(No Model.) 3 Sheets—Sheet 1.

C. B. HATFIELD.

UPPER BEADING MACHINE.

No. 534,437. Patented Feb. 19, 1895.

Fig. 1

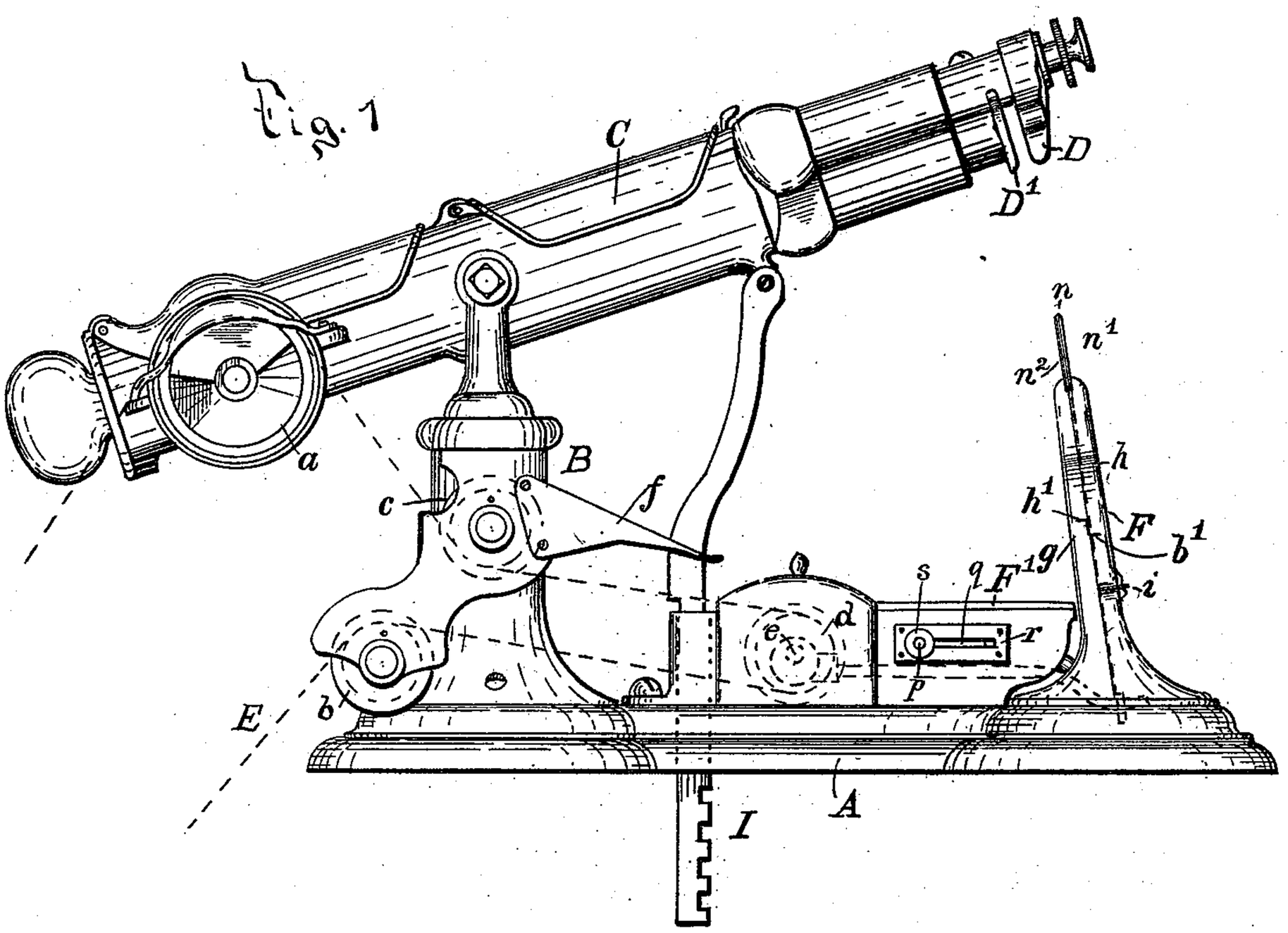
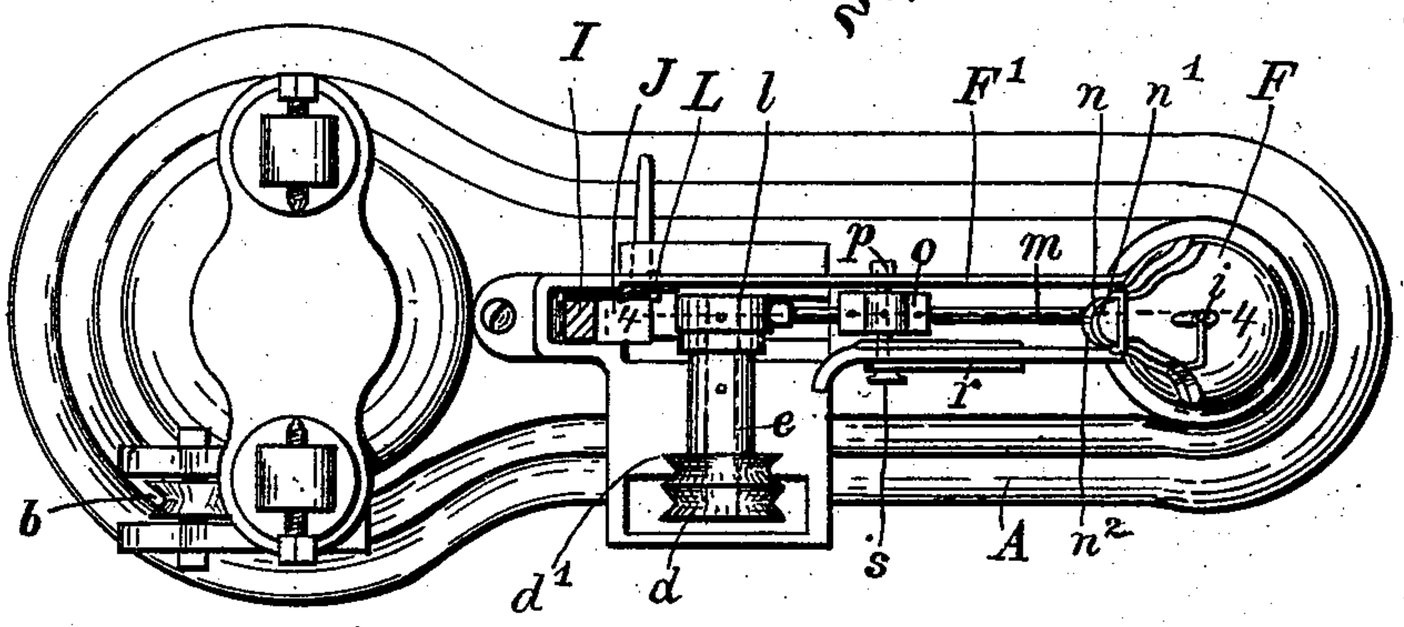


