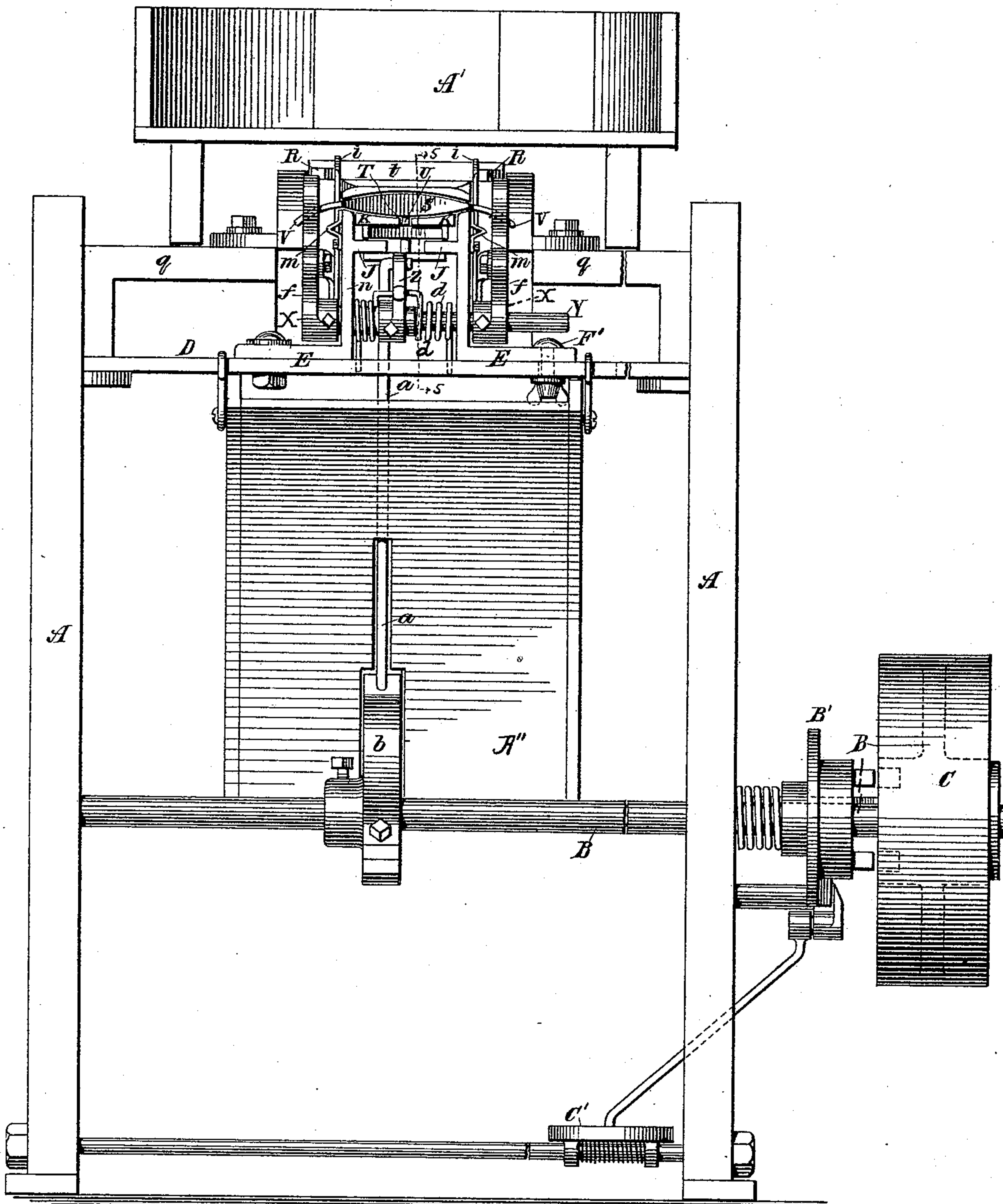


(No Model.)

4 Sheets—Sheet 1.

H. SCHMIDT, A. MERUNKA & C. WERNER.  
MACHINE FOR PREPARING FILLER TOBACCO FOR CIGAR BUNCHES.  
No. 459,416. Patented Sept. 15, 1891.

Fig. 1.



WITNESSES:

William Goebel.  
Ed. D. Miller.

Henry Schmidt  
August Merunka INVENTORS  
and  
Charles Werner

BY

Charles O. Gill  
ATTORNEY.

(No Model.)

