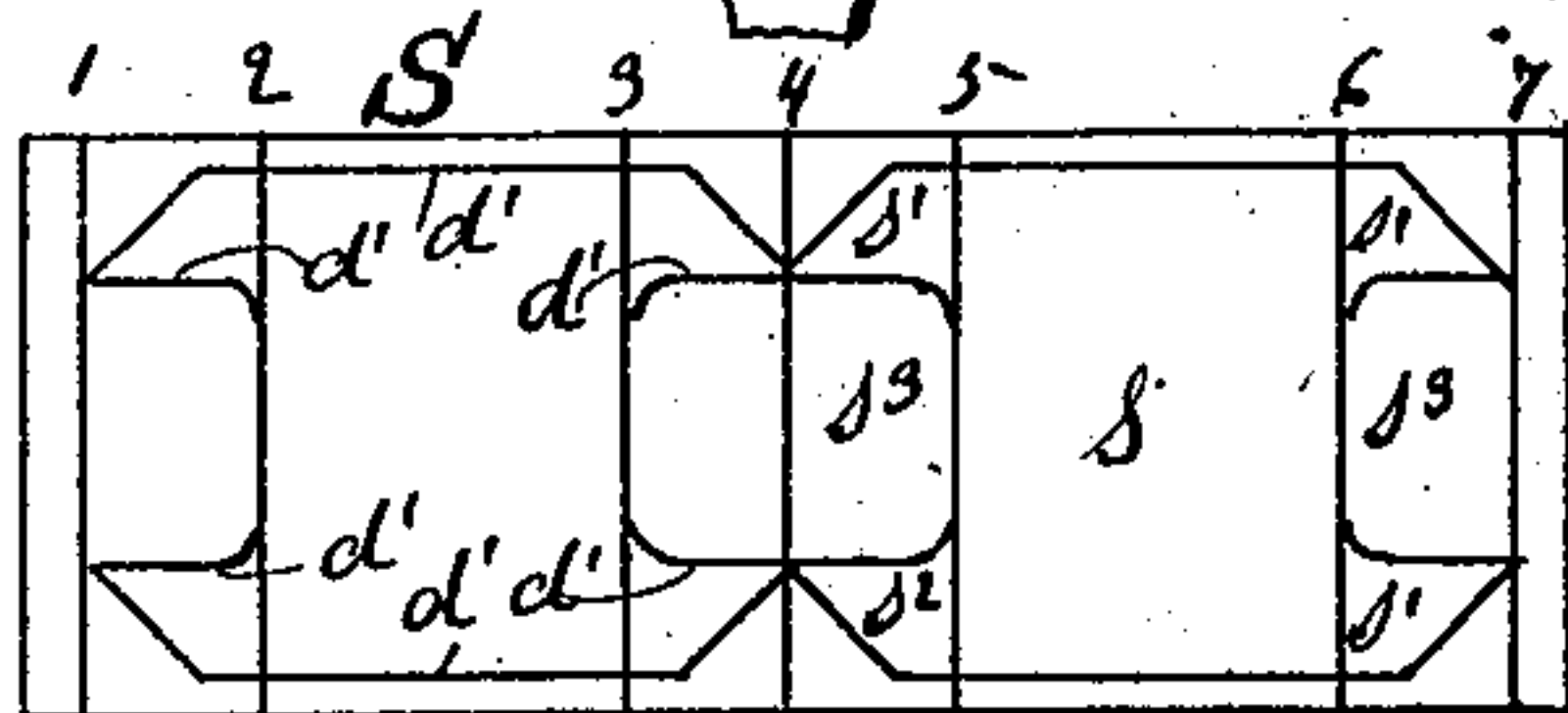
