

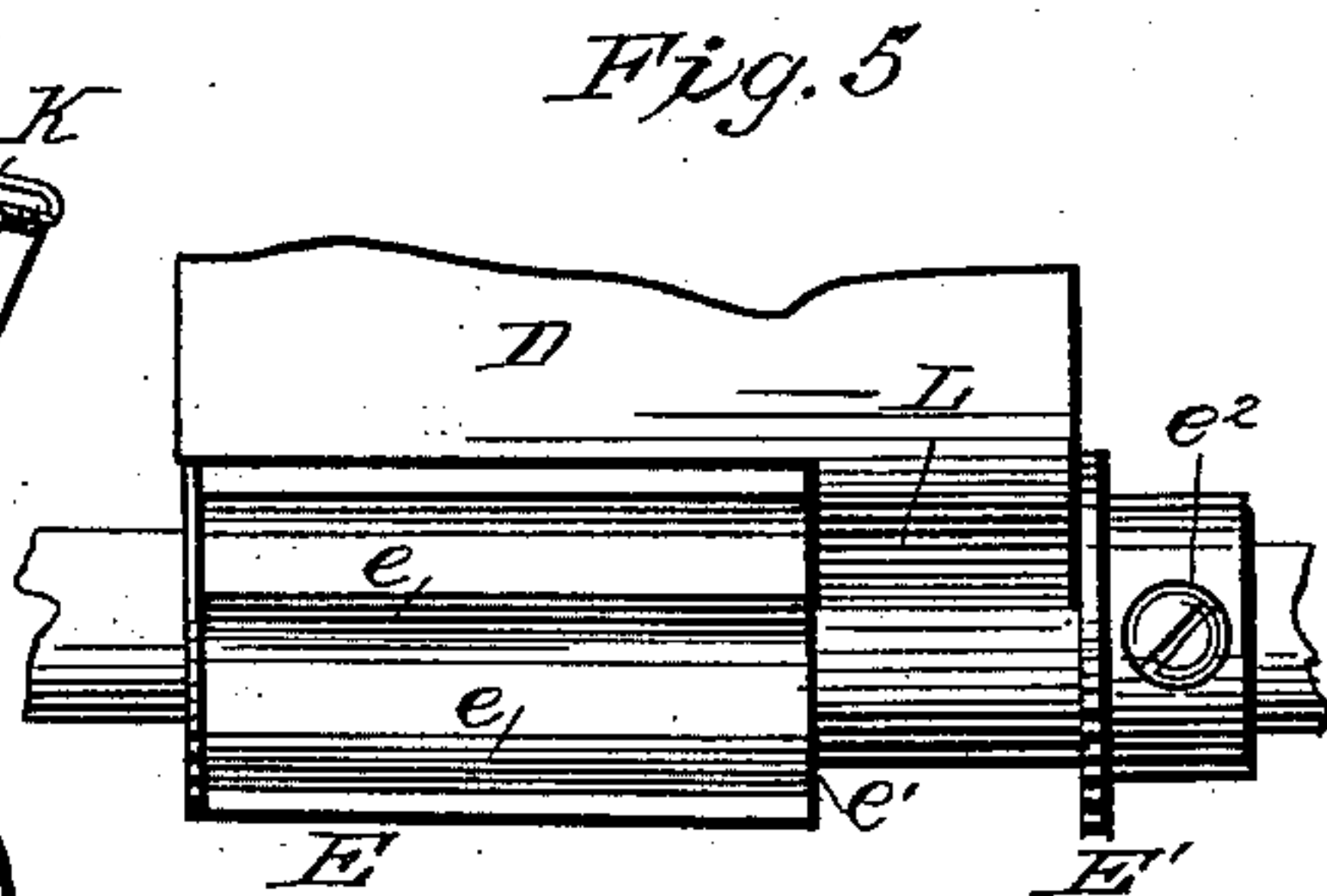
