(No Model.) 2 Sheets—Sheet 1.

A. C. SCHUTZ.

CIGAR BUNCHING MACHINE.

No. 390,258. Patented Oct. 2, 1888.

Fig. 1.

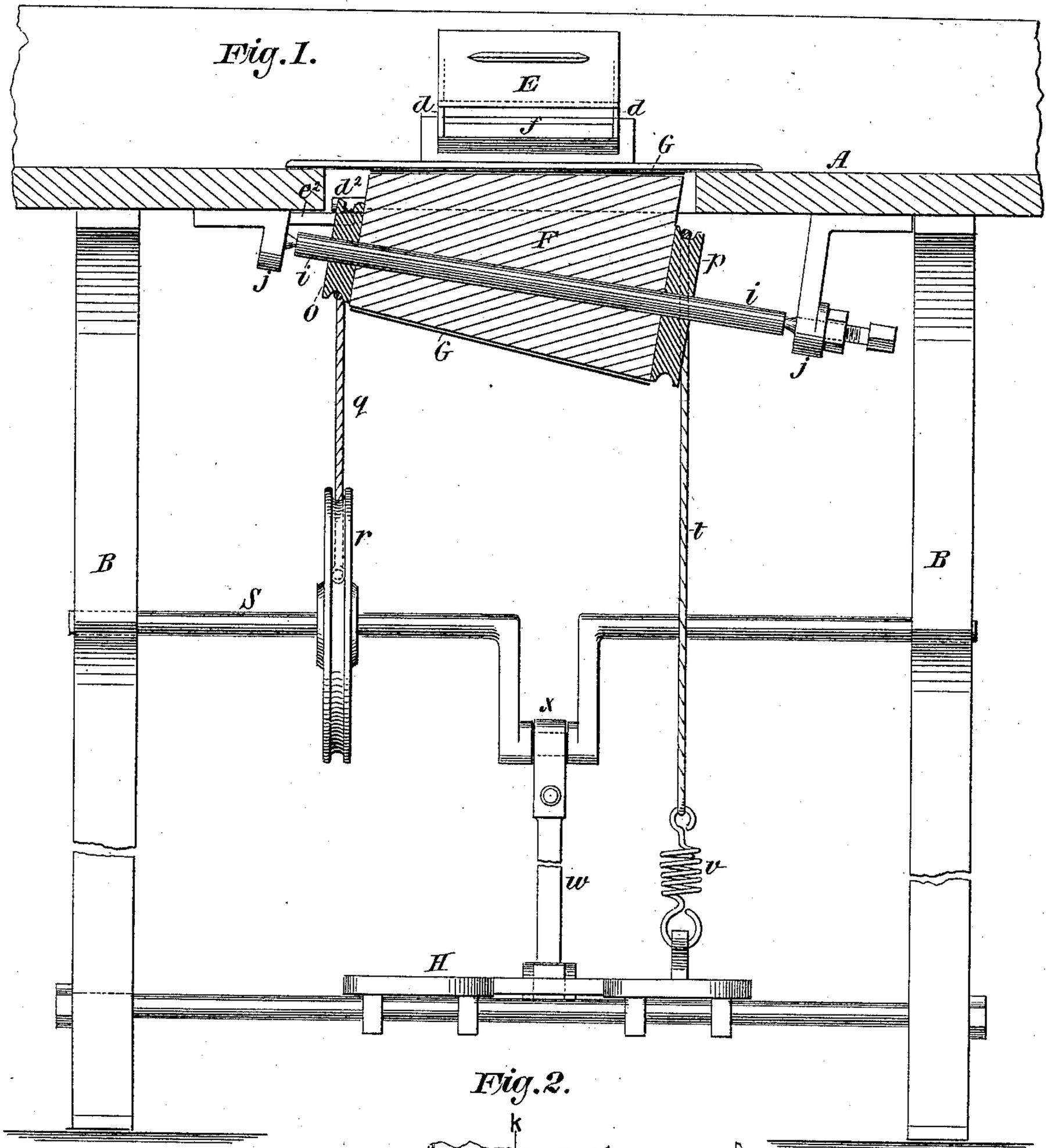