Fig. 2.



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(No Model.) 3 Sheets—Sheet 2.

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UPPER BEADING MACHINE.

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Fig. 3.

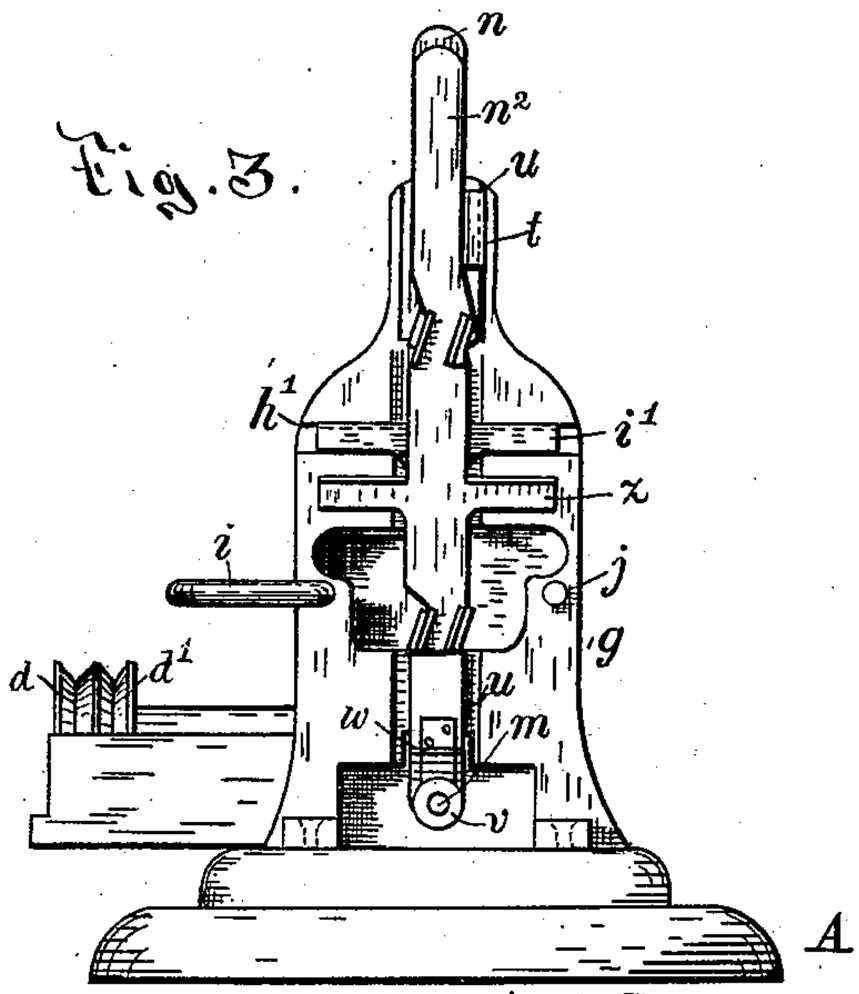


Fig. 4.

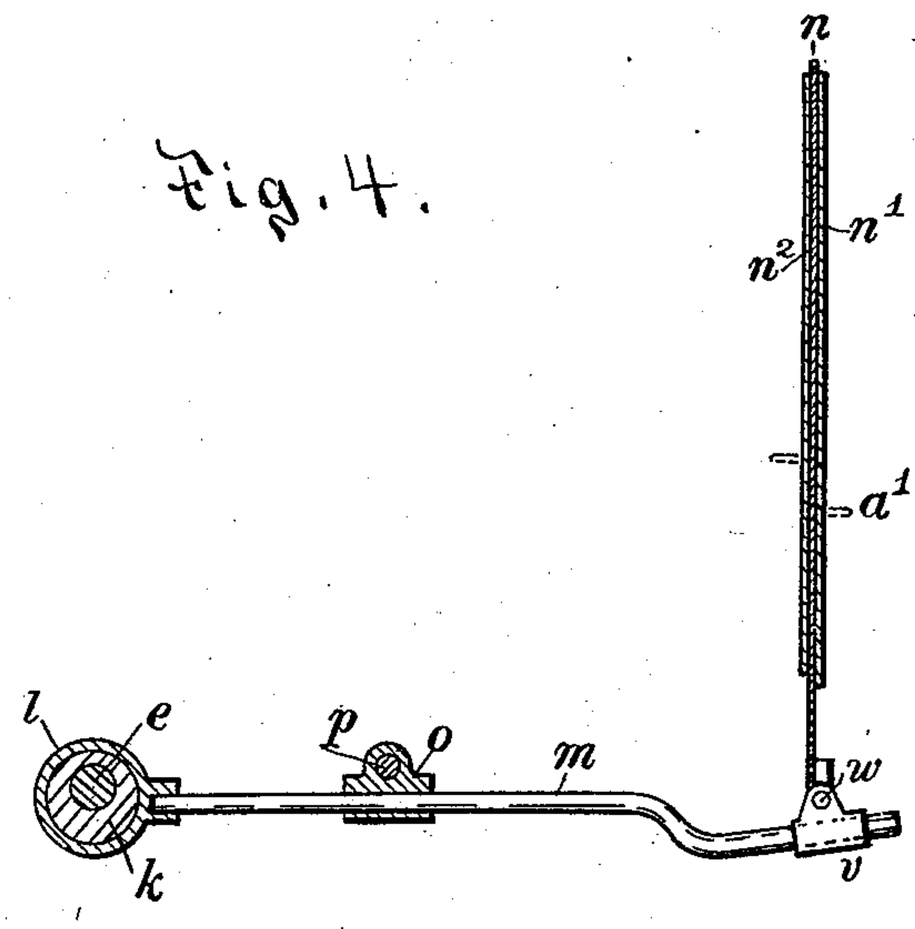


Fig. 12.

