

E. M. DEEY.
Fluting-Machines.

No. 141,923.

Patented August 19, 1873.

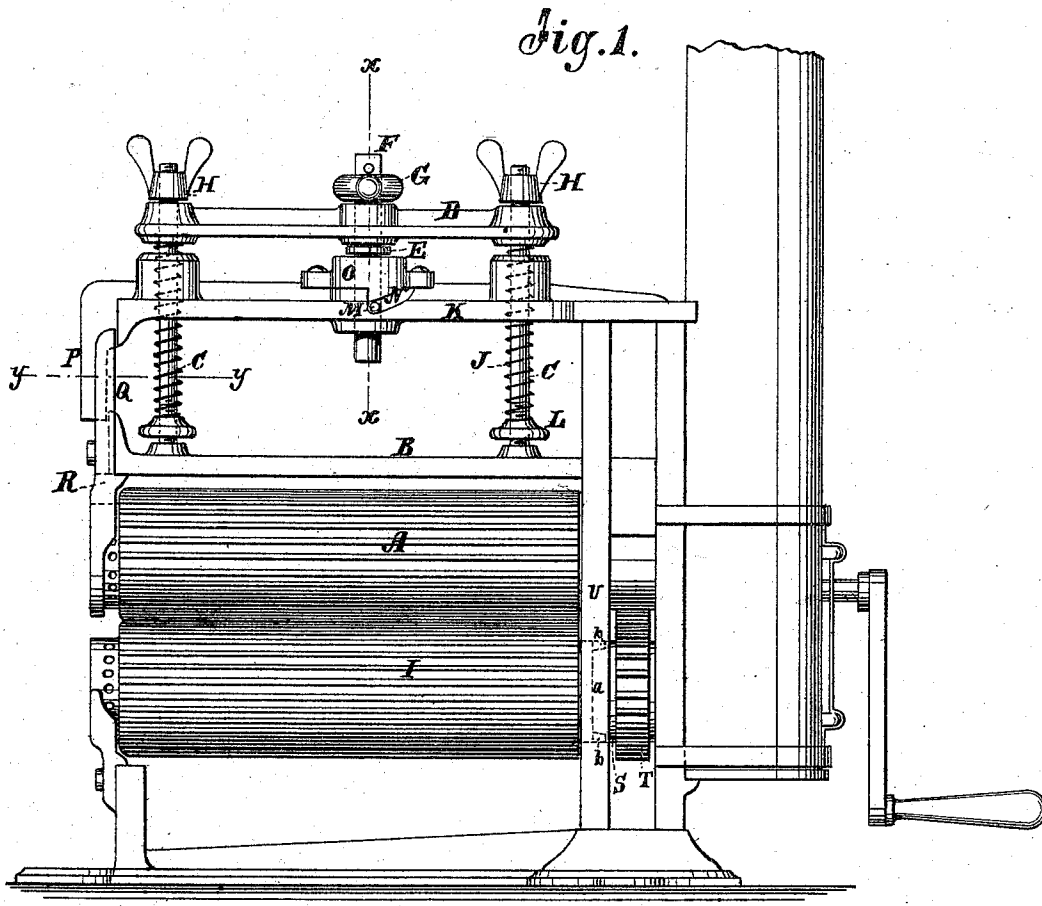


Fig. 3.

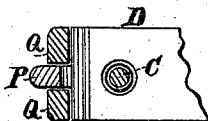
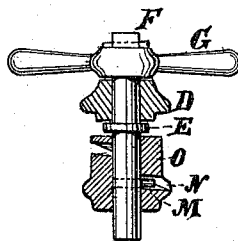


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

EDWARD M. DEEY, OF NEW YORK, N. Y.

IMPROVEMENT IN FLUTING-MACHINES.

Specification forming part of Letters Patent No. **141,923**, dated August 19, 1873; application filed May 17, 1873.