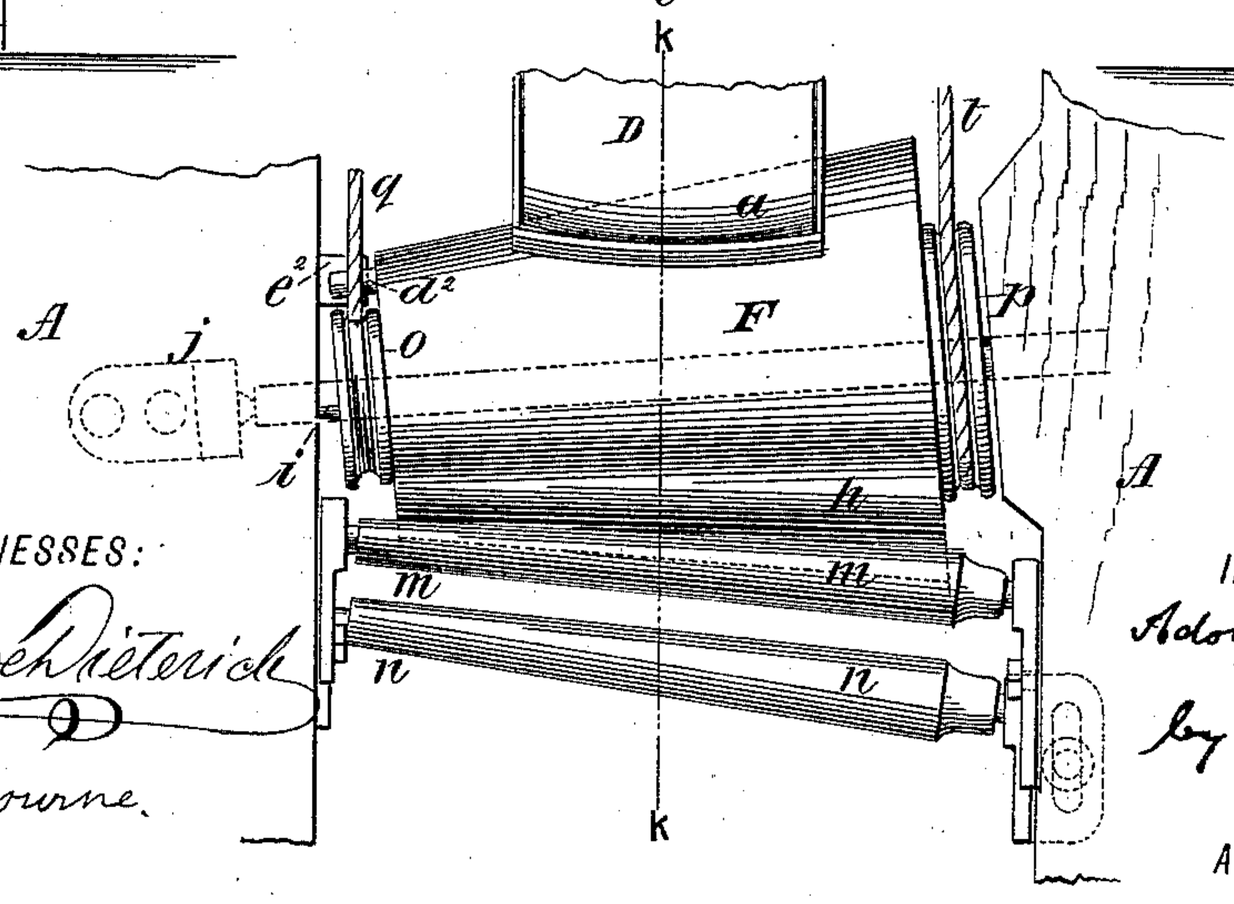


Fig. 2.



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

A. C. SCHUTZ.

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Fig. 3.

