

A. Y. Hubbell,

Fluting Machine.

No. 109738.

Patented Nov. 29, 1870.

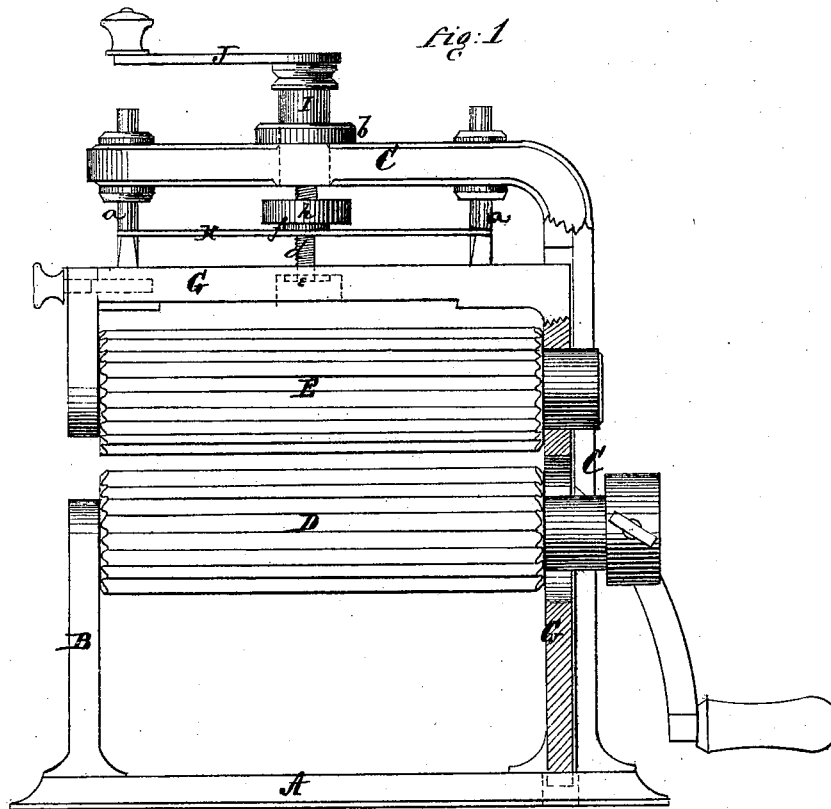


Fig. 2

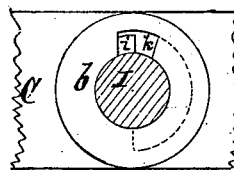
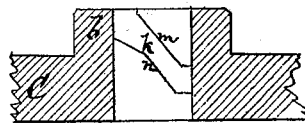


Fig. 3

Witnesses.

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Inventor.

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United States Patent Office.

ARTHUR Y. HUBBELL, OF ELMIRA, NEW YORK.

Letters Patent No. 109,738, dated November 29, 1870.

IMPROVEMENT IN FLUTING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ARTHUR Y. HUBBELL, of Elmira, in the county of Chemung and in the State of New York, have invented certain new and useful Improvements in Fluting-Machines; and 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 making a part of this specification.

The nature of my invention consists of the construction and arrangement of an improved "Fluting-Machine," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front view of my fluting-machine, part in section;

Figure 2 is an enlarged vertical section of the hub through which the operating-shaft works; and

Figure 3 is a horizontal section of the operating-shaft just above the hub.

A represents the bed of my machine, upon which are two standards, B and C. The standard C rises vertically from the base, and is turned at a right angle so as to be parallel with the base to support the frame for the upper roll, as shown in fig. 1; while the other, B, is straight; and in said standards the lower roller D has its bearings.

Above the point in the standard C where said lower roller has one of its bearings, said standard is slotted vertically for the projecting journal of the upper roller E to move in when said roller is moved up or down.

This upper roller E has its journal-bearings in a frame, G, the inner end of which is extended downward and moves in a guiding recess in the inner face of the angular standard C, the lower end of said frame reaching into a slot or mortise in the bed-plate A. That portion of the frame G which moves in the grooved standard C is slotted, so that the journal of the lower roller D may pass through the same; and this slot being elongated allows of the frame moving up and down without in any way interfering with the lower roller.

The object of extending the frame G is that thereby a perfectly vertical movement of the frame is insured, the frame being kept steady so that the upper roller will at all times be held parallel with the lower roller.

On the upper side of the horizontal portion of the frame G are two pins, *a a*, which pass upward through holes in the horizontal portion of the angular standard C, and act as guides for further holding the frame G steady and prevent it from vibrating.

Between the guide-pins *a a*, a suitable distance above the frame G, is placed a spring, H, which has

its bearings at either end upon shoulders or offsets formed on the pins, as shown.

In the horizontal portion of the angular standard C is formed a hub, *b*, through which is placed a shaft or rod, I, having a crank, J, at its upper end.

A screw, *d*, passes from the lower end of the shaft I through the spring H, and through the frame G.

On the lower end of the screw *d*, under or in a recess on the under side of the frame G, is secured a washer, *e*, or a nut and plug-washer, so as to lift the frame up with the screw.

The screw *d* is flat on one side, and on the same, above the spring H, is placed a washer, *f*, constructed to fit the screw, which thus must turn with the screw, and have a free vertical movement therein.

Above this washer *f* is a nut, *h*, on the screw, for regulating the pressure of the spring H.

On the inner side of the hub *b*, extending around one-half its inner circumference, is an irregular groove, *k*, as shown in fig. 2, in which moves a pin, *i*, fixed on the shaft I, so that by turning the crank J one-half of a revolution, the pin *i* is brought from the upper end of the groove *k* to the lower end, which lowers the frame G and brings the upper roller E in contact with the lower roller D. By turning the crank J one-half of a revolution in the opposite direction, the frame and roller are raised again.

The groove *k* at its lower end is projected in a horizontal plane, so that when the pin *i* rests therein the vertical movement of the shaft I is prevented, so that no upward pressure on the upper roller can move or turn the shaft. The upper end of the inclined groove is formed in a similar manner, so that when the shaft I is rotated and the upper roller raised to its highest point, it is locked in position, and the two rollers separated and supported in their open position to admit the introduction or removal of the fabric, and the use of both hands. It is thus prevented from moving downward, except by the turning of the crank J.

These inclined planes *m* and *n* need not necessarily be arranged so as to form a groove between them. They may, for instance, be arranged on opposite sides of the inner circumference of the hub *b*, in which case two pins are necessary on the shaft I.

When the upper roll is lowered into its place upon the lower roll, the pin *i*, moving down the groove, compresses the spring and enters the horizontal part of the groove at its lower end, which holds the shaft I from yielding to any upward pressure against the lower roll. The upper roller E is, however, allowed to yield sufficiently for all necessary purposes while fluting, by the action of the spring H.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The right-angular roll-supporting frame G, pro-

vided with a slot through which the journal of the lower roller passes, and extended into the bed-plate of the machine, all substantially as and for the purposes herein set forth.

2. The combination of the upper roll-supporting frame G, its guide-pins *aa*, tension-spring and elevating device, with the outer main standard C, substantially as set forth.

3. The combination of the shaft I, its pin *i*, with the standard C having a hub *b*, with incline or inclines

k with a stop at each end for raising, lowering, and locking the upper roll and compressing and holding the spring H, all substantially as set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 8th day of November, 1870.

ARTHUR Y. HUBBELL.

Witnesses:

C. L. EVERT,
WM. H. MASON.