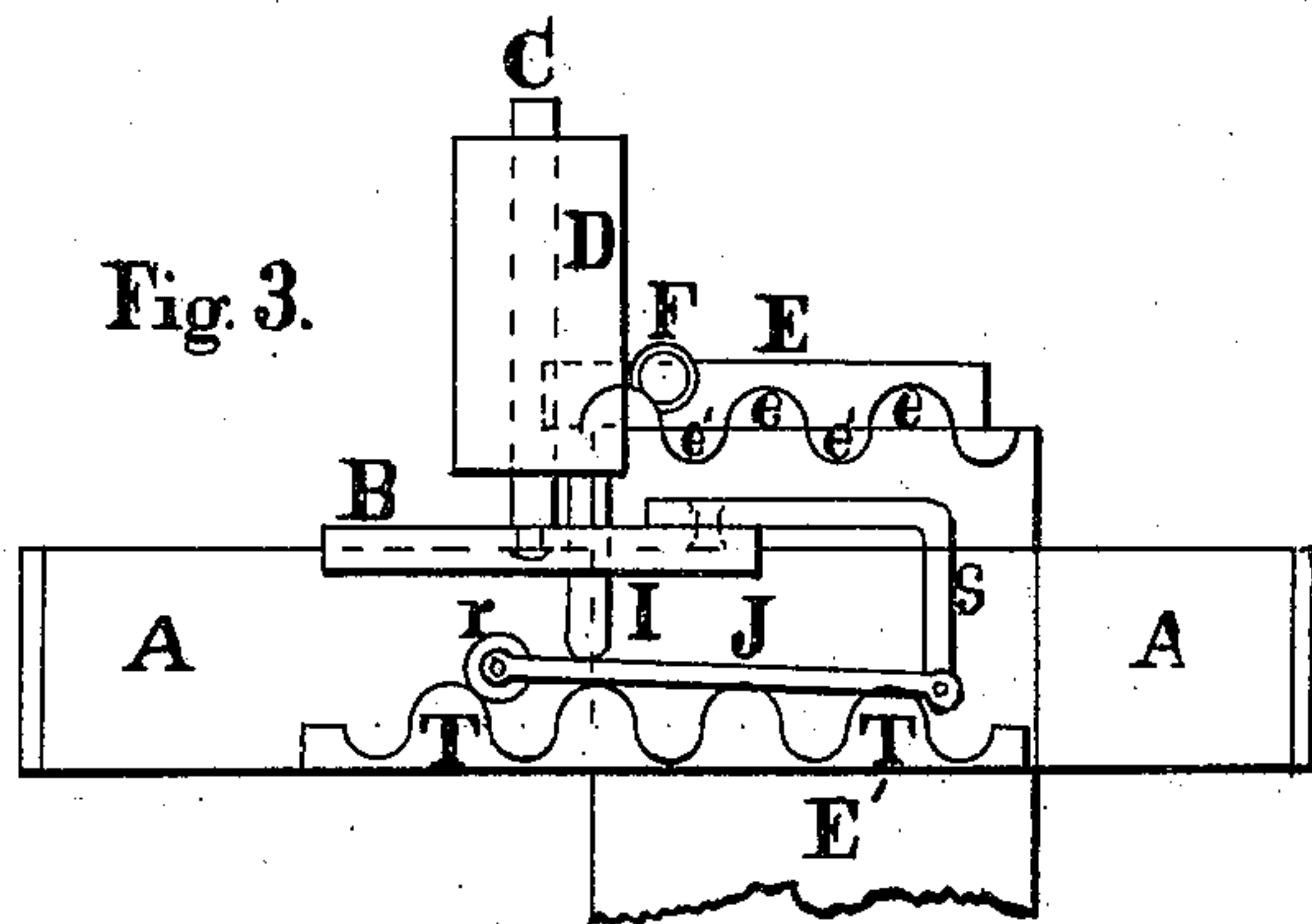
