

E. M. DEEY.  
Fluting-Machines.

No. 130,413.

Patented Aug. 13, 1872.

Fig. 1.

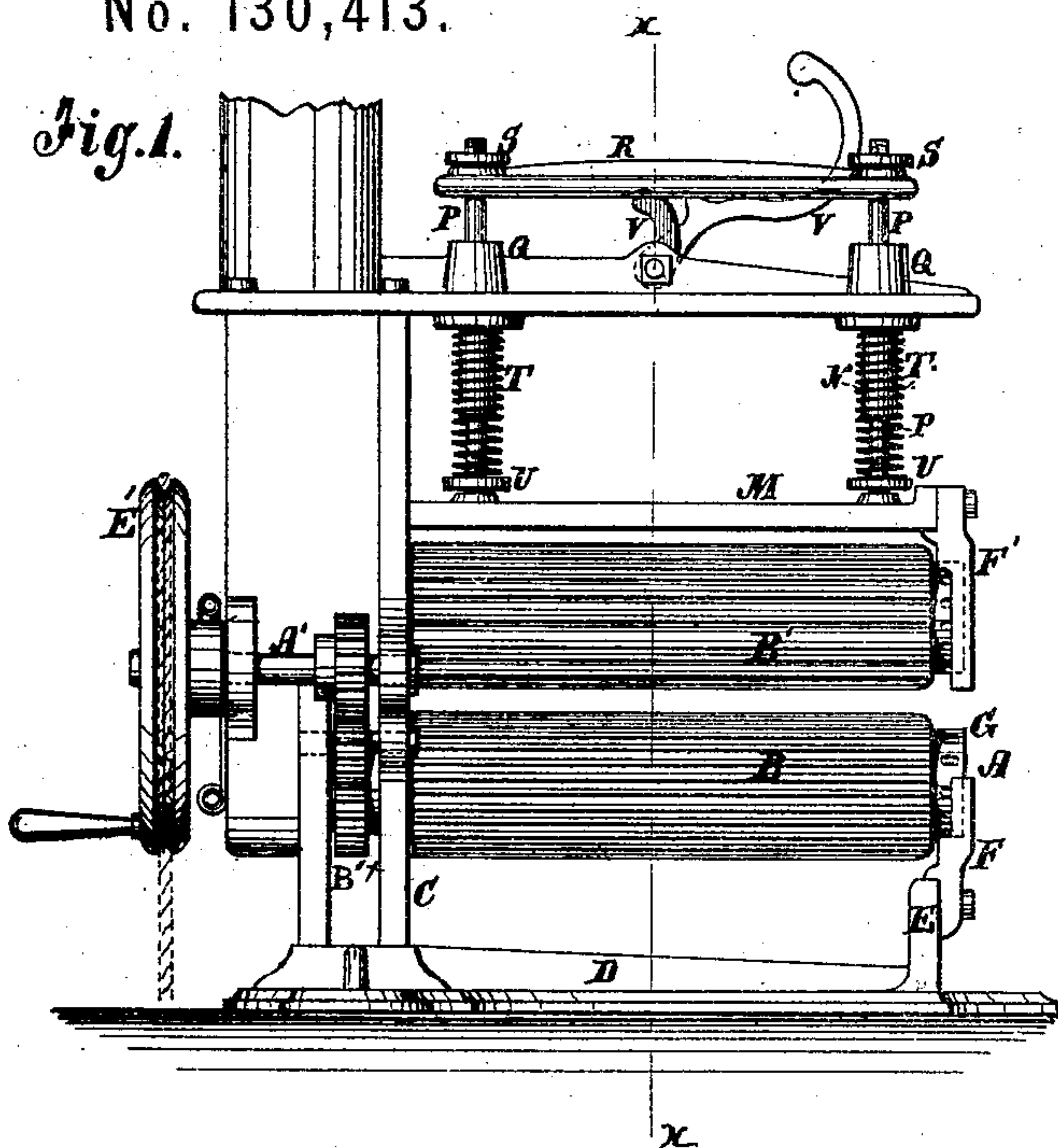


Fig. 2.

