

V. Snell,

Sharing Leather,

N^o 10,835,

Patented Apr. 25, 1854.

Fig. 2.

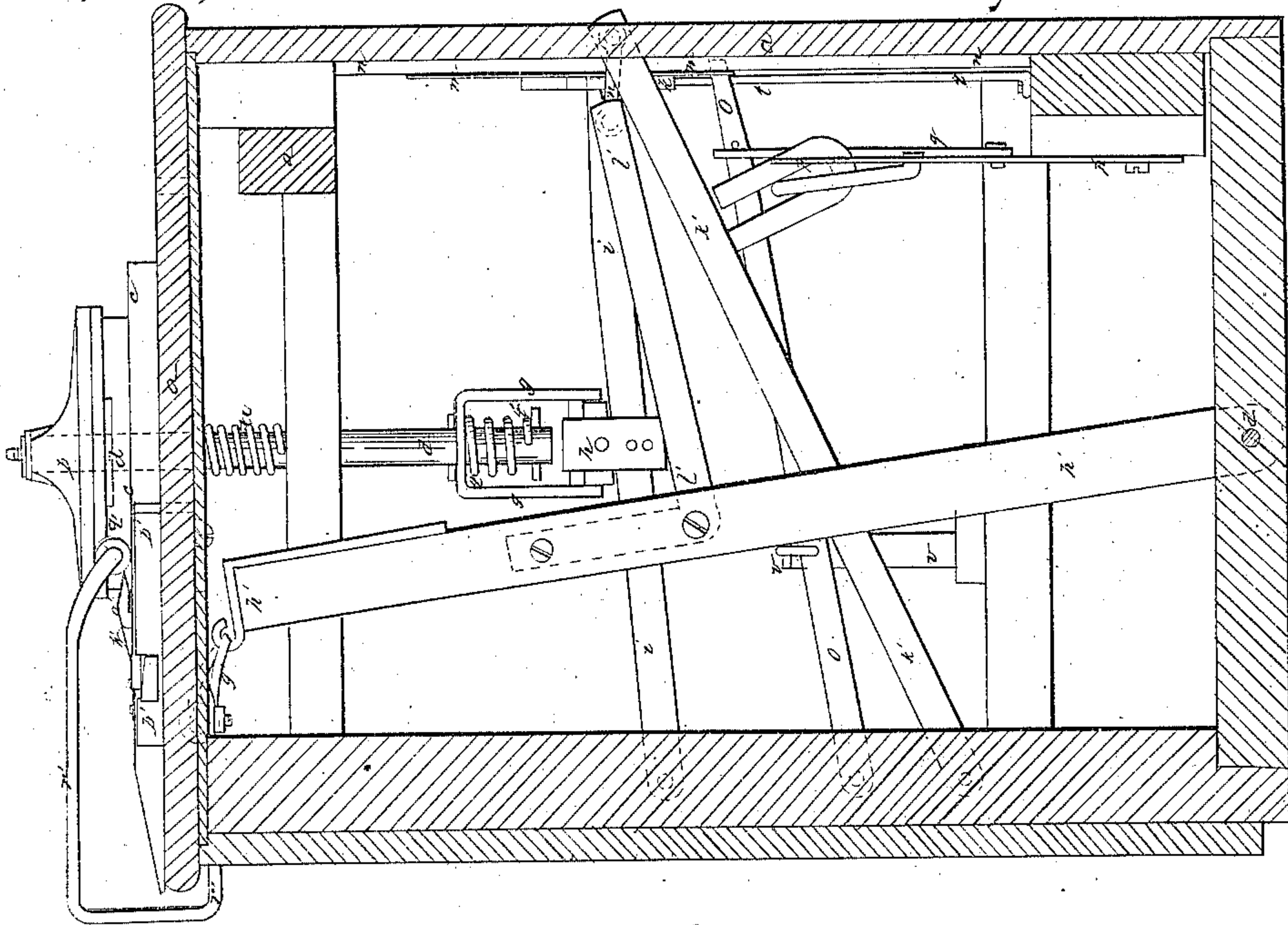
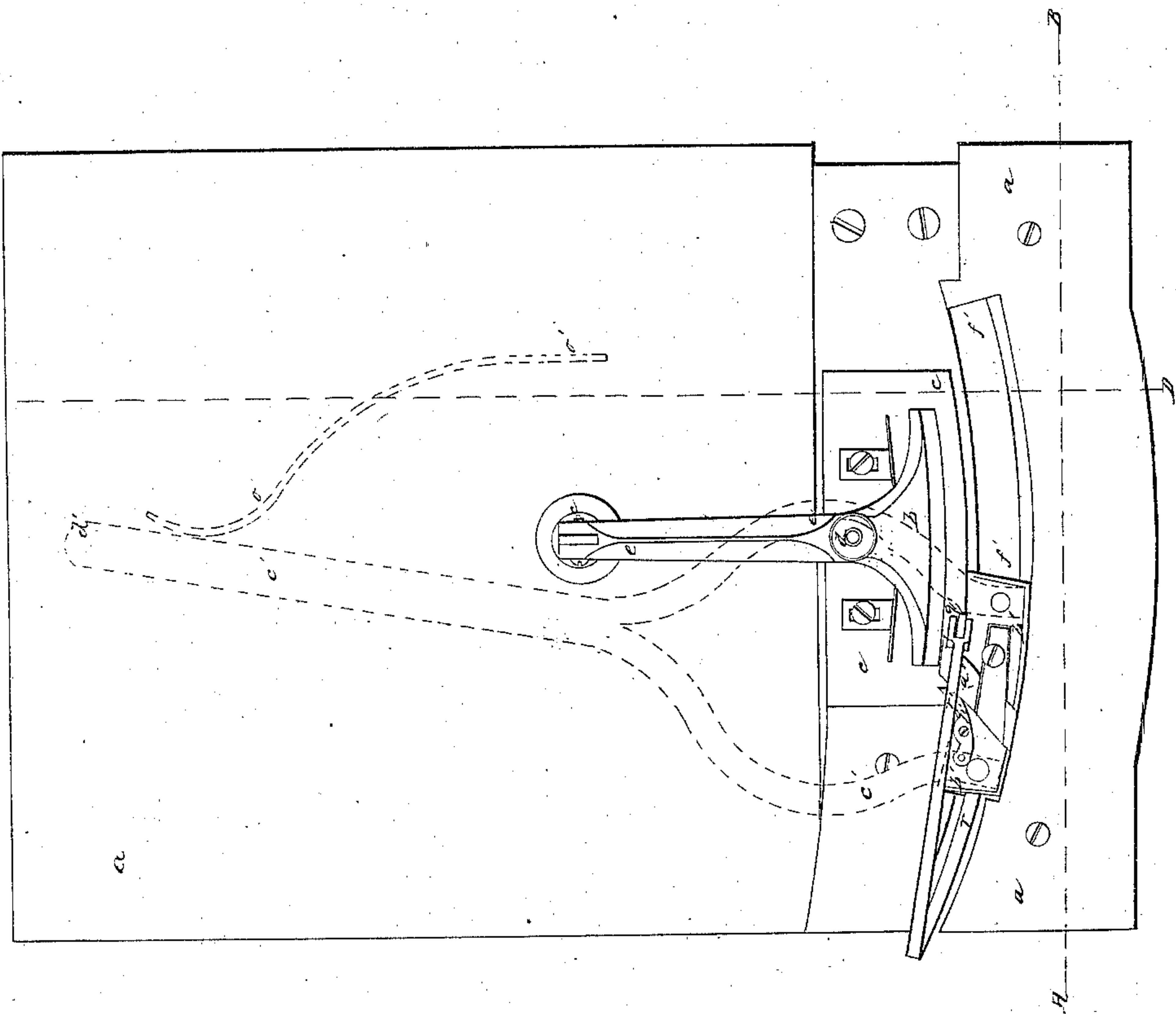


Fig. 1.



