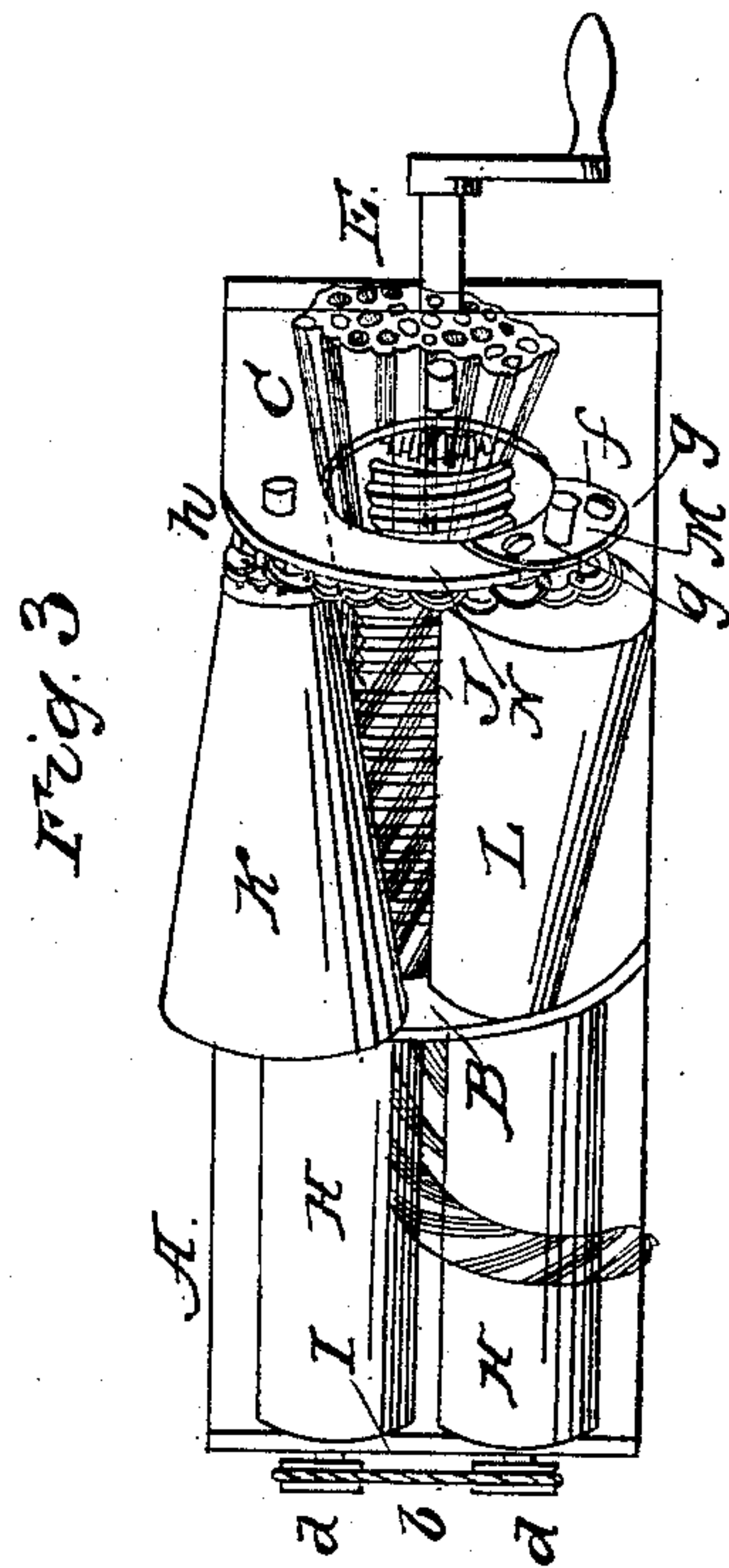