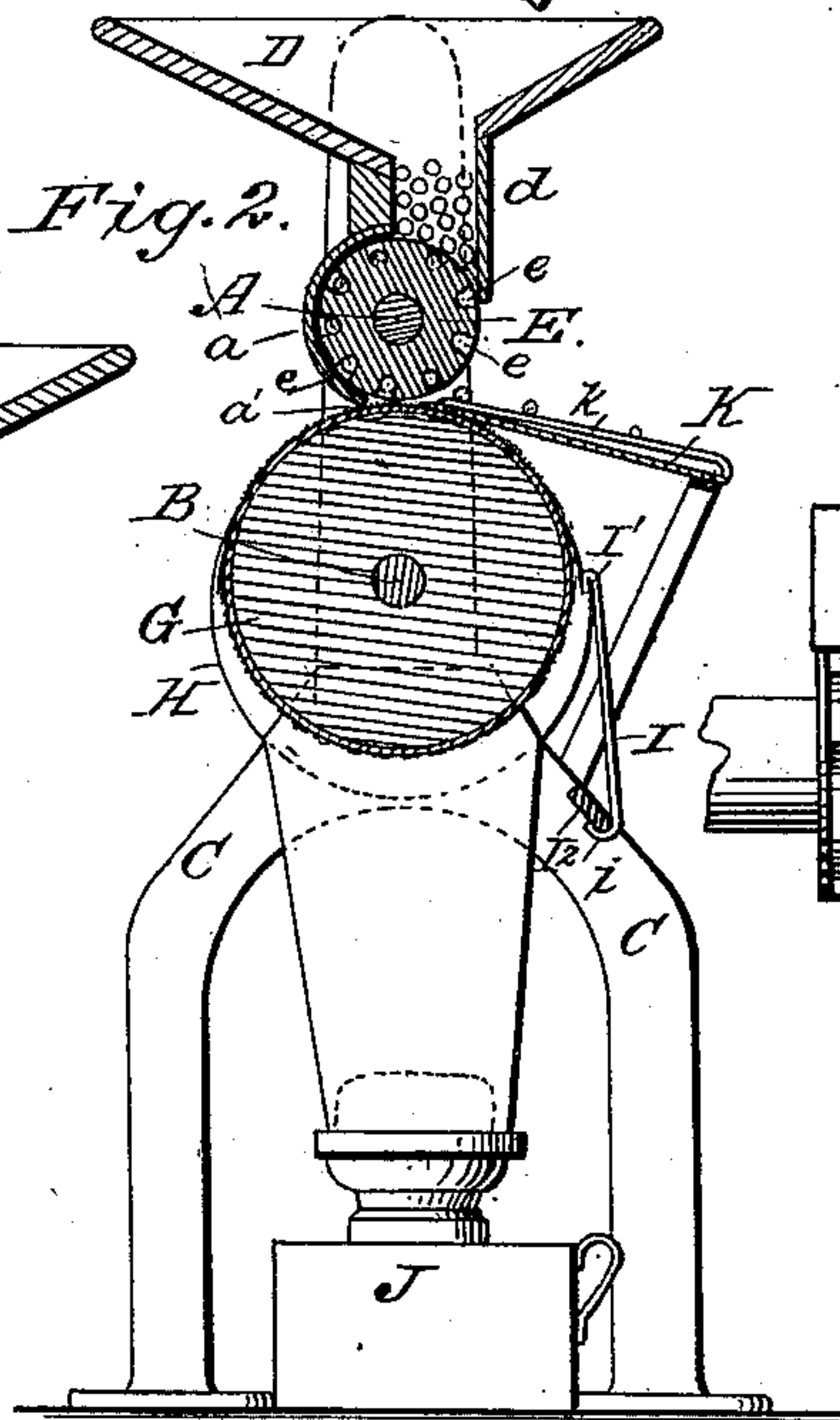
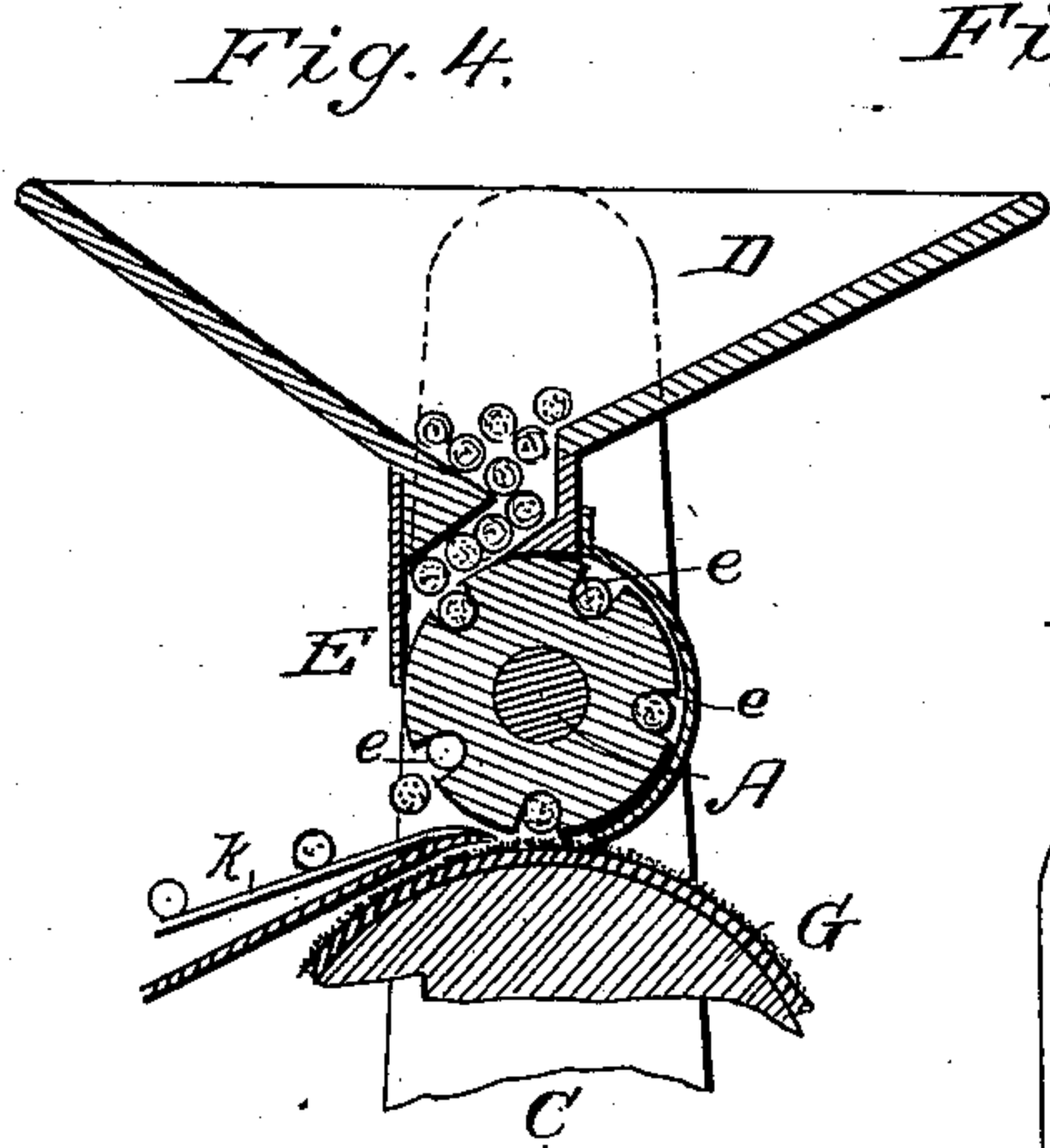