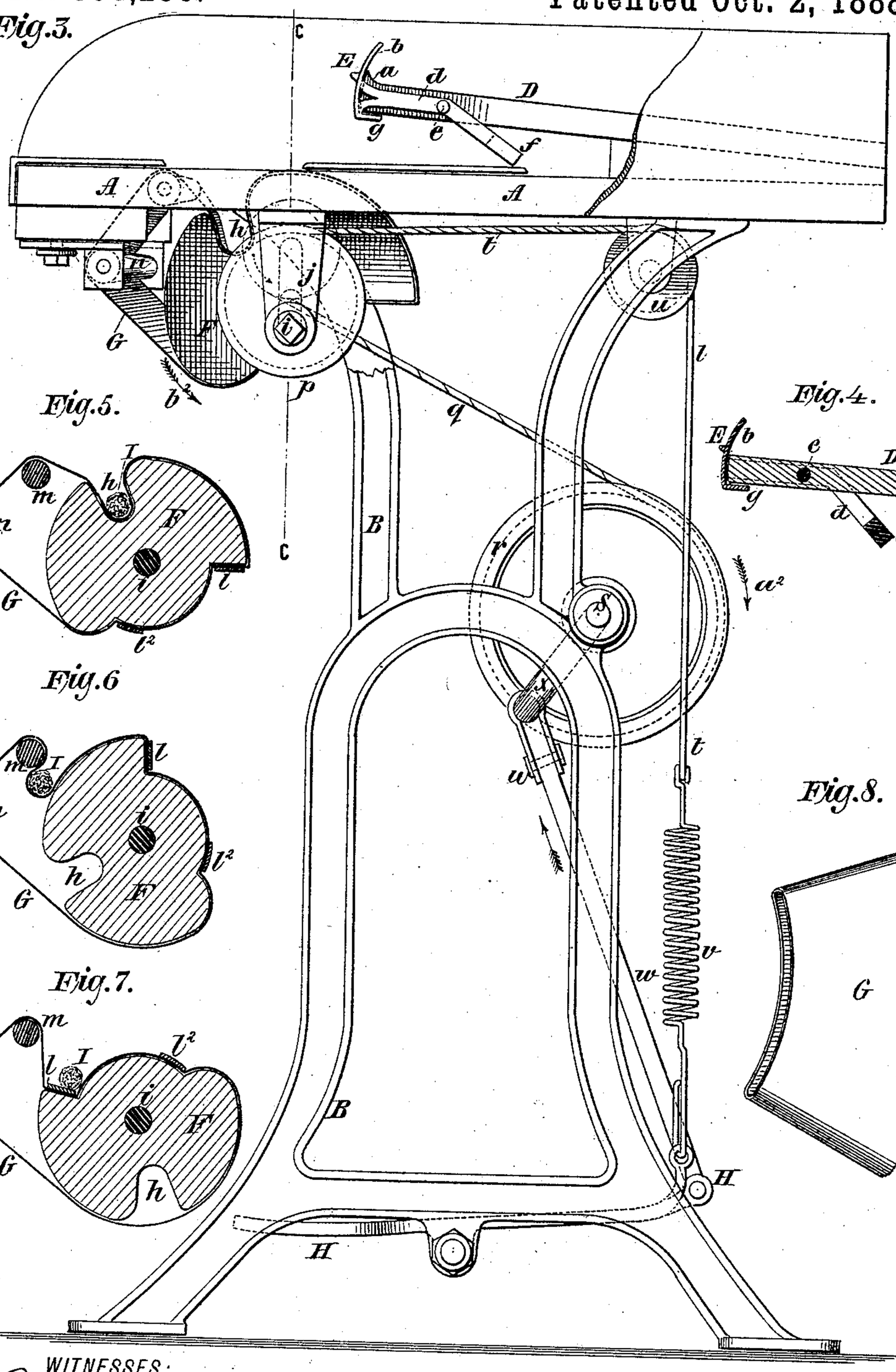

Fig. 5.

Fig. 4.

Fig. 6

Fig. 7.