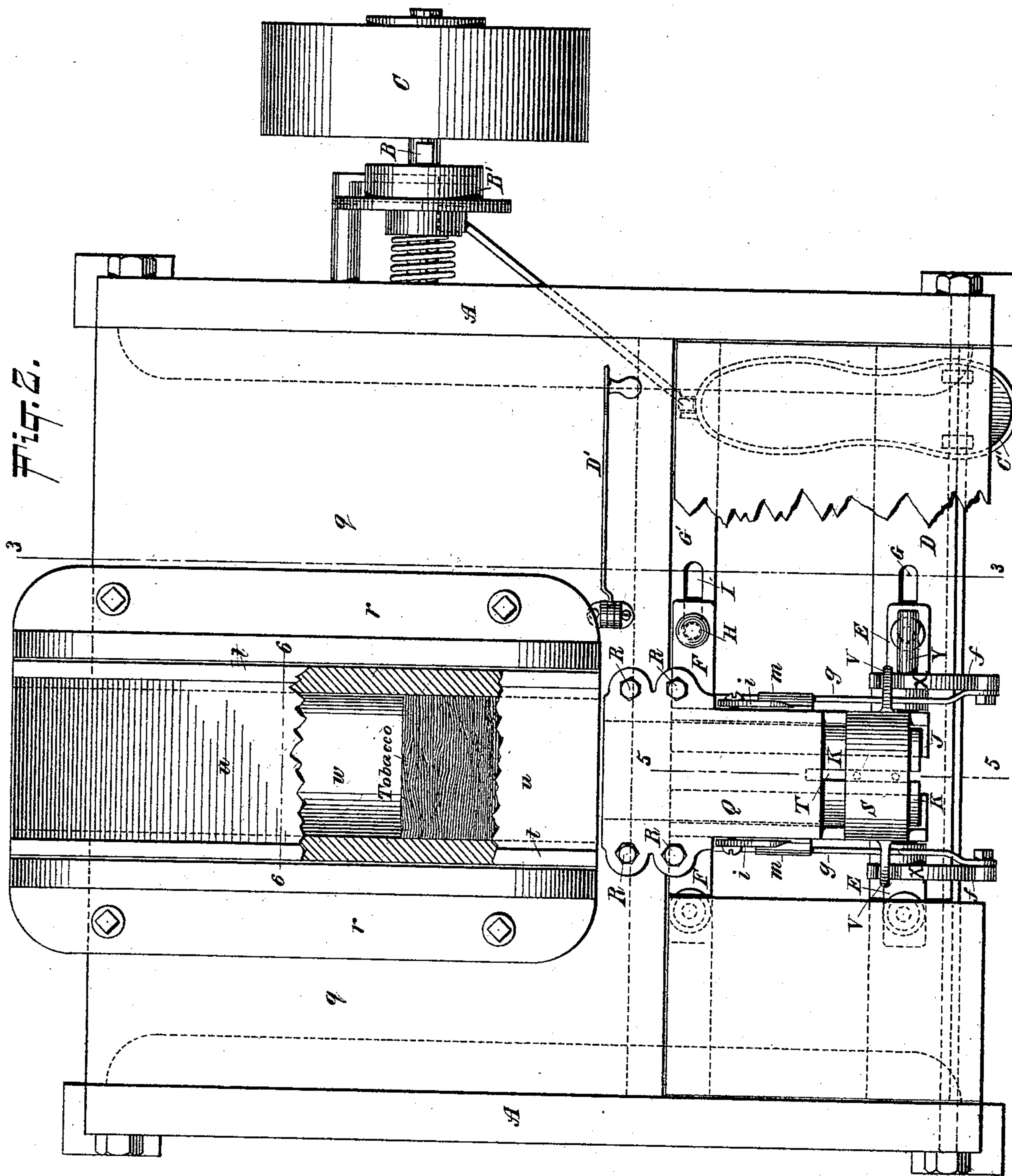
4 Sheets—Sheet 2.

H. SCHMIDT, A. MERUNKA & C. WERNER.

MACHINE FOR PREPARING FILLER TOBACCO FOR CIGAR BUNCHES.

No. 459,416.

Patented Sept. 15, 1891.



WITNESSES:

William Goebel.  
Ed. D. Miller.

Henry Schmidt,  
August Merunka  
and  
Charles Werner  
INVENTORS.