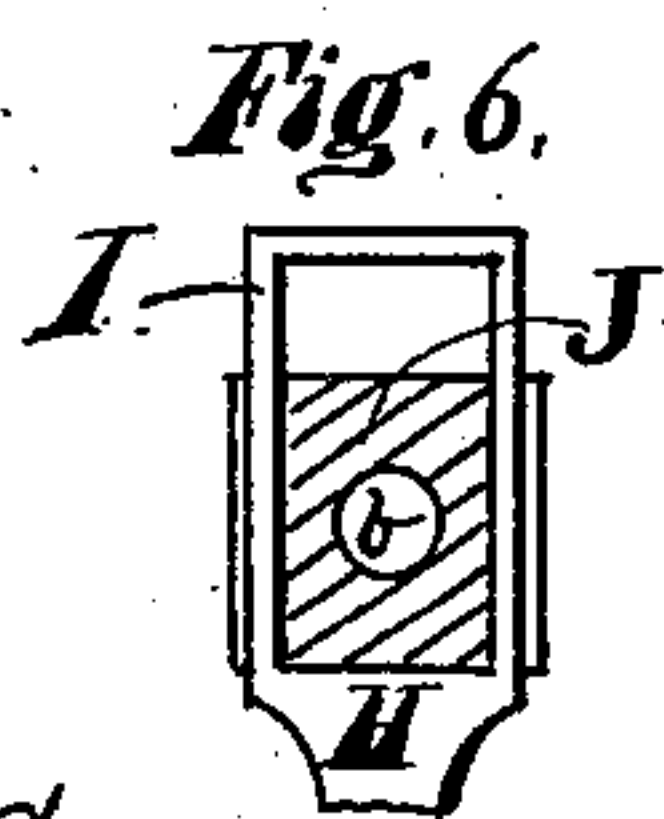
