

(No Model.)

3 Sheets—Sheet 1.

L. B. LEHMANN.

MACHINE FOR COATING CONFECTIONERY OR THE LIKE.

No. 592,568.

Patented Oct. 26, 1897.

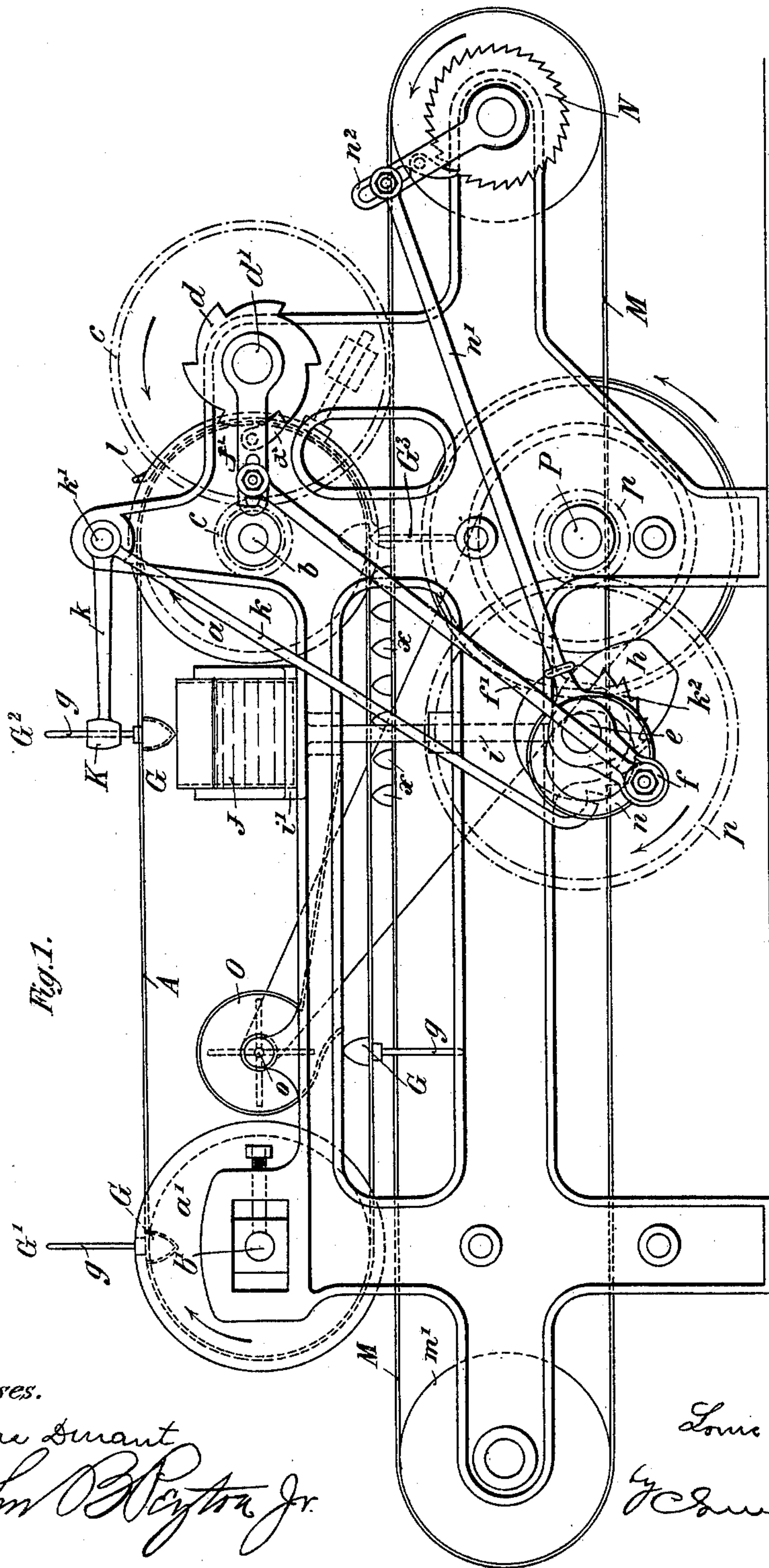


Fig. 1.