BY

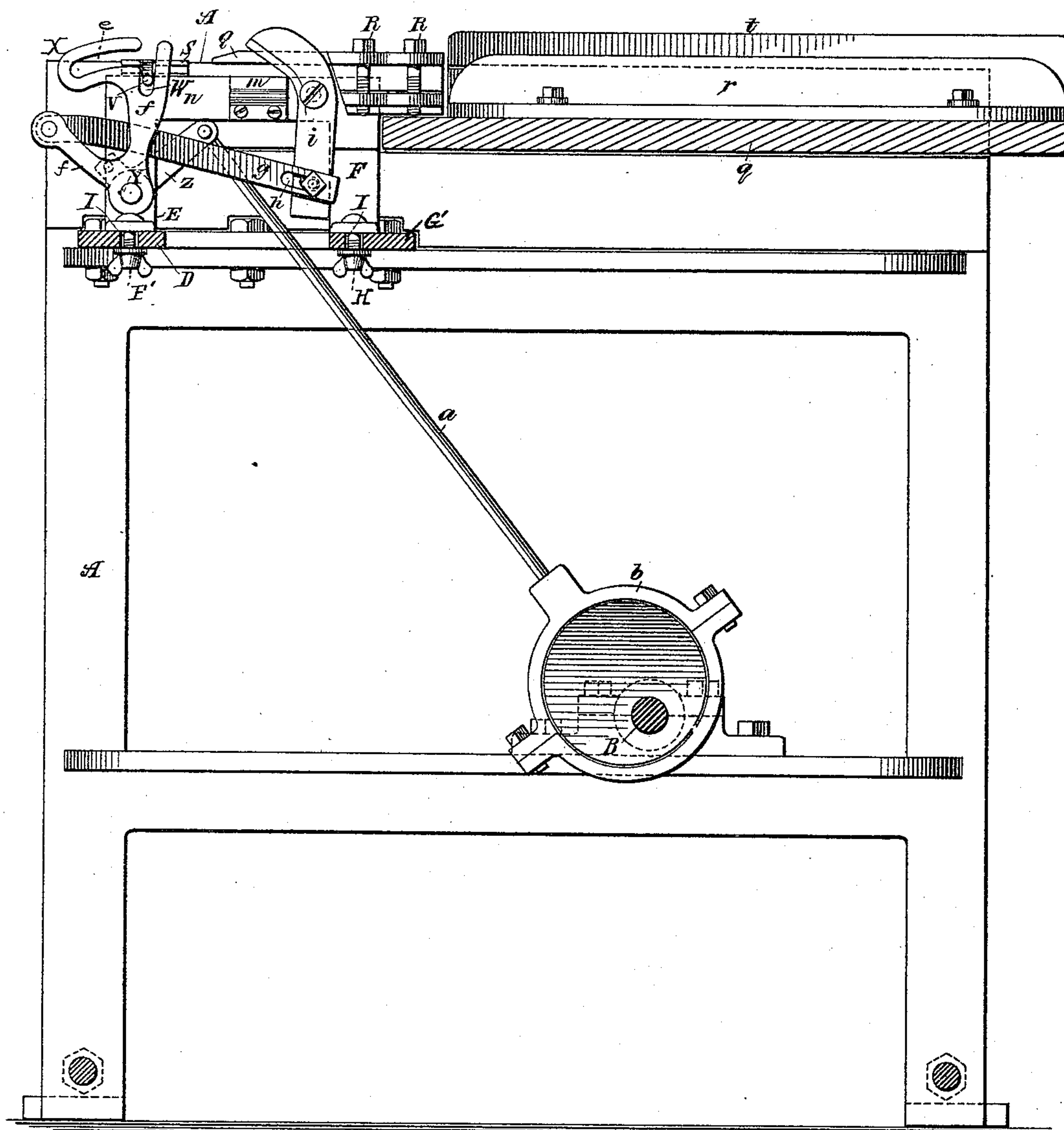
Chas. O. Gill  
ATTORNEY.

(No Model.)

4 Sheets—Sheet 3.

H. SCHMIDT, A. MERUNKA & C. WERNER.  
MACHINE FOR PREPARING FILLER TOBACCO FOR CIGAR BUNCHES.  
No. 459,416. Patented Sept. 15, 1891.

Fig. 3.



WITNESSES:  
*William Goebel.*  
*Ed. D. Miller.*

*Henry Schmidt*  
*August Merunka* INVENTORS.  
*and*  
*Charles Werner.*

BY  
*Chas. C. Gill*  
ATTORNEY.



(No Model.)

4 Sheets—Sheet 4.

H. SCHMIDT, A. MERUNKA & C. WERNER.  
MACHINE FOR PREPARING FILLER TOBACCO FOR CIGAR BUNCHES.  
No. 459,416. Patented Sept. 15, 1891.

Fig. 4.

