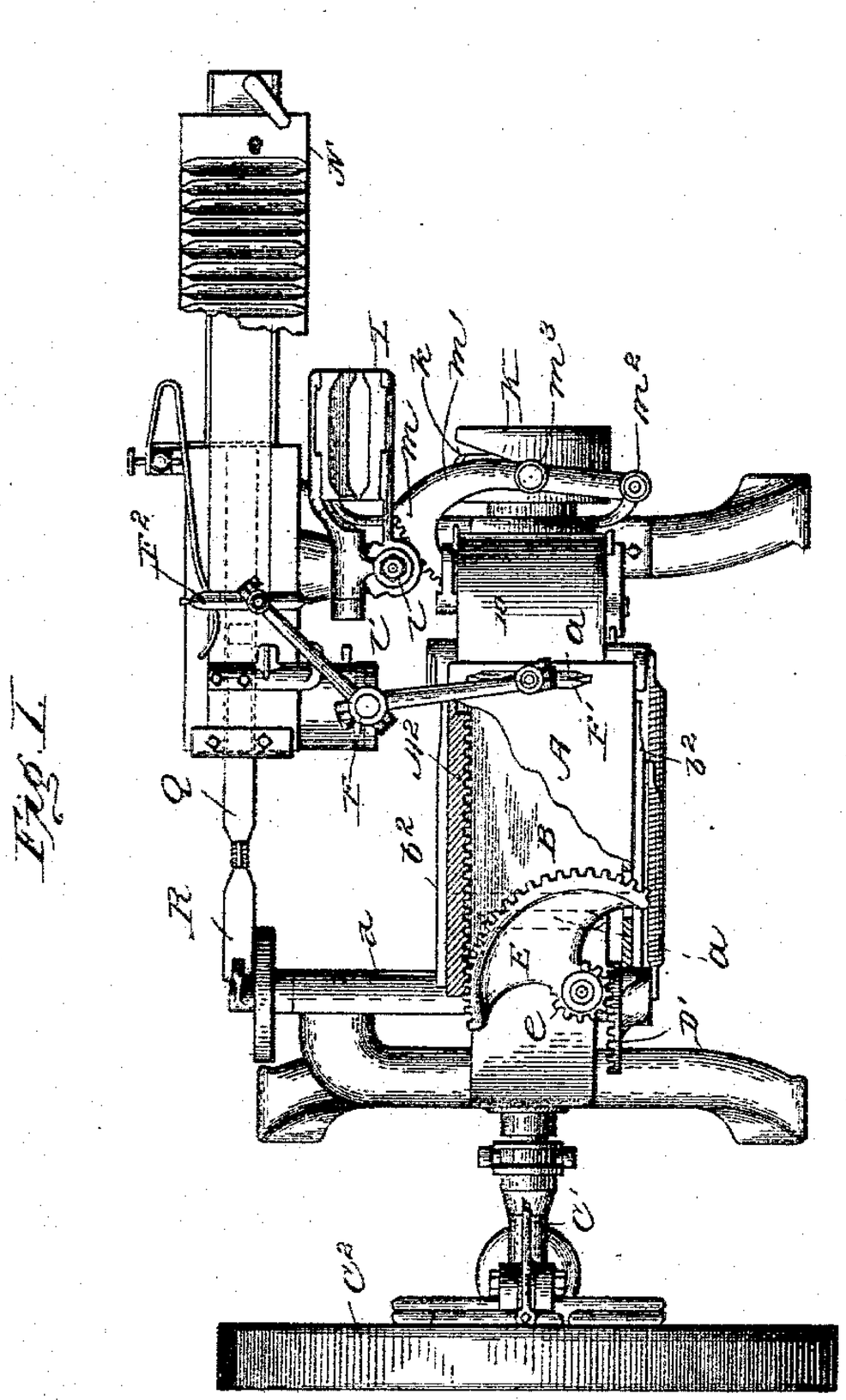
(No Model.) 2 Sheets—Sheet 1.

F. C. MILLER.

CIGAR BUNCHING MACHINE.

No. 494,930. Patented Apr. 4, 1893.



