

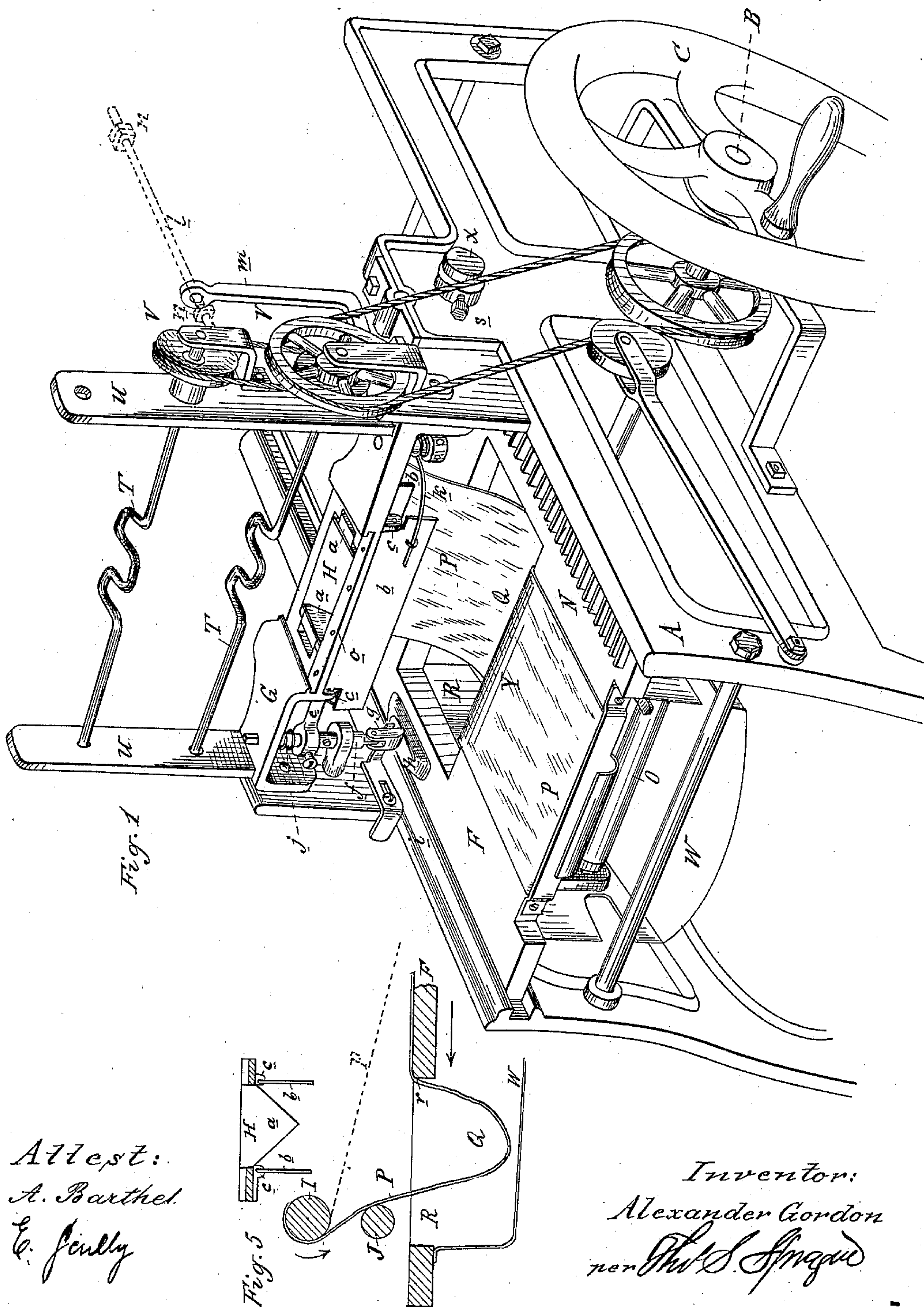
(No Model.)

2 Sheets—Sheet 1.

A. GORDON.
CIGAR MACHINE.

No. 257,316.

Patented May 2, 1882.



Attest:
A. Barthel.
E. J. Jolly

Inventor:
Alexander Gordon
per *Phil S. Smead*

Atty

(No Model.)

