

(No Model.)

3 Sheets—Sheet 1.

M. VAN GÜLPEN.
CIGAR BUNCHING MACHINE.

No. 422,325.

Patented Feb. 25, 1890.

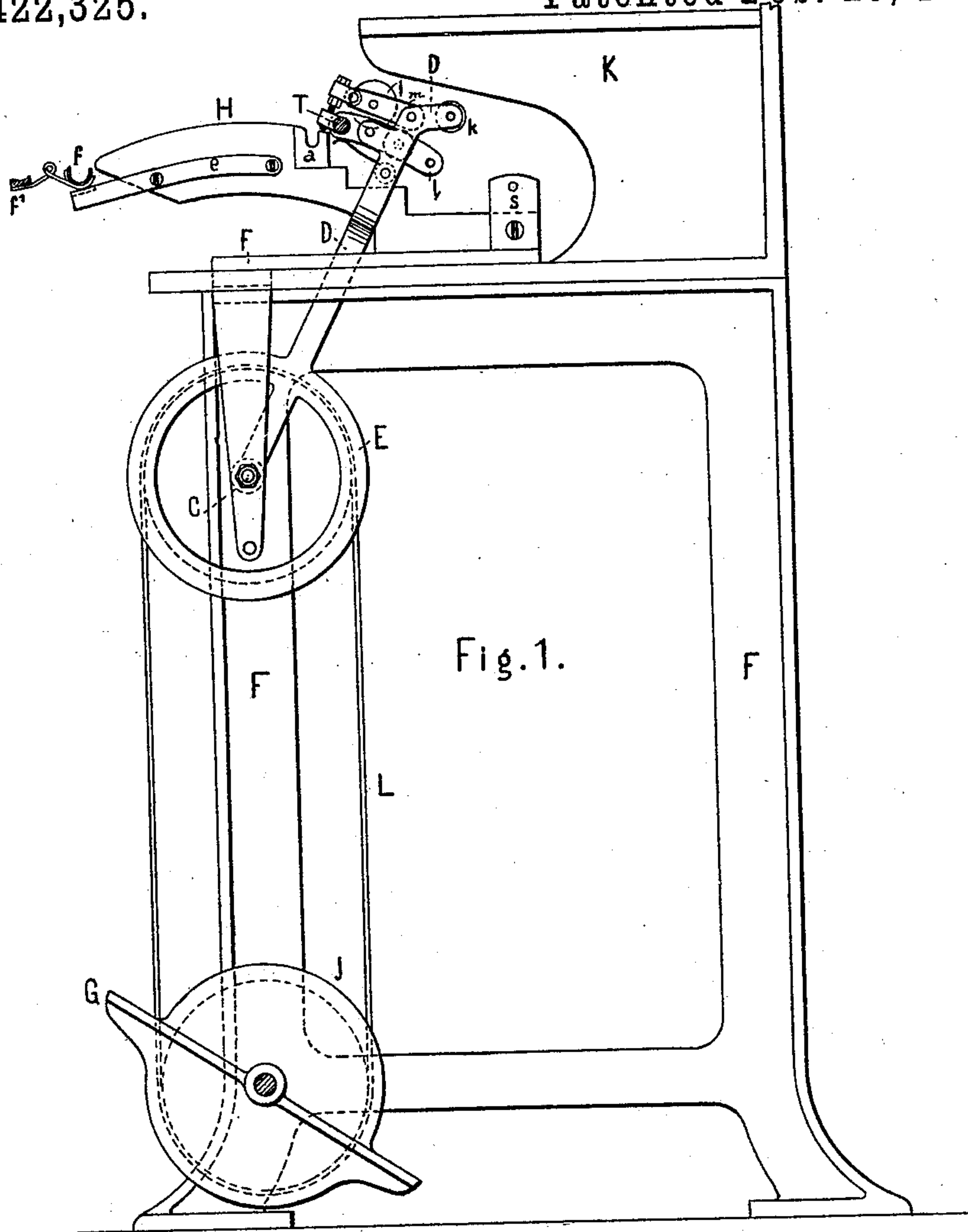


Fig. 1.