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

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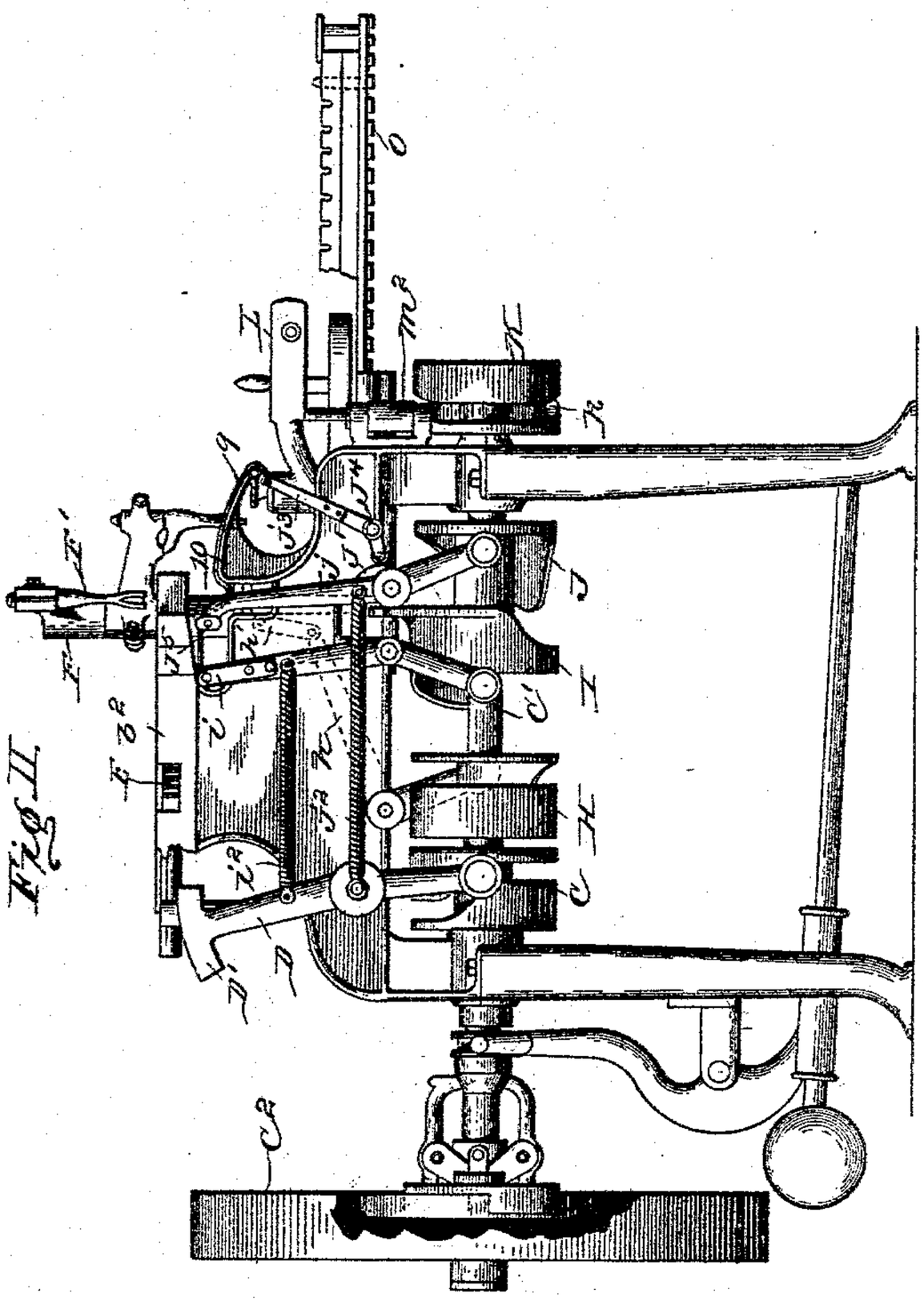

Fig. 2.

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UNITED STATES PATENT OFFICE.

FREDRICK C. MILLER, OF NEWPORT, KENTUCKY.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 494,930, dated April 4, 1893.

Application filed August 20, 1892. Serial No. 443,613. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK CHARLES MILLER, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Cigar-Bunching Machines, of which the following is a specification.