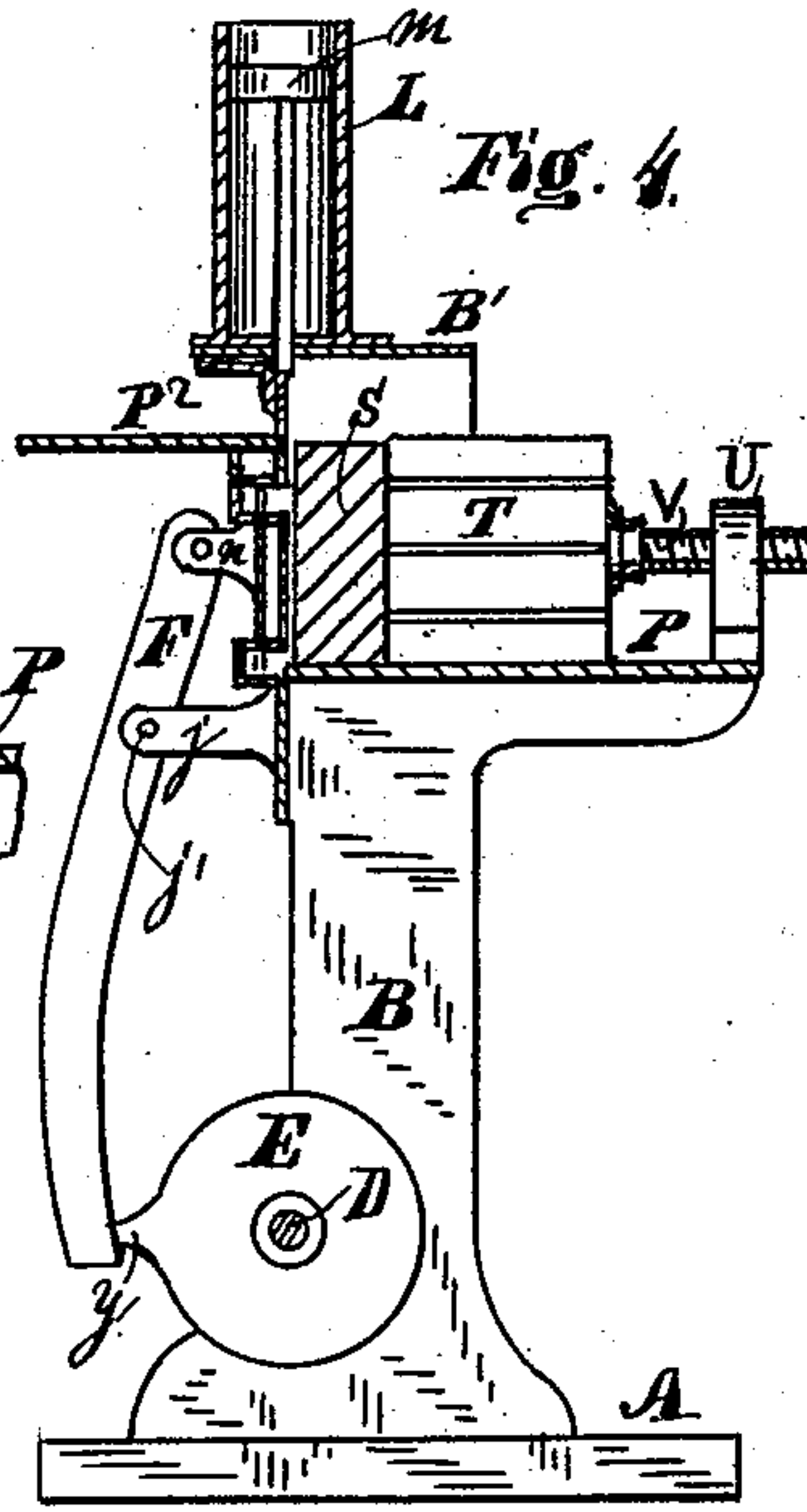
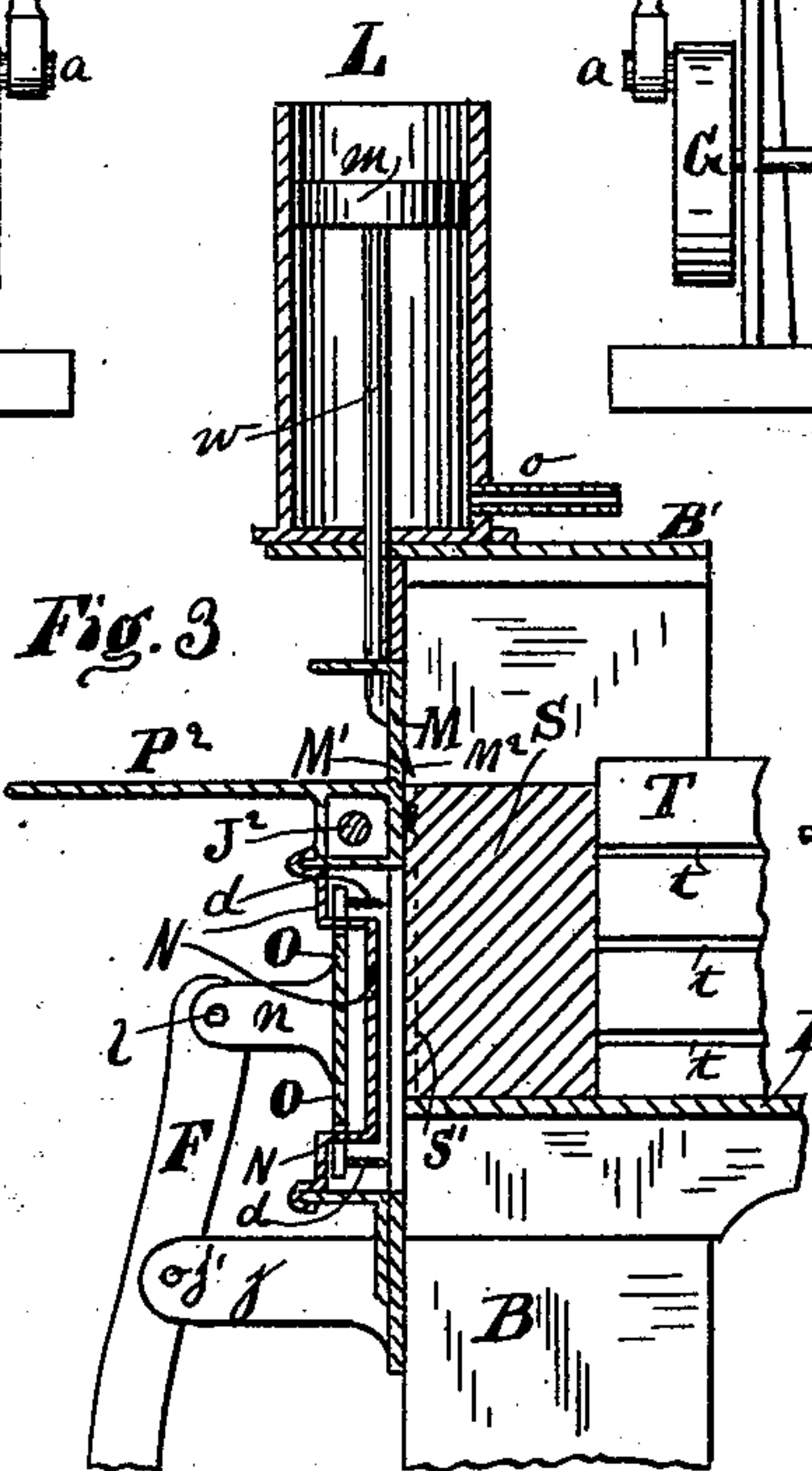