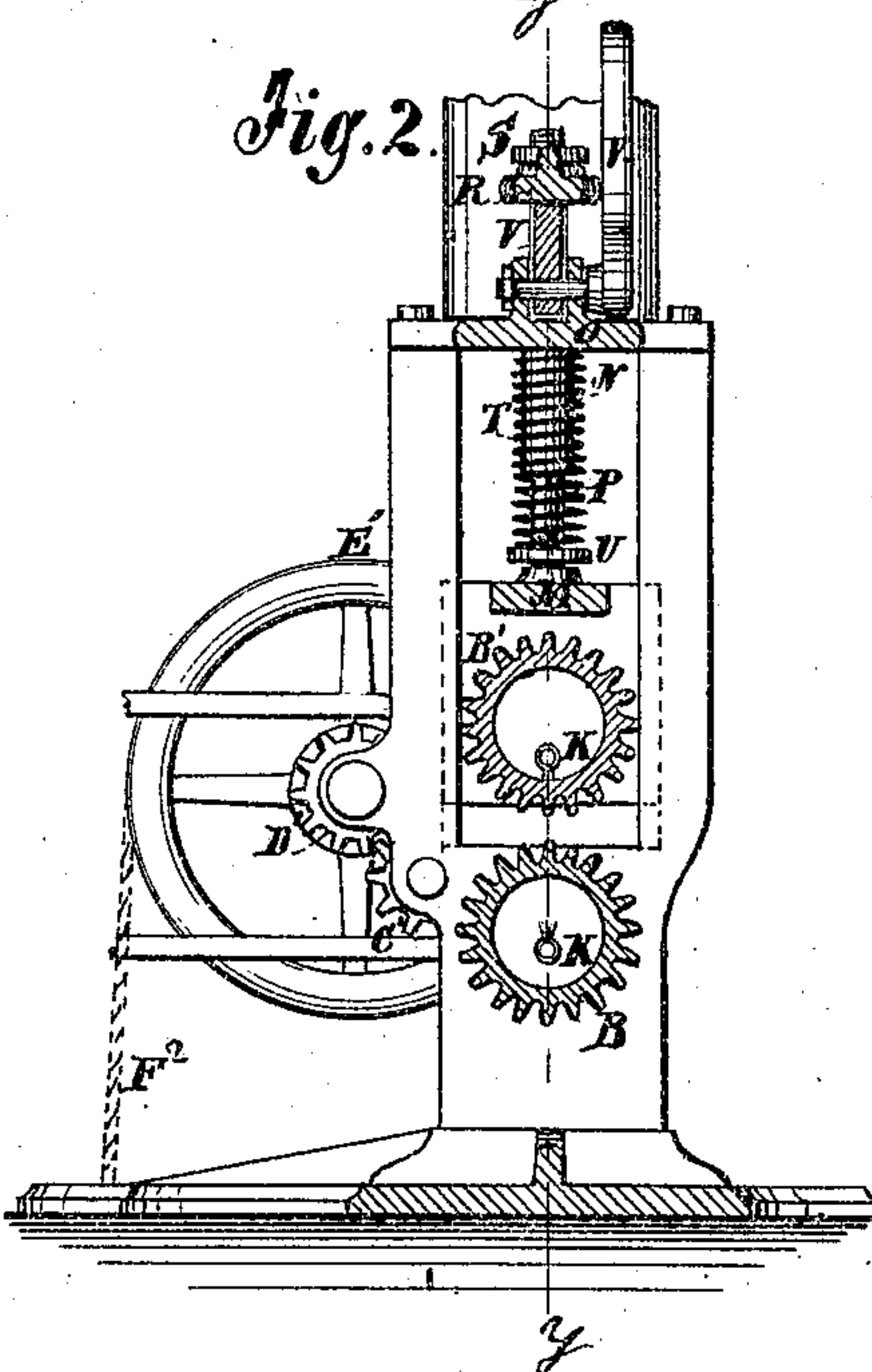


Fig. 3.