Fig. 8.

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UNITED STATES PATENT OFFICE.

ADOLPH C. SCHUTZ, OF BROOKLYN, ASSIGNOR TO THE NATIONAL PROGRESS BUNCHING MACHINE COMPANY, OF NEW YORK, N. Y.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 390,258, dated October 2, 1888.

Application filed November 30, 1887. Serial No. 256,503. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH C. SCHUTZ, of the city of Brooklyn, Kings county, New York, have invented an Improved Cigar-Bunching Machine, of which the following is a specification.

The object of my invention is to provide an improved bunch-former or "mechanical hand" wherein the tobacco is placed to form a bunch or filler; also, to provide an improved device for rolling and shaping the cigar-bunch and at the same time applying a binder to the bunch.

The invention consists in the novel arrangement and combinations of parts that will be more fully hereinafter set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation, partly in section, (on the line *c c*, Fig. 3,) of my improved cigar-forming apparatus. Fig. 2 is a plan view, partly broken away, showing the rollers for shaping the cigar-bunch, the rolling-apron being removed, also showing part of my improved bunch-former. Fig. 3 is a side elevation of my improved apparatus, part of one side of the table being broken away, disclosing my improved bunch-former or mechanical hand. Fig. 4 is a sectional side elevation of a modification of the bunch-former. Figs. 5, 6, and 7 are detail end views of the rollers for shaping and rolling the bunch, shown in the different positions they assume when rolling a cigar-bunch; and Fig. 8 is a perspective view of the apron for rolling the bunch, drawn on a reduced scale.

In the accompanying drawings, A represents a table or board supported on a suitable frame, B.

D represents a board or plate whose width is designed to be equal to the length of the filler of a cigar. This plate or board D is to be so placed that one end is within convenient reach of the operator, and at this end the board D has an upwardly-curved part or lip, *a*, which is concave on its inner side, as in Fig. 3.

E is a curved plate placed when used against the outer side of the lip *a*.

The upper part, *b*, of the plate E projects somewhat above the lip *a* and is curved inward, as shown in Figs. 3 and 4. The curved plate E is secured to levers or arms *d*, which are pivoted at *e* to the sides of the plate D. The levers *d* carry a weight, *f*, or analogous spring, which tends to raise the plate E. A flange or stop, *g*, limits the upward motion of the curved plate E.

Instead of making the plate E movable on D, E may be made stationary and D movable, their relative displacement being only used to facilitate the discharge of the filler from the plate D.

The parts D E *a b* in the position shown in Fig. 3 form what I term a "mechanical hand," in which the tobacco-leaves to form a bunch are placed. The curved lip *a* and the movable plate E conform to the shape of one side of a cigar.

In forming a cigar bunch or filler the tobacco-leaves are placed in the mechanical hand D E and against the concave parts *a* or *b*, or both, and there made into the required shape by the operator, any ends of the tobacco that project over the edges of the plate D being torn off along the edge of the plate D or E, whereby the length of the bunch is determined. When a sufficient quantity of tobacco to form a filler has been placed in the former or mechanical hand, the movable curved plate E is crowded down by hand till its upper edge is even with or below the upper face of the lip *a*. The bunch may now be readily removed from the former without altering the shape thereof by drawing it over the top of the lip *a*, and it is then placed in the cavity *h* of a roller and shaper, F. In the modification shown in Fig. 4 the curved lip *a* of the plate D is replaced by the upper part, *b*, of the movable plate E, which serves the same purpose in conjunction with the plate D; but when a lip *a* of proper size is used the movable plate E may be dispensed with.