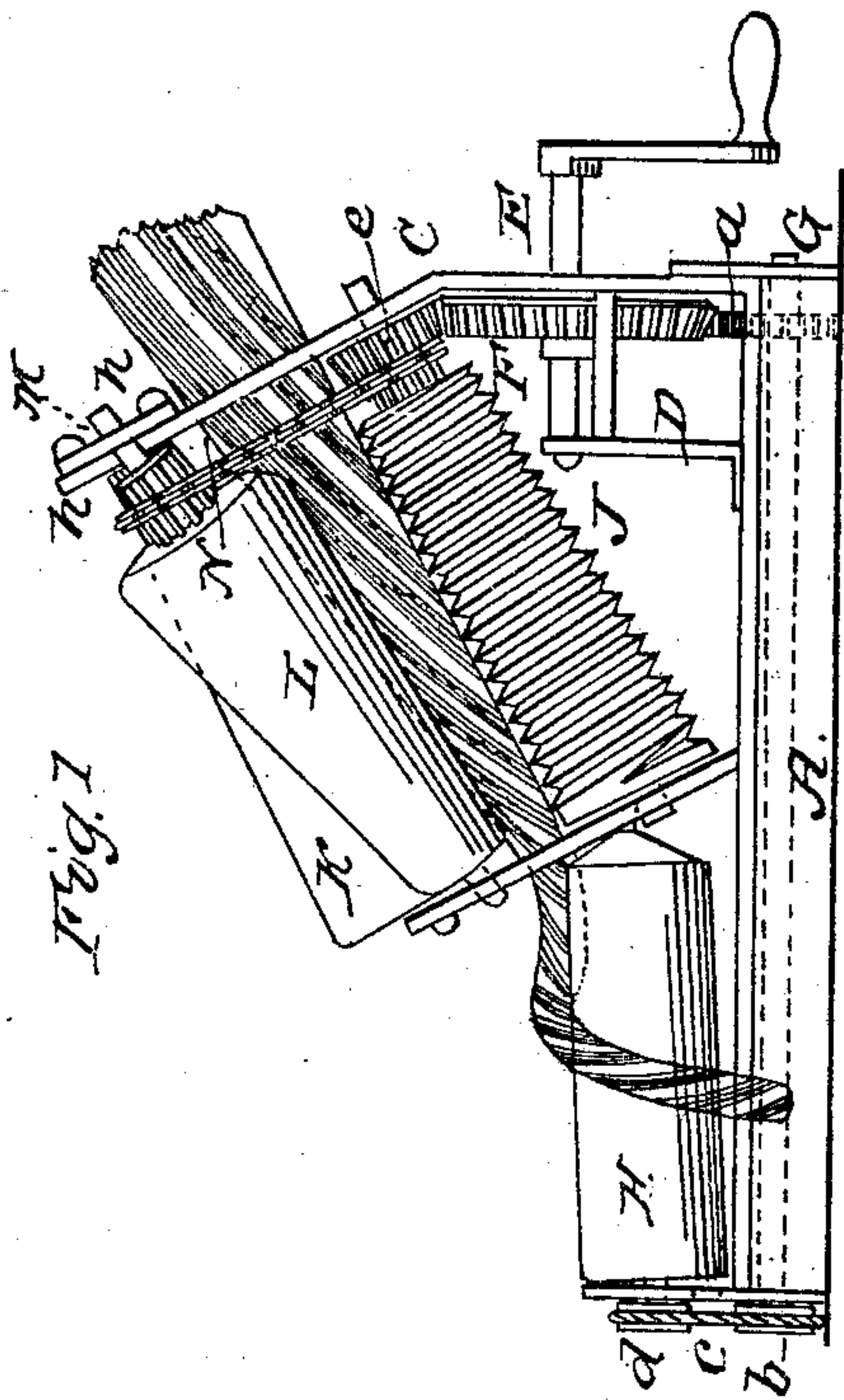