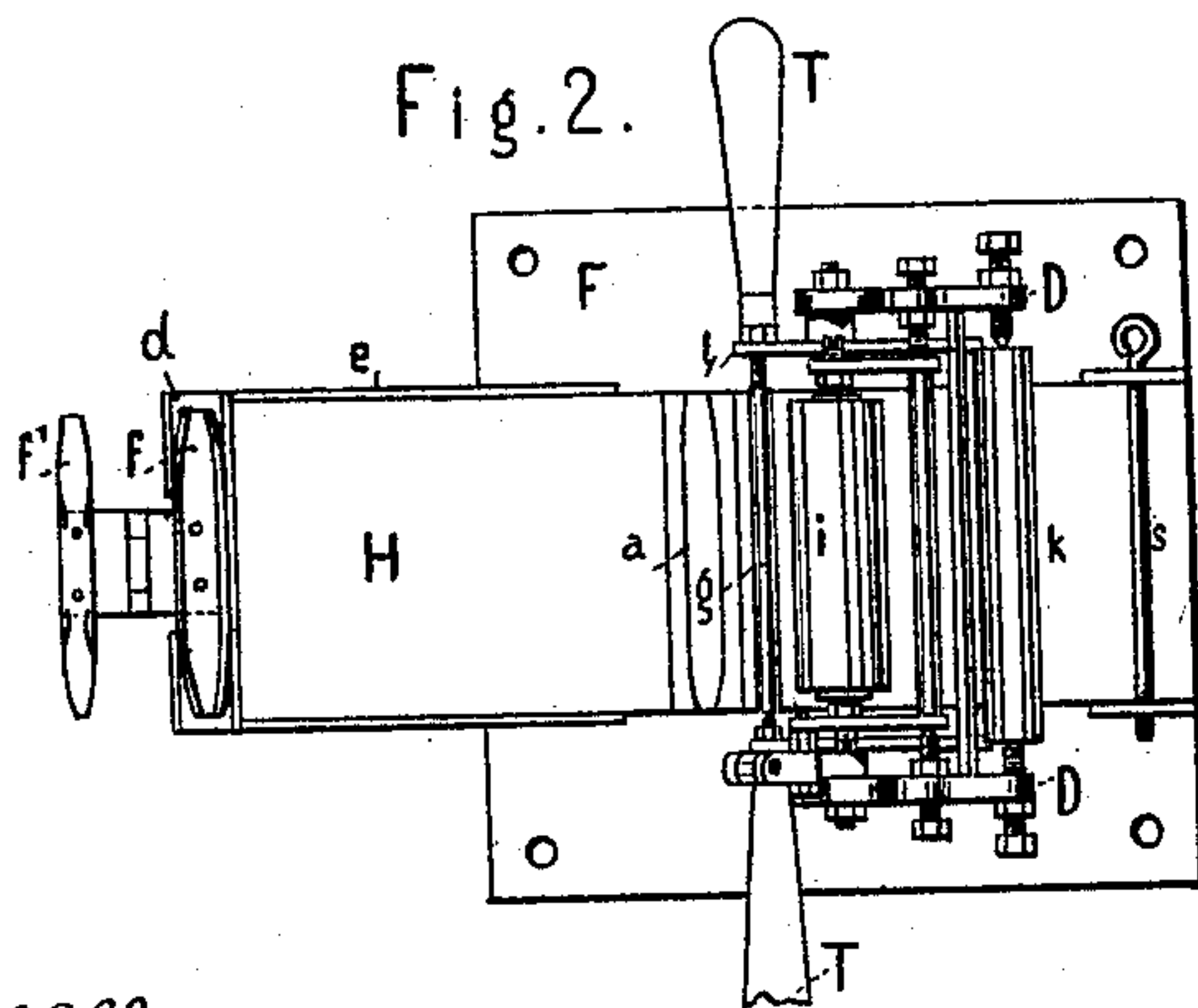
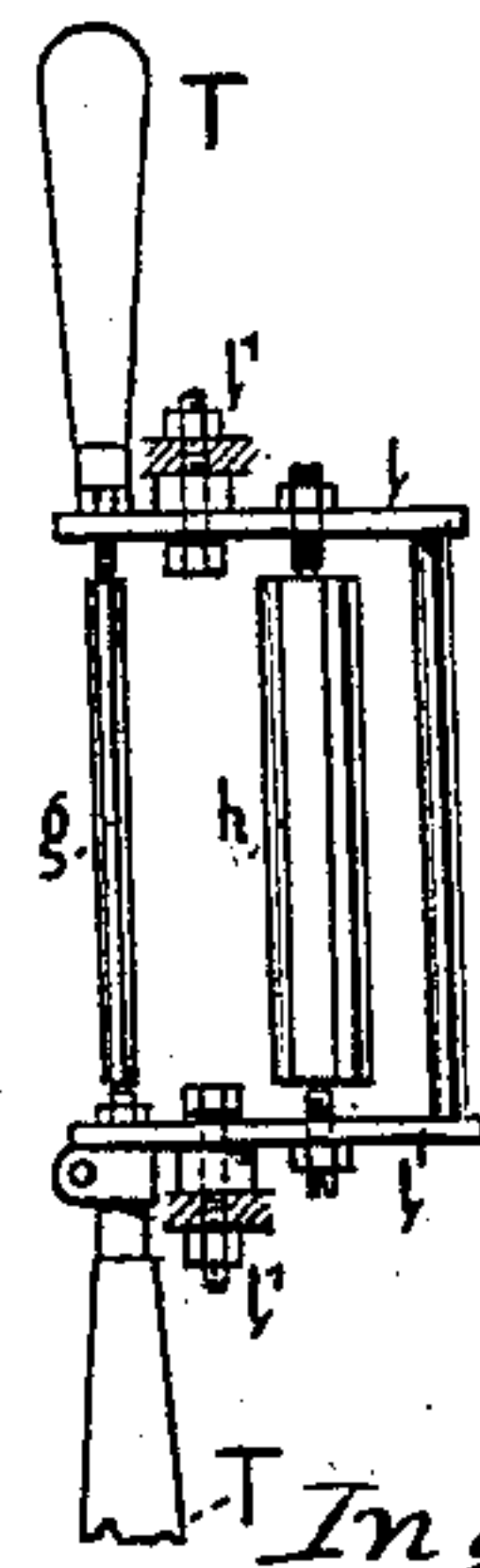


Fig. 2.

Fig. 2^a.



Witnesses:

Ewell & Co.

Will E. Ayrinhbaugh

Inventor.

Max van Gulpen

Lyfuerellus Bailey
his attorney

(No Model.)

M. VAN GÜLPEN.
CIGAR BUNCHING MACHINE.

3 Sheets—Sheet 2.

No. 422,325.

Patented Feb. 25, 1890.