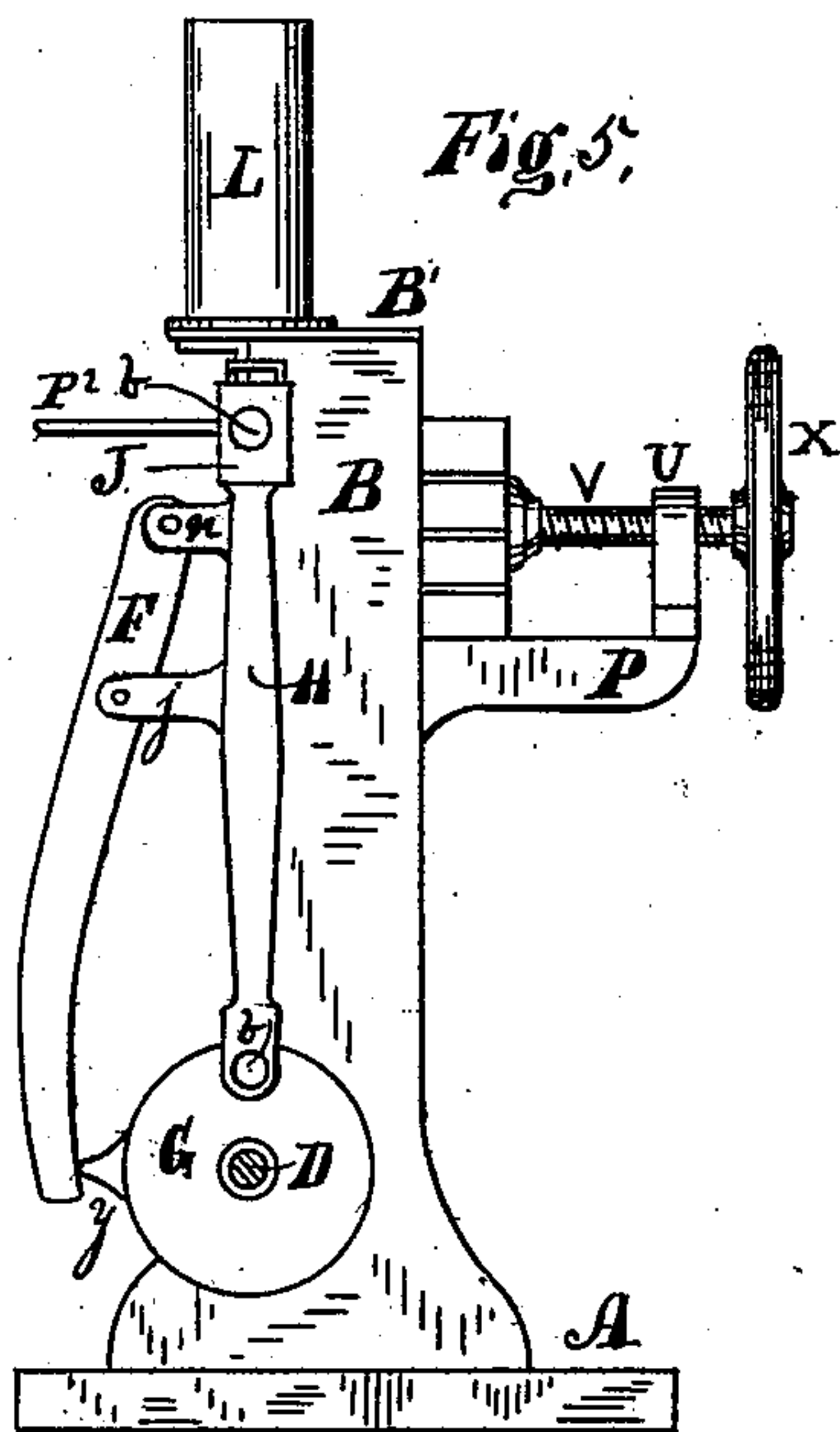