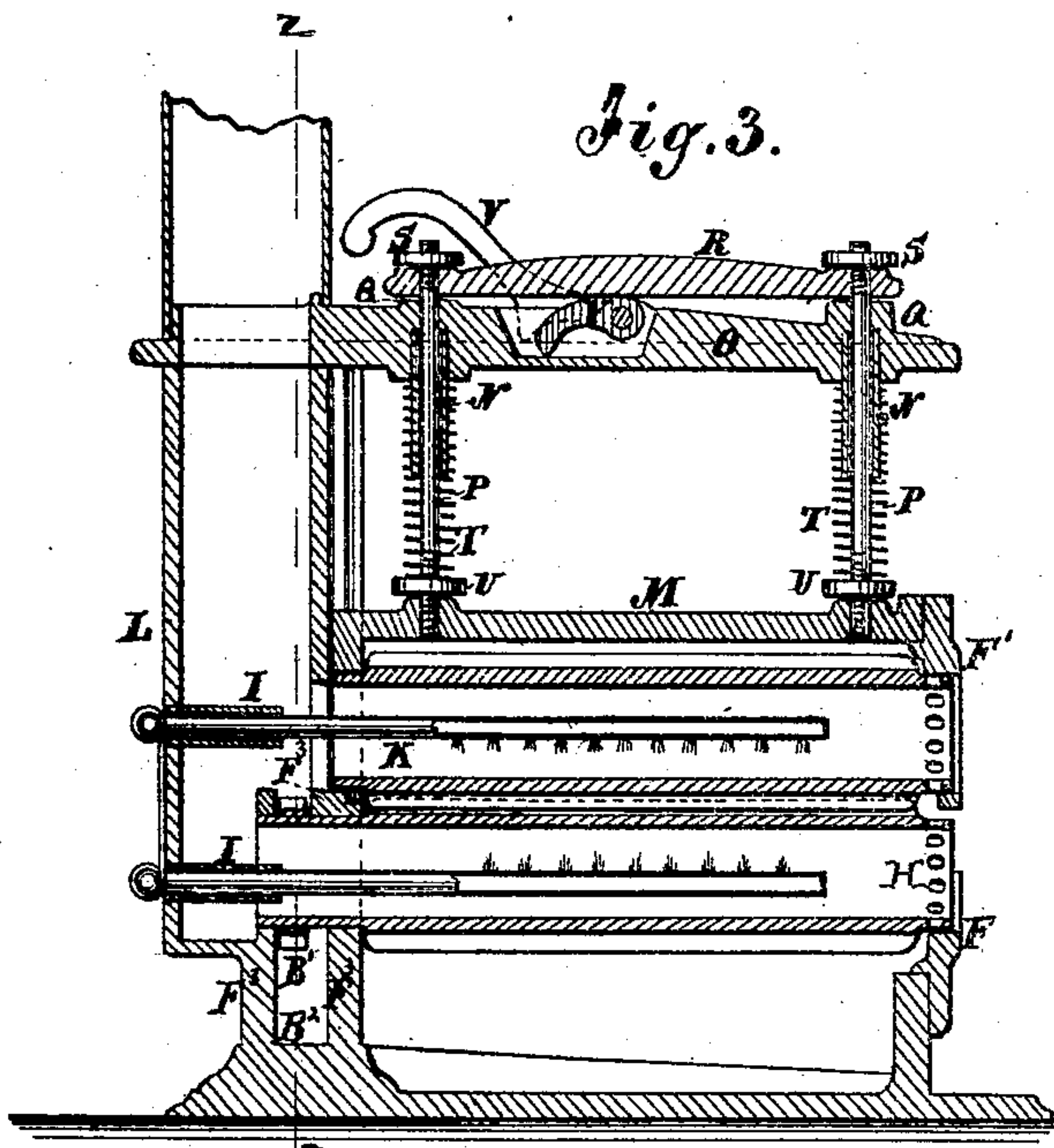