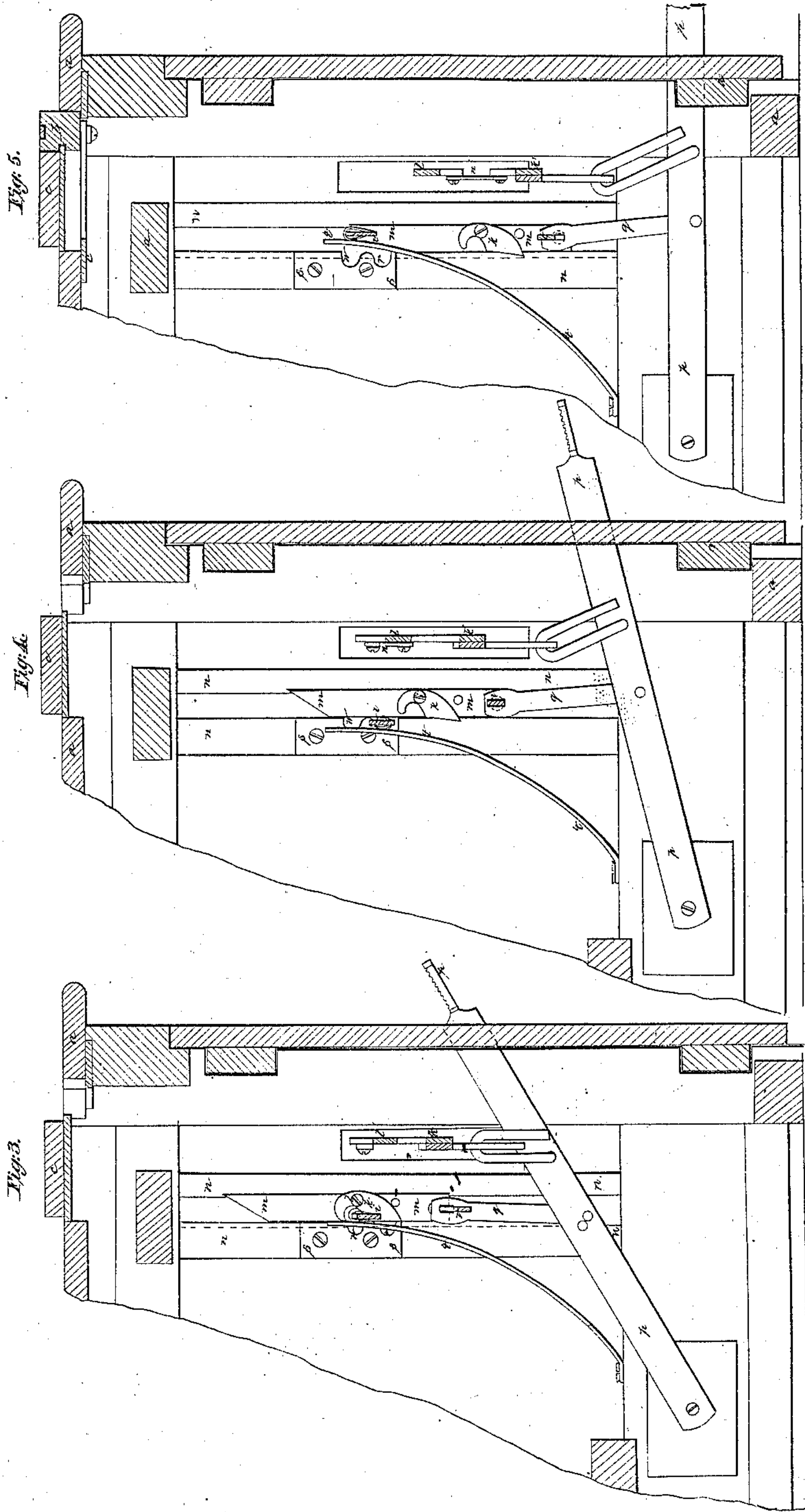
V Snell,

Sheet 2-25 Sheets.