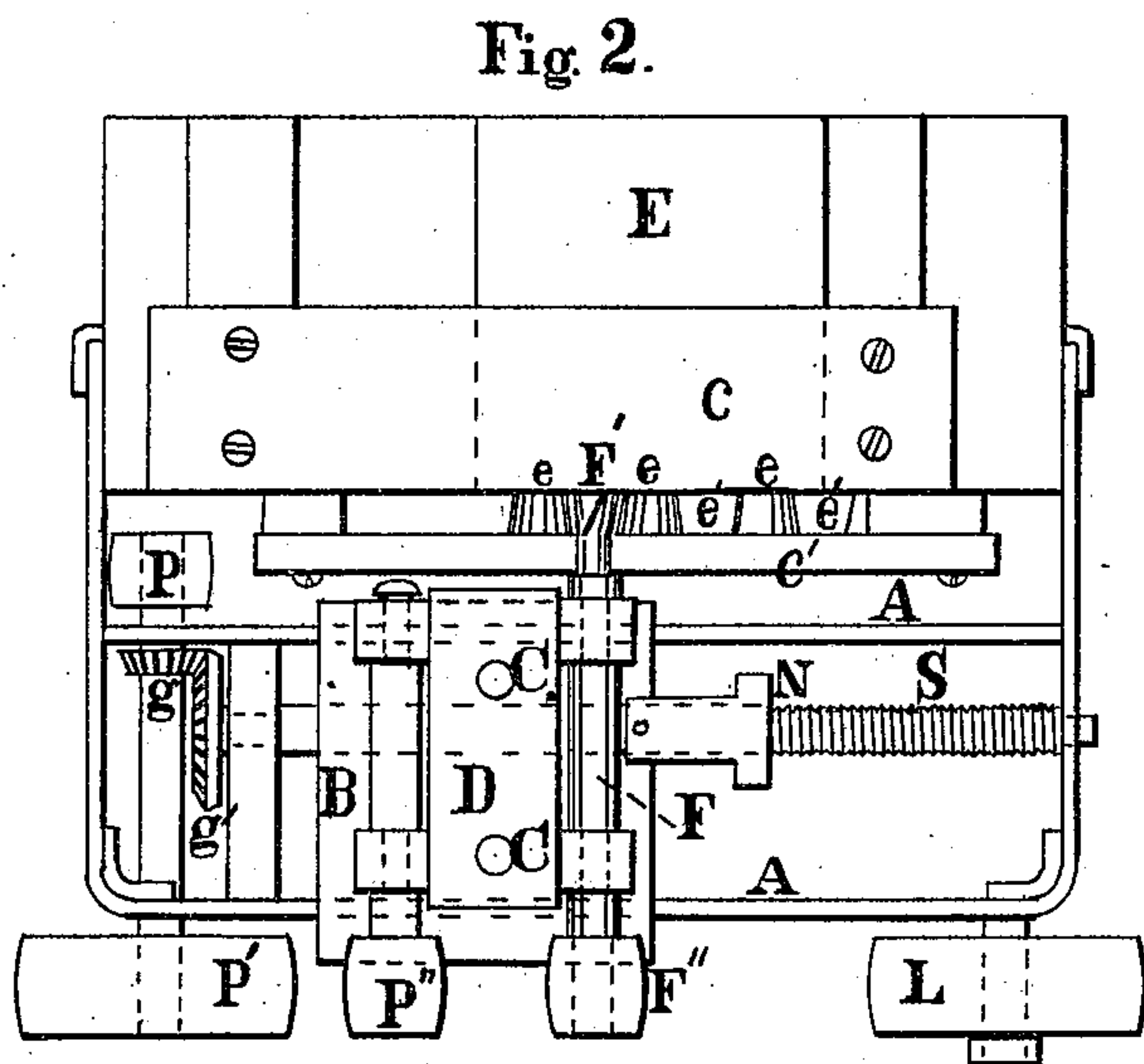