2 Sheets—Sheet 2.

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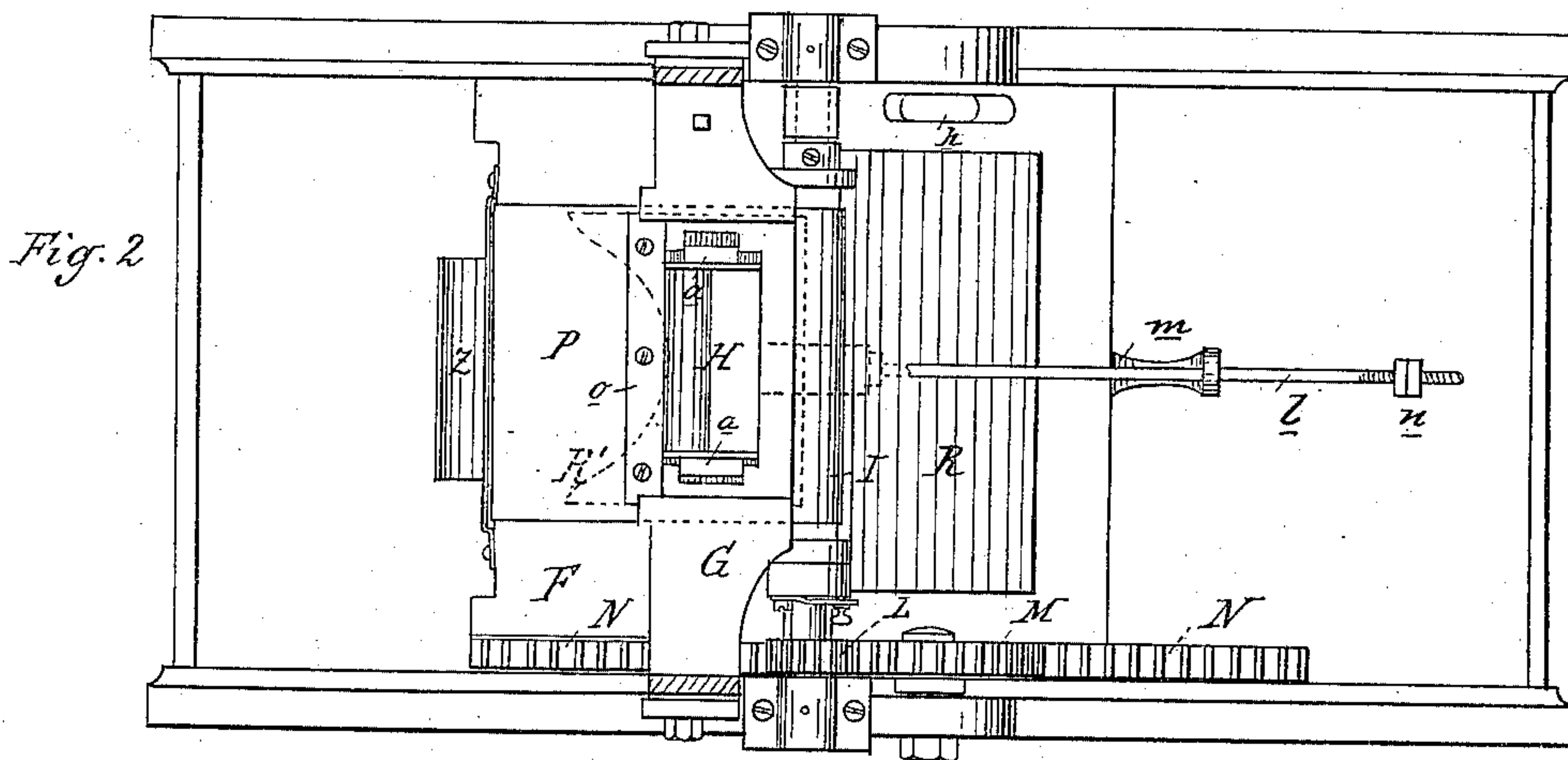