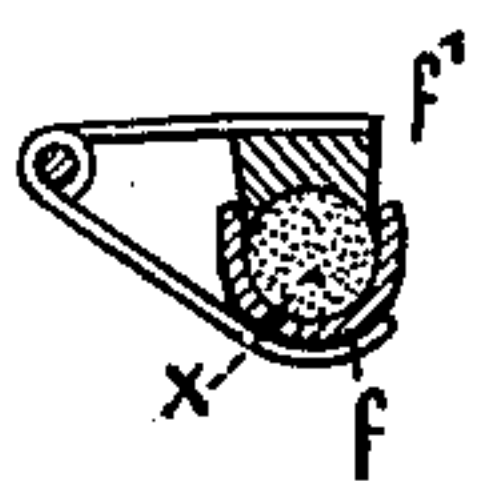
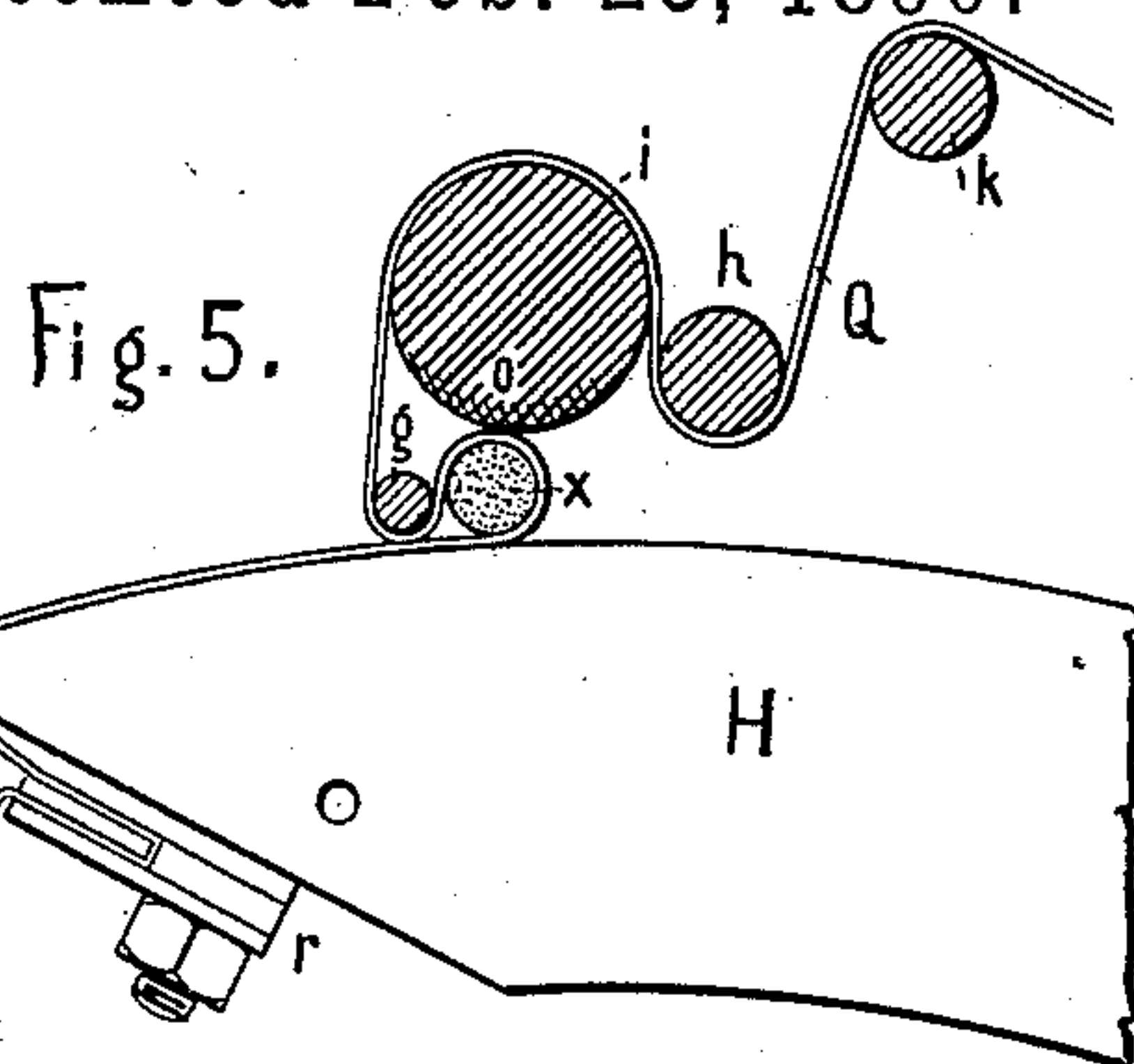
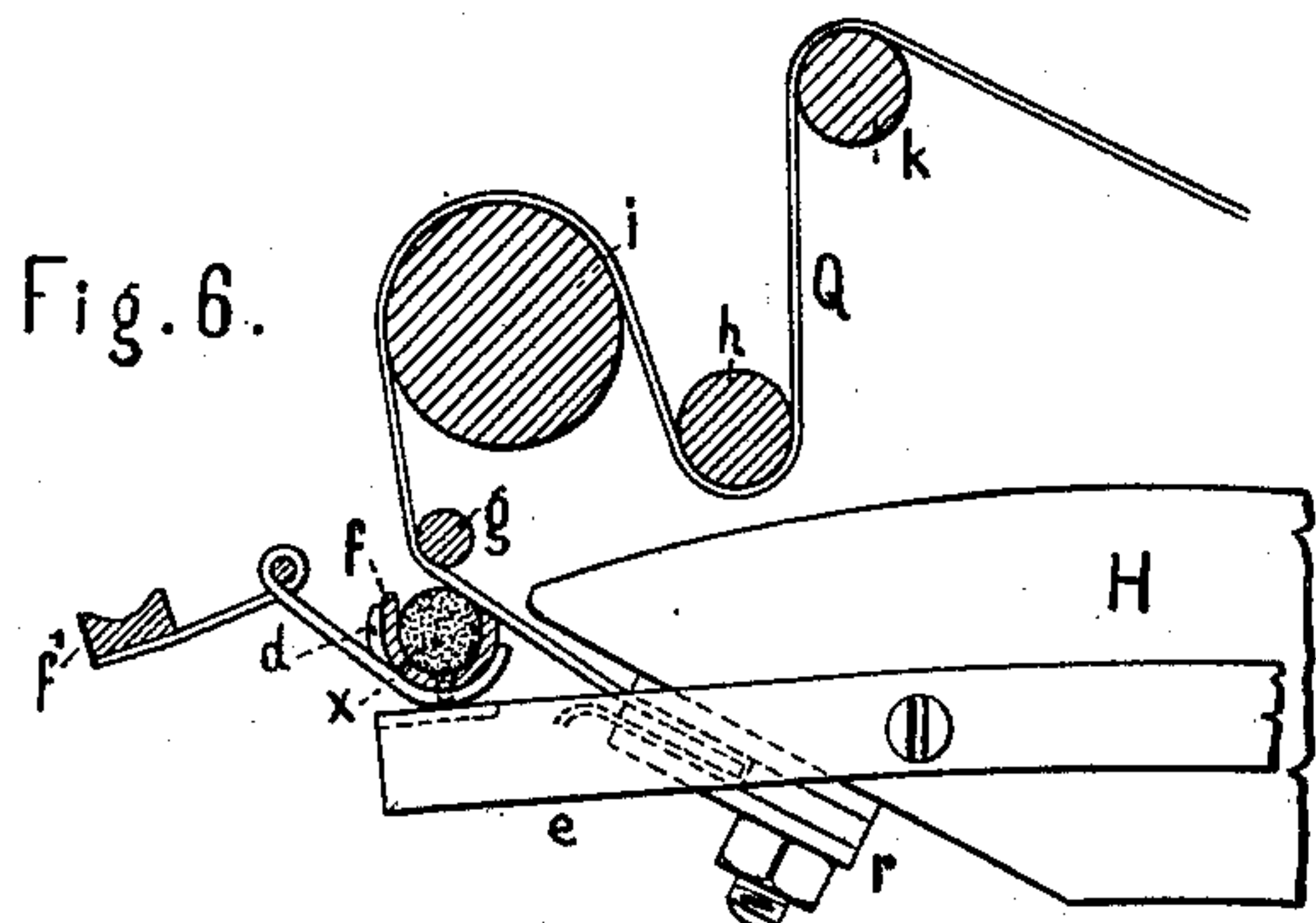