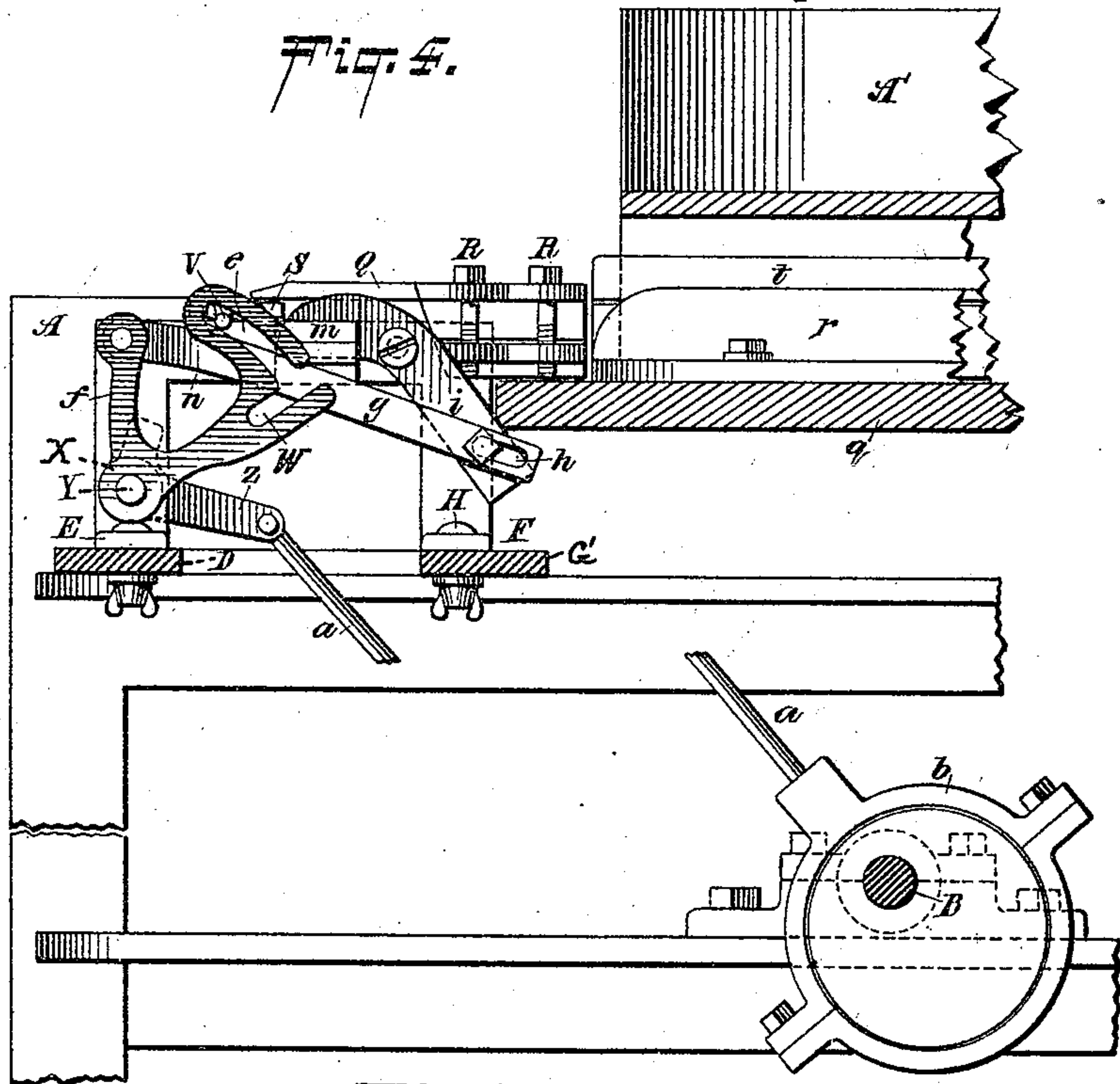


Fig. 5.