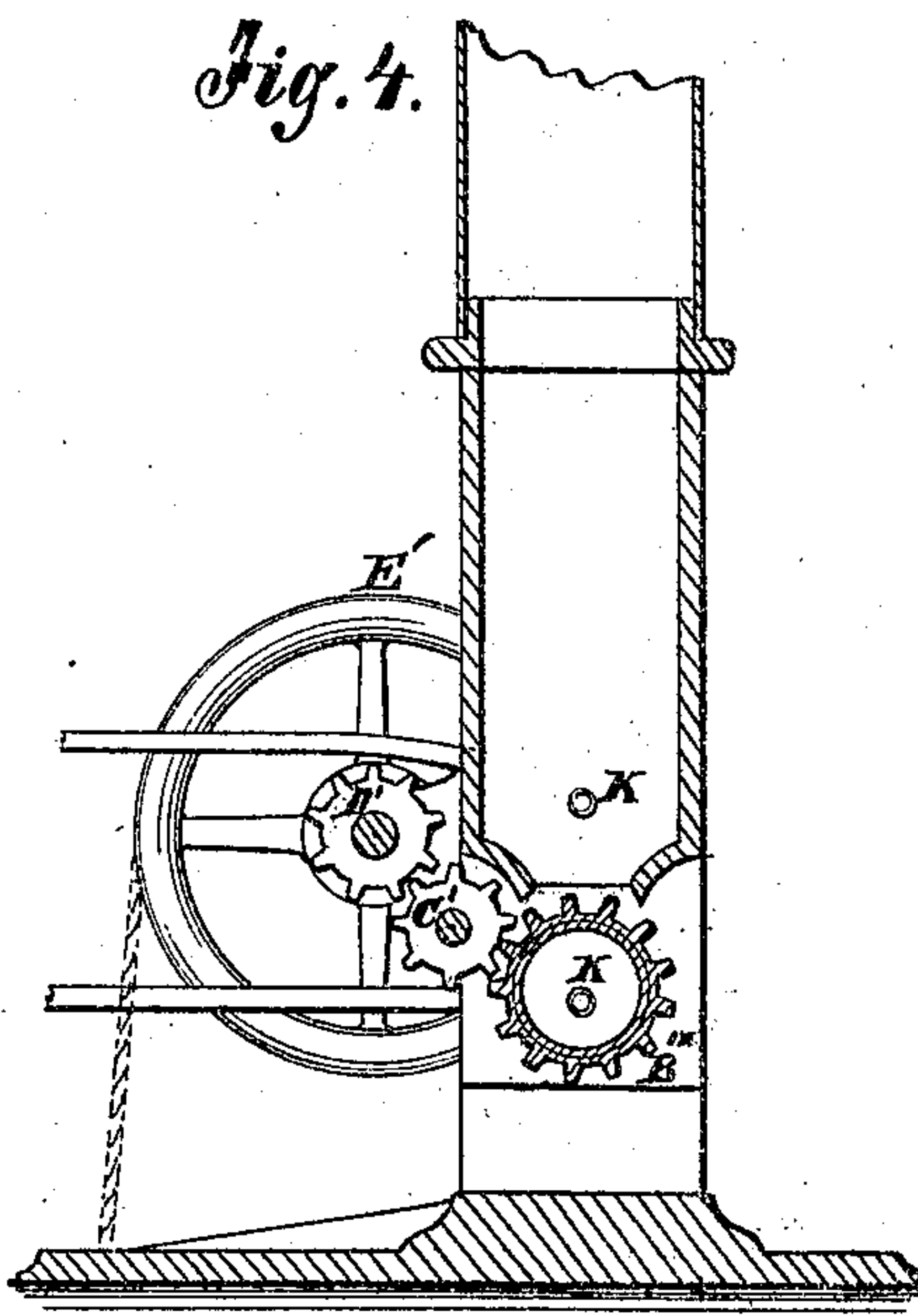