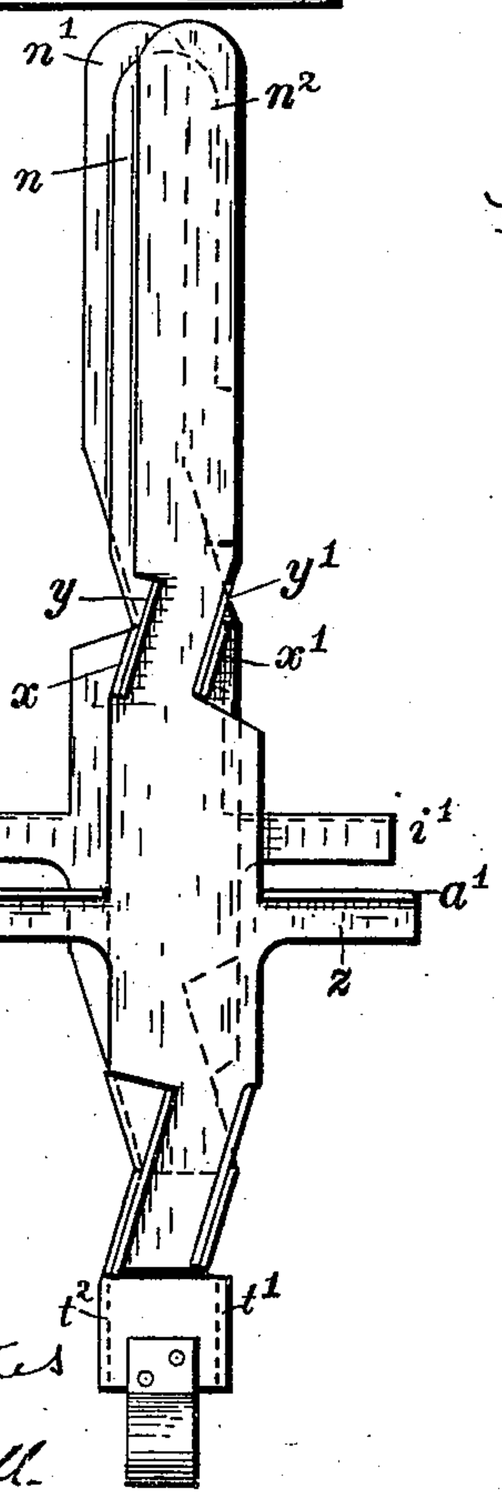
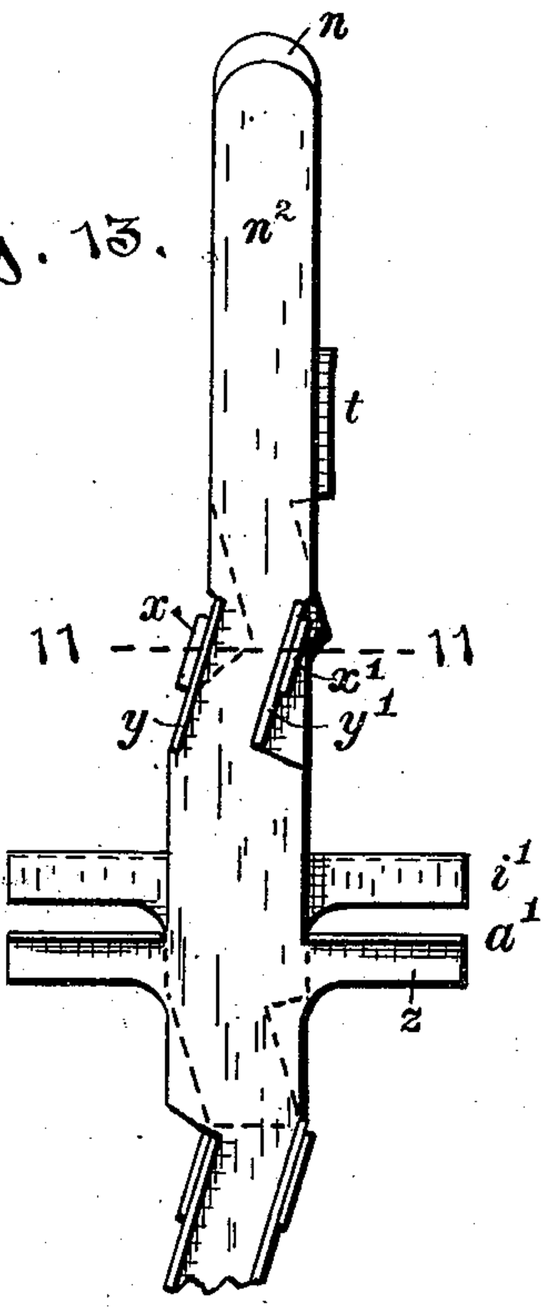


Fig. 13.