Fig. 6

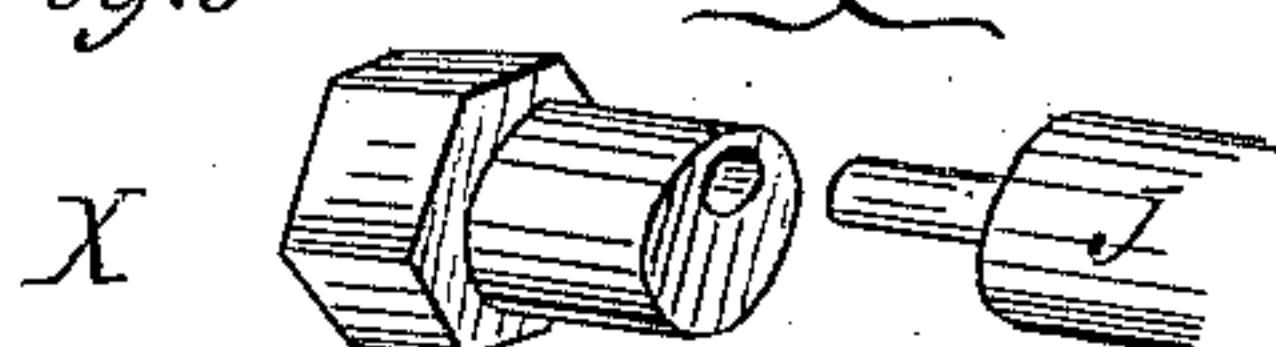


Fig. 3

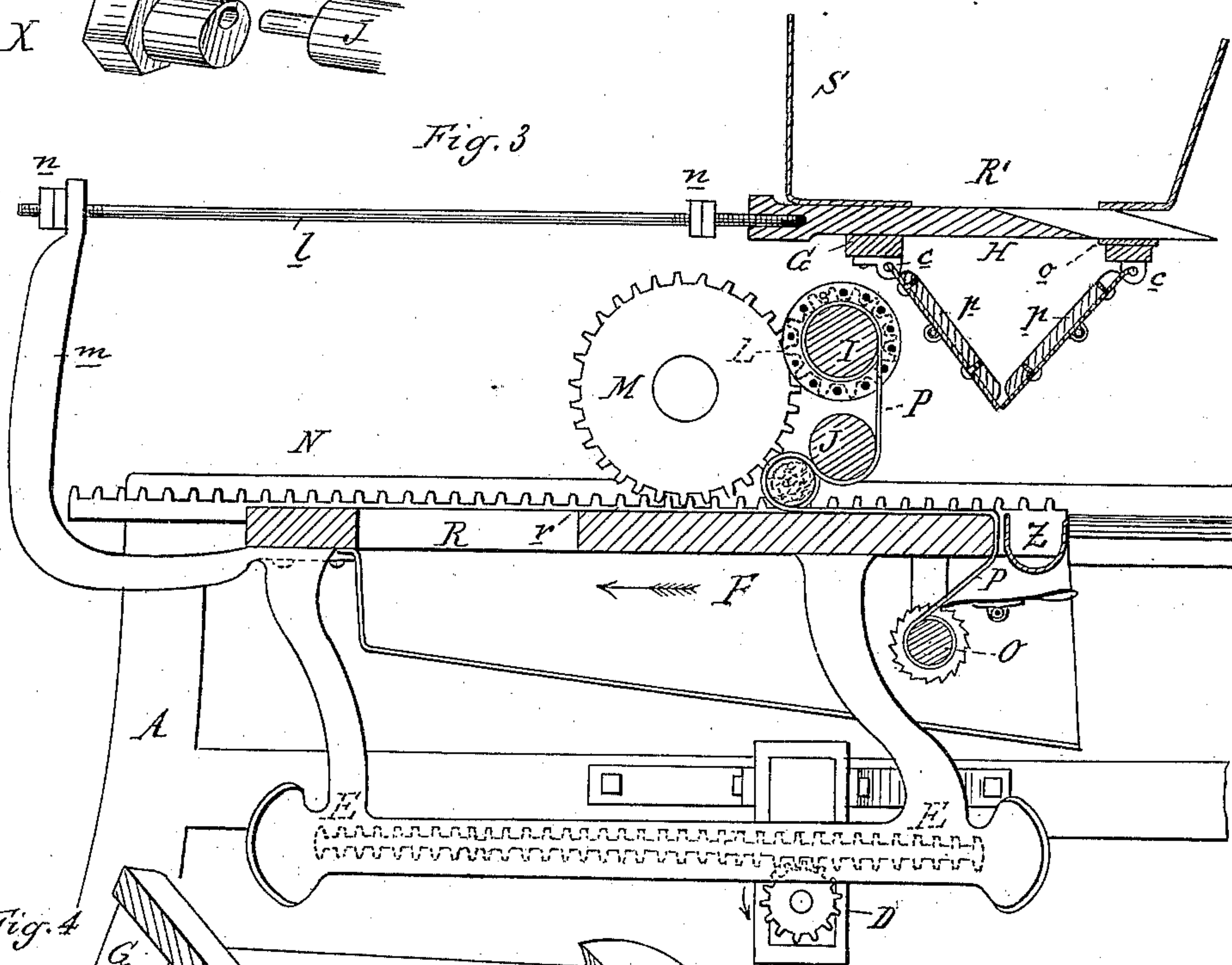
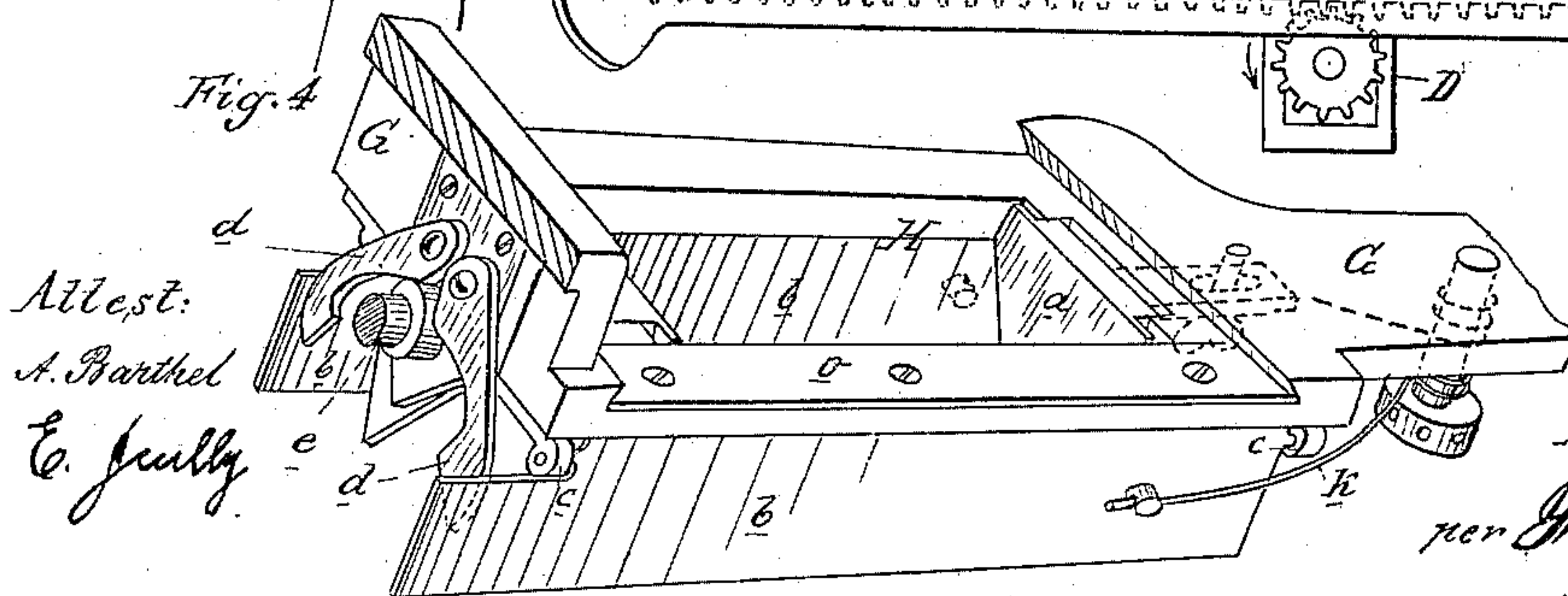