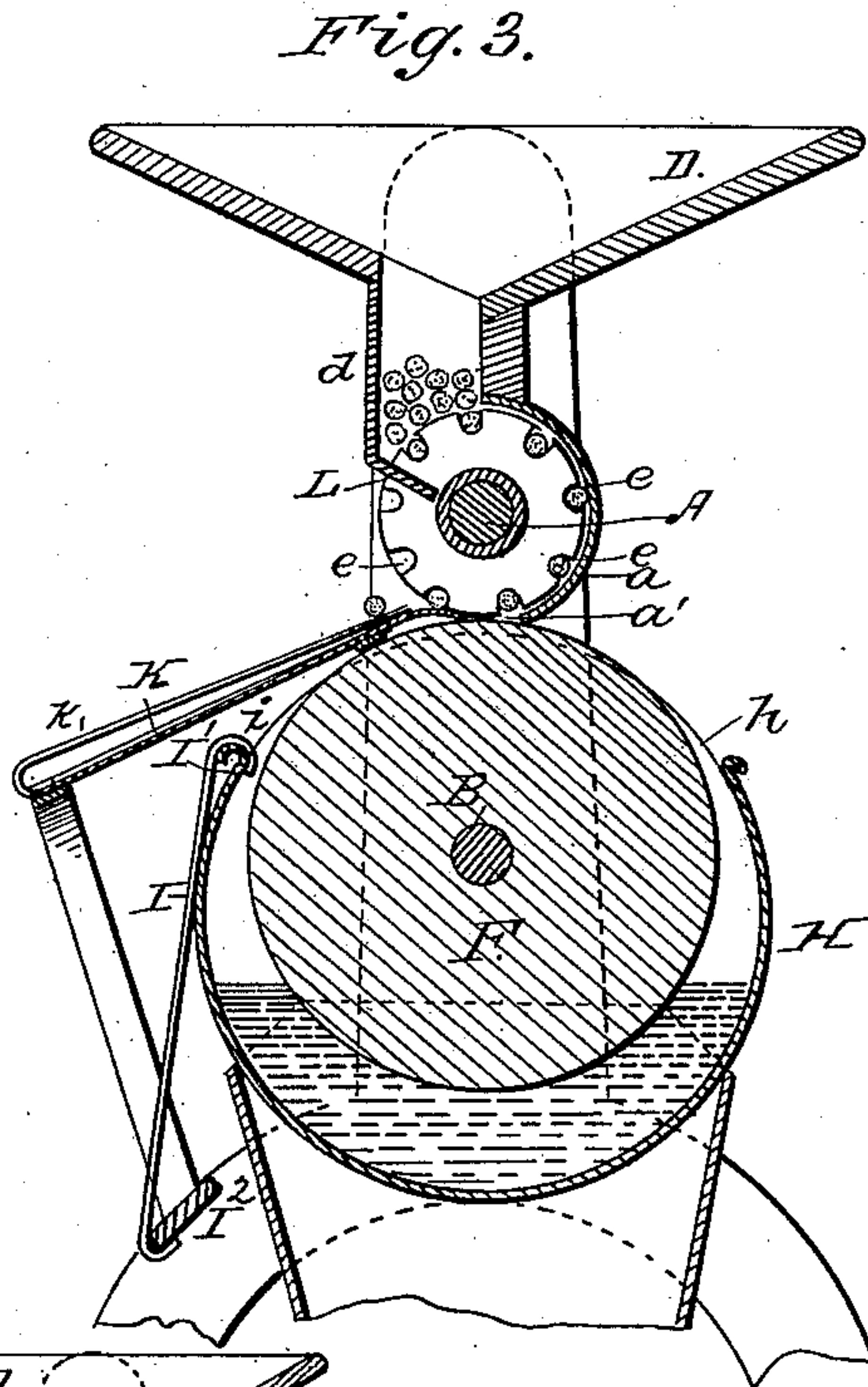