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(No Model.) 3 Sheets—Sheet 3.

C. B. HATFIELD.

UPPER BEADING MACHINE.

No. 534,437. Patented Feb. 19, 1895.

Fig. 5.

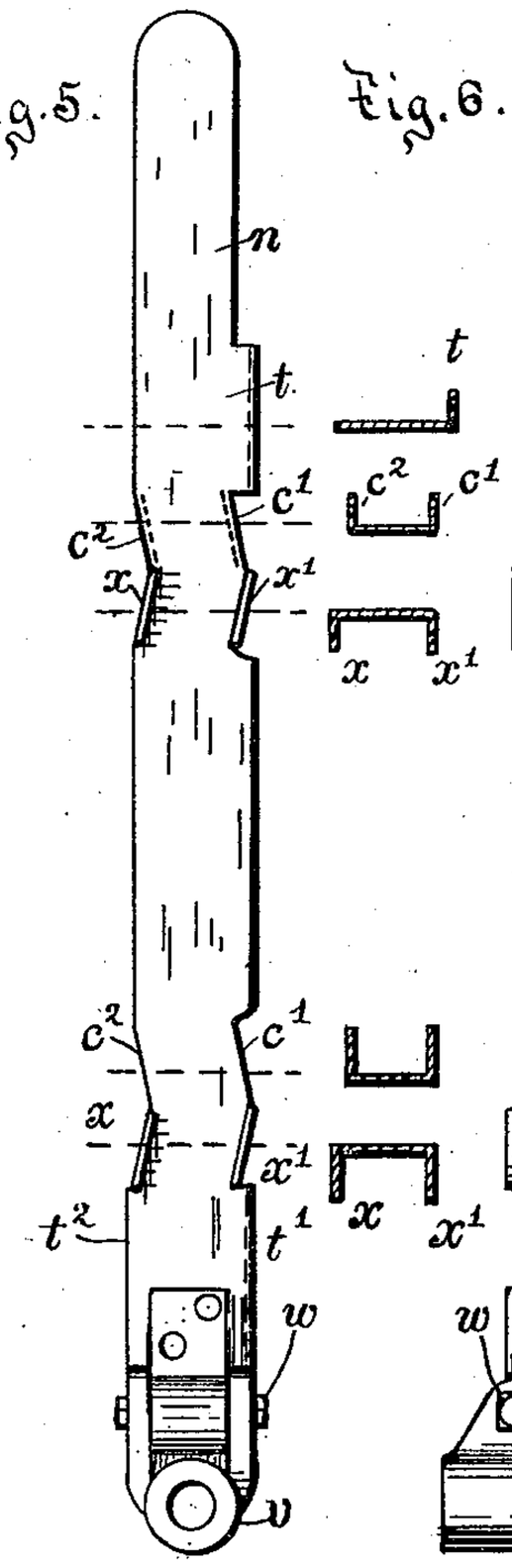


Fig. 6.

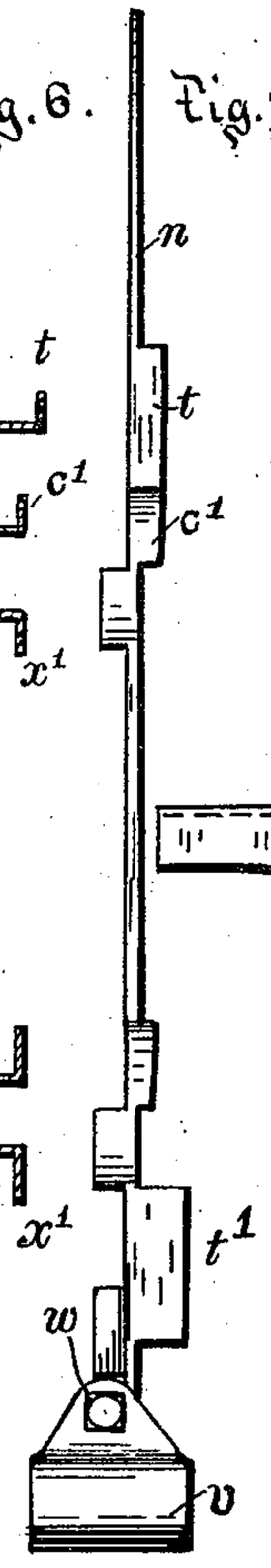


Fig. 7.

