

D. W. De FOREST.
Machines for Rolling Tobacco.

No. 139,375.

Patented May 27, 1873.

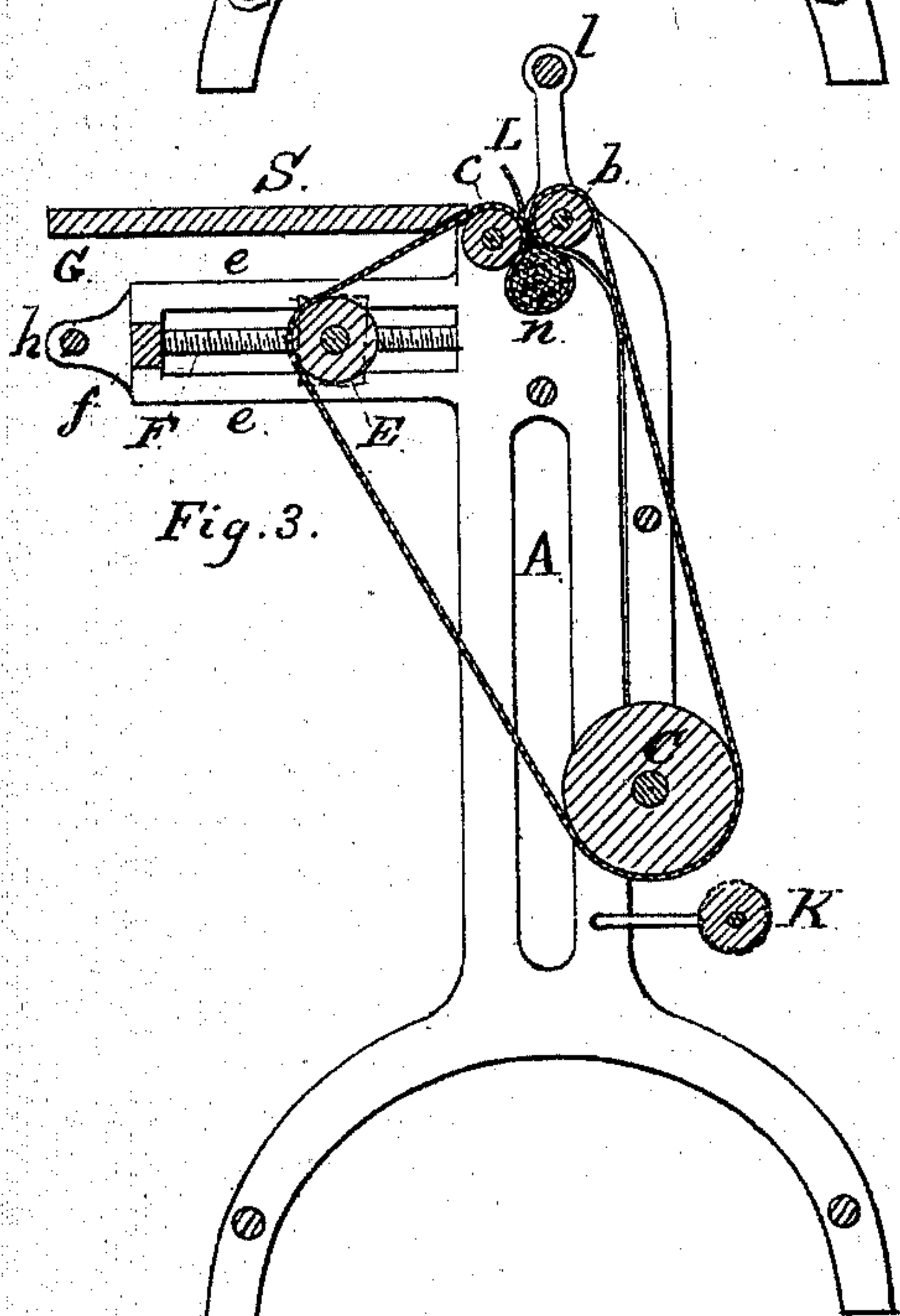
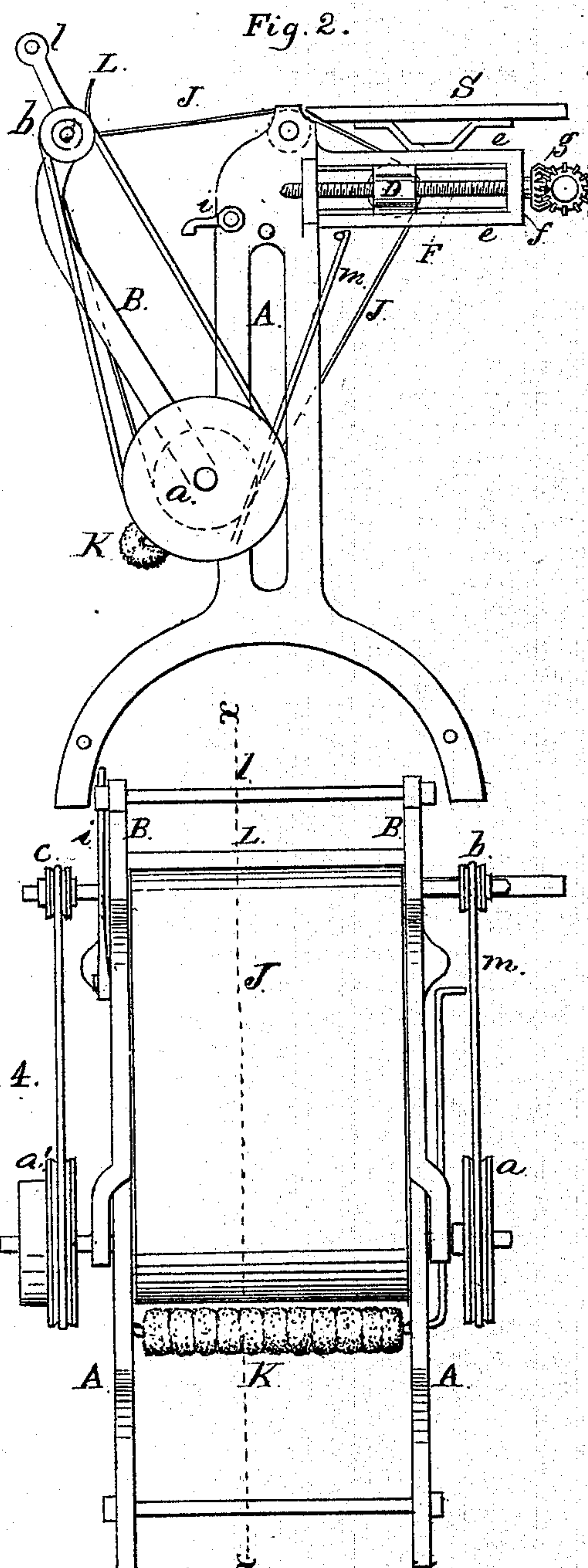