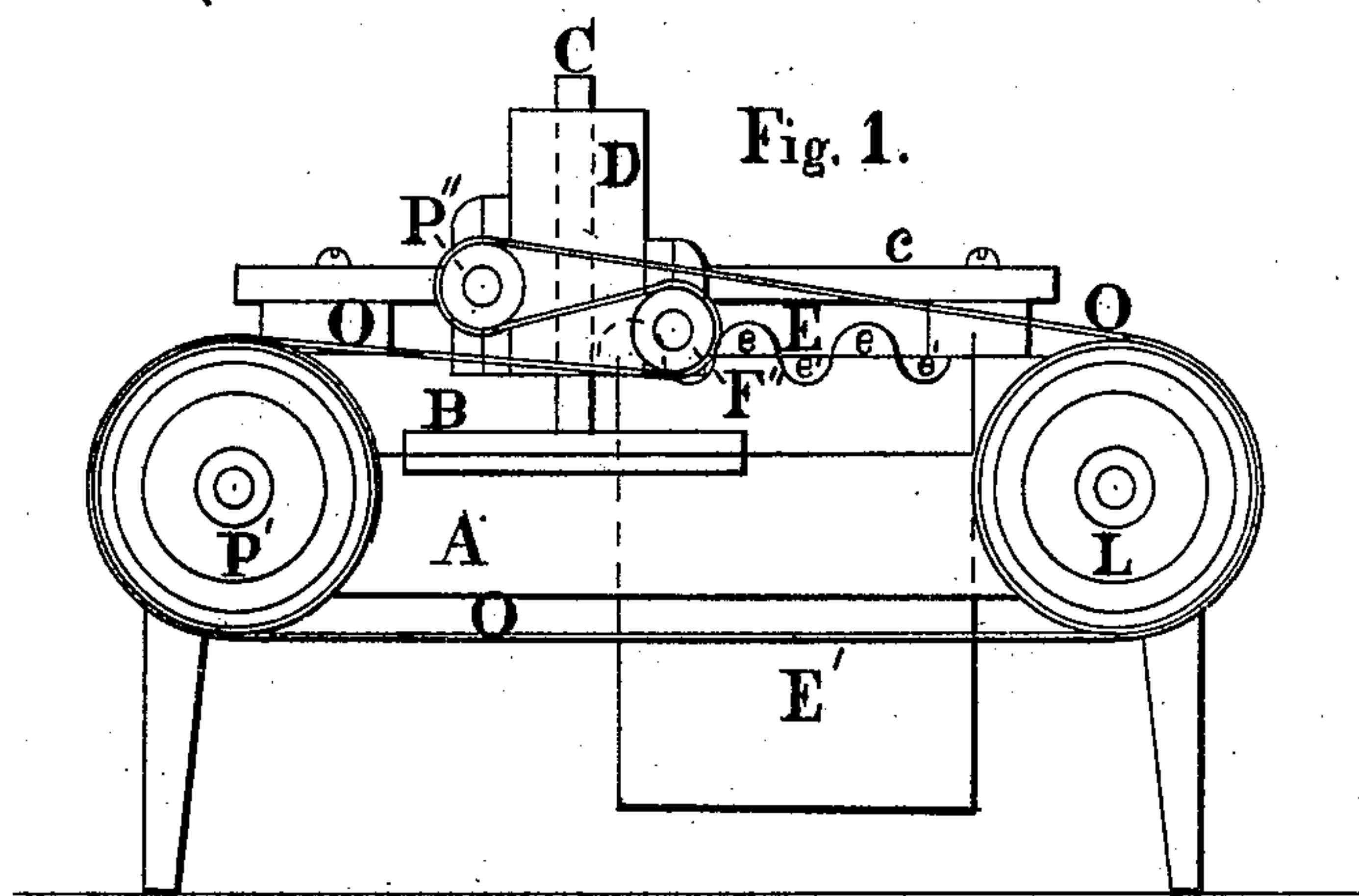