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UNITED STATES PATENT OFFICE.

VARANES SNELL, OF NORTH BRIDGEWATER, MASSACHUSETTS.

MACHINE FOR CUTTING AND SKIVING BOOT-COUNTERS.

Specification of Letters Patent No. 10,835, dated April 25, 1854.

To all whom it may concern:

Be it known that I, VARANES SNELL, of North Bridgewater, in the county of Plymouth and State of Massachusetts, have invented a new and useful Machine for Cutting and Skiving or Beveling the Counters of Boots and Shoes, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said invention, by which it may be distinguished from others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The figures of the accompanying plates of drawings represent my new machine.

In Plate 1, Figure 1 is a plan or top view of the machine. Fig. 2 is a transverse section of the same taken in the plane of the line A B, Fig. 1. In Plate 2, Figs. 3, 4 and 5 are transverse sections taken in the plane of the line C D, representing the different positions of the mechanism at the various stages of the operation.

The leather from which the counters of boots and shoes are formed has usually been first cut into rectangular pieces, which were then rounded and the edges "skived" or beveled off by hand. This operation has, however, necessarily required considerable time and trouble on the part of the workman.

By my new machine the counters are rounded and beveled at the same operation, and with much greater speed and nicety than can possibly be accomplished by hand, at the same time effecting a very considerable saving in the stock.

The essential features of my machine consist in a vibrating clamp for holding the leather while it is being cut and for releasing it after the operation is finished, and a traversing knife which travels in the arc of a circle and rounds and bevels the counter at the same time, the motions of the clamp and knife being effected at the proper times by a peculiar arrangement of mechanical devices, as will be hereinafter explained.

a a a a in the drawings represents the framework of the machine.

b b is the leather clamp and *c c* the platform or bed piece upon which the leather is placed. This clamp *b b* has an up and down motion imparted to it for holding and

releasing the leather, as follows: The vertical shaft *d d* is attached to the clamp *b b*, the said clamp turning, by its arm *e e*, on a fulcrum at *f*. The vertical shaft *d d* is attached at its lower end by the sliding piece *g g* and short arm *h* to the cross lever *i i*, one end of which turns on a fulcrum in the framework of the machine. The other end of this lever, and consequently the clamp, is depressed by the hooked pawl or catch *k*, turning on a pivot *l*, by which it is attached to the vertical sliding bar *m m*. This bar *m m* travels between two guides *n n—n n*, and is fastened to one end of the cross arm *o o*, the other end of which turns on a fulcrum in the framework *a a*, and is connected to the treadle *p p*, by the short arm *q*. It will be seen that as soon as the treadle is depressed, the sliding bar *m m* will begin to descend, carrying with it the hooked pawl *k*, which engages with the end of the cross lever *i i* and depresses it until it arrives opposite the notch *r* of the plate *s s*, fastened to the side of the framework. The lever *i i* will then be pressed by the pawl *k*, (turning on its center *l*) into the notch *r*, as shown in Fig. 4, Pl. 2, and held there until the sliding bar *m m* descends to its full extent, when it will be thrown out of the notch *r* by the bent spring *t t*, the end of the bar *m m* being beveled off, so as to allow room for the lever *i i* to be thrown out of its notch *r*, as shown in Fig. 5, Pl. 2. The lever *i i*, and consequently the clamp, is then raised or retracted by the spiral spring *u*, coiled around the upper end of the vertical shaft *d d*, as shown in Fig. 2, Pl. 1. As soon as the bar *m m* begins to ascend (being retracted by the bent spring *v v* operating on the cross arm *o o*) the end of the lever *i i* will be pressed by the said bar *m m* into the upper notch *w* of the plate *s*, and held there until the bar *m m* rises to its full extent, so as to bring the pawl *k* and corresponding notch in the bar *m m*, opposite the end of the lever *i i*, when the said lever is made to engage again with the pawl by the action of the spring *t t*, the parts being then in the position shown in Fig. 3, Pl. 2.