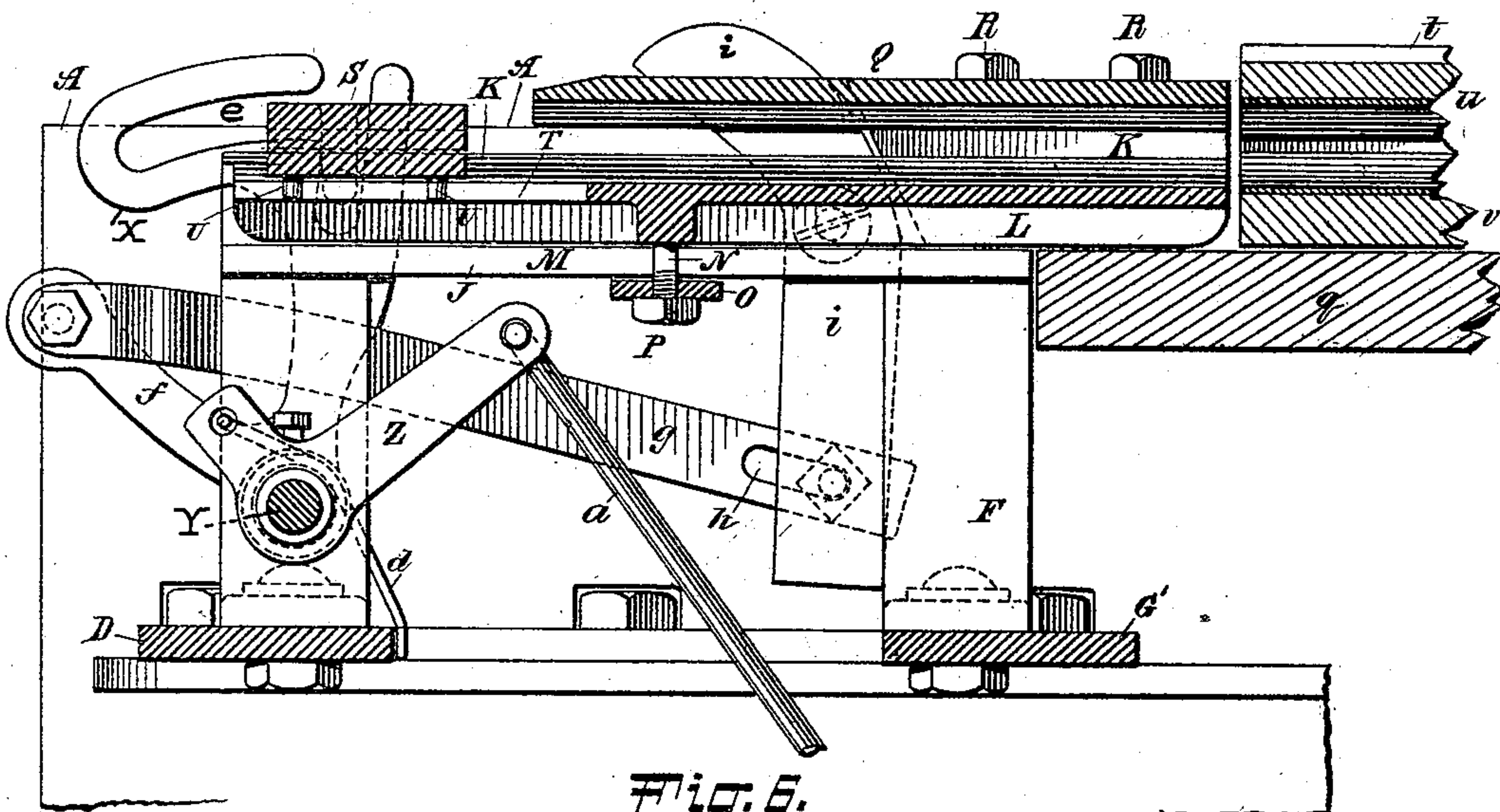
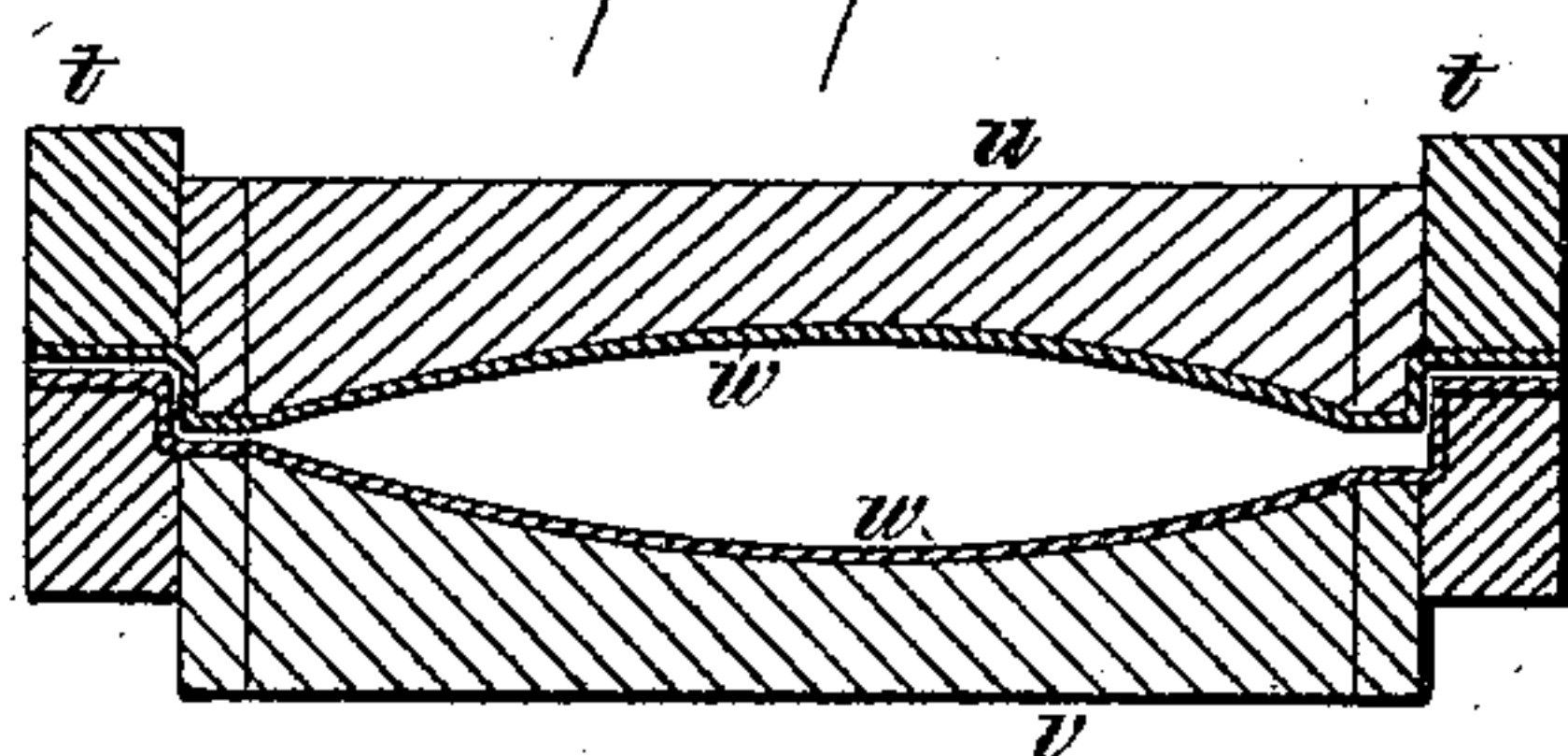


Fig. 6.

WITNESSES:

William Goebel.  
Ed. D. Miller.