To all whom it may concern:

Be it known that I, EDWARD M. DEEY, M. D., of the city, county, and State of New York, have invented a new and Improved Fluting-Machine, of which the following is a specification:

The first part of the invention consists of an arrangement of devices for adjusting the roller and regulating the pressure, whereby the roller which is raised to facilitate the adjusting of the goods can be raised without contracting the pressure-springs, so that it can be done with much less power than is required to lift it against the springs; also, whereby the machine is made to do the work more uniformly than heretofore. The second part consists of guides in connection with the roller which is raised and lowered for adjusting the goods to guide and control it against lateral vibration. The third part consists in having the wheel by which motion is imparted to one of the rollers from a driving-wheel on an independent crank-shaft, provided with and rigidly attached to a short shaft which couples with the roller, so that the latter can be removed without disturbing the wheel, and without the necessity of sliding the wheel off and on a portion of the roller, which now has to be done in all machines having an independent shaft.

Figure 1 is a side elevation of my improved machine. Fig. 2 is a section of Fig. 1 on the line *x x*. Fig. 3 is a section on the line *y y*.

Similar letters of reference indicate corresponding parts.

A is the upper roller, which is mounted in vertically-sliding bearings attached to the bar B, to be raised to allow of adjusting the goods between the two rollers, and lowered down again to the working position; also, to allow of raising and lowering it to flute the goods more or less deeply. C represents the rods by which the bar B is suspended from the lifting-bar D, which rests on the collar E of the adjusting-rod F, which passes through said bar at the center, and has a handle, G, at the upper end for turning it to raise or lower bar D, and the roller A, by its pin M, in the spiral slot N. The rods C pass up through bar D, and are suspended from it by nuts H, which regulate the height of roller A above roller I, according to the depth it is required to make the flutes

in the goods. J represents pressure-springs coiled on the rods C, to regulate the pressure of the upper roller, and to yield and let it rise, in case of need, to allow seams or other thick parts of the goods to pass between the rollers. Heretofore these pressure-springs have been arranged to bear at the upper ends against the under side of frame K, or in sockets in it, so that when the roller was raised they had to be compressed by the expenditure of considerable force, which I now propose to avoid by having them pass through frame K, in large holes in which they can play freely, and rest against the under side of bar D, so that when the roller is raised they rise with the bar D and nuts L without being compressed, and yet they are adapted for regulating the pressure just the same, the bar D being held down against them by the rod F, pin M, and cam-slot N, which I arrange so as to both raise the bar and hold it down. In the other arrangement the lever was only used to lift the bar D and roller, the springs being altogether depended on to hold the roller down. This left bar D free to be raised sometimes at one end and depressed at the other, so that the parallelism of the rollers was frequently destroyed, which made the work run crooked, but which is avoided in this machine by bar D being held down firmly in place, so as not to be lifted at all while the rollers are at work. To construct the spiral slot N and fit the rod and pin in it in a simple manner, I cast the frame K in a mold which forms the lower wall of the slot in it, and make a cap, O, in the same manner with the upper wall of the slot in it, and screw the cap on the frame, as clearly shown in the drawing, after putting the rod F in it and the pin M in the rod. In order to guard the end of the roller A whereat the goods are introduced against lateral play, I make a long vertical tongue, P, on the lower side of the outer end of the frame-top K, and a corresponding-slotted extension, Q, of the bearing-plate R, which is attached to bar B, said extension receiving tongue P in its slot, so that it works up and down freely, but is prevented from playing laterally. The dotted line *a* in Fig. 1 shows the connection of the lower fluted roller with the axis S of the wheel T, which drives it, and *b* represents the lugs of the roller

which clutch the axis S in suitable notches. This connection, being in the middle of the bearing in standard U, allows of removing the roller without disturbing the wheel T, which is by this arrangement permitted to be made fast to its shaft S, so that the labor of shifting the wheel off and on the shaft S, common to those machines driven by an independent crank-shaft, and in which the shaft S composes a part of the roller, is avoided.

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

1. The pressure-springs J, arranged to extend through frame K and bear against bar D, substantially as specified.

2. The rotating rod F, pin M, and spiral cam-slot N, combined with frame K and bar D, for raising and lowering the latter, substantially as specified.

3. The combination, with springs C, arranged as described in the first clause of the claim, of devices for raising bar D, and forcing and holding it down, substantially as described in the second clause.

4. The frame K and cap O, when constructed and combined in the manner described, to form the cam-slot.

5. The combination of the slotted extension Q of the bearing-plate R with the tongue P of the frame K, substantially as specified.

6. In a fluting-machine geared with an independent driving-crank, the wheel T and its shaft S fitted rigidly together, and the shaft coupled with the fluted roller, substantially as specified.

EDWARD M. DEEY.

Witnesses:

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