J. E. HASKELL.  
DOVETAILING-MACHINE.

No. 174,674.

Patented March 14, 1876.



Witnesses.

*J. E. Haskell*  
*H. E. Gifford*

Inventor.

*Joseph E. Haskell*

# UNITED STATES PATENT OFFICE.

JOSEPH E. HASKELL, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN DOVETAILING-MACHINES.

Specification forming part of Letters Patent No. 174,674, dated March 14, 1876; application filed September 9, 1875.

*To all whom it may concern:*

Be it known that I, JOSEPH E. HASKELL, of Baltimore, in the county of Baltimore and State of Maryland, have invented certain Improvements in Dovetailing-Machines, of which the following is a specification:

The nature of this invention consists in constructing a cheap and effective dovetail-machine, in which the pieces or sides to be dovetailed together are held together at one corner rigidly in stationary clamps, while the rotary cutters are moved along the required path by mechanism constructed to give them such positive motion as shall so cut the dovetails that each part left on one piece shall fit into the corresponding recess cut into the other piece or side of the box or drawer.

Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a top view of the same. Fig. 3 is a side elevation of parts of the machine, showing the irregular track T, one side or bed-piece of the main frame, and the parts by which the vertical motions of the cutter F' are obtained as it moves along the horizontal track A.

A A is the main frame of the machine. B is a slide-table, which moves horizontally on the main frame A A. C C are vertical posts on the slide-frame B, on which the frame D moves vertically. E E' are the two sides of a drawer or box which are to be dovetailed together, and they are held rigidly in place, the end of one resting on the end of the other, and both stationary with the main frame by means of the clamps c c'. F is a shaft revolving in boxes secured to the frame D, and carrying at one end the cutter F', and driven at the other end by means of the pulley F''. L and P'' are loose pulleys, and P' is the driving-pulley, and over the pulleys P', P'', F'', and L the endless belt O O passes. The table or frame B moves along the tracks A A by means of the screw S and nut N. The screw S is, in turn, driven by the gears g g', the gear g being placed on the shaft which is driven by the pulley P, to which the belt-power for operating the machine is applied. T is a stationary and recessed track, (see Fig. 3,) secured to the main frame A. Along the track the roller r passes. The roller r is secured to the rod or connection J, which is, in

turn, pivoted and secured to the arm s, extending from the slide-table B. As the roller r rises and falls along the track T, the frame D is correspondingly raised or depressed by means of the connecting-rod or standard I, which extends from the frame D and rests upon the arm J, to which the roller r is attached.

Operation: In operating this machine a driving-belt is applied to the pulley P, giving motion to both the gear g and pulley P' on the same shaft. The gear g meshes into and drives the gear g', which is secured to and drives the screw S. As the screw S revolves, the nut N and table B, to which it is secured, move along in either direction, according to direction in which the screw revolves. It is intended either to reverse the motion of the screw when the nut reaches either end, or else to have a nut which can be loosened or removed from the screw, to allow the nut and table B to pass back again after it has traversed the length of the slides. The two sides of the box or drawer to be dovetailed together are placed, the one, E, horizontally on the machine and beneath the clamp c, the other, E', vertically and beneath the clamp c'. The two pieces E and E' are placed so that one end of E rests upon the end of E', and at right angles to each other. The endless belt O O passes over the pulleys P', F'', P'', and L. As the table B and the pulleys P'' and F'' traverse the track A, the belt O is given out over the pulley F'' as fast as it is taken up by the pulley P'' as they move along, so that the endless belt is always of very nearly the same tension, and will always drive the cutter F' when the machine is in motion. Thus, from the belt O a very rapid motion can always be imparted to the cutter F'. As the table B and cutter F' are carried along the ways A A, the roller r passes along the track T T, giving the necessary vertical motions to the slide D and the cutter F'. As the roller r passes into the depressions in the track T, the cutter passes down and cuts out the recesses e' e' in the end of the side F', (see Fig. 3,) and as the roller r passes over the elevations of the track T, the cutter F' cuts around and leaves the dovetails e e on the end of the piece or side E. These dovetail pieces e e, and also the recesses



*e' e'*, are cut beveling, according to the shape or bevel of the cutter *F'*. (See Fig. 2.) After the cutter has passed along the edge of the pieces, if the piece *E* is removed and turned over, the dovetail pieces *e e* will fit into and fill the corresponding recesses *e' e'* in the piece *E'*, and a firm and substantial dovetail will be formed, suitable for one corner of any box or drawer.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the ways *AA*, horizontally moving table *B*, vertically-moving slide *D*, and revolving cutter *F'*, for forming the dovetail parts *e e e' e'*, substantially as described.

2. The combination of the track *T* and follower *r* with mechanism connecting the same with the vertically-moving slide *D*, for raising and lowering the revolving cutter *F'* in forming the dovetail parts, substantially as described.

3. The pulleys *P*, *L*, *F''*, and *P''*, combined and arranged with the horizontally-moving slide *B*, and the vertically-moving frame *D*, to give motion to the cutter *F'* by means of the single endless belt *O*, substantially as described, and for the purpose set forth.

JOSEPH E. HASKELL.

Witnesses:

JAMES GLASGOW,

RICHARD W. CLEMENTS.