E. M. Deey,

Fluting Mach.

No. 113,271. Patented Apr. 4. 1871.

Fig. 1.

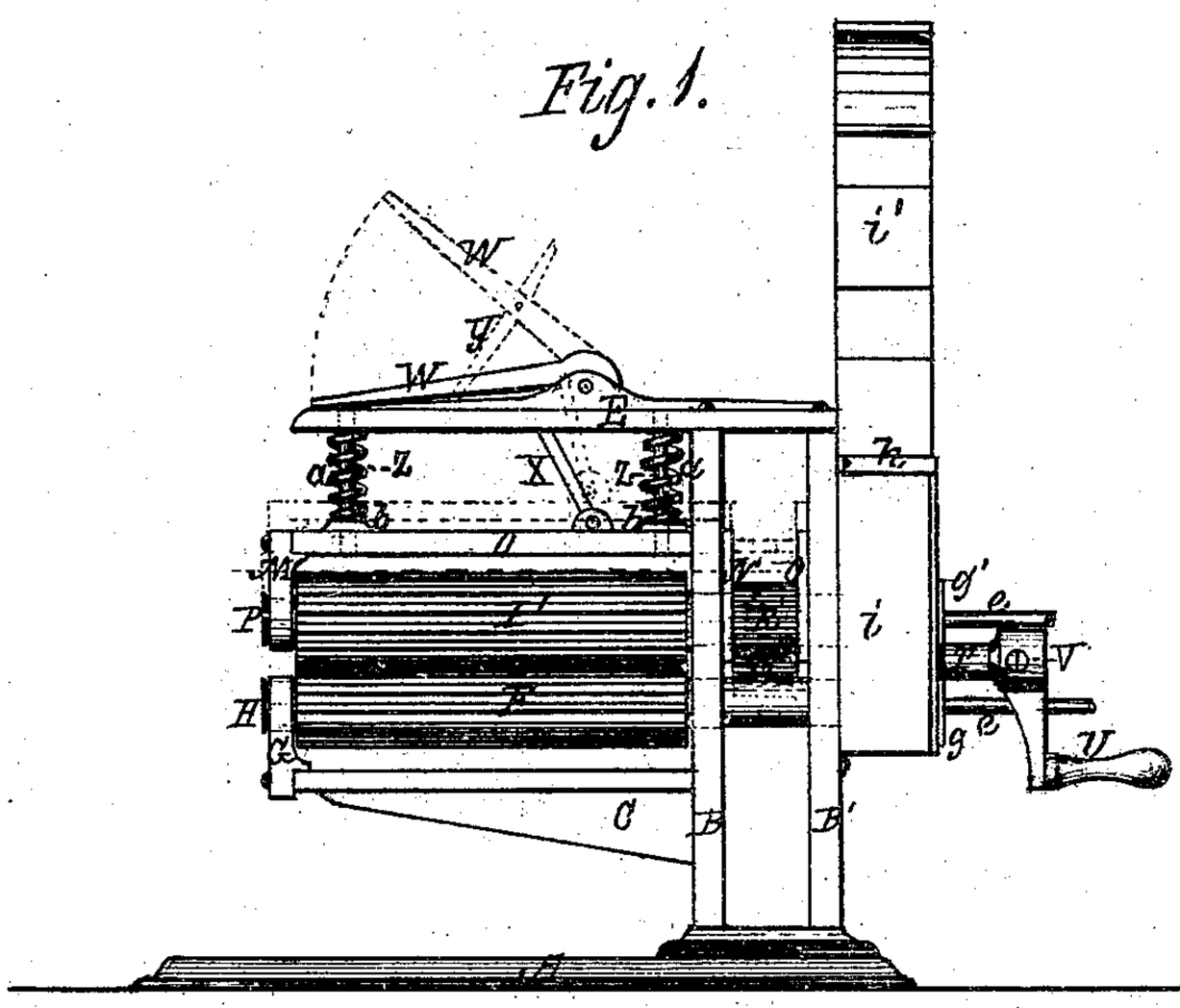


Fig. 2.