Fig. 7.

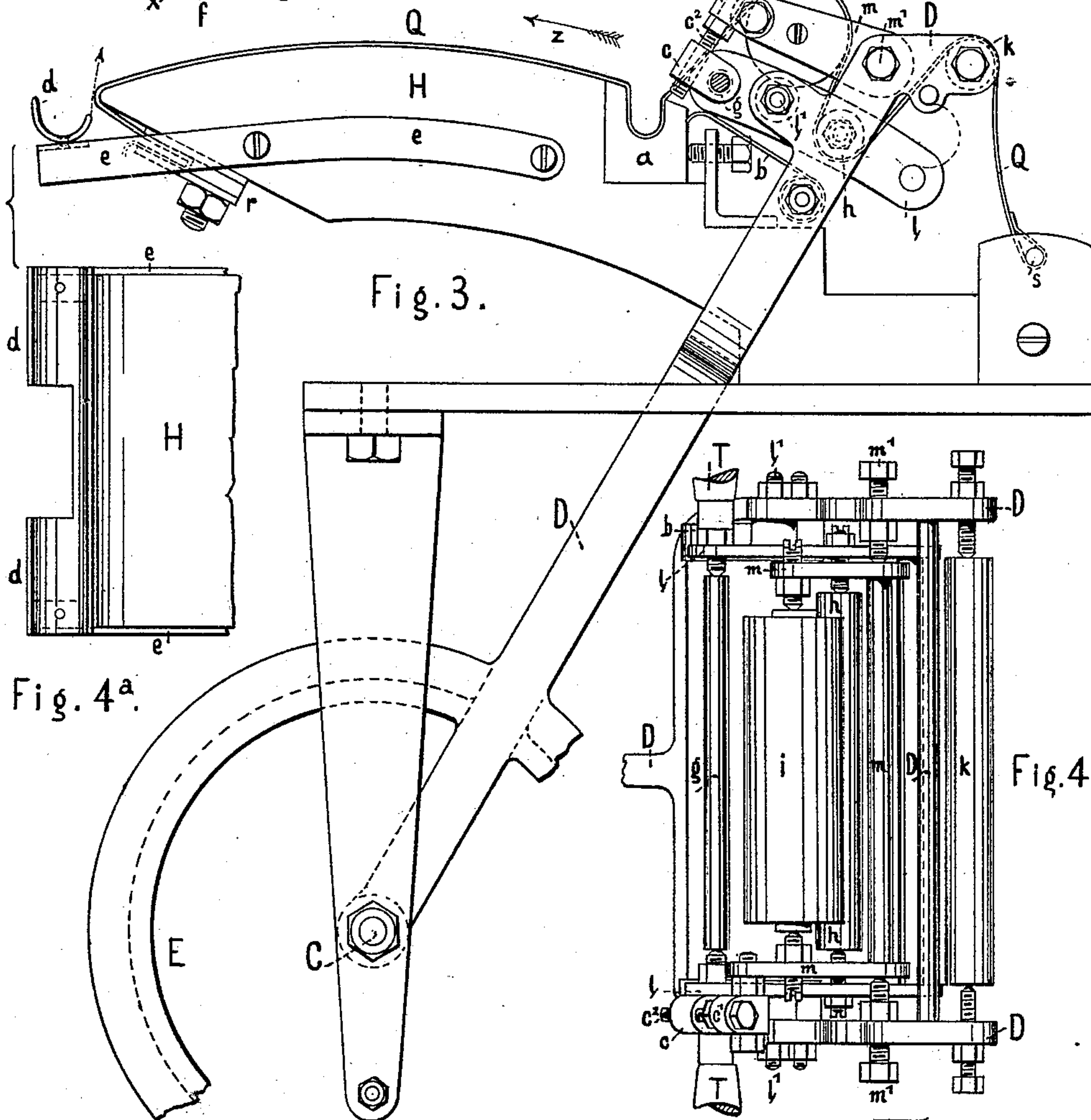


Fig. 3.

Fig. 4^a.

