

Theodore M. Tucker.

Fluting Machine.

PATENTED JUL 25 1871

117487

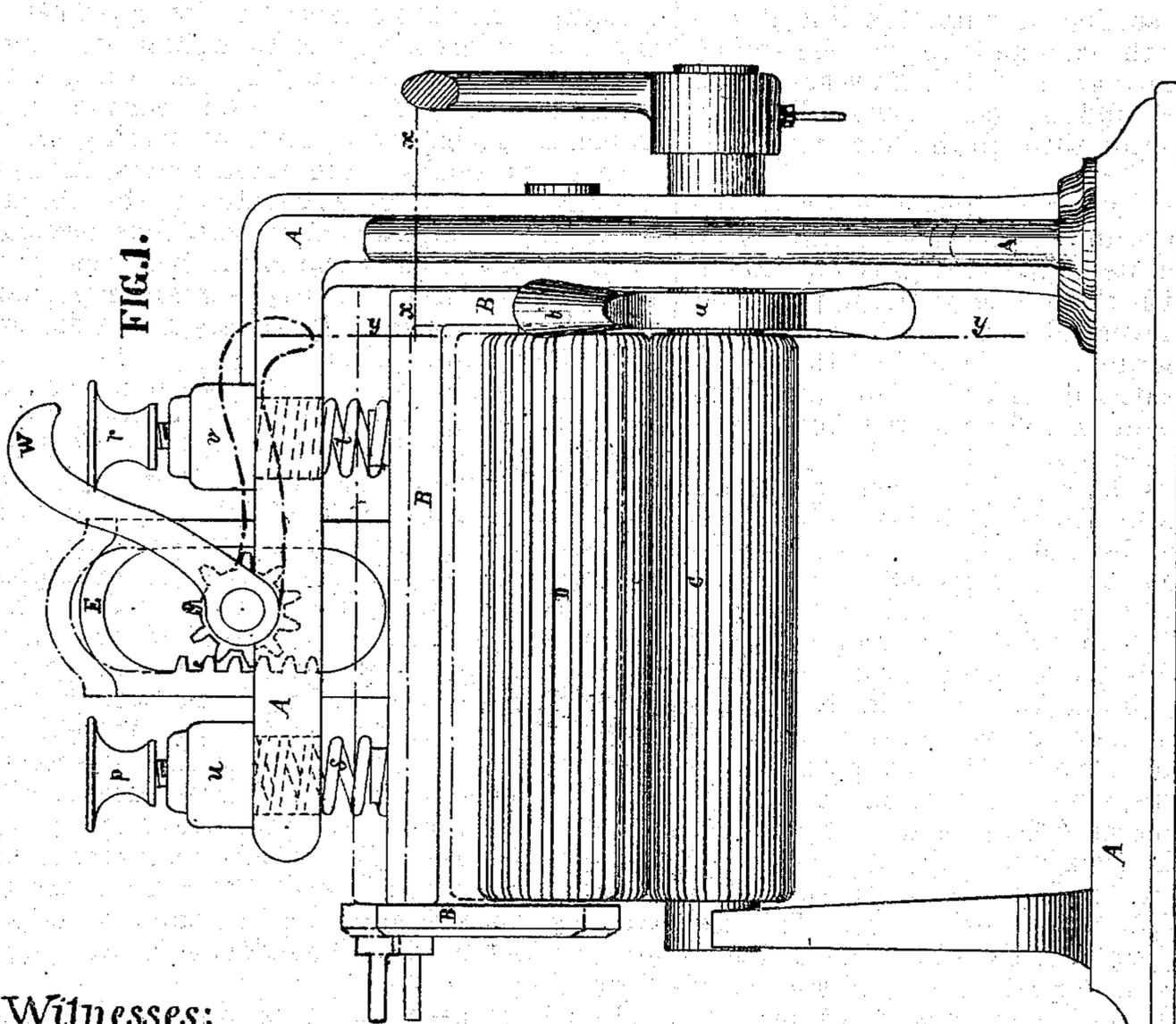


FIG. 1.

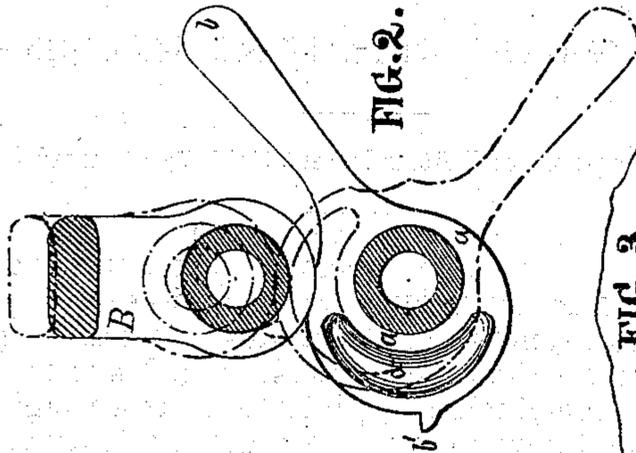


FIG. 2.