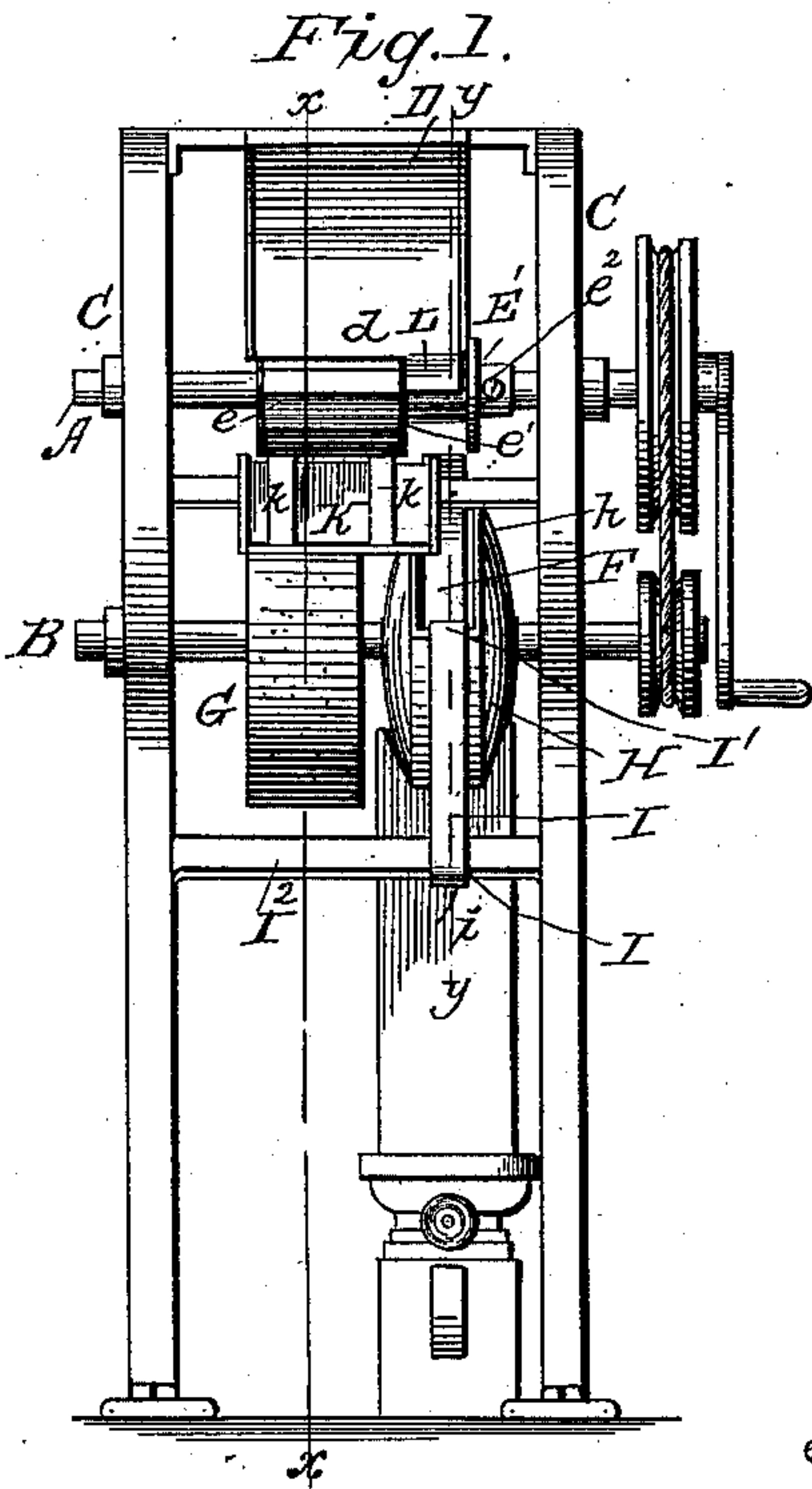
(No Model.)