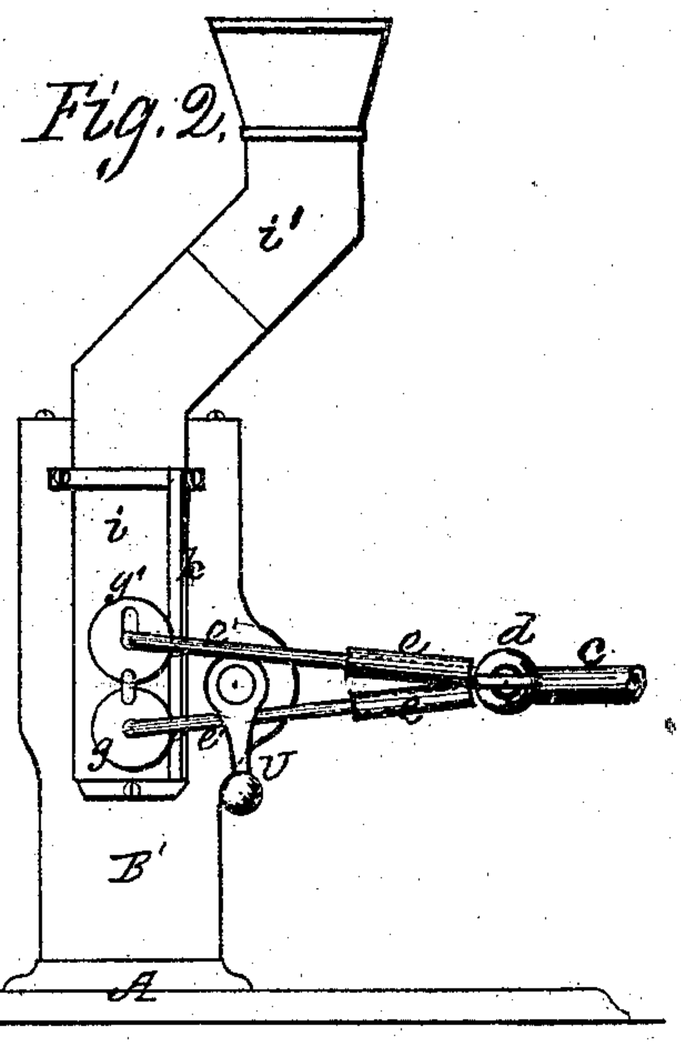
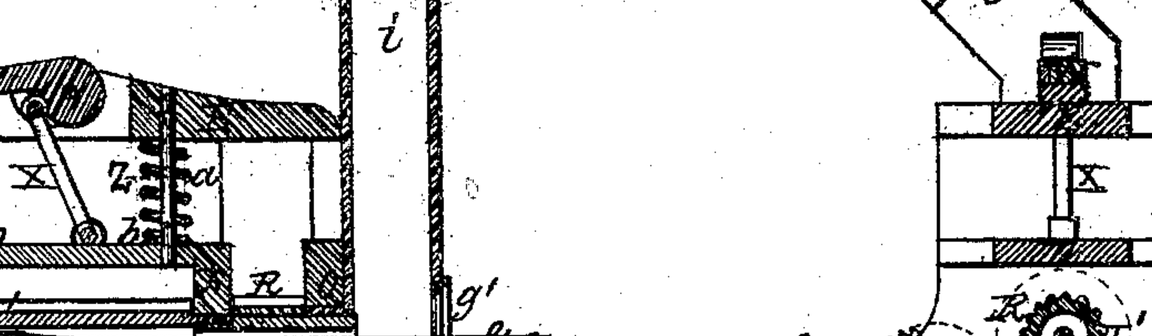


Fig. 3.

Fig. 4.

Fig. 5.



Witnesses
Arthur Weile
Edmund A. Brodie

Inventor
Edward Merriam Deey

United States Patent Office.

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

Letters Patent No. 113,271, dated April 4, 1871.

IMPROVEMENT IN FLUTING-MACHINES.

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

I, EDWARD MORTIMER DEEY, of the city, county, and State of New York, have invented an Improved Gas-heated Fluting-Machine, which I denominate "The Fairy Gas Fluter," of which the following is a specification.

This invention relates to that class of machines which is employed for crimping or fluting ladies' frills, flounces, dress-trimmings, &c.; and

It consists of a self-sustaining metallic frame, having bearings cast on or screwed to the main frame or its arms, (as the case may be,) for sustaining open hollow fluting-rollers and a hand-crank or driving-shaft, the said driving-shaft carrying a gear, which plays into a gear on the end of the upper fluting-roller, which in turn rotates the lower roller by means of the fluting of the upper playing into the fluting of lower roller when the machine is in operation.