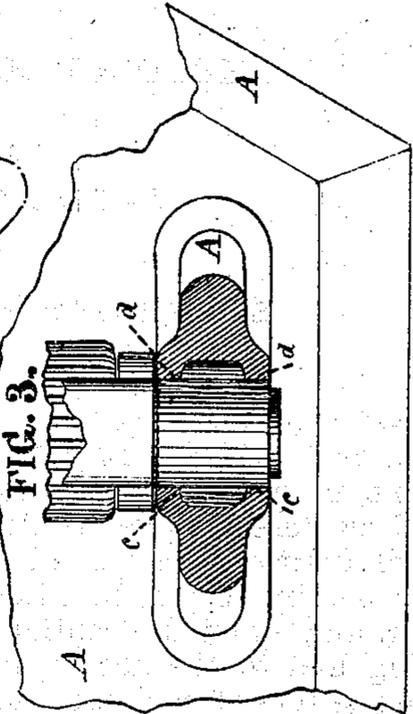


FIG. 3.

SCALE 2/3 MODEL SIZE.

Witnesses:  
 G. Mathys.  
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 T. M. Tucker  
 per J. H. Clayton & Co  
 Attorneys.

# UNITED STATES PATENT OFFICE.

THEODORE M. TUCKER, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN FLUTING-MACHINES.

Specification forming part of Letters Patent No. 117,487, dated July 25, 1871.

*To all whom it may concern:*

Be it known that I, THEODORE M. TUCKER, of Newark, in the county of Essex and in the State of New Jersey, have invented certain new and useful Improvements in Fluting-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, in which—

Figure 1 is a front view of the machine. Fig. 2 is a vertical section through the line *y y* in Fig. 1, showing the cam and upper roller-frame in position for fluting. In dotted lines are shown the frame raised and the cam down. Fig. 3 is a horizontal section through the line *x x* of the frame.

The nature of my invention consists in the use of a gravity-cam, which is automatic in its operation, from its shape and gravity, and in combination with the frame of the upper roller and adjusting-lever; also of a fluted standard, having two bearings on the end of the roller-shaft, as hereinafter described. This invention is an improvement on my improved fluting-machine patented February 7, 1871.

In Fig. 1, A is the main bed-piece and frame. B is the movable frame or holder of the upper roller. C is the under roller, with its bearings in frame A. D is the top roller, with bearings in frame B. In the top bar of the main frame A is a slot, to admit the combined rack and guide E, this guide being an integral part of the movable frame B. The slide-guide E is a frame, with a rack on the inner side of one of the uprights. Provision is made on the top bar of the main frame for bearings for a pinion, *y*, to be operated by the lever-handle *w*. By means of the rack *z* and pinion *y* the upper roller D is lifted for the insertion of the material to be fluted between the rollers. The cam *a* falls by its own gravity when the frame is raised. To hold and guide the spiral springs of the required strength and tension without incumbrance to the frame, two projections, *u* and *v*, are cast upon the main frame, with holes from below through the bars to receive the spiral springs, as shown by the dotted lines, the ten-

sion of the springs *s* and *t* being graduated by the thumb-screws *p* and *r*, that are tapped through the solid tops of the projections *u* and *v*. In Fig. 2, *a* is the gravity-cam, having a projection, *b*, as a weight, of sufficient power by its own gravity to turn the cam when relieved of pressure by the end of the frame B, when the machine is in operation. This cam has also on it a projection or small cam, *b'*, that serves as a catch to prevent it from falling down below the point shown in dotted lines in same view. It is made somewhat eccentric on its upper periphery, and is grooved out to lighten the upper side, so as to turn readily by its own gravity. In Fig. 3, *c c* and *d d* are the bearings of the frame A, giving two points of bearing on the ends of the shafts of the fluted rollers, thus giving strength and great rigidity to the bearing, while the frame is made light, thus having a leverage of two fulcrums in the bearings on the end of the shafts, which is of great importance when the pressure on the rollers is at a distance from the bearing-points.

In the operation of my invention, when the work of fluting is being done the projection *b'* of the cam *a* is in position, as seen in Fig. 2, the rollers revolving without affecting the cam. In order to raise roller D the lever *w* is depressed, which revolves the cogs *y*, operating rack *z*, and raising roller D to receive the goods to be fluted; and as soon as the pressure from the springs *s* and *t* is taken off the cam *a* falls down by its own gravity into the position seen in dotted lines in Fig. 2, the cam or small projection *b'* catching against the frame B and stopping it. It is thus held in this position until the goods are removed or inserted, as the cam will not turn by the pressure of the springs. To lower the roller D it is only necessary to turn the crank, and the bite of the roller-bearing D catches the cam and turns it round to its position, as before, when the machine is ready again for fluting.

It will be seen that this is a very important feature in my invention, as it acts automatically, which is of vast importance when the rollers are fully heated, which is the case when it is at work.

Having thus described the nature of my invention and its mode of operation, what I claim, and desire to secure by Letters Patent, is—

The cam *a* constructed and operating as described, and in combination with the frame B and lever *w* operating as described, and for the purposes set forth.

In testimony that I claim the above-described invention for improvements in fluting-machines I have hereunto signed my name this 24th day of June, 1871.

Witnesses: THEODORE M. TUCKER.

F. C. BOWEN,

J. C. CLAYTON.