The subject of my invention is a cigar bunching machine in which long filler cigars can be readily made, said machine being adapted for simple manual feed and consisting essentially of a filler carrier having a bottomless pocket a fixed table, forming a temporary bottom for the pocket while in filling position and having a space or aperture located beneath the bottom of the pocket when the carrier is retracted an operating cam, rack-lever, pinion and toothed segment gearing with a rack on the filler carrier to impart extended reciprocating movement to the said carrier to advance and retract the pocket; bunch-rolling mechanism beneath the table; a horizontally oscillating bunch receiver; and plungers serving to discharge the fillers from the carrier pocket and the bunches from the bunch receiver, the whole operating in time movements as hereinafter described.

In the accompanying drawings:—Figure I is a plan view of a machine, illustrating the invention. Fig. II is a side view of the same.

A represents a filler carrier formed with a bottomless pocket *a* and having a reciprocating rectilinear movement upon a fixed bed or table B, between guides b^2. The fixed table B forms a temporary bottom for the pocket *a* when the filler carrier is retracted so as to bring its pocket *a* into the filling position indicated by dotted lines in Fig. I. When advanced beyond the end of the fixed table B as shown in full lines the bottom of the pocket *a* is opened and it is in discharging position.

The reciprocating movement of the filler carrier A is imparted by a cam C through the medium of a rack-lever D the rack D′ of which gears with a segment pinion *e* upon the heel of a toothed segment E which gears with a rack A^2 on the carrier A to impart an extended reciprocating movement thereto so as to bring the pocket into the filling position indicated in dotted lines in convenient reach of an operator at the side of the machine and when filled move it to discharging position beneath the plunger F′. The rotary cam C is carried by a shaft C′ which is preferably driven by a clutch pulley C^2. The operating shaft C′ also carries rotating cams H I J K. The revolving cam H actuates a bell-crank lever *h* connected by a link *h′* to a rod F guided in a vertical path and carrying plungers F′, F^2, the former serving to eject the filler from the filler pocket *a* and deposit it in the bight or pocket of the rolling apron 9 while the plunger F^2 serves to discharge the previously formed bunch and deposit it in the mold N as hereinafter described. The cams I J actuate rocking levers *i*, *j*, respectively, and a third rocking lever j^3 fulcrumed at j^4 is actuated by a rocking cam J′ of the shaft of the lever *j*. The bunch rolling apron 9 rests in customary manner upon a convex rolling table 10 and is attached at its respective ends to the upper extremities of the rocking levers *i* and j^3, the cams I and J′ being suitably formed to draw and relax the rolling apron 9 at the proper times to permit the intermediate lever *j* actuated by a suitably formed rotary cam J and having at its extremity a roller j^5 to press the bight of the apron around the cigar filler which has been deposited on a binder upon the apron in customary manner, roll the same upon the convex rolling table 10, and discharge the finished bunch over the edge of the said table. The levers *i*, *j* are kept in contact with the faces of operating cams I J by tension springs i^2, j^2 respectively. This bunch rolling mechanism is described more in detail in Letters Patent No. 416,117, granted to me November 26, 1889. The finished bunch as it is discharged from the rolling table 10, is caught by a bunch receiver L having oscillating movement upon the vertical shaft *l* by means of the pinion *l′* and a segment rack *m* upon the extremity of a lever *m′* fulcrumed at m^2 and operated by the cam K, the groove *k* in which engages with a pin or stud m^3 upon said lever *m′*. The outer movement of the oscillating bunch receiver L carries the bunch around beneath and in the path of the plunger F^2 by the descent of which the bunch is ejected by the bunch receiver and is deposited in one of the matrices of the mold N.

The above mechanism actuates the filler carrier A the plungers F′, F², the bunch rolling apparatus and the oscillating bunch receiver L in time movements as described. An automatic device is employed to communicate a step by step movement to the mold N so as to bring the successive matrices in position to receive a bunch. This consists of a rack bar O upon which the mold N is mounted, actuated by a reciprocating pawl Q, which is pivoted to a rocking arm R upon the rock shaft *d* of the lever D.

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

A cigar bunch machine constructed substantially as herein set forth with a reciprocating filler carrier A provided with a bottomless pocket *a* fixed bed B beneath the filler carrier forming a bottom for the pocket *a* when in filling position, the operating cam C and lever D, segment pinion *e* and toothed segment E mounted on a concentric pivot and a rack A² on the filler carrier operating as herein described to impart an extended reciprocating movement to the said filler carrier, in combination with suitable discharge and bunch rolling mechanism.

FREDRICK C. MILLER.

Witnesses:
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