Witnesses.

Thomas Durant
J. M. Peyton Jr.

Inventor.

Louis B. Lehmann,

by Charles Edmund

his Atty.

(No Model.)

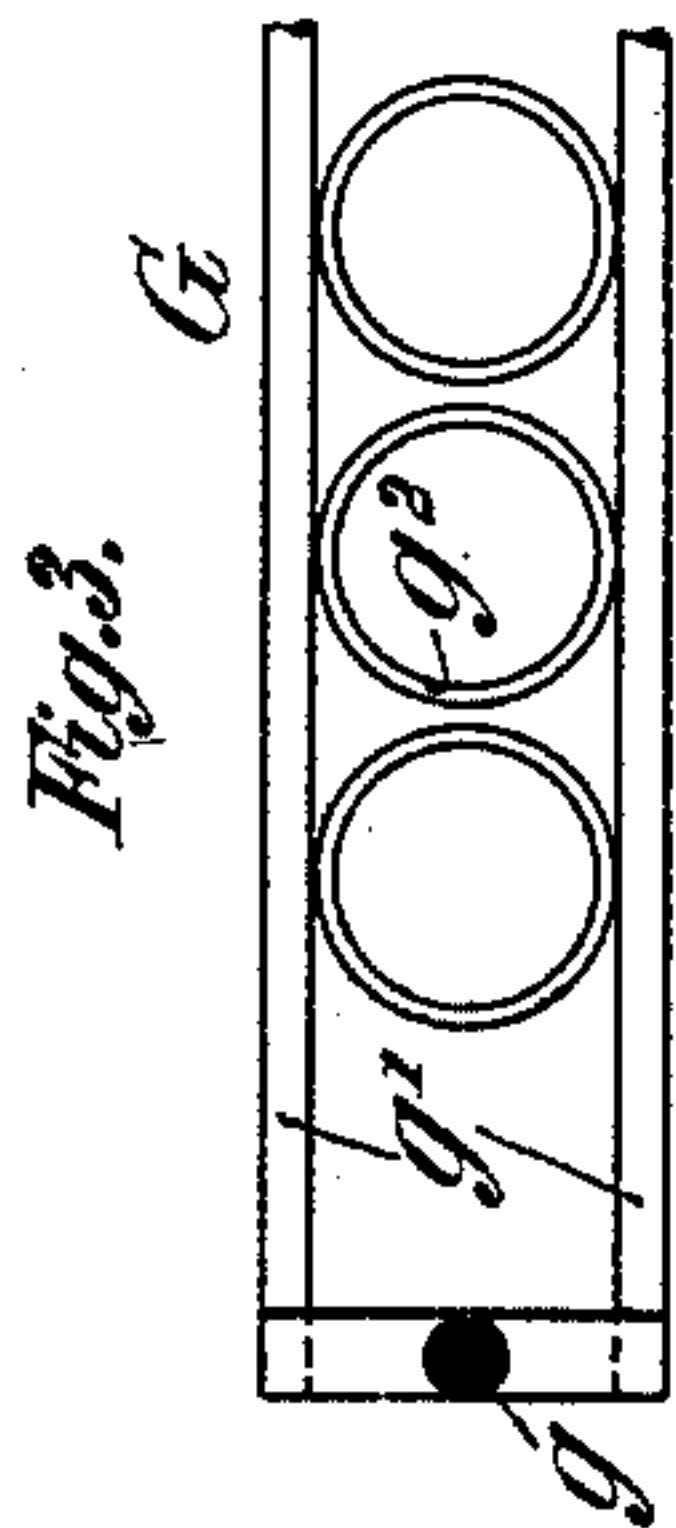
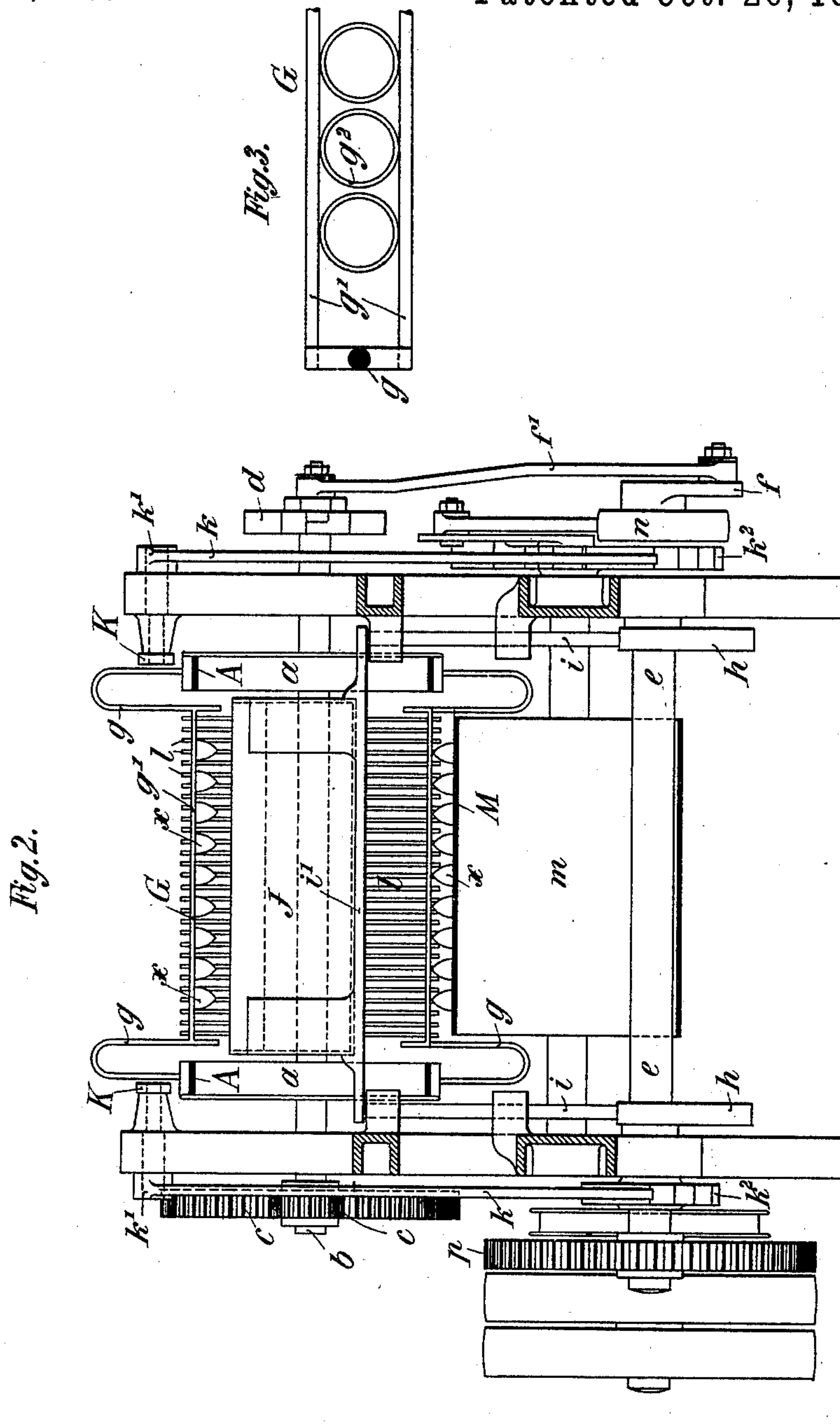
3 Sheets—Sheet 2.