INVENTORS.

Henry Schmidt  
August Merunka  
and  
Charles Werner;  
BY Chas. C. Hill  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

HENRY SCHMIDT, AUGUST MERUNKA, AND CHARLES WERNER, OF NEW YORK, N. Y.

MACHINE FOR PREPARING FILLER-TOBACCO FOR CIGAR-BUNCHES.

SPECIFICATION forming part of Letters Patent No. 459,416, dated September 15, 1891.

Application filed December 29, 1890. Serial No. 376,108. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY SCHMIDT, AUGUST MERUNKA, and CHARLES WERNER, citizens of the United States, and residents of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Preparing Filler-Tobacco for Cigar-Bunches, of which the following is a specification.

The invention relates to improvements in machines for preparing filler-tobacco for cigar-bunches; and it consists in the mechanism hereinafter described and claimed.

The object of the invention is to prepare a compressed mass of filler-tobacco of such length as may be desired and which in cross-section will bear the outline of the cigars to be produced. To effect this object the filler-tobacco is fed in small quantities, approximating that necessary for a single bunch, to a covered receiver having an interior outline conforming to the shape of a cigar, where it is subjected to the action of a reciprocating plunger, said plunger being thrust against the tobacco as each quantity thereof is added to the mass. The result of the constant feeding of the tobacco to the receiver and the action of the plunger is that the mass of tobacco in a compressed form and of proper outline will gradually pass from the discharge end of the receiver into an elongated mold whose interior conforms with that of the receiver, and which mold is detachable from the machine. The compressed elongated mass of tobacco, having an outline in cross-section approximating that of the cigar, is what the present machine is intended to produce, and this mass of tobacco may thereafter be subdivided into definite sections and utilized in the production of bunches rolled either by machine or by hand in the usual way.

By means of our invention the filler-tobacco for cigar-bunches may be rapidly prepared, and its production in the manner described insures the formation of cigars of uniform density throughout. The manufacture of the cigars is thus expedited and improved and the labor and time lessened.

We have chiefly employed long-filler tobacco and that known as "shorts" on the machine hereby sought to be protected.

Referring to the accompanying drawings, Figure 1 is a front elevation of a machine constructed in accordance with the invention; Fig. 2, a top view, partly broken away, of same; Fig. 3, a vertical section of same on the dotted line 3 3 of Fig. 2 and illustrating the position of the mechanism prior to the action of the knives which sever the protruding ends of the filler-tobacco; Fig. 4, a like view, partly broken away, of same and illustrating the position after the knives have made their movement downward against the exposed ends of the filler-tobacco; Fig. 5, an enlarged vertical section on the dotted line 5 5 of Fig. 1, and Fig. 6 is a vertical transverse section through the elongated mold which receives the tobacco after the same has been acted on by the plunger.

In the drawings, A designates the frame of the machine, between the sides of which is mounted the driving-shaft B, to which power may be applied by a belt-wheel C or otherwise, as may be desired. Across the upper front portion of the machine is the supporting-bar D, upon which are mounted the corresponding brackets E E, one of which is adjustable toward and from the other, according to the length of the cigar to be produced, by means of the set-screw F', passing through the slot G, formed in the bar D. Directly in rear of the brackets E E are the brackets F F, mounted on the bar G', one being adjustable toward or from the other by means of the set-screw H and elongated slot I, and these brackets F F are connected with the brackets E E by means of the shelf-bars J J, which form a support for the tobacco-receiver K, whose upper surface is concave corresponding with the shape of the cigar to be produced, and whose lower surface is provided with the longitudinal ribs L and transverse rib M, the former resting on the shelves J and the latter receiving the screw N, by which the receiver K is held in place. The screw N passes downward through a plate O and receives a securing-nut P, the ends of said plate bearing against the lower surface of the shelves J. When the nut P is tightened upon the screw N, it will firmly press the ends of the plate O against the lower surface of the shelves J, and thus firmly bind