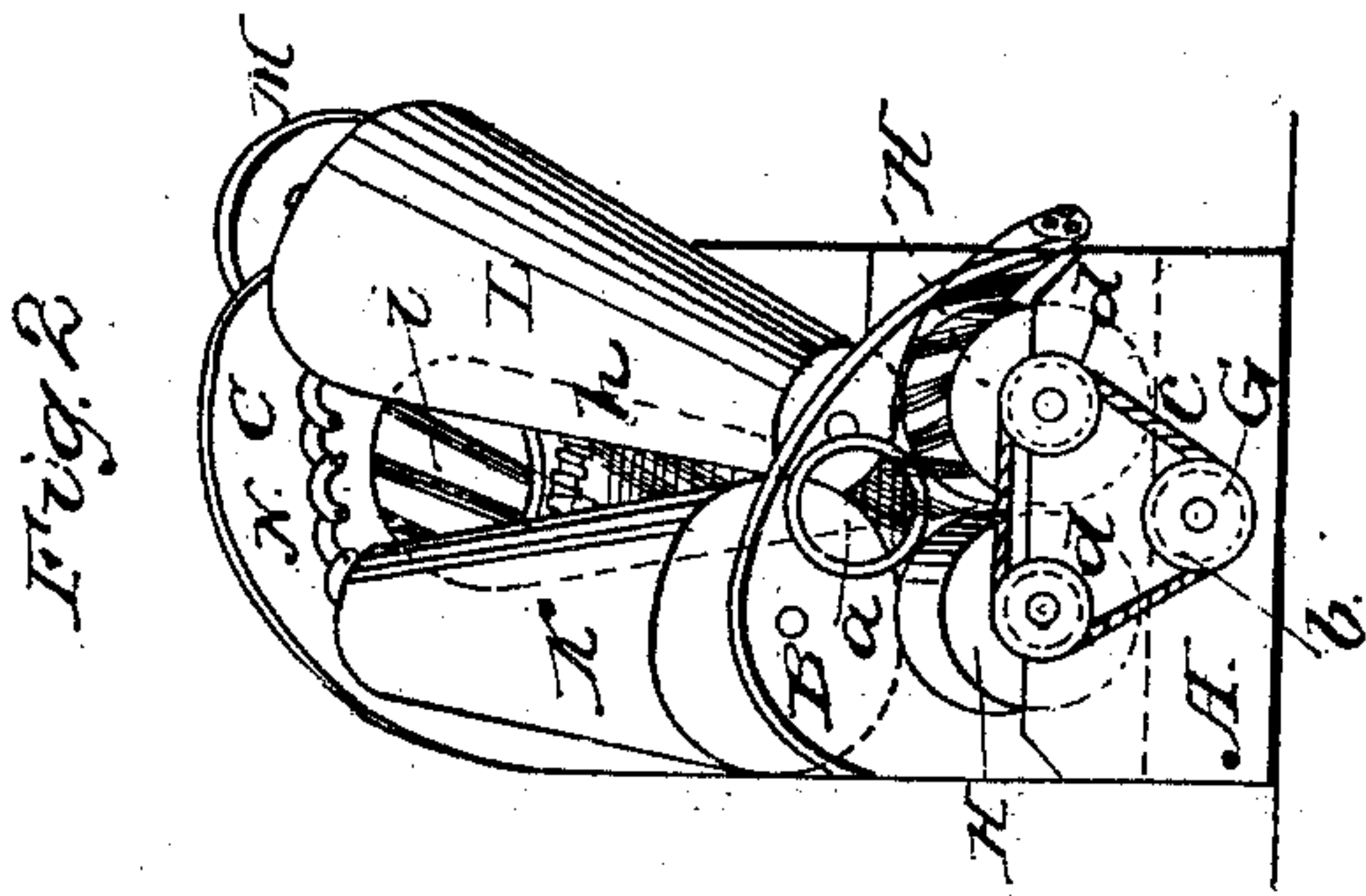


