, fitted in the slot A², in the frame, and having a spur-gear, F, mounted upon one end of its shaft, through which power is communicated to said roll from the driving-shaft G.

The boxes *m m* rest upon the top of spiral springs, *n n*, the lower ends of which rest upon the collars *o o*, attached to the upper ends of the adjusting-screws *p p*, which, working in the nuts *r r*, serve the purpose of regulating the springs *n n*, each independently of the other.

The screws *p p* are provided with check-nuts, *p' p'*. *s s* are adjusting-screws, passing through the centre of the screws *p p*, (which serve as nuts for the same,) and connected to the boxes *m m*, by means of heads at their upper ends, in such a manner as to limit the height to which the springs *n n* can raise the roll E, while they present no obstacle to the free movement of said roll in a downward direction, when the work is introduced between the rolls, and, at the same time, the position of said roll may be adjusted by means of said screws *s s*, so as to be parallel to the edge of the knife.

t t are plates fitted into the bottoms of the slots A², in the frame, to form a bearing-surface for the wedges or inclined planes *u u* to rest upon. These plates may be dispensed with, if the bottom of said slot is finished so as to form a fair and smooth surface for the wedges *u u* to move upon.

H is a shaft, provided with a hand-wheel I, by which it may be revolved, and also provided with right and

left-hand screw-threads, by means of which the wedges *u u* may be simultaneously moved out or in, and acting upon the nut-plates *r r*, fitted to slide in the slots *A²*, in the frame, cause the yielding lower roll *E* to be raised or lowered, to adjust the machine for splitting or fleshing the skins, as may be desired, without changing the tension of the springs.

J and *K* are safety-guard bars, placed in front of the feed-rolls, to prevent injury to the operator from accidentally getting his hands caught in the rolls.

L is the splitting-knife, attached, by screw-bolts, to the bed-girt *M*, the holes through the knife being slotted so as to allow the knife to be adjusted to or from the feed rolls.

The knife is made somewhat thicker at the point where the bevel of the front edge terminates than the rear portion of the plate, where the bolts are inserted, is, so as to form a raised rib immediately in front of the bolt-heads, for the purpose of guiding the leather over said bolt-heads without danger of its catching against them.

The operation of my improved machine is as follows:

The bed-wedges *i i* are moved, by means of the adjusting-screws *i' i'*, until the upper roll is in a position parallel to the edge of the knife, when the screw-shaft *C* is revolved by the hand-wheel *g*, to move the wedges *h h* out or in, as the case may require, until the roll is the requisite distance from the knife. The lower roll *E* is now adjusted to a position parallel to the edge of the knife, by means of the adjustable holding-down rods *s s*, and the tension of the springs *n n* are regulated by means of the set-screws *p p*, working in the nuts *r r*, resting on the top of the wedges *u u*.

The lower roll is now moved up or down, to give the required distance between the rolls, by revolving the screw-shaft *H*, so as to force the wedges *u u* in or out, as the case may require.

The machine is now set in motion, and the skin to be split introduced between the rolls, and, passing through the rolls, is split by the knife, that portion that is of even thickness passing above the knife, and the uneven part beneath the knife.

If, now, it is desirable to flesh that portion of the skin that has just passed beneath the knife, in order

to better adapt it to various uses to which it may be applied, all that it is necessary to do is to lower the upper roll, by revolving the screw-shaft *C*, in such a manner as to force the wedges *h h* in, until the upper roll nearly touches the knife, and also lower the lower roll, by revolving the screw-shaft *H*, so as to draw out the wedges *u u*, until the rolls are the proper distance apart, when the machine is ready for operation again, the tension of the springs *n n* remaining precisely the same as in the previous operation.

That part of the skin that previously passed beneath the knife, is now turned over, and introduced between the rolls, with the flesh-side up, when a thin skiver will be cut from the flesh-side, removing all irregularities, and leaving the thicker portion, which passes under the knife, with a smooth surface, (but it may be of a varying thickness,) which may be made up into stiffenings, and for various other uses.

Having thus fully described the construction and operation of my improved machine,

What I claim as new, and desire to secure by Letters Patent, is—

1. The screw-shaft *C* and the wedges *h h*, by means of which both ends of the roll *B* may be adjusted simultaneously, in combination with the bed-wedges *i i* and the adjusting-screws *i' i'*, by means of which either end of said roll may be slightly adjusted independently of the other, substantially as described.

2. The cam-shaft *D* and cams *K K*, for adjusting both ends of the roll *B* simultaneously, in combination with the adjusting-screws *l l*, for adjusting either end of said roll independently of the other, substantially as described.

3. The combination of the adjusting-screws *p p*, for regulating the tension of the springs *n n*, and adjustable holding-down rods *s s*, and the screw-shaft *H* and wedges *u u*, by means of which the lower roll may be moved up or down, without changing the tension of the springs, substantially as described.

Executed at Boston, this 18th day of August, 1869.

J. A. SAFFORD.

Witnesses:

N. C. LOMBARD,
G. E. WHITNEY.