the receiver K in position. Upon the rear surface of the receiver K is applied the covering-plate Q, whose lower surface is concave corresponding with that of the upper surface of the receiver K, and which covering-plate is provided with ears to receive the screws R, by which said covering-plate may be firmly secured. The space between the lower surface of the covering-plate Q and the upper surface of the receiver K is in cross-section in the outline it is desired the filler-tobacco shall assume. It will be observed upon reference to Fig. 5 that the front end of the receiver K is open and that the covering-plate Q is shorter than the receiver K, and hence that the front portion of said receiver is not covered. Upon this exposed front portion of the receiver K is placed the plunger S, which in cross-section conforms to the outline in cross-section of the space between the receiver K and covering-plate Q. The outline of the plunger S is illustrated in Fig. 1, in which it will be observed that the said plunger is horizontal and extends entirely across the space between the brackets E E. The receiver K is provided with an elongated slot T at its front end to receive the studs U, formed on the lower surface of the plunger S, the purpose of the slot T and studs U being to guide the plunger S in its reciprocating movement upon the surface of the receiver K. Upon the ends of the plunger S are provided the arms V, which extend outward from said plunger and enter the cam-slot W, formed in the upper end of the rocking arms X, which are secured upon the transverse shaft Y, journaled in the lower ends of the brackets E E. The rocking arms X are arranged in close relation to the outer sides of the brackets E E, and are fastened upon the shaft Y in order that upon the shaft being actuated its movement will be imparted to the arms X. The shaft Y at one end extends beyond the arms X, as illustrated in Fig. 1, in order to permit of the lateral adjustment of the bracket E when it is desired to increase or diminish the length of the layer of filler-tobacco to be produced. At about a central point between the brackets E E the shaft Y has secured upon it the lever-arm Z, to which the upper end of the eccentric-rod *a* may be secured, the lower end of said rod being connected in the usual manner with the eccentric *b*, secured upon the driving-shaft B. Upon the rotation of the shaft B it will be observed that the eccentric *b*, with its rod *a*, will, through the medium of the arm Z and shaft Y, impart a rocking movement to the arms X, with the effect of causing the reciprocation of the plunger S upon the receiver T, in the manner hereinafter more fully pointed out. Upon the shaft Y is also arranged the spring *d*, whose tension is exerted toward the front of the machine, the purpose being that the spring shall assist in returning the arm Z, arms X, and plunger S to their normal position, which is that illustrated in Fig. 5. In instances

where the driving-shaft B is operated by steam-power it will not be necessary to employ the spring *d*; but when the machine is to be operated without the use of steam a foot-treadle will be connected with the lower end of the rod *a*, and in such case it will facilitate the operation by employing the spring *d* to return the arm Z, arms X, and plunger S to their normal position. When the machine is arranged for a hand-machine, the operator, by depressing the treadle (not shown) connected with the rod *a*, will draw the arm Z downward and in that manner thrust the arms X and plunger S forward, after which the spring *d* will return these parts to their normal position. The arms X are provided with the cam-slots W and *e*, and also with the auxiliary arms *f*, the cam-slots to receive the arms V, connected with the plunger S, and the auxiliary arms *f* to receive the outer end of the connecting-rods *g*. The inner ends of the rods *g* are provided with the elongated slots *h* and are connected with the lower ends of the knives *i*, pivotally secured to the sides *n*, connecting the front brackets E with the rear brackets F. The elongated slots *h* in the connecting-rods *g* permit a definite lost motion in said rods, in order that the knives *i* may not be actuated until the plunger S has ceased its inward movement, and the cam-slots W *e* are provided in the arms X in order that the plunger S may first receive a definite inward thrust and then remain idle while the said arms X are continuing their movements for the purpose of actuating the connecting-rods *g* and knives *i*. While the arms V are within the cam-slots W of the arms X the plunger S will be forced inward; but as soon as the arms X have turned inward sufficiently to carry the cam-slots W beyond the arms V the said arms V will practically be disengaged, since they will then enter the cam-slots *e*, which, being on the arc of a circle struck from the center of the shaft Y, will simply pass over the arms V without moving them, and hence at such time as the arms V are within the cam-slots *e* the plunger S will be at rest, while at the same time the knives *i* will be caused to turn on their pivots and operate to remove any portion of the filler-tobacco which may be protruding beyond the outer sides of the receiver K. Upon the sides *n*, connecting the front brackets E with the rear brackets F, are secured the spring-plates *m*, as illustrated in Figs. 1 and 4, between which and the sides *n*, connecting the brackets E F, the cutting-edges of the knives *i* will pass in the operation of cutting off the surplus filler-tobacco.

In the rear of the receiver K there is mounted on the table *q* between the guides *r r* the mold *t*, composed of the upper and lower sections lettered *u v*, respectively, which have concave inner surfaces, preferably lined with sheet metal *w* and being in cross-section in the outline it is desired the mass of filler-tobacco shall assume. The lower section *v* of



the mold *t* rests between the guides *r r* and is provided with the upwardly-projecting sides *x x*, which fit within an angle provided in the upper section *u* of said mold *t*, as illustrated more clearly in Fig. 6, and which support the said upper section *u*. The sections *u v* of the mold *t* may be lifted from the table *q* whenever desired, and the space between said sections *u v* is designed to be a continuation of the space formed between the inner surfaces of the receiver *K* and its cover *Q*.

Above the table *q* and resting at any convenient place upon the machine is the box *A'*, which is designed to hold the filler-tobacco it is desired shall be fed to the machine.

The driving-shaft *B* is provided with the belt-wheel *C* and a clutch *B'*, of usual construction, connected with a foot-treadle *C'*, in order that the shaft *B* may be stopped and started at will. The clutch *B'* with the treadle *C'* form well-known devices and are not essential parts of the present application. When the machine is to be driven by steam, it will be necessary to provide some suitable clutch in order that the driving-shaft *B* may be stopped and started at will; but it must be understood that the present invention is not confined to the source of power which may be adopted for operating it.