Fig. 4.



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## IMPROVEMENT IN FLUTING-MACHINES.

Specification forming part of Letters Patent No. 130,413, dated August 13, 1872.

Specification describing a new and useful Improvement in Fluting-Machines, invented by EDWARD MORTIMER DEEY, of New York city, in the county and State of New York.

First, it consists of a construction of hollow rollers having gas-burners in the hollow spaces for heating them, calculated to prevent the cutting off of the air-supply for combustion by the accidental closing of the hollow ends of the rollers by the goods being ruffled. Second, it consists of an arrangement of supports for the gas-tubes, by which the supports therefor, heretofore used at the ends of the rollers, where the goods to be ruffled are presented, and which have to be removed each time the rollers are, are dispensed with. Thirdly, it consists of a very efficient and reliable arrangement of apparatus for suspending the upper roller-support and raising and lowering it; also, the adjustable pressure-springs therefor.

Figure 1 is a side elevation of my improved fluting-machine. Fig. 2 is a transverse sectional elevation taken on the line *x x* of Fig. 1. Fig. 3 is a longitudinal sectional elevation taken on the line *y y* of Fig. 2. Fig. 4 is a sectional elevation taken on the line *z z*, Fig. 3.

Similar letters of reference indicate corresponding parts.

In fluting-machines of the character of the one here represented the end A of the lower roller B has been arranged in a bearing in the end of an arm projecting from the stand C a short distance above the base D, which said arm I propose to dispense with by having a short stand, E, rise up from the base D under the roller, and a bearing piece, F, for the journal G of the roller, bolted to the said stand, the said bearing piece being made adjustable vertically, if preferred, to adjust it from time to time, as the roller may settle by wear of the journal and the bearing, if they should wear. This arrangement does not require as much metal as the other, and facilitates the forming of the mold for casting the frame.

My improvement in the rollers to prevent the extinguishing of the flame by the accidental closing of the hollow ends of the rollers, by the goods under treatment coming against them, consists of the holes H (see Figs. 1 and 3) through the sides of the journals, or they

may be at any convenient point near the journals. I propose to attach strong tubular supports I for the gas-pipes K to the wall of the chimney L, projecting inward or along the hollow rollers far enough to wholly support the said pipes within the rollers, as clearly shown in Fig. 3, so that no support is needed for them at the end A of the rollers, which, however arranged, must seriously interfere with the removal of the rollers, which is frequently required. For supporting the frame M, which carries the upper roller, I propose to have long substantial guiding and supporting tubes N project downward from the arm O coincident with the holes for the rods P, and the hubs or elevations Q surrounding said holes for said rods on the upper side of said arm, and above these hubs I have a lifting-bar, R, through which the rods go, and in which they are held by adjusting-nuts S, which said rod rests on the said hubs when the upper roller B<sup>1</sup> is down in the working position, being held thereon by the pressure-springs T coiled around the rods and the tubes N below the arm O, and contracted between the said arm and the adjusting-nuts U, screwing on said rods and serving to vary the tension of the springs to press the upper roller on the lower roller with more or less force, as required. The said bar is lifted up to release the goods from the rollers by lifting the upper one by the cam-lever V. By the nuts S the rods and the upper roller may be raised or lowered, as preferred, so as to allow said roller to mesh more or less into the other one, or hold it as far above as may be required for fine or light goods that might be injured by corrugating too deeply or pressing between the rollers too hard. The lower roller is geared with the crank-wheel E' by a train of three cog-wheels B', C', and D', the middle or idle wheel being intended to have the rollers turn in the right direction for drawing the goods in from the operator while turning the crank from left to right by the right hand when having the machine in front so as to guide the goods with the left hand; but, in order that the machine may be worked with foot-power, the crank-wheel E' is provided with a grove for a belt, F<sup>2</sup>, to be worked from a driving-pulley below; and, in order to have the necessary leverage and tension of the belt on said wheel, I make it large and reduce the



wheels D' and C', below the size of the wheel B' on the roller. Both the bearings F and F<sup>1</sup> for the free ends of the rollers are attached to their supports by screws, so as to be readily taken off, and the bearings F<sup>2</sup> and F<sup>3</sup> at the other ends are so that the roller-journals can be readily put in or taken out by moving the rollers longitudinally when said bearings F and F<sup>1</sup> are taken off, so that I can, with but little delay or inconvenience, remove the fluting-rollers and put in smooth ones of similar size and form to the fluted ones, and thus have a machine readily convertible from the one condition to the other, by which its usefulness is greatly increased. The wheel B<sup>1</sup> slips on and off the journal of the long roller readily as it is put in the bearing and taken out, and said journal is extended beyond the end of the upper roller to receive said wheel, also to correspond with the bearing F<sup>2</sup> for it, which is sufficiently widened to afford room for the wheel in a vertical slot, B<sup>2</sup>, provided therefor, the walls of which confine the said wheel so that no fastening is needed to prevent it from working out of place in the endwise direction of the journal.

My improvement in the rollers for preventing the accidental extinguishing of the flame is alike applicable to the smoothing-rollers for which my machine is adapted, and I propose to apply it to such rollers.

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

1. The hollow rollers with gas-heating apparatus, provided with holes H through the sides to admit air for combustion, substantially as specified.

2. The gas-pipes supported within the hollow rollers from the frame at one end of the rollers by the tubular supports I, substantially in the manner described.

3. The combination of the upper roller support M, rods P, tubular supports N, arm O, bar R, lever V, and the adjustable pressure-springs T, substantially as specified.

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