L. B. LEHMANN.

MACHINE FOR COATING CONFECTIONERY OR THE LIKE.

No. 592,568.

Patented Oct. 26, 1897.



Witnesses:

Thomas Durant

John B Peyton jr

Inventor.

Louise B. Lehmann.

by Church of Christ

his Atty

(No Model.)

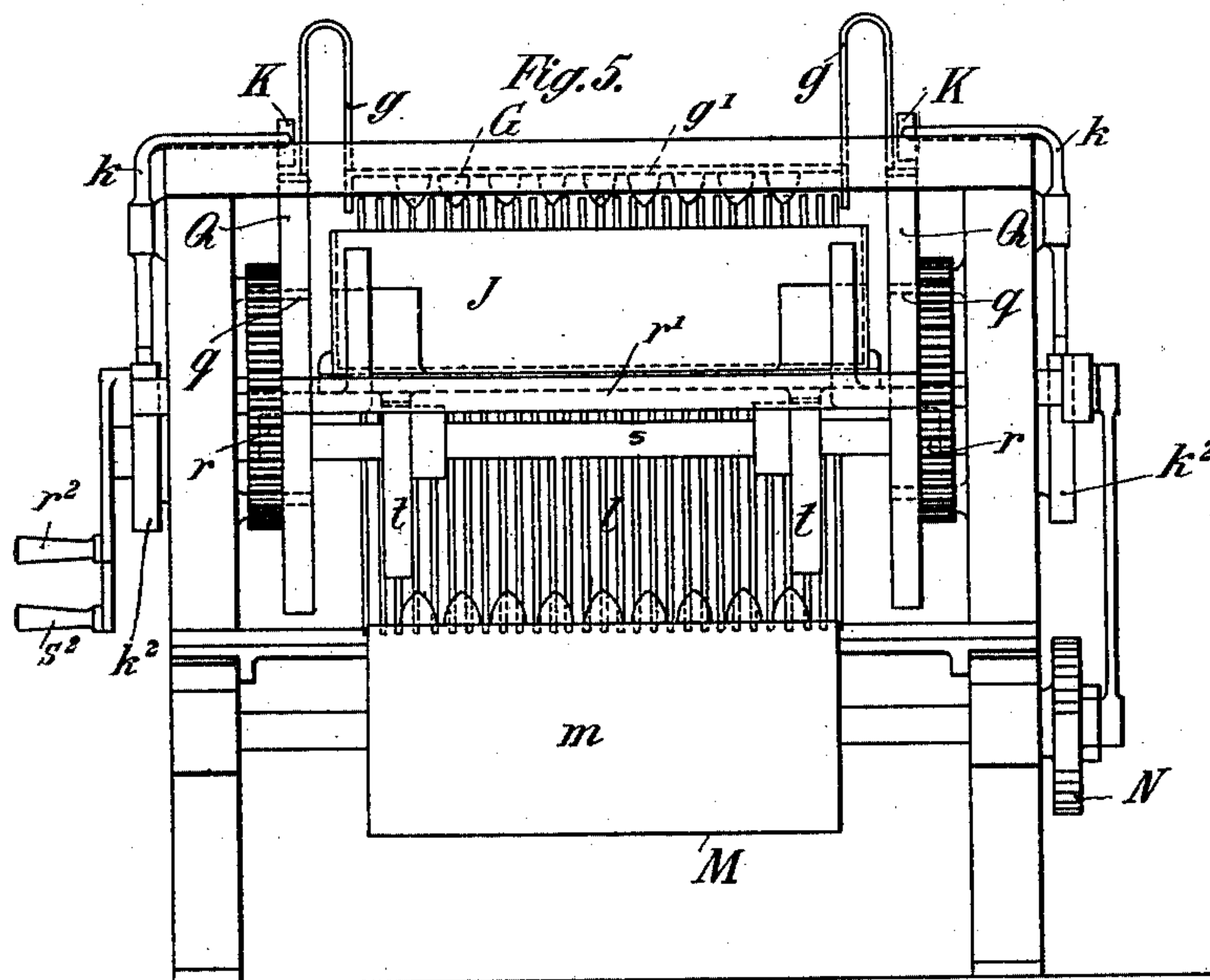
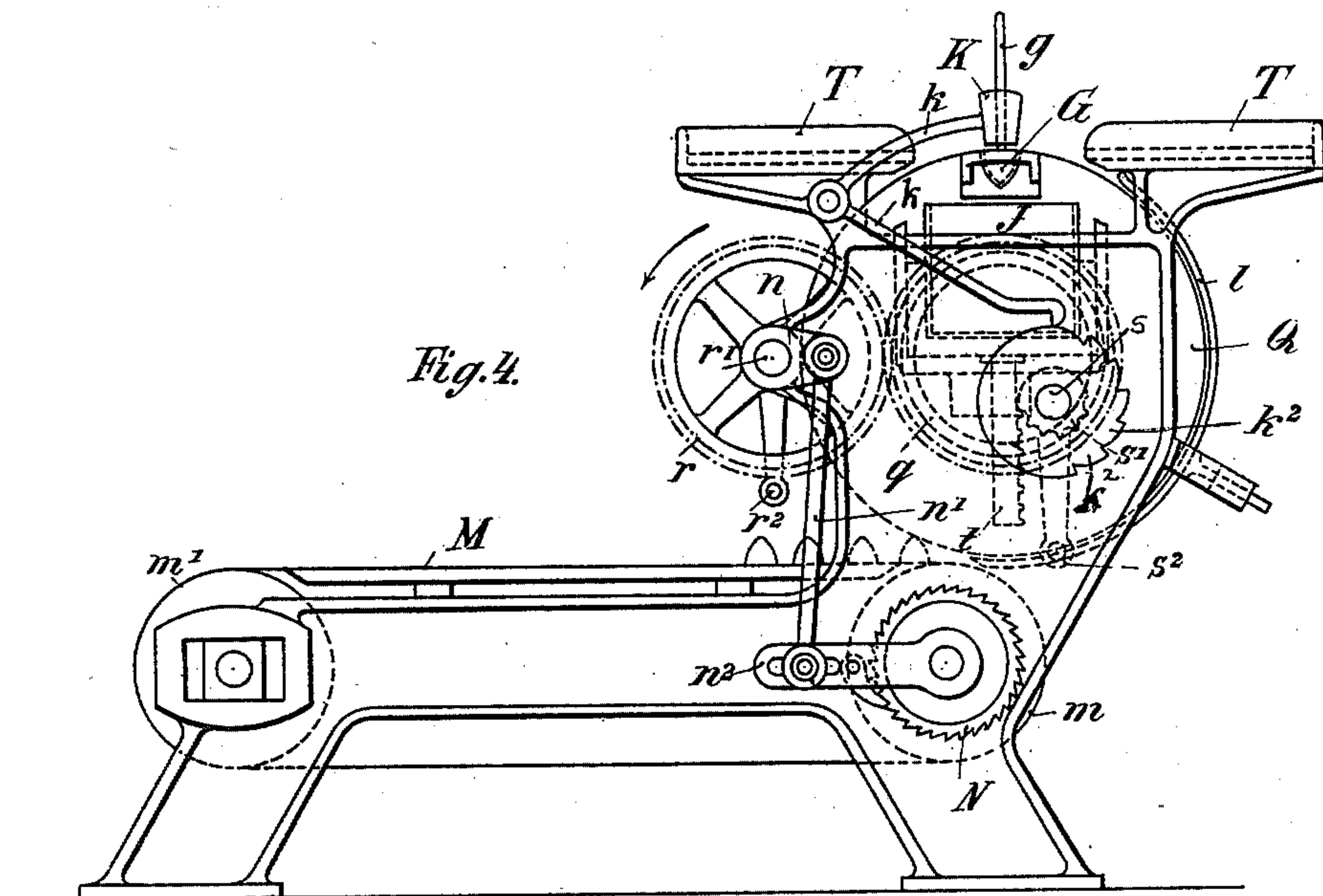
3 Sheets—Sheet 3.