Fig. 4



Inventor:

Alexander Gordon
per *Wm. S. Sprague*
Atty

UNITED STATES PATENT OFFICE.

ALEXANDER GORDON, OF DETROIT, MICHIGAN.

CIGAR-MACHINE.

SPECIFICATION forming part of Letters Patent No. 257,316, dated May 2, 1882.

Application filed December 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER GORDON, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful
5 Improvements in Cigar-Bunching Machines; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 The nature of my invention relates to certain new and useful improvements in machines for making cigar-bunches; and it consists, first, in the peculiar construction of an automatic and adjustable feeding device for the scrap-
15 filler; secondly, in the peculiar construction of devices for wrapping the binder around the filler; and, thirdly, in the peculiar construction and combinations of the different parts, all as more fully hereinafter described, and shown
20 in the accompanying drawings, of which—

Figure 1 is a general perspective of the machine, with the feed-hopper and dividing-knife removed to show the construction of the automatic dropper. Fig. 2 is a top plan of the
25 machine, with the same parts omitted as in Fig. 1. Fig. 3 is a vertical longitudinal section, showing also the hopper and dividing-knife in section. Fig. 4 is a detached perspective of the automatic dropper. Fig. 5 is a vertical
30 longitudinal section in diagram form, showing the bunching-cloth in position for the reception of a new charge of filler. Fig. 6 is a detail showing the adjustable journal of the bunching-roll.