In the operation of the machine, the filler-tobacco being within the box *A'* and the plunger *S* being at the front end of the receiver *K*, as illustrated in Fig. 5, the attendant will bunch a suitable quantity of the filler-tobacco in his hand, giving it approximately the proper length, and insert it in the mouth of the receiver *K* between the plunger *S* and front end of the cover *Q*, and then by pressing on the foot-treadle *C'* the shaft *B* will be caused to rotate, and through the instrumentality of the eccentric *b*, rod *a*, arm *Z*, shaft *Y*, and arms *X* the plunger *S* will be thrust inward against the tobacco placed on the receiver *K* and drive the same beneath the cover *Q*, thereby compressing it to the outline formed by said receiver and its cover *Q*. During the revolution of the shaft *B* the plunger *S* is driven inward against the tobacco until the cam-slot *e* meets the arms *V*, connected with the plunger *S*, at which time the plunger *S* will cease its movement and the connecting-rods *g* will cause the knives *i* to bring their cutting-edges downward against and remove any surplus tobacco which may extend beyond the side edges of the receiver *K*. After the arms *X* have completed their movement inward the mechanism will be in the position illustrated in Fig. 4, after which the continued motion of the driving-shaft *B* will, through its eccentric *b* and connecting-rod *a*, return the arms *X* to their initial position, being that illustrated in Fig. 5, and this will have the effect of returning the plunger *S* to its forward position and elevating the cutting-edges of the knives *i*. The driving-shaft *B* will be stopped at the end of each complete revolution, and at each stopping of

the shaft *B* the attendant will feed a given quantity of tobacco to the mouth of the receiver *K* in position to be acted upon by the plunger *S*, and thereby forced beneath the cover *Q* upon the starting of the shaft *B*. The operation of feeding the tobacco and forcing it beneath the cover *Q* is continued until the mold *t* has been completely filled with the tobacco forced into it through the receiver *K*, after which the knife *D'* (see Fig. 2) will be forced between the receiver *K* and the mold *t* in order to sever the tobacco at that point. After this the mold *t* will be removed and another mold of similar description inserted in its place, or the same mold may be emptied of the filler-tobacco and returned to its former position, whereupon the knife *D'* will be thrown from between the receiver *K* and the mold *t* and the operation of feeding the filler-tobacco continued as before. In feeding the tobacco to the receiver *K* it will not be necessary to use extreme care, it being only desirable that a sufficient quantity shall be fed to the receiver to snugly fill the space between it and the cover *Q* under the action of the plunger *S*, the surplus at the ends being constantly cut away by the knives *i*. If an undue quantity of tobacco were fed to the receiver *K* at each operation of the plunger *S*, it is possible that the tobacco would not freely pass to the mold *t*, and hence it will be understood that the feeding of the tobacco will rest largely in the discretion of the attendant.

If it is desired to materially change the shape of the cigar or its length, it will be necessary to provide a receiver *K* and cover *Q* of proper outline, and also a mold *t*, whose interior will correspond with the outline of the receiver *K* and cover *Q*. The operation of changing the receiver *K* with its cover *Q* may be readily accomplished, since the brackets *E F* are adjustable laterally. No difficulty will be experienced in changing the mold *t* and plunger *S* when it is desired to make longer cigars, since they may both be readily detached. The mass of tobacco within the mold *t* and receiver *K* is in the outline in cross-section of the cigar to be produced and is in a compacted condition. The mass of tobacco in the mold *t* will of course have to be subdivided for the bunches, and this may most conveniently be accomplished by severing it into suitable sections by means of an ordinary knife. The sections of the mass of filler-tobacco will approximate the shape of the cigar and be in suitable condition to be immediately rolled.

In the operation of the machine the cuttings from the knives *i* will fall upon an ordinary inclined board or chute *A''*, Fig. 1, and be thereby conducted away.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The covered receiver and the elongated mold in line therewith, combined with the reciprocating plunger and the knives at oppo-



site sides of the receiver to remove the surplus tobacco, substantially as and for the purposes set forth.

2. The covered receiver and the elongated  
5 mold in line therewith, combined with the reciprocating plunger, the rocking arms for actuating said plunger, the knives for severing the surplus tobacco, and the rods connecting said arms with said knives, substantially as  
10 and for the purposes set forth.

3. The pairs of brackets E F, one of each being laterally adjustable, the detachable covered receiver mounted on said brackets, and the detachable elongated mold in line with  
15 said receiver, combined with the reciprocating plunger and the knives for severing the surplus tobacco, substantially as set forth.

4. The receiver and the reciprocating plunger working thereon, combined with the re-  
20 movable elongated mold *t* in line with said receiver and composed of the upper and lower

separable sections *u v*, having concave inner surfaces of an outline in cross-section approximating that of a cigar, substantially as and for the purposes set forth.

5. The covered receiver and the mold in  
25 line therewith, combined with the reciprocating plunger resting on said receiver and having arms extending from its ends, the rocking arms having slots to receive said plunger-  
30 arms, and the knives for severing the surplus tobacco, substantially as and for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 24th day of  
December, A. D. 1890. 35

HENRY SCHMIDT.  
AUGUST MERUNKA.  
CHARLES WERNER.

Witnesses:

CHAS. C. GILL,  
ED. D. MILLER.