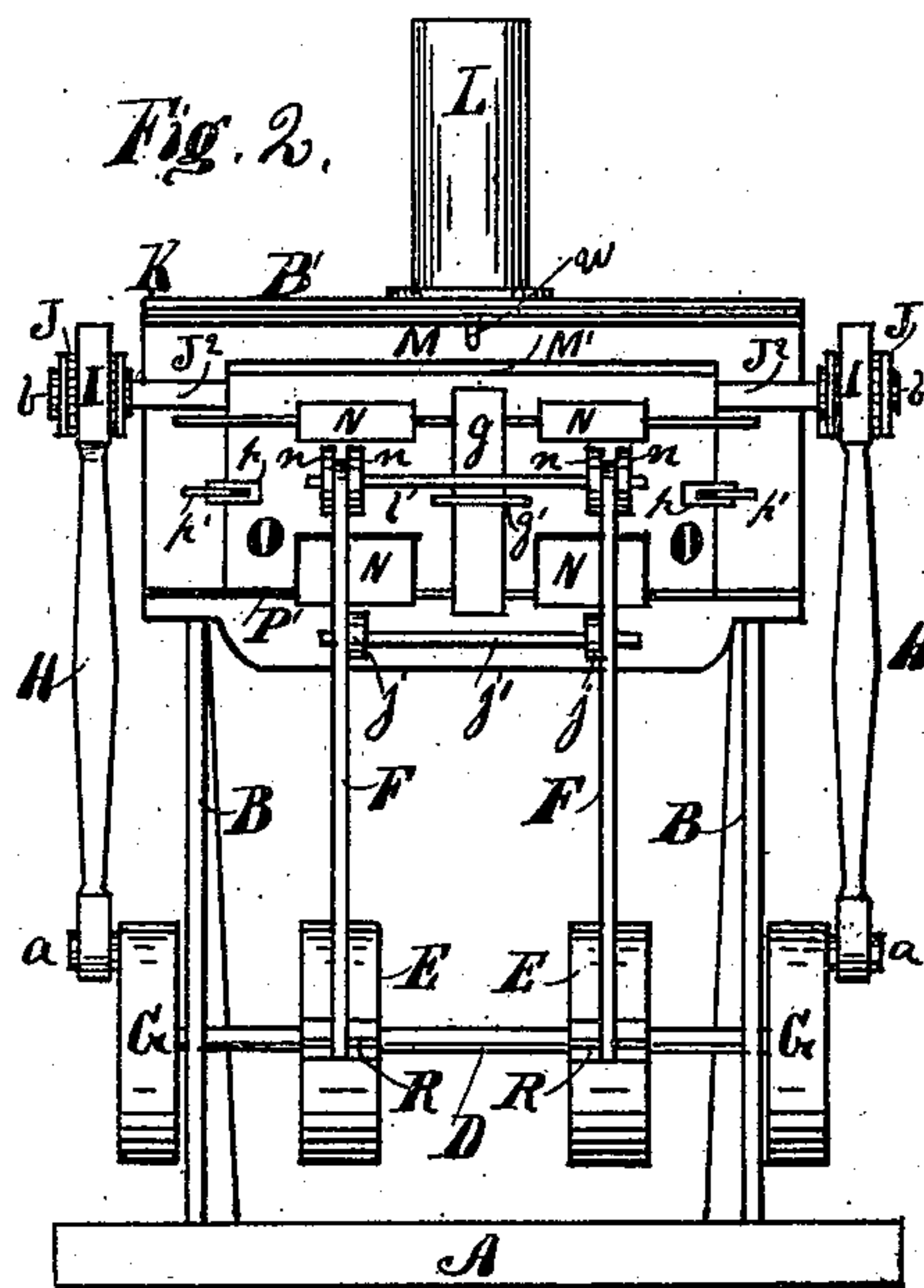