J. B. UNDERWOOD.

METHOD OF AND MACHINE FOR APPLYING SALIVA PROOF MOUTH
PIECES TO CIGARETTES.

No. 364,873.

Patented June 14, 1887.



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JOSEPH B. UNDERWOOD, OF FAYETTEVILLE, NORTH CAROLINA.

METHOD OF AND MACHINE FOR APPLYING SALIVA-PROOF MOUTH-PIECES TO CIGARETTES.

SPECIFICATION forming part of Letters Patent No. 364,873, dated June 14, 1887.

Application filed January 25, 1887. Serial No. 225,464. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH B. UNDERWOOD, of Fayetteville, in the county of Cumberland and State of North Carolina, have invented a new and useful Improvement in Method of and Machine for Applying Saliva-Proof Mouth-Pieces to Cigarettes, of which the following is a specification.

This invention is an improved method of and machine for applying saliva-proof mouth-pieces to cigarettes, seeking to provide a convenient and efficient method by which to coat and render one end of a cigarette saliva-proof, and, further, to provide a simple machine embodying the said method.

The invention consists, broadly, in the improved method hereinafter described and in a machine having a carrier for the cigarette and means for applying the coating material to such cigarette.

It consists, further, in certain constructions and combinations of parts, as will be hereinafter fully described.

Heretofore one end of cigarette-wrappers, prior to the rolling of the cigarettes, have been coated with paraffine, varnish, and like material; but it is only found practical to use such wrappers on hand-made cigarettes, and in making cigarettes with such paper it is difficult to make the paste adhere to that end of the paper on which the paraffine or other substance has been applied, and while being smoked the wrapper parts at the end and allows the tobacco to spread, and thus in a great measure destroy the objects in view.