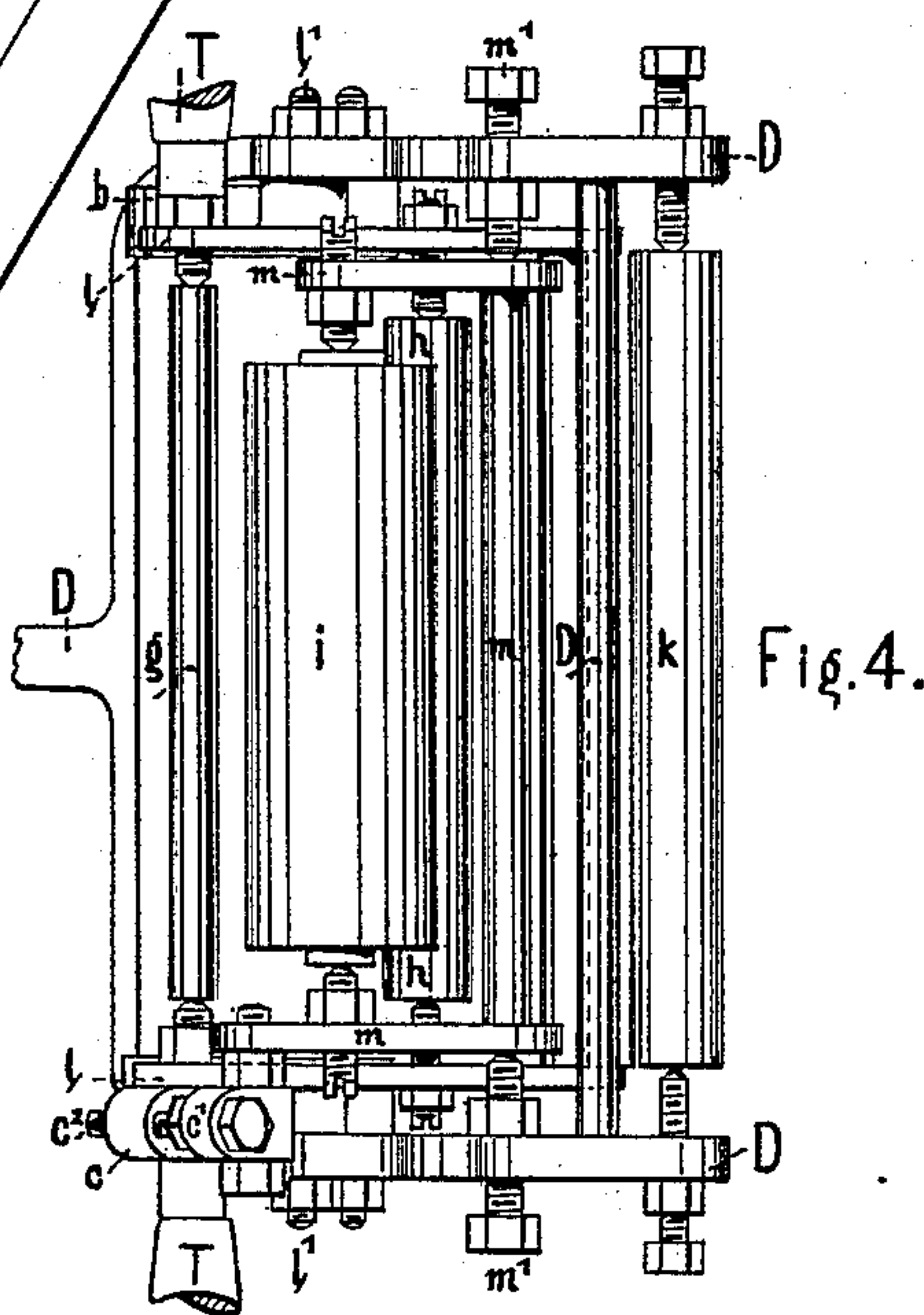


Fig. 4.

Witnesses:
W. L. ...
H. E. ...

Inventor:
Max van Gulpen
by ...

(No Model.)

3 Sheets—Sheet 3.

M. VAN GÜLPEN.
CIGAR BUNCHING MACHINE.

No. 422,325.

Patented Feb. 25, 1890.

Fig. 8.

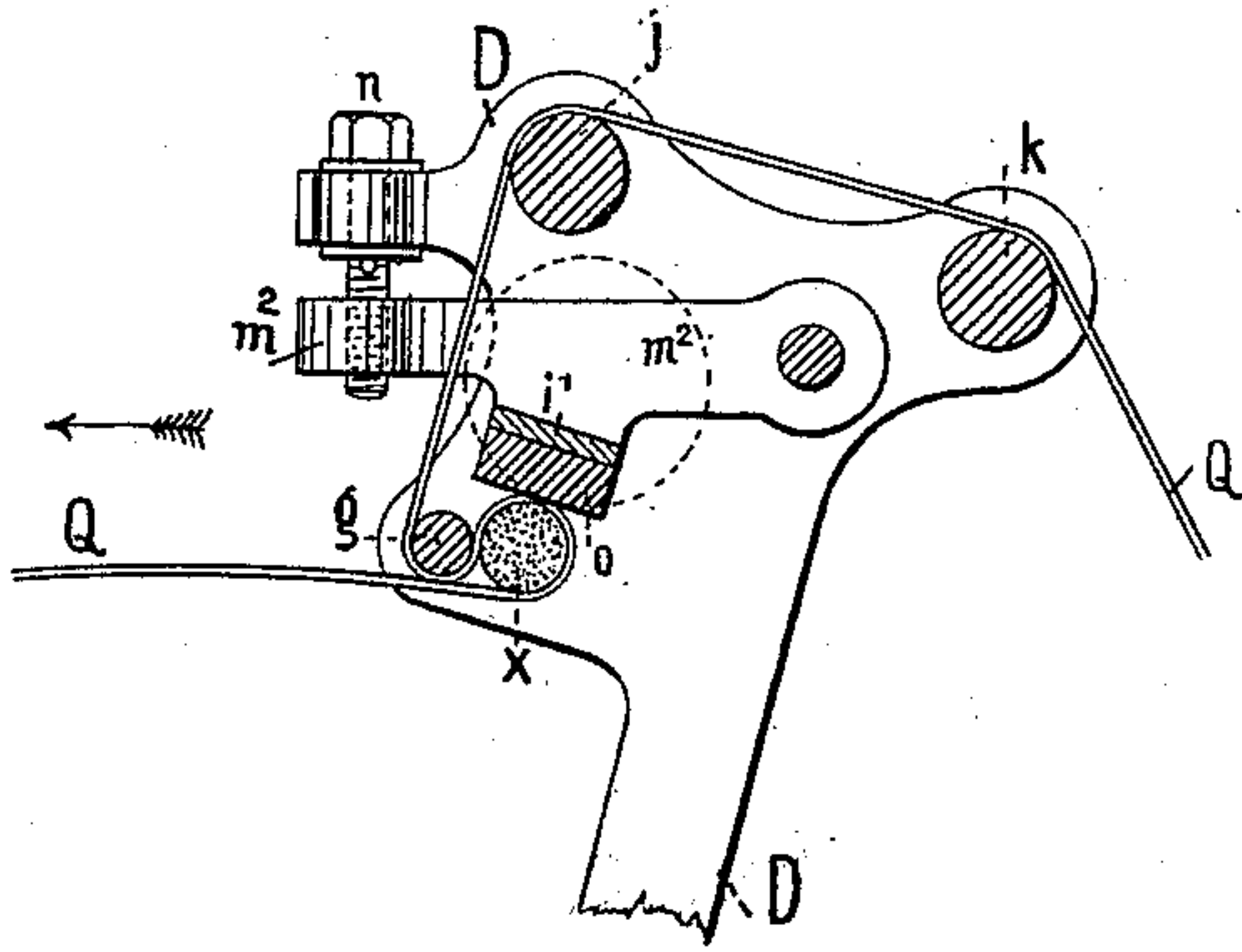


Fig. 9.