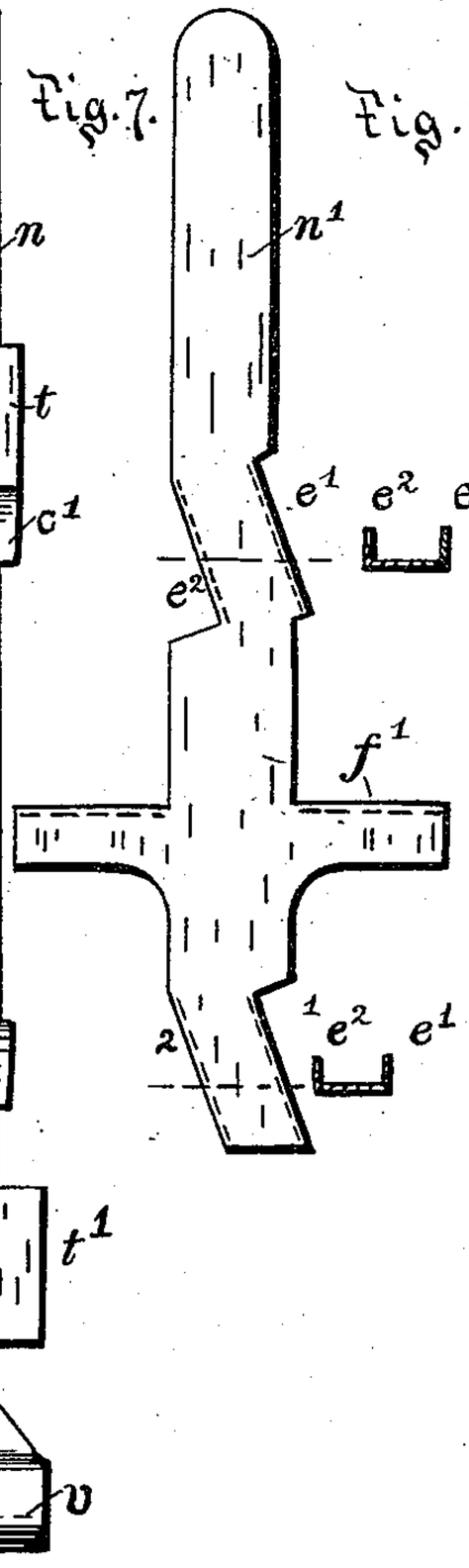


Fig. 8

Fig. 9.

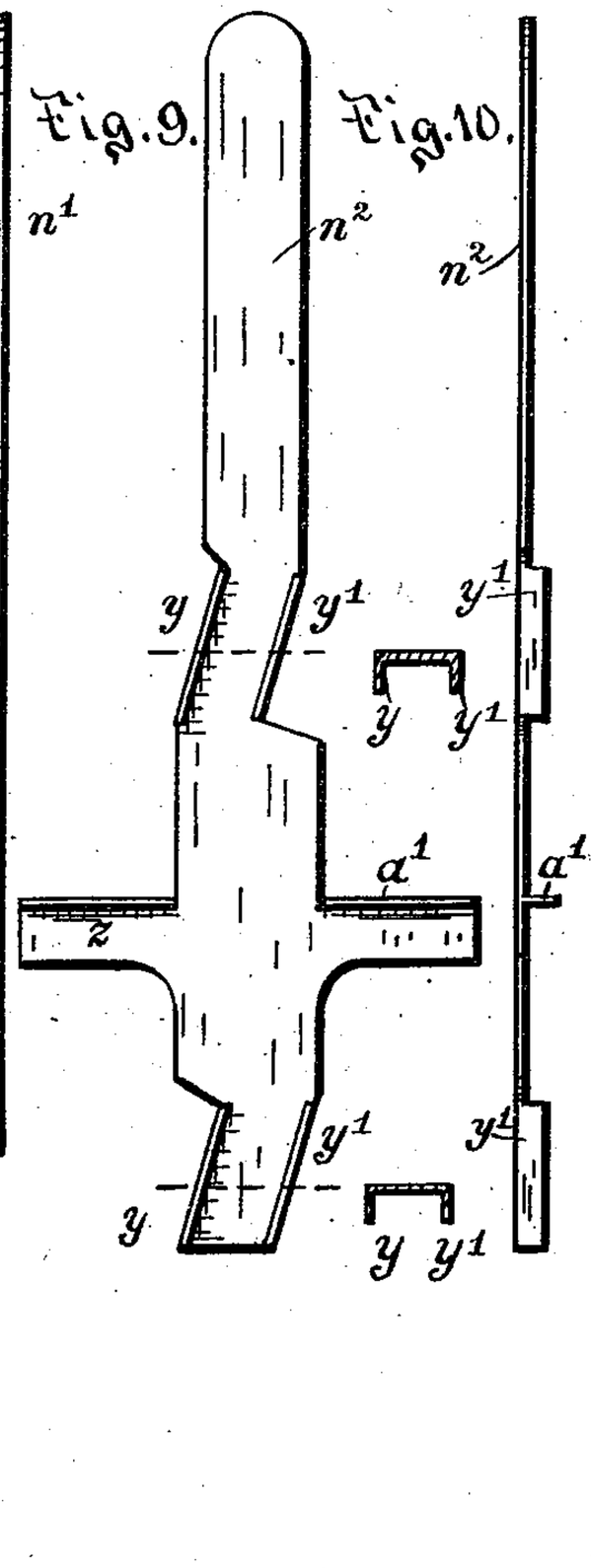
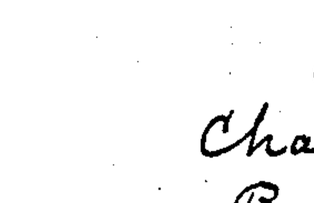