The application heretofore of paraffine or like material to the end of completed cigarettes has been found impracticable and unprofitable, as it had to be applied by dipping the cigarette in the liquid material or else applying the material to the cigarette with a brush. In the use with a brush by hand the material is applied irregularly and the coating is unsightly as well as expensive. The said process of dipping is impracticable, because it closes up one end entirely and cuts off the draft through the cigarette.

The manufacture of cigarettes by machinery, in which the wrappers used are applied to the tobacco in a tape or ribbon in a continuous piece, the cigarettes being cut into lengths therefrom after being made, makes it very de-

sirable to have some inexpensive and reliable method and means of applying a coating to the end of the cigarette, forming a mouth-piece.

My invention seeks to provide such method and means, and is carried out in the manner which I will now describe.

The improved method consists, essentially, in applying the mouth-piece to the cigarette by rotating such cigarette on its own axis in contact with a surface supplied with the material to be applied thereto, so that the said material will be evenly and smoothly applied to the cigarette and will not close the end of the same, and may at the same time be quickly accomplished.

The details of the method, including the manner of supplying the water-proof material to the surface in contact with which the cigarette is rotated, will be more fully described in connection with the following description of the improved machine, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of the machine. Fig. 2 is a sectional view on line *x x*, Fig. 1. Fig. 3 is a detached section, enlarged, on line *y y*, Fig. 1. Fig. 4 is a detail section showing a different form of hopper, and Fig. 5 is a detail view.

In the construction shown the shafts A and B are journaled in a suitable frame, C, and on such frame I mount the hopper D. The hopper is formed of a cross width less than the length of a cigarette, so the cigarettes will be kept parallel to each other and will pass in such arrangement to the feeder. This feeder E is secured on shaft A, and is a cylinder or wheel having a number of pockets, *e*, fitted to receive the cigarettes to be coated, and at one end the pockets terminate at *e'* short of the end of the feeder, and at such end of the feeder I provide an end flange, *E'*, which may be fixed or may be adjustable on the shaft A, to suit different lengths of cigarettes. I have shown the flange as adjustable, a suitable set-screw, *e''*, being provided for securing it in its different adjustments.

In Fig. 2 the hopper D is so located above the feeder that one side of the hopper under which the cigarettes pass after entering the pockets of the feeder shall be about over the

center of the feeder while the other side will extend or drop at *d* down along the line of the periphery of the feed-wheel, to the end of directing the cigarettes into the flutes, and so the cigarettes will have a tendency to be driven away from the periphery after the pockets have been filled. This hopper may be entirely filled with little or no danger of jamming or mashing.

In Fig. 4 the hopper is shown as provided with a number of deflectors or guides in its lower portion, so that only one cigarette may pass to the feeder at a time. This style of hopper may be preferred in a machine arranged to receive cigarettes direct from a cigarette-making machine, and will operate properly without further care than to place it so the cigarettes may be received into the hopper as they drop from the cigarette-machine.

The shaft B is arranged below the feeder, and has fixed to it the wheel F, which, for convenience of reference, I term the "coater," for the reason that it performs such function in the treatment of the cigarette, and to the shaft is also fixed a supporting-wheel, G, which in practice is covered with cloth, rubber, or other suitable material, by which to provide the friction necessary to properly rotate the cigarette while it is being acted on by the coater. It will be noticed that the coater is arranged below the portion *e'* of the feeder, while the supporting-wheel G is arranged below the pockets of said feeder, as shown. The receptacle H for the paraffine or other suitable coating material is placed below the coater, and usually has its sides, *h*, extended up nearly to the upper periphery of the said coater. By preference, I pivot this receptacle on the shaft B, so it may be turned when so desired, and provide a catch, I, for securing it from turning during the operation of the machine. This catch has hooks *i i* on its opposite ends, one of which engages at *I'* with the paraffine-receptacle, while the other hook engages a cross-bar, *I''*, on the main frame, thus serving as a detent to prevent the turning of the receptacle on the shaft by which it is supported. Below the receptacle I provide a lamp, J, or similar heater, by which to keep the paraffine in proper liquid condition, and such lamp has a flaring metallic chimney, which serves to retain the heat close to the receptacle. On the frame I support an inclined discharge-chute, K, which receives the cigarettes after they have been properly coated at one end, and serves to discharge the same into a suitable receiver. This chute has elevated and separated rails *k*, on which the cigarette rolls down the chute, and these rails hold the cigarette so that its coated portion or mouth-piece will not come in contact with anything else until it is practically dried. The hopper has a portion or plate, L, extended from its rear edge into the part *e'* of the feeder, so as to prevent a cigarette from becoming stuck in one of the pockets and passing through and through the