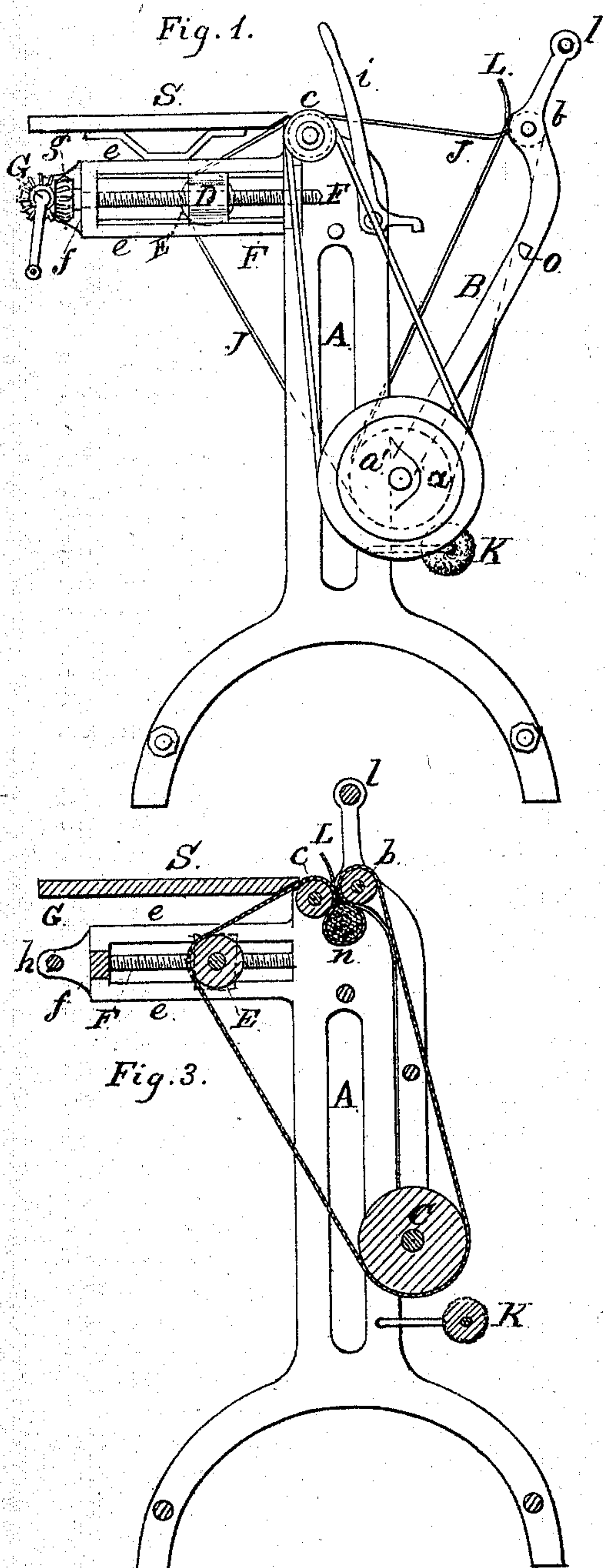
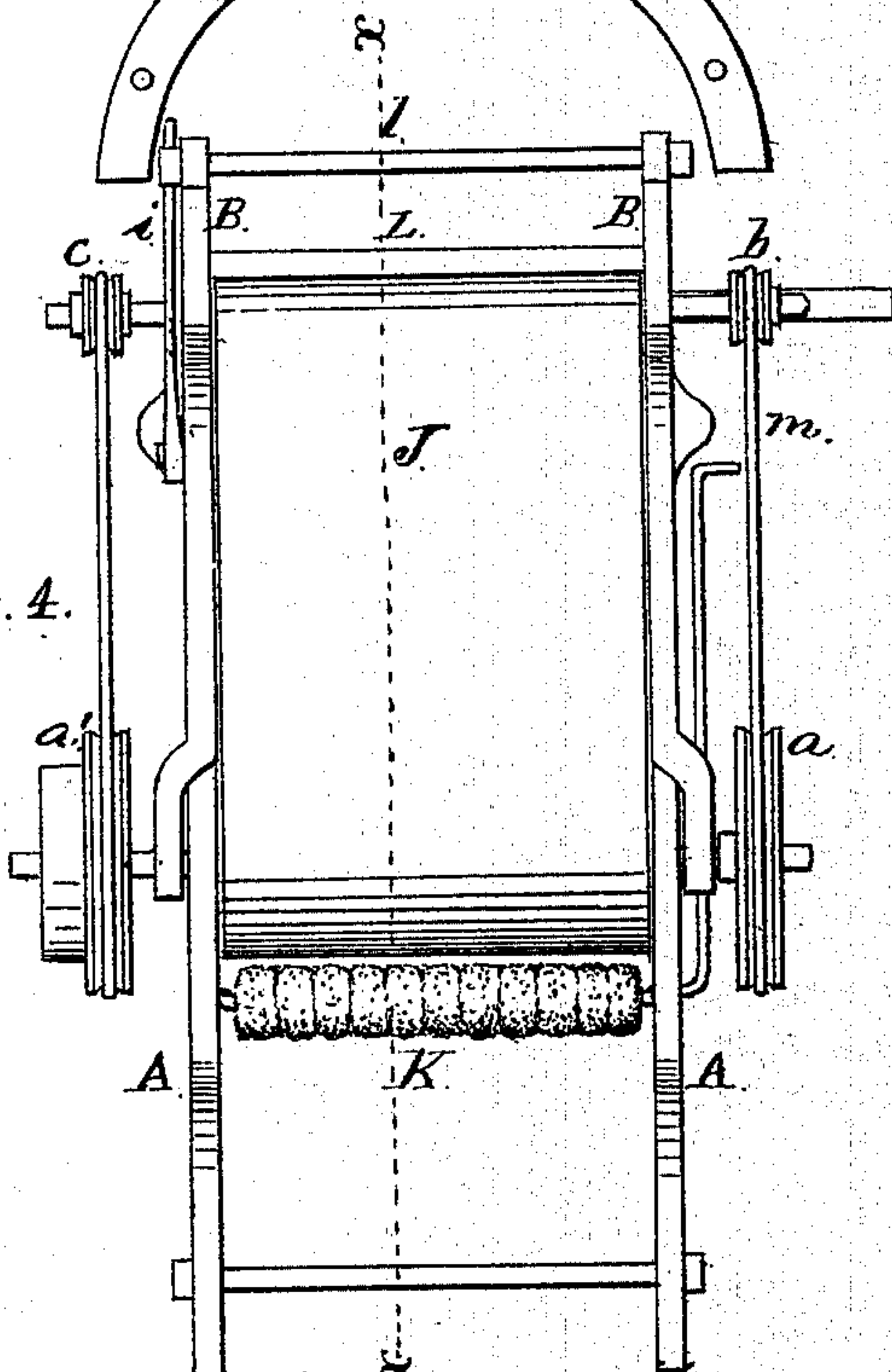