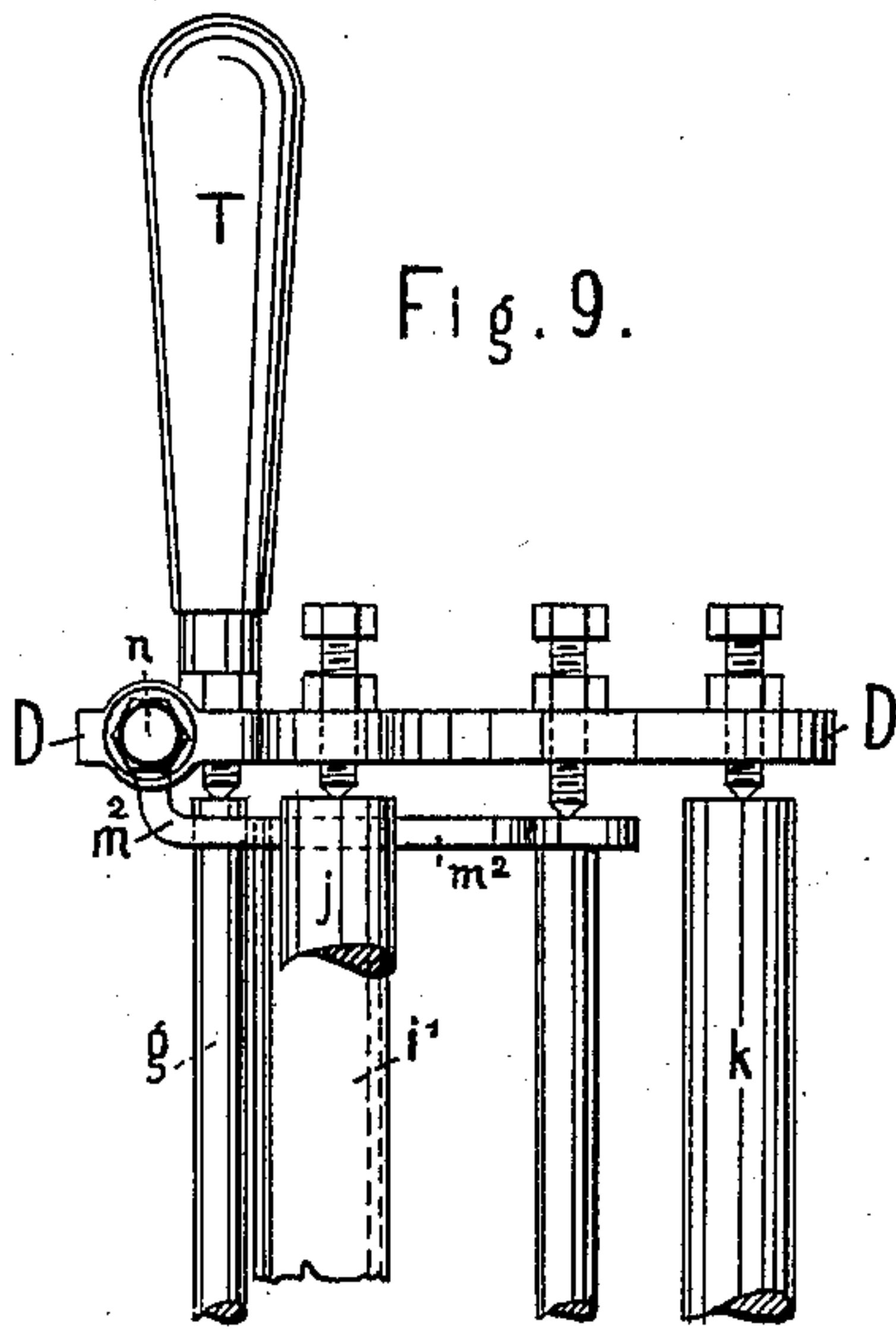
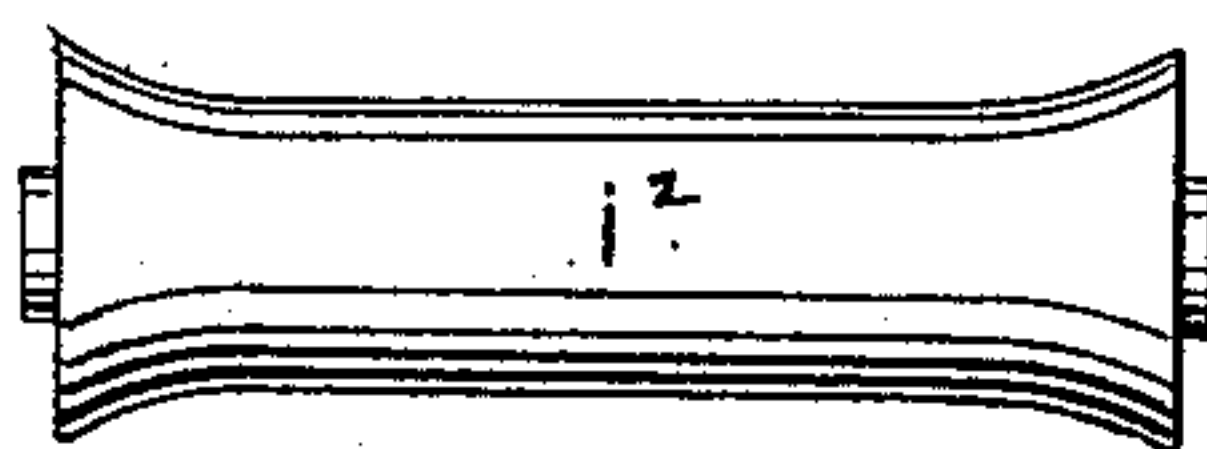


Fig. 10.