J. GARDNER.
Making Candy.

No. 18,541.

Patented Nov. 3, 1857.



UNITED STATES PATENT OFFICE.

JOHN GARDNER, OF PHILADELPHIA, PENNSYLVANIA.

CANDY-TWISTING MACHINE.

Specification forming part of Letters Patent No. **18,541**, dated November 3, 1857.

To all whom it may concern:

Be it known that I, JOHN GARDNER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Machine for Working and Twisting Candy; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of my improvement. Fig. 2 is an end view of the same. Fig. 3 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in the working and twisting of candy by means of two conical rollers and a taper or conical screw arranged as will be hereinafter fully shown and described, whereby candy may be rolled or worked and twisted very expeditiously and in a far more efficacious and perfect or even manner than by the means usually employed for such purpose. The machine is more especially designed for rolling and twisting various-colored portions of candy into one bar, so that the several colors will form spiral stripes in the roll or stick.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a bed-plate of rectangular form, to which two plates, B C, are attached. The plate B is inclined its whole length from the bed-plate A; but the plate C is vertical for a certain distance, and its upper portion is inclined parallel with plate B, as plainly shown in Fig. 1.

D is a vertical plate, also attached to the bed-plate A. The plate D is parallel with the lower and vertical portion of plate C, and a shaft, E, passes through said plates. The shaft E has a toothed wheel, F, on it, and this wheel gears into a pinion, *a*, which is placed on a shaft, G, said shaft being underneath the bed-plate A. The outer end of the shaft has a pulley, *b*, on it, and a belt, *c*, passes around said pulley and also around two pulleys, *d d*, which are placed on the ends of two rollers, H H, the journals of which have their bearings in the plates B I. The rollers H H are slightly inclined, as shown in Figs. 1 and 2.

The toothed wheel F gears into a pinion, *e*, which is placed on the upper journal of an inclined taper screw, J, the journals of said screw being fitted in the plates B C. The taper form and inclination of the screw are distinctly shown in Fig. 1.

K L are two conical rollers. The journals of roller K are fitted in the plates B C. The lower journal of the roller L is fitted in the plate B; but the upper journal is fitted in a plate, M which is attached to plate C by two set-screws, *ff*, which pass through slots in plate M into plate C. (See Fig. 3.) It will be seen by referring to the drawings that the rollers K L are inclined, and that they are placed side by side in reverse positions—that is, the larger end of roller K is opposite the smaller end of roller L, and vice versa. It will also be seen by referring to Figs. 2 and 3 that the upper ends of the rollers are placed farther apart than their lower ends; and by referring to Fig. 1 it will be seen that the upper end of the screw J is placed farther from the rollers than the lower end. The upper end of roller L may, by means of the adjustable plate M, be placed nearer to or farther from the upper end of roller K and screw J. On the upper journals of both rollers K L, and also on the upper journal of the screw J, pinions *h* are placed, one on each journal, and an endless chain, N, passes around these pinions, the links of said chain being of curved or semicircular form, so as to catch or gear into the pinions *h* and transmit motion from the screw J to the rollers.

The candy to be rolled and twisted (shown by blue and red stripes) is placed through an aperture, *i*, in the plate C, between the upper ends of the rollers and screw, the several colors being disposed as desired. A rotating motion is then given the shaft E in any proper manner, and the rollers K L, in consequence of their conical form and their reversed position, give the twist to the candy as the candy is subjected to varying speeds at opposite sides; and the screw J gives the feed motion and forces the candy while being twisted down through an aperture, *a**, in plate B and out from between the lower ends of the rollers and screw, the twisted roll being passed out of the way or conducted at one side of the machine by the rollers H H, which are ro-

tated from the shaft E through the medium of the pinion *a*, shaft G, pulleys *b d d*, and belt *e*, previously described.

The candy, it will be seen, while being twisted and fed down between the rollers and screw by the rotation of the lathe, is gradually compressed, as the lower ends of the rollers and screw are nearer together than their upper ends. The rollers K L and screw J all rotate in the same direction. The several parts may all be constructed of metal, and the thread of the screw J may have a greater or less pitch, as occasion may require.

I would remark that the lower end of the screw J should be smooth for a short distance, and, as the lower end of the screw is of the greater diameter, it will erase the marks of the screw-thread as the roll of candy leaves the ends of the rollers and screw.

I would further remark that an endless apron may be employed, instead of the rollers H H, for discharging the twisted roll. I do not, however, confine myself to any device for this purpose.

By this device the candy is rolled and twisted in an even and regular manner, far more so than by hand or by the rude device that has hitherto been employed, such device being merely a rotating hook, to which one end of the candy is attached.

I am aware that candy has been rolled by machine into square bars by means of horizontal and vertical rollers; but this machine does not resemble mine in any particular, neither does it perform the same work.

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

The working and twisting of candy by means of a machine constructed substantially as herein set forth.

JOHN GARDNER.

Witnesses:

J. W. COOMBS,
W. TUSCH.