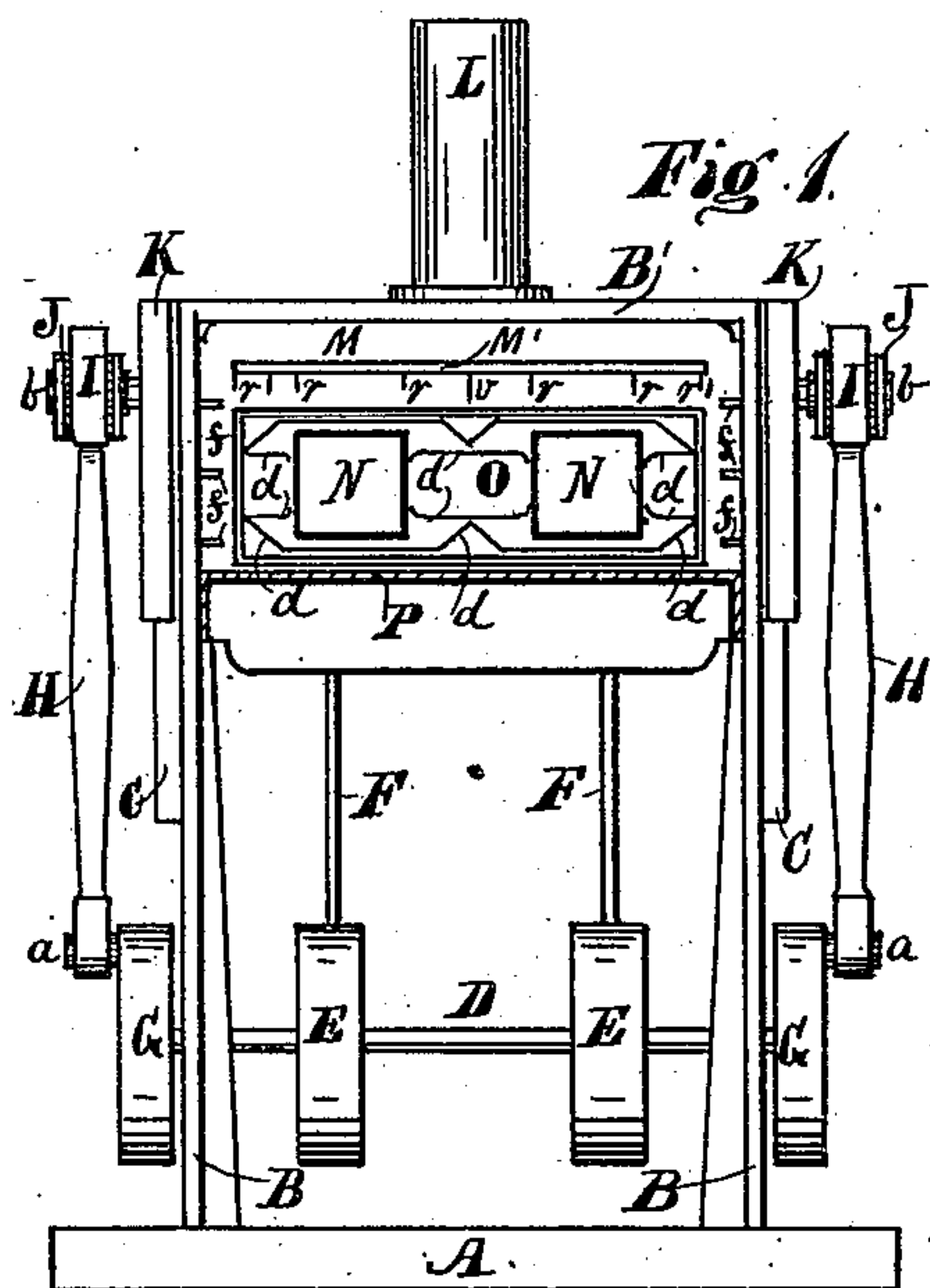