L. B. LEHMANN.

MACHINE FOR COATING CONFECTIONERY OR THE LIKE.

No. 592,568.

Patented Oct. 26, 1897.



Witnesses.

Thomas Durant
John B. Peyton Jr

Inventor.

Louis B. Lehmann,
by Charles Olmsted
his atty.

UNITED STATES PATENT OFFICE.

LOUIS BERNHARD LEHMANN, OF DRESDEN, GERMANY.

MACHINE FOR COATING CONFECTIONERY OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 592,568, dated October 26, 1897.

Application filed March 2, 1897. Serial No. 625,770. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BERNHARD LEHMANN, a subject of the King of Saxony, residing at Dresden, in Saxony, German Empire, have invented certain new and useful Improvements in Machines for Coating Confectionery or the Like, of which the following is a specification.

In the following specification is described a machine which has for its object the coating or covering of confectionery (more particularly "pralines") with chocolate or other coating by dipping it into said coating material. Except as regards feeding in the confectionery the machine acts automatically in such manner that the sweets are immersed face downward and then delivered in an upright position. By such working a product is obtained which, as regards cleanliness and good appearance, is equal to that produced by hand.

A characteristic feature of the invention consists in a rotating continuous carrier carrying grate-like supports which receive the sweets and step by step bring the said supports to the place where they are supplied with sweets and then over a tank which can be raised and which is filled with the material for coating the sweets. By raising said tank up to the supports while they remain at rest the sweets are immersed and coated, and, finally, by means of guides arranged in the same direction as the supports, brought to an upright position and deposited on their bottom surfaces.

A construction of the machine having a continuous carrier will be described first.

Figure 1 is an elevation. Fig. 2 is a vertical cross-section; Fig. 3, a plan of a piece of a support adapted to receive conical sweets, on an enlarged scale. Fig. 4 is a side elevation of a modified form of machine. Fig. 5 is a front view looking from the left-hand side of Fig. 4.

Two endless bands or chains A run over pulleys a a and a' a' , which are secured in pairs on the shafts b b' , the shaft b being connected, by means of two toothed wheels c c , with the ratchet-wheel d on the shaft d' , which is rotated by the pawl d^2 , step by step from the shaft e , by means of a crank f , connecting-rod f' , and arm f^2 . Each step in this move-

ment corresponds to the distance between two supports on endless band A, which are, according to Figs. 2 and 3, in the form of a grate. On endless bands A A are secured the ends of a series of bent arms g g , the other (inner) ends being connected together in pairs by cross-pieces g' g' and the latter carrying rings g^2 g^2 , in which the sweets x x are placed in series with their points downward. These supports, however, are described only by way of example, and will of course be modified according to the shape of the sweets to be treated and to the arrangement or form of the supports.

On the shaft e are mounted within the frame sides cams h h , on the peripheries of which rest vertically-guided rods i i . These rods support, by means of a cross-beam i' , the tank J, which is filled with the coating material of desired consistency with which the sweets are to be covered. The tank is of such width that the inner sides of the bent arms g g , together with the supports, are immersed when the tank is raised.

A bell-crank lever k , carrying a hammer-head K, swings on each side of the frame about a pivot k' , the end of the longer arm k of each rod resting against the periphery of the disks k^2 k^2 , which are partly toothed, as in ratchet-wheels, and are keyed outside the frame on the shaft e . The hammers accordingly repeatedly give—during the time that the ratchet-teeth act on the levers k k —quick light blows on the bands A A, whereby the superfluous covering mass is caused to drop off from the sweets which have been immersed.

Concentrically with the pulleys a a are arranged on the right-hand side (where the sweets move downward) guides l l , which are connected to one another so as to form a grating, thus affording a guide for the bottom surfaces of the sweets and preventing them from falling out while traveling around the pulley. Thereby the sweets traveling around the pulleys a a are turned, so that although they are dipped point downward they are deposited after having passed between the pulleys a a and guides l l on their bases, when they fall out from their supports, as shown at x , Fig. 1.

In order to take up or remove the sweets deposited in this way, there is preferably arranged an advancing support in the form of an endless band M, traveling over rollers m m' . This band is caused to move step by step from the shaft c by an eccentric n and ratchet-gear $n' n^2 N$.

On the band M is directed a blast from a blower O, the shaft o of which is rotated at a high rate of speed from the driving-shaft P.

The shaft e is slowly rotated from the shaft P by means of two toothed wheels $p p$.

The sweets are placed in position at G' in the support G, points downward. The next step or movement of bands A A brings the support into the position G^2 above the tank J. During the time that bands A A are at rest the tank is raised by the eccentric $h h$ and rods $i i$ and the sweets become immersed.

Then the tank J again descends and during the time that the support passes into the position G^3 , during a part of the movement of bands A A, the superfluous mass is shaken off. Then the sweets are guided downward against the guides $l l$ and deposited on bands M, which convey them step by step to the left. In consequence of the continuous supply of fresh air by the ventilator the drying of the sweets takes place in a rapid manner. The emptied support finally arrives into the original position G' , where it is again filled. As there are preferably several supports G, several series of sweets may be treated, so that at each step or movement of bands A A a new series is introduced, one series being immersed and one deposited on the carrier-band.