35 In the accompanying drawings, which form a part of this specification, A represents the frame of my machine, which supports all the operating parts thereof.

B is the main shaft, to which motion may be
40 given in any convenient manner, although in the drawings a crank-wheel, C, is shown for that purpose. Coupled to the shaft by a universal joint (not shown) is the pinion D, Fig. 3, which is held in engagement with the double
45 rack-bar E, suspended from the underside of the bunching-table F. This bunching-table F is adapted to reciprocate in proper guides in the frame A, and if the main shaft B is rotated the bunching-table F will be reciprocated in its
50 guides through the medium of the double rack-bar E and pinion D, in the well-known manner:

Supported upon the frame A, and passing transversely across and above the bunching-table F, is the bridge G. Through this bridge G, and in a central position above the table F, 55 is the discharge-opening H, which forms the top of a V-shaped trough. The ends of this trough are formed by the adjustable V-shaped heads *a*, while the sides are formed by the two trap-doors *b b*, hinged at *c c* to the under side 60 of the bridge G. These doors are adapted to be automatically closed and opened by the following means: Pivoted near the ends of the trough (see Fig. 4) are the two levers *d d*, the free ends of which impinge against the doors 65 *b b*. A horizontal arm, *e*, passes with its free end under the levers *d d*, while its other end is adjustably connected to the vertical shaft *f*, which is journaled to the bridge G in such manner as to allow it to rise and drop a cer- 70 tain distance. The lower end of the shaft *f* is provided with a knuckle, *g*. Upon the table is a projection, *h*, its ends forming inclined planes.

i is an adjustable catch to prevent the knuckle 75 *g* from bending backward.

In practice, when the table F is reciprocating, the knuckle *g*, in the forward movement of the table, will be forced to pass upon and over the projection *h*, thereby lifting the shaft 80 *f* and arm *e*, whose free end is so adjusted as to spread the levers *d d*, which open the doors *b b*. After the knuckle *g* has passed over the projection *h* the force of the spring *j* will bring the parts back to their former positions, while 85 the tension of the springs *k k* (one for each door) will close the same. The rearward motion of the table F does not operate the doors *b b*, as the knuckle *g* is free to pass over the projection *h*. If the catch *i* is drawn forward, 90 the action of the parts is entirely suspended, as it lifts the knuckle *g* out from interference or contact with the projection *h*.

Journaled across the frame and above the table F are the two rolls I J. The roll J, which 95 is the bunching-roll, is a loose one, while the roll I has an oscillating motion imparted to it through the medium of the pinions L M, Fig. 2, the latter of which engages with the rack N upon the top of the table and forming an in- 100 tegral part thereof. The reciprocation of the table F will produce a corresponding reversal

of the motion of the roll I. Another roll, O, is suspended in proper hangers from the under side of the table F, in the reciprocation of which the roll partakes, but is otherwise stationary. Passing from the roll O over the top of the table onto the roll I is the bunching-cloth P. This cloth is only under tension when the table F has arrived at its extreme forward position. It stretches then into an inclined plane from the roll I around the front edge of the table to the roll O, as indicated in dotted lines in Fig. 5, and as soon as the rearward motion of the table F begins a slack, Q, forms, which will only be gradually taken up by the roll I winding the cloth upon it during the said rearward movement of the table. A well, R, in the table allows the slack Q of the bunching-cloth to sink down, and forms a receptacle for the filler, as hereinafter described. Both of the rolls I and O are provided with suitable tension devices for the bunching-cloth.

R' is a knife held in proper guides upon the bridge G, and adapted, when reciprocated, to cover and uncover the opening H.

l is a rod attached to the knife R', and, projecting rearwardly, passes loosely through an eye in the arm m, which latter is firmly attached to the bed F.

n n are stops adjustable upon the rod l.

S is a hopper resting with its bottom upon the bridge G, whose discharge-opening H corresponds with a similar opening in the bottom of the hopper. The interior of this hopper is traversed by the pusher-bars T T, journaled through the standards u u, and provided at their ends with pulleys V V, to which motion is communicated from the main shaft B by means of belts or otherwise.

Having thus described the construction of the machine, I will explain its practical operation.