machine, while the upper end of the chute extends in below the feeder to a point about over the crown of the coating and supporting wheels, and serves to receive and support the cigarette while it is being elevated by its feeder onto the rails *k*. The coater is made of the width it is desired to form the mouth-piece, and as it is revolved it receives the paraffine on its rim, and the same is transmitted to the cigarette in the operation which I will now describe. The shafts B and A are revolved in opposite directions. This may be effected by gearing the shafts together, as shown, and providing one of them with a crank; or the shafts may be geared with a driving-power or with some moving part of a cigarette-making machine. It will be noticed that the shaft B is revolved much faster than shaft A. As the shaft A is turned the cigarettes in the pockets of the feeder will be held therein by the casing at *a* until they reach a point at *a'*, above the coater, when they will drop by gravity, their ends resting on the coater being properly supplied with paraffine to form the mouth-piece. The coater and supporting wheels serve to rotate the cigarettes in a direction the reverse of the rotation of the feeder, the turning of the cigarette on the coater serving to effect an even distribution of the material forming the mouth-piece, as will be readily seen. When the cigarette reaches the upward extension of the chute, it rides up thereon and onto the rails, down which it rolls. The length of the rails may be regulated by the requirements of the material used for forming the mouth-piece; or a fan may be introduced at any convenient point to aid in cooling, and thus hasten the solidification of the coating material.

Manifestly, instead of using a lamp the paraffine-receptacle may be jacketed in hot water; or steam may be applied to said receptacle. If a liquid should be used that does not require the application of heat, an open vessel or trough may be used and the lower portion of the wheel be arranged to turn therein; but where heat is to be applied I prefer to form the receptacle as shown, as thereby the paraffine is protected from the atmosphere almost to the point where it is applied to the cigarette.

Having thus described my invention, what I claim as new is—

1. The herein-described method of applying mouth-pieces to cigarettes, the same consisting in moving such cigarettes bodily to and past a surface supplied with the material from which the mouth-piece is to be formed and rotating them axially when in contact with such surface, substantially as set forth.

2. In a machine for applying mouth-pieces to cigarettes, the combination of the carrier or feeder, the coater, and means for rotating the cigarette axially in contact with said coater, and the supporting-frame, substantially as set forth.

3. A machine, substantially as described, comprising a carrier, a coater, and means for

supplying the coating material to said coater.

4. The combination of the carrier, the coating-wheel, and mechanism whereby the said wheel and carrier are revolved in opposite directions, substantially as set forth.

5. The combination of the carrier, the coating-wheel, and the supporting-wheel rigidly connected with the coating-wheel, substantially as set forth.

10 6. The combination, in a machine, substantially as described, of a carrier adapted to receive a cigarette, means for giving the cigarette a rotary motion, and a coater whereby to apply the coating material to said cigarette, 15 substantially as set forth.

7. A machine provided with means for applying a mouth-piece to cigarettes, and having a discharge-chute which has elevated rails for the coated cigarettes, substantially as set 20 forth.

8. In a machine for applying mouth-pieces to cigarettes, the combination of the hopper, the carrier-cylinder provided with a number of pockets fitted to receive cigarettes, the coating-wheel, the paraffine-receptacle, and the 25 heater, substantially as set forth.

9. The combination of the feeder formed of a wheel having pockets and having a cut-away portion, e' , at one end, the coater-wheel operating below said cut-away portion, and 30 the supporting-wheel, substantially as set forth.

10. The combination of the feeder formed of a wheel having pockets and having one end cut away at e' , the coater, the support, and 35 the plate L, substantially as set forth.

11. The combination, with a coater-wheel and feeder mechanism, of a receptacle for paraffine and the like, having its sides extended up nearly to the crown of said coater- 40 wheel, substantially as set forth.

12. The combination of the framing, the coater-wheel, the pivoted receptacle, and a catch, K, having hooks k , arranged and operating substantially as set forth.

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Witnesses:

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