Fig. 10.

Fig. 11.



Witnesses;
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By Geo. B. Selden,
Atty.

UNITED STATES PATENT OFFICE.

CHARLES B. HATFIELD, OF ROCHESTER, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO QUENTIN W. BOOTH AND IRVING E. BOOTH, OF SAME PLACE.

UPPER-BEADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 534,437, dated February 19, 1895.

Application filed November 15, 1892. Renewed January 15, 1895. Serial No. 535,046. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. HATFIELD, of Rochester, New York, have invented an Improved Machine for Beading Shoe-Uppers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improved machine for beading or finishing the edges of uppers for boots or gaiters, which invention is fully described in the following specification, and the novel features thereof specified in the annexed claims.

In the accompanying drawings representing a shoe-upper beading machine containing my invention, Figure 1 is a side elevation. Fig. 2 is a plan view,—the arm and jaws being removed. Fig. 3 is an end elevation, as seen from the right-hand in Fig. 1,—showing the beading irons. Fig. 4 is a central longitudinal section through the beading irons and their operating lever on the line 4—4, Fig. 2. Fig. 5 represents the central beading iron detached. Fig. 6 is a side view of the same. Fig. 7 represents one of the laterally movable beading irons detached. Fig. 8 is a side view of the same. Figs. 9 and 10 are corresponding views of the other laterally movable beading iron. Fig. 11 is a section through the beading iron on the line 11—11, Fig. 13. Fig. 12 is a side view of the beading irons, with the side-irons separated. Fig. 13 is a side view of the beading irons with the side-irons closed up.

A represents the base, which supports a standard B which carries the pivoted arm C, provided with the jaws D D′. The construction of the arm is similar to that shown in my Patent No. 318,731, dated May 26, 1885, and need not be further described here, except to state that the jaw D′ may be stationary and fastened to the arm.

E is a belt, by which motion is communicated to the pulley *a* on a shaft which is provided with an eccentric to operate the reciprocating jaw D, and which also runs around the corner-pulleys *b* and *c*, and drives the pulley *d* which is secured to a shaft *e*, which actuates the beading-irons.

f is a guard which protects the belt.

F is the case for the beading or turning irons. It consists of a stationary portion *g*, which is fastened to or made in one piece with the base, and the other portion *h* is removable, being secured in place by the clamp-screw *i*, or other suitable device,—and a pin *j*.

The shaft *e* extends inward and carries on its inner end an eccentric *k*, provided with an eccentric strap *l* attached to the lever *m*, which at its outer end is connected with the central beading iron *n*. The lever is provided with an adjustable fulcrum, by which the amount of motion communicated to the central beading iron may be varied.

In the construction shown in the accompanying drawings, the lever passes through a pivoted socket-piece *o*, which is arranged to be shifted lengthwise of the lever, being supported on a pin *p*, which passes through slots *q* in the casing F′ and is provided with a clamp-nut *s* by which it is fastened in any position in which it may be set. The closer the socket is placed to the shaft *e*, the greater the amount of motion imparted to the outer end of the lever *m*. The pin *p* is shouldered against a plate *r* attached to the side of the casing, the clamp-nut *s* serving to draw the shoulder up against the inner surface of the plate.