The hopper S being filled with the scrap-filler and motion given to the main shaft B, the pusher-bars T T, rotating on their axis, will crowd the filler through the bottom opening in the hopper into the trough. The intermittently-reciprocating knife R' will then at the proper time separate or cut off the portion of the filler which is in the trough from the supply in the hopper. To do this nicely the knife R' is provided with sharp and inclined cutting-edges, which act in conjunction with the steel edge o, which is secured to the top of the trough. As soon as the knife R' has closed the opening H the doors b b are automatically opened, allowing the filler to drop from the trough upon the cloth P, the operation of the machine being so timed that the cloth assumes at that point the position shown in Fig. 5, wherein the bed F has entered upon its receding motion. The cloth P, being a little larger than the length of the trough, will catch nearly all the filler dropped upon it, catching more at the middle than at the ends, while the portion of the filler which should accidentally fall off the

cloth altogether is caught upon the inclined apron W at the bottom of the well and discharged at the front of the machine. Now the operator of the machine, as soon as the filler is dropped, lays a binder in proper position upon the cloth P at Y. The table F being still receding, the bag Q in the cloth P containing the filler will be gradually closed and pushed beyond the edge of the well under the bunching-roll J. All this time this roller has been winding up the cloth P, but has only caught up with the slack in the cloth at this moment, when all further winding is done under tension, which produces necessarily a rolling of the filler under tension and the wrapping around it of the binder, which operation is completed as soon as the table F has attained its extreme rear position, when the completed bunch will be dropped over the front edge of the table and be caught there in the half-cylindrical receptacle shown.

To adapt my machine to produce bunches of greater or lesser size, I provide the trough with adjustable ends a, while the doors b b may be provided on the inside with an interchangeable lining, p p, of varying thickness. In accordance with the variable size of the filler, the bunching-roll J has also to be adjusted in its relative position to the table. To this end I have journaled it eccentrically into the boxes X X, which, being round, can be turned in their seats, and thereby raise or lower the roll J, the set-screws s s holding these boxes in their adjusted position. As both the rolls O and I are provided with tension devices for the cloth P, any degree of firmness of the bunch can be had by proper adjustment.

What I claim as my invention is—

1. In a machine for bunching cigars, a hopper provided with an intermittently-reciprocating horizontal knife, a trough having adjustable ends and pivoted doors, a reciprocating table, and a bunching-cloth, the whole combined with and operating from a common power automatically, for the purpose set forth.

2. The combination of the following devices: an automatic dropper delivering a measured supply of filler, a bunching-cloth wound and unwound upon a roll, a bunching-roll, and a reciprocating table, the motion of all these parts being positively connected together, all substantially as described and shown.

3. A trough provided with adjustable ends, and having doors provided with mechanisms for opening them automatically and intermittently, substantially as described.

4. The combination of the bunching-cloth P, reciprocating table F, rolls I J O, well R, and operating mechanism, as and for the purposes described.

5. The combination of the reciprocating table F, rack N, gears L and M, rolls I, J, and O, and cloth P, as and for the purpose specified.

6. The combination of the shaft f, knuckle

g, projection *h*, catch *i*, arm *l*, levers *d d*, and hinged doors *b b*, when combined and operating as described.

5 7. The adjustable catch *i*, combined with the knuckle *g*, shaft *f*, and connections with the doors *b b*, whereby the said knuckles may be thrown in or out of operation, as may be desired, as specified.

10 8. The combination of the pusher-bars *T T*, having crank-arms, as shown, with the hopper *S*, standards *u u*, pulleys *V V*, and trough, as and for the purposes specified.

15 9. The combination of the knife *R'* with the trough having adjustable ends and automatically opening and closing hinged doors, adapted to operate alternately, as and for the purposes set forth.

10. The combination of the knife *R'*, cloth *P*, trough having automatically opening and

closing doors, the rolls *I J O*, gears *L M*, table *F*, and operating mechanism, as specified, for the purpose set forth. 20

11. In a cigar-bunching machine, the trough having adjustable ends *a* and automatically opening and closing doors *b*, provided with interchangeable linings *p*, of various thicknesses, adapted to produce bunches of different sizes, as set forth. 25

12. The roller *J*, journaled eccentrically in boxes *X*, and set-screws *s*, combined with the cloth *P* and reciprocating table *F*, and adapted to be adjusted and secured in any desired location, as and for the purposes set forth. 30

ALEXANDER GORDON.

Witnesses:

H. S. SPRAGUE,
E. SCULLY.