I shall now proceed to describe the manner in which the leather is rounded and "skived" and the counter formed.

The knife *a'*, Figs. 1 and 2, Pl. 1, is set in the knife-stock or carriage *b' b'*, which is attached to the bent arm *c' c'*, turning on a

center at d' . This knife carriage $b' b'$ is made to travel forward and back in the curved groove $f' f'$, close to the platform on which the leather is placed, as follows:

5 To the underside of the knife carriage is attached by means of a connecting link g' , the lever $h' h'$ turning on a center at i' , in the front framework of the machine. This lever $h' h'$ is made to trasverse across the

10 machine and carry with it the knife carriage in its groove $f' f'$ by depressing the treadle $p p$, which operates on the said lever through the cross arms $k' k'$ and $l' l'$, the arm $k' k'$ turning on a center at m' in the

15 framework $a a$, and being jointed to the arm $l' l'$ by the connecting rod n' . By the above arrangement when the treadle is depressed by the operator the knife carriage will travel close to the leather placed on the

20 platform $c c$, and the knife a' , which is inclined at the proper angle, will thus give the proper curve to the counter and "skive" or bevel its edges at the same time, as will readily be seen by inspection of Figs. 1 and

25 2, Pl. 1. The knife is then brought back to its first position, so as to be ready for another operation, as soon as the pressure upon the treadle is relieved, by the bent spring $o' o'$ acting against the arm $c' c'$.

30 The knife carriage, while thus traveling back, carries with it the counter and leaves the platform clear for another piece of leather by means of a bent or hooked piece of steel p' , (attached to the knife carriage,) the end of which engages with the leather

35 when the knife carriage is retracted. In order to keep the leather rigidly pressed upon the platform, a roller q' presses upon the leather immediately in front of the knife

40 and travels with the knife carriage, being attached to the same by the bent spring arm $r' r'$.

It will be seen from the foregoing description that when the counter is being cut

45 and skived by the traversing knife the clamp will be kept rigidly pressed upon the leather by the lever $i i$, which has then been depressed and thrown into the notch r , by the hooked pawl k , the lever $i i$ being kept

50 in the notch r by the sliding bar $m m$, as

hereinbefore explained, and as shown in Fig. 4, Pl. 2, and that as soon as the counter is formed the clamp will be relieved from the leather by the bent spring $t t$ pressing against the lever $i i$ and throwing it from 55 the notch r , the sliding bar being then depressed to its full extent, so as to allow the said lever to escape from its notch r , as shown in Fig. 5, Pl. 2.

It will be obvious that in case a very 60 thick piece of leather is placed under the clamp the lever $i i$ could not be sufficiently depressed to enter the notch r . In order to provide for this contingency, the sliding piece $g g$ (which, with the short arm h , 65 forms the connection between the vertical shaft $d d$ and lever $i i$) bears against a spiral spring $t' t'$, Fig. 2, Pl. 1, coiled around the lower end of the shaft $d d$, so that the lever $i i$ will operate upon the said 70 spring when the clamp is depressed to its greatest extent.

Having thus described my new machine I shall state my claims as follows:

What I claim as my invention and de- 75 sire to have secured to me by Letters Patent is—

1. Arranging the knife at a proper angle in a traversing knife carriage which has a reciprocating motion in the arc of a circle, 80 for rounding the counter and chamfering its edges, substantially as above described.

2. I claim holding the clamp upon the leather while the counter is being cut and releasing it from the same after the opera- 85 tion is finished, by means of the traversing pawl k acting in combination with the lever $i i$ and notched plate $s s$, as above set forth.

3. I claim a machine for cutting and skiving boot and shoe counters, which has a 90 clamp for holding the leather while it is being cut and for releasing it after the operation is performed, and a traversing knife which moves in the arc of a circle and rounds and skives the counter at the same 95 time as above set forth.

VARANES SNELL.

Witnesses:

JOSEPH GAVETT,
EZRA LINCOLN.