Fig. 4.



Witnesses:

W. Burris
H. B. Philbrick

Inventor:

David W. De Forest.
By his attorney G. B. Fowler.

UNITED STATES PATENT OFFICE.

DAVID W. DE FOREST, OF PETERSBURG, VIRGINIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO WELLINGTON M. LEWIS, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR ROLLING TOBACCO.

Specification forming part of Letters Patent No. **139,375**, dated May 27, 1873; application filed October 19, 1872.

To all whom it may concern:

Be it known that I, DAVID W. DE FOREST, of Petersburg, in the county of Dinwiddie and State of Virginia, have invented certain new and useful Improvements in a Machine for Rolling Tobacco; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation. Fig. 2 is a side elevation of the opposite side of the machine. Fig. 3 is a longitudinal vertical section through the center of the same, as indicated by the line *x x* of Fig. 4. Fig. 4 is a rear view.

Like letters in all the figures of the drawing indicate like parts.

This invention relates to an adjustable tension-roller, so arranged with the apron of a machine for rolling tobacco, that by means of screw-rods connected by a geared rod, and arranged to connect with the roller or with the apron, the roller can be readily made to increase or diminish the tension of the apron, so as to cause it to impart a greater or less pressure upon the tobacco during the operation of rolling it, as may be required; also, to an arrangement of sponges on a rod, or its equivalent, in close proximity to the apron, the said rod having a pivotal bearing in the standards of the machine, and constructed with a lever-handle, so that the operator can conveniently operate the sponges so as to cause them, when saturated with rum, to clean the apron from any gummy matter that may collect thereon from the tobacco during the operation of rolling it, thus preventing the wrapper from sticking to the apron after the tobacco has been duly rolled and ready to receive it; also, to a guard consisting of a plate arranged across the apron to facilitate the inserting of the wrapper in the pocket, so as to carry the wrapper under and around the tobacco without the liability of its being carried over the top of the tobacco by the apron on the back roller.

To enable others skilled in the art to make

and use my invention, I will proceed to describe its construction and operation.

A A are the standards of the machine. B is a hinged or pivotal frame, consisting of two arms united together by rods and screw-nuts, and arranged in the rear of the standards; with their lower ends connecting with the pivots of the roller C, which pivots pass through the ends of the arms and out far enough on each side to receive the pulleys *a' a*, the power being applied to a drum on the side of pulley *a'*. The upper part of this hinged frame is provided with a roller having a small pulley, *b*, connecting by a cord, or its equivalent, with pulley *a*. The upper ends of the standards are also provided with a roller having a pulley, *c*, connecting by a cord, or its equivalent, with pulley *a'*. Projecting at right angles on the front of the standards are arms *e e*, made wide enough apart to receive the sliding blocks D D carrying the tension-roller E. The sliding blocks are kept in position, and made to slide freely between the arms to allow the tension-roller to be adjusted to increase or diminish the tension of the apron, by means of their upper and lower sides being provided with grooves which are beveled so as to fit the beveled edges or tongues of the arms. A cross-plate, *f*, is attached to the front ends of the arms, the ends of the plate projecting out enough from the sides of the arms to receive and allow the front ends of the screw-rods F F to have their bearing in the plate, the rear ends of the rods having their bearing in projections cast on the sides of the standards, the rods passing through the sliding blocks and engaging with screw-threads therein, so that the rods can be made to move the blocks back and forth, and consequently the tension-roller. To the front end of each screw-rod is attached a beveled gear-wheel, *g*, arranged to mesh with similar ones on the lever-rod G, having a wheel or crank at its end by which the rods are made to operate the tension-roller. The lever-rod has its bearing in projections cast on the front side of the plate *f*. In attaching the plate *f* to the arms *e e*, it is constructed so as to be let in and fit the beveled edges of the arms flush with the ends thereof,