J. R. ALLGIRE.
Machine for Cutting Tray Blanks.

No. 227,711.

Patented May 18, 1880.



WITNESSES;
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UNITED STATES PATENT OFFICE.

JAMES R. ALLGIRE, OF INDIANAPOLIS, INDIANA.

MACHINE FOR CUTTING TRAY-BLANKS.

SPECIFICATION forming part of Letters Patent No. 227,711, dated May 18, 1880.

Application filed August 5, 1879.

To all whom it may concern:

Be it known that I, JAMES R. ALLGIRE, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Machine for Cutting Tray-Blanks and Cutting off Veneer-Blanks from the Blocks from which Wooden Trays or Dishes may be formed, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to provide a system of newly constructed and arranged devices having new modes of operation for stamping or cutting the form of a tray-blank into the face of a block or bolt of wood, after which the stamped blank is scarified or indented at the bending parts, and at the same time the blank and marginal parts are sliced or cut off from the bolt in the form of veneer, all of which is accomplished by a single revolution of the driving-wheel of the machine.

My invention consists, mainly, in the new construction and arrangement of devices, also in the new combination of old elements, all of which, singly or combined, are deemed essential in my newly-organized machine for stamping and cutting off veneer-blanks, whereby new and useful results are produced, all of which will be hereinafter first fully described in the specification, and then set forth in the claims.

In the accompanying drawings, in which like letters of reference in the different figures indicate like parts, Figure 1 represents a front elevation of my improved machine. Fig. 2 is a rear elevation of the same. Figs. 3 and 4 are sectional views with one side of the frame removed. Fig. 5 is a side elevation. Fig. 6 is a sectional view of the upper end of one connecting-rod and box; and Fig. 7 is a face view of the block or bolt of wood, showing the blank stamped therein, ready to be removed in the form of veneer.

Referring now to the drawings, A represents the base on which the sides B B of the frame are secured. B' represents the upper part of the frame. D is a horizontal shaft mounted in suitable boxes formed in or attached to the side frames, B B. On each end of the shaft D, outside of the frames B B, are mounted the

crank-wheels G G. The cam-wheels E E are also mounted on the same shaft between the side frames, B B, and each wheel E is provided with a cam, R, as shown. The bolt-platform P is secured between the frames B B, and is provided with a bracket, U, which is also provided with a screw-threaded hole to receive and hold the screw V. The screw V is provided at its outer end with a hand-wheel or crank, X, for operating the screw. The inner end of said screw is swiveled to the iron slide-block T, said slide-block having on each side one or more sets of grooves, *t t*, to permit the knife-edged spurs *f f*, Fig. 1, to pass in freely without injury to said spurs. The block T is drawn away from the cutter or forced toward it by the screw V and hand-wheel X.

The side frames, B B, are each provided with a slide, C, on the outside near the rear edges, on which the movable frame K K operates. Said frame is raised and lowered by means of the shaft J² J², boxes J J, connecting-rods H H, and crank-wheels G G, as will be hereinafter described.

To the central part of the sliding frame K, at the top, is secured a piston-rod, *w*, with piston-head *m*, which operates in the cylinder L, as shown. The lower part of the cylinder L is provided with a steam-pipe, *o*, through which steam is admitted to the cylinder, and thus forms a means of supporting the frame K by a steam-cushion in the cylinder. The pressure of steam used must be sufficient to hold the sliding frame and its connections always up until the cranks G *a* and connecting-rod H pull it down.

The sliding frame K K is perforated in its center with an oblong opening, in which the movable die O, with the knives for stamping the form of the blank, operates. The guide-plates N N are shown in cross-section in Fig. 3. The upper and lower ends of each plate N are secured to the slide K, as shown, and the die O is held in position and operates in the hollow part of said plates N, so as to move forward or backward therein.