Witnesses:

Evellabik
Hill & Aughtrough

Inventor:

Max van Gulpen
by Marcus Bailey
his attorney

UNITED STATES PATENT OFFICE.

MAX VAN GÜLPEN, OF MÜLHEIM-ON-THE-RHINE, PRUSSIA, GERMANY.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 422,325, dated February 25, 1890.

Application filed December 3, 1888. Serial No. 292,502. (No model.) Patented in Germany August 26, 1888, No. 46,361, and in Switzerland November 15, 1888, No. 180.

To all whom it may concern:

Be it known that I, MAX VAN GÜLPEN, a subject of the King of Prussia, residing at Mülheim-on-the-Rhine, Kingdom of Prussia, Germany, have invented new and useful Improvements in Cigar-Bunching Machines, (for which I have obtained German Letters Patent No. 46,361, dated August 26, 1888, and Swiss Letters Patent No. 180, dated November 15, 1888,) whereof the following is a specification.

My invention relates to cigar-bunching machines that work by means of an apron fixed at its ends to a table, and of a traveling frame carrying a roller (which I shall call the "bunching-roller") whereby the tobacco placed in a bight of the apron is caused to be rolled within the latter.

The object of the invention is to produce bunches that are more perfect and uniform than those heretofore made by means of machines and ordinary molds, and which are like bunches made by hand, the said object being attained by first converting the loose tobacco into a molded filler or roll of suitable compactness, then covering the filler thus obtained with the binder, whereby a bunch is produced, and finally depositing the bunch by means of the apron in a mold, in which it is finished relatively to its outer form and in which it may be conveyed without deformation to the workman who has to put on the wrapper. For this purpose the aforesaid traveling frame is provided with a pressing-surface formed either upon a roller or upon a plate or block and arranged to press on the filler while being rolled, in view of making it more compact and simultaneously rendering the air-passages of the same more uniform. Moreover, the bunching-roller is journaled, together with an auxiliary roller, in an oscillating frame pivoted to the traveling frame, and the apron is conducted by other rollers around the aforesaid rollers and over the pressing-surface in such manner that the bunching-roller may be raised and depressed to a certain extent without altering the tension of the apron, the bunching-roller being depressed during the operation of forming the filler and raised when the binder is applied to the latter.

The machine is provided with means for actuating its parts by hand when a filler is made and by the foot when the filler is wrapped into the binder. Besides, it is fitted at the delivery end of the table with brackets or the like for holding the aforesaid mold into which the bunch is deposited.

In the annexed drawings, Figure 1 is a side view of the complete machine, the apron being omitted. Fig. 2 is a top view corresponding to Fig. 1, and Fig. 2^a a detail top view of the frame carrying the bunching-roller and the aforesaid auxiliary roller. Fig. 3 is a side view of the upper portion of the machine, drawn to a larger scale. Figs. 4 and 4^a are plans corresponding to portions of Fig. 3. Fig. 5 is a sectional view showing the rollers in a position different from that in which they are represented in Fig. 3. Fig. 6 is a view showing the rollers at the end of their course, the apron having delivered the bunch into the mold. Fig. 7 is a transverse section of the mold in closed state. Figs. 8, 9, and 10 show modifications of some of the parts of the machine.

In Fig. 1, F is the frame of the machine; H, the working-table, fixed thereto and formed in an arc of a circle; D, the traveling frame, pivoted to the frame F in the center C of the surface of the table H; E, a pulley-secured to the frame D, and I a pulley carrying the treadle G and connected by a chain or strap to the pulley E, so that the frame D may be moved toward the delivery or left-hand end of the table by the foot of the operator.

K is a shelf for a supply of tobacco.

Q, Fig. 3, is the apron, fixed at points s and r to the table H; a, the recess in the latter into which the slack portion of the apron is bent, so as to form the bight for receiving the tobacco from which the filler f is to be made, and g (see also Figs. 4 and 5) the aforesaid bunching-roller, which, on being moved in the direction of the arrow z, draws the apron around the tobacco, lifts the tobacco by means of the apron out of the recess a, and by repeated motions forward and backward causes the tobacco to be rolled, so as to form the filler.

The main parts mentioned are substantially like those of other machines of the same

kind; but in addition to the roller *g* the machine is fitted with the roller *i*, whose lower surface *o* is the pressing-surface, the auxiliary roller *h*, and the guiding-roller *k*, the apron *Q* being passed from its point of fixture *s* around these rollers to the roller *g* in the manner shown by the drawings. Moreover, the roller *g* is not pivoted directly to the traveling frame *D*, but it is centered, together with the roller *h*, in a frame *l*, mounted in the said frame *D* on pivots *l'*, that are in the middle between the pivots or centers of the rollers *g* and *h*. In consequence of this arrangement the roller *g* may be depressed and raised without altering the tension of the apron, the roller *h* paying out as much cloth as the roller *g* takes up, and vice versa. The frame *l* is acted upon at its forward end by a spring *b*, Figs. 3 and 4, which normally keeps the roller *g* raised. The pressing-roller *i* is mounted in another frame *m*, pivoted to the frame *D* at *m'* and connected by a link to the frame *l*, the said link being composed of the two pivoting parts *c c'* and of the screw *c²*, whereby the length of the link may be regulated. The position of the roller *i* is so adjusted relatively to the roller *g* that when the latter is depressed for making a filler the roller *i* will press on the filler *f* by its surface *o*, as shown in Fig. 5. By means of this pressure a more perfect filler is obtained. The motion of the frame *D* required in forming a filler and the simultaneous depression of the rollers *g* and *i* are produced by hand through the medium of the handles *T*, attached to the frame *l*.