The bunch is formed in the mechanical hand shown in Fig. 4 in manner similar to that described with reference to Figs. 1, 2, and 3. The roller F is of tapering or conical form, as shown, for the purpose of carrying a sector-shaped apron, G, the cavity *h* in the roller be-

ing also tapering, to conform with the tapering loop or pocket made by the slack of the apron in said cavity. By using a sector-shaped apron I am enabled to form a tapering loop for the bunch, said tapering loop being used to roll a tapering bunch. The roller F is mounted upon a shaft, *i*, that is hung in bearings *j* on the under side of the table A. The roller F is preferably set at such an angle, as shown in Fig. 1, that the surface of the roller will be about on a level with the table A and may project through an opening therein. The sector-shaped apron G is secured to the roller F by screws or otherwise, as at *l l*², preferably on the side opposite the cavity *h*. The apron G also passes over two tapering rollers, *m n*, that are hung in suitable bearings on the under side of the table A. The rollers *m n* are made tapering to help support the sector-shaped apron and to conform to the shape of the roller F. The bearings for the rollers *m n* are preferably adjustable. (See Fig. 2.) The roller *m* is placed somewhat close to the roller F, while the roller *n* is placed at a distance, so as to take up the slack of the apron when the cigar-bunch is being rolled; also to leave room for the bunch. The apron G covers the cavity *h* in the roller F.

The roller F may be turned to roll the bunch and apply the binder by hand, foot-power, or otherwise, as desired. In the drawings I have shown a foot-power arrangement for turning the roller, which is as follows: Secured to the ends of the roller F are two rollers or pulleys, *o p*. To the roller *o* on the under side is secured a cord or strap, *q*. The opposite end of the cord *q* is secured to a wheel, *r*, mounted on a shaft, S, hung in the frame B. To the pulley *p* on its upper side is secured a cord or strap, *t*. The cord *t* passes over a pulley, *u*, hung in bearings on the table A, and is secured at its opposite end to a spring, *v*, carried by a treadle, H, pivoted in the frame B; or it may be secured directly to the treadle, or a weight may be used in place of the spring. The treadle H is connected by means of a rod, *w*, with a crank, *x*, on the shaft S.

My improved machine operates as follows: The bunch is first formed in the mechanical hand or former D *a* or D *a* E, as before explained. It is then placed upon the apron G and pressed into the cavity *h*, as in Fig. 5, a binder for the bunch being first placed over the cavity *h* and upon the apron. The wheel *r* is now turned in the direction of the arrow *a*², Fig. 3, by raising the rod *w*, which draws upon the strap *q*, turning the roller F in the direction of the arrow *b*², Fig. 3. As the roller F continues to revolve, the cigar-bunch I will be rolled by the apron G, between the rollers F and *m*, until the point *l* is reached, when the bunch will be freed from the apron, as in Fig. 7, and may be readily removed from the roller. A pin, *d*², on the roller F at this moment strikes a stop, *e*², on the table A, which limits further forward movement of the roller F; but any other suitable stop may be used for this purpose. The cavity *h* is now in the downward position, as shown in Fig. 7. The roller F will be returned to the first position (shown in side view in Figs. 3 and 5) by the downward movement of the treadle H, drawing upon the cord *t*.

Cigar-bunches made by this machine will have good shape, being formed into a proper taper by the conical or tapered rollers F *m* and the sector-shaped apron G. By adjusting the rollers *m n* with relation to the roller F bunches may be formed having any desired taper or shape.

It is evident that the mechanical hand herein shown could be used in connection with rollers of other form, if preferred.

The machine is of advantage over hand-bunching, because it produces the fillers of substantially equal lengths; and also because in the concave lip of the plate D each filler is given the same desired bulge.

Having now described my invention, what I claim is—

1. The plate D, having concave lip *a*, combined with the curved plate E, part of which projects over the lip *a*, one of said plates being movable on the other, substantially as described.

2. The plate D, combined with the movable plate E, having curved part *b*, which projects over the plate D, substantially as described.

3. The bunch former plate D and plate E, having curved part *b*, that projects over the plate D, combined with the roller F, having bunch-cavity *h* and apron G, substantially as herein shown and described.

4. The combination of the tapering roller F, having tapering bunch-cavity *h*, sector-shaped apron G, carried by the roller F, and tapering rollers *m* and *n*, all arranged for operation substantially as herein shown and described.

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Witnesses:
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GUSTAV SCHNEPPÉ.