The inner face of the die O is provided with one or more sets of cutters and slitting-knives, *d d*, which may be of any form in which it is desired to stamp the blanks. Said knives pro-

ject beyond the face of the die far enough to cut into the bolt S the thickness of the veneer to be cut from said bolt, as indicated by the dotted line S' in Fig. 3, which will be hereinafter described. To the rear side of the movable die O are attached two or more lugs, *n n*, to which the levers F F are pivoted. The levers F F are also pivoted to lugs *j j*, attached to the lower part of the slide K by the rod *j'*, as shown, and the lower ends of the levers are operated by the cams *y* on the wheels E E, as will be hereinafter described. Above the movable die O the sliding frame K is provided with a long horizontal slit, M', with a platform, P², extending horizontally therefrom to receive the blanks when cut from the bolt. Immediately over the slit M' is the veneer-knife M, (shown more fully in section in Fig. 3.)

The connecting-rods H, at their upper ends, have a long strap, I, in which the boxes J of the slide K operate, as will be hereinafter described.

Immediately below the veneer-knife M are a series of creasing-knives, *r r r r*, which are used to mark or indent the blank on the block, as shown at lines 2, 3, 5, and 6 in Fig. 7. These creases are at the proper points for bending the blanks when cut off from the bolt. The cutting-spurs *r'* are designed to trim off the ends of the blanks, and the spur *v* in the center is designed to separate the blanks if two are formed at once. The knives *d d* are arranged on the die O, and cut blanks as shown in Fig. 7—that is, with corners *s'*, end flaps, *s*³, and central part, *s*.

The block or bolt of wood S is placed on the platform P, and is forced between the knife-edged spurs *f f f* on the inner sides of the frames B B, thus preventing the block from being raised up or tilted by the motion of the slide-frame K K.

The operation of my improved machine is as follows, to wit: Power is applied to the shaft D, causing the crank-wheels G G and cam-wheels E E to revolve. The connecting-rods H then cause the sliding frame K K to reciprocate up and down. Steam is then introduced into the cylinder L, below the piston *m*, causing the sliding head K K to stay up, while the cams R R on the wheels E E move the levers F F away from the wheels at the bottom. This motion of the levers causes the die O to move forward, thus forcing the knives *d d* into the face of the block or bolt of wood S, that is held in close contact with the guides N N by the screw V and block T, thus making an impression on the block similar to that shown in Fig. 7. During this operation the crank-wheels are revolving; but the upper ends of the connecting-rods H are moving by means

of the strap I on the boxes J, when the levers have caused the knives to stamp or cut into the wood. Then the cams R slip off from the end of the levers, and the spring *g* forces the die back, and at the same time forces the lower ends of the levers against the periphery of the wheels E E, ready for the next operation. As the crank-wheels G G revolve, after the cams have done the work, the connecting-rods pull down the sliding frame K K, and at the same time the creasing-knives *r r r r* indent the face of the blanks at the places where they are to be bent, and the spurs *r'*, *v*, and *r'* trim off the edges and separate the two blanks, while the veneer-knife M, following immediately after, slices or cuts off a sheet of veneer, the blanks passing through the slit M' onto the platform P², while the marginal trimmings fall to the ground. During the upward stroke of the frame K K and the knives the block of wood is screwed up against the guide-plates N N, ready for the next cut.

Having thus described my invention, what I claim is—

1. In combination with a reciprocating slide, K K, having a movable die, O, with cutting and slitting knives *d d* on its face, the veneer-knife M, as and for the purpose specified.
2. In combination with a reciprocating slide, K K, having a movable die, O, with cutting and slitting knives *d d*, the creasing-knives *r r r r* and cutting-spurs *r' v r'*, as and for the purpose specified.
3. In combination with a reciprocating slide, K K, having a movable die, O, with cutting-knives *d d*, the knife-edged spurs *f f*, for holding the block of wood, the screw V, and block T, as and for the purpose specified.
4. In combination with a reciprocating slide, K K, having a movable die, O, with cutters *d d*, the levers F F and cam-wheels E E, as and for the purpose specified.
5. In combination with a reciprocating slide, K K, having a movable die, O, with cutting-knives *d d*, the levers F F, the cams E E, the cranks G G, the connecting-rods H H, and the steam-cylinder E, with piston *w m*, as and for the purpose specified.
6. In combination, the veneer-cutter M, the blank-stamping die O, with knives *d d*, the creasing-knives *r r*, and cutting-spurs *r' v r'*, as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES R. ALLGIRE.

Witnesses:

E. O. FRINK,
JNO. W. ALLGIRE.