The bearing of the upper roller slides up and down in the frame, carrying the upper roller with it, and when it may be desired to insert the fabric to be fluted between the rolls, the upper roll is raised from contact with the lower roll (whose bearing is stationary) by means of a hand-lever and stay-bar, attached to the upper arm of the machine; said sliding bearing being provided with counteracting springs for regulating the pressure of the upper on the lower roll, and the rollers with detachable screw-bearings at their inner ends, which, by means of a reverse movement of the hand crank-shaft, are removed for replacement by other styles of fluting-rollers, while the outer ends of the rollers present a clear open space between them for insertion of the fabric to be fluted.

It also consists in placing within the hollow fluting-rollers corrugated, spiral, or annular gas-pipes, perforated at an angle, whereby the jets of gas when ignited are made to concentrate, and, being supplied with flexible supply-pipes provided with a cock, the amount of gas required for heating the rollers is regulated and utilized; and

It also consists in connecting a telescopic chimney with the rolls, for carrying off the consumed gas, said chimney being capable of contraction and extension, as may be desired.

This machine has the advantage of being very convenient in use, as it only requires the application of a lighted match to the gas for heating the fluting-rollers, and dispenses with the heating and introduction of irons into the rollers and their frequent replacement, attended with the varying temperature unavoidable in their use; consuming much labor, besides the expense of their cost in becoming frequently worthless by use.

These defects in fluting-machines suggested to me the present invention, which I will further explain by reference to the drawing, of which—

Figure 1 is a front elevation of my invention;

Figure 2, a view of driving-end;

Figure 3, a longitudinal and vertical section;

Figure 4, a transverse section; and

Figure 5, a sectional view of one of the fluting-rollers on an enlarged scale, showing open cap and bearing for the corrugated gas-pipe at its outer end, and screw-bearing for detaching the roller at its inner end.

In said drawing—

A indicates the frame of the machine, composed of a platform, two upright posts, B' B, for sustaining the ends of the fluting-rollers, a horizontal arm, C, a sliding arm, D, which slides with and sustains the upper fluting-roll, and a stationary arm, E, which sustains the lever for operating the said roller.

F is the lower fluting-roller, sustained at its outer end in the bearing G' attached to the lower arm G, and at its inner end in the upright posts B B'.

This roller has an open cap, H, which enters its outer journal I, through which the air for combustion enters the roller, and a journal, K, screwed onto its inner end, for detaching the roller from the journal, (see fig. 5.)

I' is the upper fluting-roller, sustained in the bearings M N of the sliding arm D, and in a bearing, O, which slides in the post B' of the frame.

This roller, like the lower one, has an open cap, P, and an open journal, Q, attached by a screw, and carries a gear, R, on said journal, which plays into a gear, S, on the driving-shaft T.

U is a hand-crank, screwed on the driving-shaft, for rotating the rollers, and for detaching, by a reverse movement through the gears, the rollers from their screwed journals when it may be desired to substitute other rollers. For the latter purpose a pin, V, is inserted in the hub of the hand-crank.

W is a hand-lever, attached to the upper arm E of the frame, said lever being connected with the sliding arm D, which sustains the upper roller, by a link, X, by means of which the upper one is raised from contact with the lower roller while inserting the fabric to be fluted, and held in such position by a stay-bar, Y, attached to said lever, as shown in dotted lines in fig. 1.

Z Z are rods, for guiding the movements of the sliding arm, encompassed by spiral springs *a a* and screw-nuts *b b*, for imparting to the upper roll the desired pressure on the lower one.

c, fig. 2, is the pipe for supplying the fluted rollers with gas, provided with a cock, *d*, for regulating the desired amount, and having flexible branches, *e e*, for extension with the separation of the rolls.

The branch pipes *e' e'* extend with the rolls, and are bent or corrugated (see figs. 3 and 5) for throwing the jets of flame into each other, thereby insuring combustion of the gas; they are supported in open bearings *f f* at the outer end of the rolls, and in disks *g g'* (one of which, *g'*, slides) on the outer end of the chimney, and have screw-stops *h h* at their outer ends.

The rolls rotate on the gas-pipes, which are non-rotating.

i is the chimney, attached to the outer end of the frame by straps *k* and screws, or by other proper means; said chimney being made in sections, *i i'*, for extending or contracting the same, or for convenience in transportation; it is in communication with the interior of the rolls through their open journals, and carries off the volatile products of combustion.

I claim—

The arrangement of the frames E D, roller I', link X, lever W, springs *a a*, and bar Y, substantially as shown and described.

January 28, 1871.

EDWARD MORTIMER DEEY.

Witnesses:

ARTHUR NEILL,

EDMUND H. DODDS.