In the modified construction illustrated in Figs. 4 and 5 the traveling carrier is constituted by two disks Q Q on large annular hubs q , which are arranged inside the framing. The toothed wheels $q q$ on disks Q Q engage with toothed wheels $r r$, mounted on the shaft r' , having a hand-crank r^2 . A single support is employed which is formed in the same manner as the support hereinbefore described, the bent arms $g g$ being, of course, secured to the circumferences of the wheels Q Q. Between the hubs is supported a shaft s , having pinions $s' s'$, one-half of each of which is provided with teeth, said shaft s being adapted to be rotated by the hand-crank s^2 independently of shaft r' . During one-half of the revolution the tank for the covering mass (here also marked J) is raised by the toothed portions of pinions $s' s'$ engaging with and raising the vertically-guided toothed racks $t t$, said tank again descending as soon as toothless halves of pinions $s' s'$ come opposite to the tooth-racks. During the second half of the revolution the shaking off of the superfluous material from the sweets by shaking device takes place, said device being similar to the one before described, the disks $k^2 k^2$ in this form being mounted on the shaft s . There is also here a guide-surface formed by rods or guides $l l$, which is arranged round the

side of disks Q Q, and guides the sweets on the endless band M. The movement of the band M by rollers $m m'$, by means of the crank n , connecting rods $n' n^2 N$, and ratchet-wheel, has no new features compared with the first-described construction. T is a supply-table. The position of the support when the sweets are introduced into it coincides in this construction with the dipping position. If disks Q Q are brought into this position, the shaft r' is left stationary and shaft s is turned by means of the handle s^2 , whereupon the tank J rises and sinks, thereby causing the immersion and immediately afterward the shaking off of superfluous coating material to take place. Then the shaft s is left stationary and the support is caused to move downward along rods or guides $l l$ by turning the shaft r by the handle r^2 .

It is evident that many details may be varied in the two constructions hereinbefore described without departing from the spirit of the invention.

I claim—

1. In a machine for coating confectionery, and the like, with chocolate or other material, the combination with the carrier, the supports for the confectionery mounted on said carrier, a tank containing the coating material, means for operating the carrier to bring the confectionery-supports intermittently over the tank and means for raising the tank to immerse the confectionery; substantially as described.

2. In a machine for coating confectionery and the like with chocolate or other material, the combination with the endless bands, the pulleys upon which the bands are carried, means for intermittently operating said pulleys, the frame for holding the confectionery carried by said bands, the tank containing the coating material, means for elevating the tank to immerse the confectionery, and guides for holding the confectionery; substantially as described.

3. In a machine for coating confectionery and the like, the combination with the endless bands, the pulleys arranged in pairs, over which the bands are carried, means for intermittently operating the pulleys, frames carried by the bands, for receiving the confectionery, points down, a tank over which the frames are carried, means for intermittently raising the tank as the frames are brought over it, whereby the confectionery will be immersed, guides for holding the confectionery in the frames as they pass around the pulley, and a receiver for catching the confectionery as it drops from the frame; substantially as described.

4. In a machine for coating confectionery and the like, the combination with the endless bands or carriers, the confectionery-frames mounted thereon, the immersing-tank, means for raising the tank for immersing the confectionery, and shaking devices for re-

moving superfluous material from the confectionery; substantially as described.

5. In a machine for coating confectionery and the like, the combination with the endless bands, the pulleys over which the bands are carried, the gear-wheel on the pulley-shaft, a second gear-wheel meshing therewith, the ratchet-wheel on the shaft of the last-named wheel, the arm carried by said ratchet-wheel, the pawl on the arm, adapted to engage the teeth of the ratchet-wheel, the crank on the main shaft, and a connecting-rod secured at one end to the crank and at the other to the arm of the ratchet-wheel; substantially as described.

6. In a machine of the character described, the combination with the tank containing the coating material, the vertically - movable guided rods upon which the tank is supported, cams carried by the main shaft of the machine upon which the rods rest, whereby as the shaft revolves the tank will be intermittently raised; substantially as described.

In witness whereof I have hereto set my hand in the presence of the two subscribing witnesses.

LOUIS BERNHARD LEHMANN.

Witnesses:

OTTO WOLFF,

HUGO DUMMER.