The construction of the beading irons is such that the longitudinal reciprocation of the central iron *n* imparts a lateral movement to the beading irons *n′* n^2. The greater the length of the movement of the central iron the greater the lateral movement or spread of the other irons. The amount of the movement may be varied, even while the machine is running, by shifting the position of the pin *p*. The outer beading irons move laterally in straight lines, remaining always parallel with each other and the central iron. The laterally moving irons are provided with bent flanges which fit into grooves in the casing. The central iron is provided with flanges which fit into grooves in the casing so that it is compelled to reciprocate in a straight line. One of these flanges is shown at *t*. It projects into the groove *u* in the stationary part *g* of the casing. At its lower end, the beading iron *n* is provided with the flanges *t′* t^2, which slide in grooves in the casing. The

socket v is pivoted at w on a lug attached to the lower end of the beading iron n. The outer end of the lever m slides freely in the socket v. The lug w is attached to the central beading iron by screws or rivets.

The laterally moving beading irons n' n^2 are arranged on the opposite sides of the central iron, projecting inclined flanges being arranged so that as the central iron moves up and down, the side irons move laterally outward and return inward. When the central iron or blade n is at the extremity of its upward movement, its upper end preferably projects a short distance above the ends of the side irons. When the central iron is down, the side irons are spread laterally to their greatest extent. It will be understood that as the amount of the travel of the central iron is varied, by the adjustment of the movable fulcrum of the lever, the movement of the side irons will be correspondingly varied. The machine is thus adapted to turning scallops of different sizes. In order to stop the motion of the irons, a loose pulley d' is placed on the shaft e, so that the belt may be shifted onto this pulley, when desired. In beading straight edges and where silk top-facings are used, it is preferable to have the irons remain stationary.

The downward movement of the central iron n is caused to shift the side iron n^2 laterally by means of the inclined flanges x x' which bear against inclined edges on the side-iron, or on inclined flanges y y' thereon. The flanges may be duplicated, as indicated in Figs. 5 and 9, so as to insure freedom of movement in the side-iron. A cross-bar, z, on the side-iron n^2, is provided with a flange a', which projects into a transverse slot b', Fig. 1, in the removable portion of the casing h, and causes the iron to move sidewise while remaining parallel with the central iron. Any other suitable devices may be employed for these purposes. The other beading iron, n', is operated from the flanges c' c^2 on the central iron, which bear against the inclined edges or flanges e' e^2, Fig. 7. This iron is provided with a flange f' which fits in a slot h' in the casing and causes the iron to move laterally when the central iron descends. The flange f' is turned out on the edge of the cross-bar i' on the beading iron n'. This construction is cheap, and secures large wearing surfaces, but any other suitable means may be employed on either or both of the laterally moving beading irons, to secure parallelism in their movement. The beading irons or blades may be thinned toward their upper ends,—this arrangement securing greater thickness in the flanges on them so as to increase their durability. It will be understood that the casing F is properly recessed to permit the movement of the beading irons and the flanges thereon.

The arm C is pivoted on the standard B, so that the jaws D D′ can be brought down on the beading irons, or can be set in any suitable relation thereto for the convenient handling of the work from the irons to the jaws, or from the jaws to the irons. The position of the arm is determined by a notched rod I, Fig. 1, with the notches of which a sliding catch J, Fig. 2, engages. L is a stop to keep the rod I away from the eccentric.

The screw i, which secures the removable part of the case in place, has a bent outer end which swings over the cover g, and bears against a lug or rib on the same, to hold it in place.

I claim—

1. In a shoe-upper machine, the combination of a central reciprocating blade, two laterally reciprocating blades, arranged to reciprocate in planes at right angles with the central blade on opposite sides thereof, and means for operating the laterally moving blades from the central blade, substantially as described.

2. In a shoe upper machine, the combination of a central reciprocating blade, two laterally reciprocating blades actuated by the central blade, and means for imparting a variable movement to the central blade, substantially as described.

3. In a shoe-upper machine, the combination of a central reciprocating blade, two laterally movable blades, and inclined flanges whereby the movement of the central blade is transmitted to the laterally movable blades, substantially as described.

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