in order that the arms may be made secure from any unsteadiness. In attaching the apron J to the rollers the frame B is given a suitable inclination, as seen in Figs. 1 and 2, and while in that position the apron is stretched and fastened over the rollers, so as to afford sufficient space between the two upper rollers for the apron to form a pocket or receptacle, *n*, for the tobacco when the frame is closed against the standards. To effect this completely, the upper ends of the arms are curved toward the front of the machine to permit of their lapping over on the rounded corner edges of the standards. The frame is held when closed by means of levers *i*, one on each side thereof, having a pivotal connection with the standards, the levers having their lower ends made of an angular or foot-like shape, so as to catch on to a pin, *o*, or its equivalent, cast on the side of each arm. The arms of the frame extend up enough above the roller to receive the brace-rod *l*, which rod, while strengthening the frame, serves the purpose also of a handle to enable the operator to open and close the frame. *K* are the sponges arranged on a rod, in close proximity to the apron, the rod being constructed so as to have a pivotal bearing in the standards, and then extended up to form a lever-handle, *m*, as hereinbefore mentioned. *L* is the guard, consisting of a plate slightly curved and arranged across the apron, and attached in any suitable manner to the arms of the frame, so that the guard does not interfere with a free movement of the apron over the roller. *S* is a table attached in any suitable manner over the arms *e e*. Upon this table the tobacco is placed and got ready for rolling.

The operation is as follows: The frame B being thrown back the loose fillers of the tobacco are gathered up and cut to the proper length, and then placed on the apron between the two upper rollers. The frame is then closed against the standards, causing the apron to form a receptacle or pocket, *n*, around the tobacco, (see Fig. 3,) and secured by fastening the levers *i* to the pins *o* on the sides of the arms. Power is then applied to the lower roller, as before explained, after which the tension-roller is drawn out enough by the lever-rod G to tighten or increase the tension of the apron around the tobacco, so that as the apron is being carried around by the rollers it will be caused to roll and press the tobacco compactly together, and when it has been subjected to all the rolling-pressure it is capable

of receiving, the wrapper is then inserted in the pocket, the motion of the apron carrying it under and around the tobacco, the guard preventing the liability of its being carried over the top of the tobacco by the apron on the back roller. The levers are then unfastened and the frame thrown back, and the tobacco removed, and the ends capped or covered, and fine leaf tobacco rolled around it by hand. At this stage it is then reduced to a flat shape for use by a press in the usual manner.

The object of the sponge, as has been already stated, is to keep the apron clear of any gummy matter that may collect on it from the tobacco during the operation of rolling it, so as to prevent the wrapper from sticking to the apron; otherwise the wrapper would stick thereon in such a way as would cause considerable difficulty in passing it around the tobacco. For this purpose I contemplate placing a trough having rum or some other suitable fluid in it under the sponges, so that the operator can at any time by pressing on the lever bring the sponges in contact with the apron, the sponges removing the gummy matter therefrom as the apron is being carried around by the rollers.

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

1. The adjustable tension-roller E, sliding blocks D D, arms *e e*, screw-rods F F, and connecting gear-rod G, in combination with the apron J, substantially as set forth.

2. A guard, consisting of a plate arranged across the apron and attached to the arms of the hinged or pivoted frame B, substantially as and for the purpose set forth.

3. The combination of sponges K with the endless apron J, substantially as and for the purpose set forth.

4. The hinged frame B, roller with pulley *b*, roller C with pulleys *a' a*, standards A A, roller with pulley *c*, apron J, arms *e e*, sliding blocks D D, tension-roller E, screw-rods F F, and lever-rod G, all constructed and combined substantially in the manner and for the purposes as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of September, 1872.

DAVID W. DE FOREST.

Witnesses:

CHAS. MYERS,
W. BURRIS.