After a filler has been made, the frame *D* is moved back until the former is within a short distance of the recess *a* and the handles *T* are released. The roller *g*, being thus liberated from the pressure of the hands, is raised by the spring *b*, so that sufficient space is obtained between the roller and the apron to permit the binder to be easily introduced to the filler. The operator then spreads out the binder on the apron, and while keeping it smooth with his hands he moves the frame *D* forward by a pressure of the foot on the treadle *G*, and thereby rolls the filler into the binder, the roller *g* meanwhile remaining in its uppermost position.

It will have become evident from the foregoing that the capability of the roller *g* of moving up and down is not in itself of influence on the individual operations of forming the filler and applying the binder thereto; but it renders the machine capable of being used for first making the filler and then enveloping it in the binder, whereby cigar-bunches are produced which are similar to hand-made bunches and superior to those made on machines by rolling the loose tobacco at once into the binder.

At its delivery end the table is provided with a concave holder *d*, carried by brackets *e* and serving to receive a mold *f*, having the form of the finished cigar, and to which is hinged a lid or counter-mold part *f'*. The

said holder is so arranged that the bunch on being delivered by the apron (see Fig. 6) is deposited in the mold *f*, and is thus protected against deformation or an unrolling of the binder. After the lid *f'* has been closed, as shown by Fig. 7, the mold is conveyed with the bunch in it to the operator who has to put on the wrapper, and another mold is placed into the holder.

The pressing-surface *o*, which, according to the foregoing description of the machine, is the surface of the roller, may be formed by a plate or block *i'*, Figs. 8 and 9, fixed to a frame *m²*, which is an equivalent of the frame *m* in Figs. 3 and 4. In this case, however, a special roller *j* is required for conducting the apron away over the pressing-plate. The said Figs. 8 and 9 besides show another modification, consisting in the omission of the frame *l* and roller *h*, the roller *g* being pivoted in the frame *D*, as usual. This arrangement is available in machines not designed for separately carrying out the operations of forming the filler and wrapping the same into the binder, but which are to be provided with the pressing-surface, whether the latter is formed by the plate *i'* or by the roller *i*. (Shown in Fig. 8 by a dotted circle.)

For allowing the pressing-surface to be adjusted to the thickness of the bunch required the cheeks of the frame *m²* are bent outward at their ends and connected each to a projection of the frame *D* by a regulating-screw *n*.

Fig. 10 shows a pressing-roller *i²*, molded to correspond to the form of a cigar. If a roller of this form is employed, it is necessary in all cases to conduct the apron away over the same by means of a special cylindrical roller, such as the roller *j*, Fig. 8.

The pressing plate or roller may be made of any suitable material; but it is advantageous to face the same with india-rubber, in view of imparting to it a slight degree of elasticity.

I claim as my invention—

1. In a cigar-bunching machine, the combination of the table *H*, having the recess *a*, traveling frame *D*, apron *Q*, fixed to the table at the points *s* and *r*, bunching-roller *g*, and a pressing-surface, both carried by the frame *D*, the said surface being adapted to bear on the filler of the cigar-bunch while being rolled, and a roller or rollers also carried by the frame *D*, and whereby the apron is conducted from its point of fixture *s* over the pressing-surface to the roller *g*, substantially as and for the purpose described.

2. In a cigar-bunching machine, the combination of the table *H*, having the recess *a*, traveling frame *D*, apron *Q*, fixed to the table at the points *s* and *r*, frame *l*, pivoted at *l'* to the frame *D*, rollers *g* and *h*, centered in the frame *l*, a pressing-surface carried by the frame *D* and adapted to bear on the filler of the cigar-bunch while being rolled, and rollers also carried by frame *D*, and whereby the

apron is conducted from its point of fixture *s* to the roller *h*, and thence over the pressing-surface to the roller *g*, substantially as and for the purpose specified.

5 3. In a cigar-bunching machine, the combination of the table *H*, having the recess *a*, traveling frame *D*, bunching-roller *g*, carried by the frame *D*, apron *Q*, fixed to the table at the points *s* and *r*, and roller *i*, also carried
10 by the frame *D* and adapted to bear on the filler of the cigar-bunch while being formed, the apron being conducted from its point of fixture *s* over the roller *i* to the roller *g*, substantially as and for the purpose set forth.

15 4. In a cigar-bunching machine, the combination of the table *H*, having the recess *a*, traveling frame *D*, apron *Q*, fixed to the table at the points *s* and *r*, frame *l*, pivoted at *l'* to the frame *D*, rollers *g* and *h*, centered in the
20 frame *l*, rollers *i* and *k*, carried by the frame *D*, handles *T*, and spring *b*, the apron being passed in succession around the rollers *k*, *h*, and *i* to the roller *g*, substantially as and for the purpose described.

25 5. In a cigar-bunching machine, the combination of the table *H*, having the recess *a*, traveling frame *D*, apron *Q*, fixed to the table at the points *s* and *r*, frames *l* and *m*, pivoted to the frame *D*, rollers *g* and *h*, centered in
30 the frame *l*, roller *i*, centered in the frame *m*, and roller *k*, carried by frame *D*, a link connecting together the frames *l* and *m*, handles

T, and spring *b*, the apron being passed in succession around the rollers *k*, *h*, and *i* to the roller *g*, substantially as and for the purpose specified. 35

6. In a cigar-bunching machine, the combination of the table *H*, having the recess *a*, traveling frame *D*, apron *Q*, fixed to the table at the points *s* and *r*, bunching-roller *g* and
40 a pressing-surface both carried by frame *D*, the said surface being adapted to bear on the filler of the bunch while being rolled, a roller or rollers also carried by the frame *D*, and whereby the apron is conducted from its point
45 of fixture *s* over the pressing-surface to the roller *g*, treadle *G*, and means of connection between the treadle and the frame *D*, substantially as and for the purpose set forth.

7. In a cigar-bunching machine, the combination of a table *H*, having the recess *a* and
50 holder *d*, the traveling frame *D*, bunching-roller *g*, carried by said frame, apron *Q*, fixed to the table at the points *s* and *r*, and the removable bunch-mold *f*, having a lid *f'* hinged
55 thereto, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

MAX VAN GÜLPEN.

Witnesses:

GUSTAV ALBERT OELRICHS,
WM. D. WAMER.