

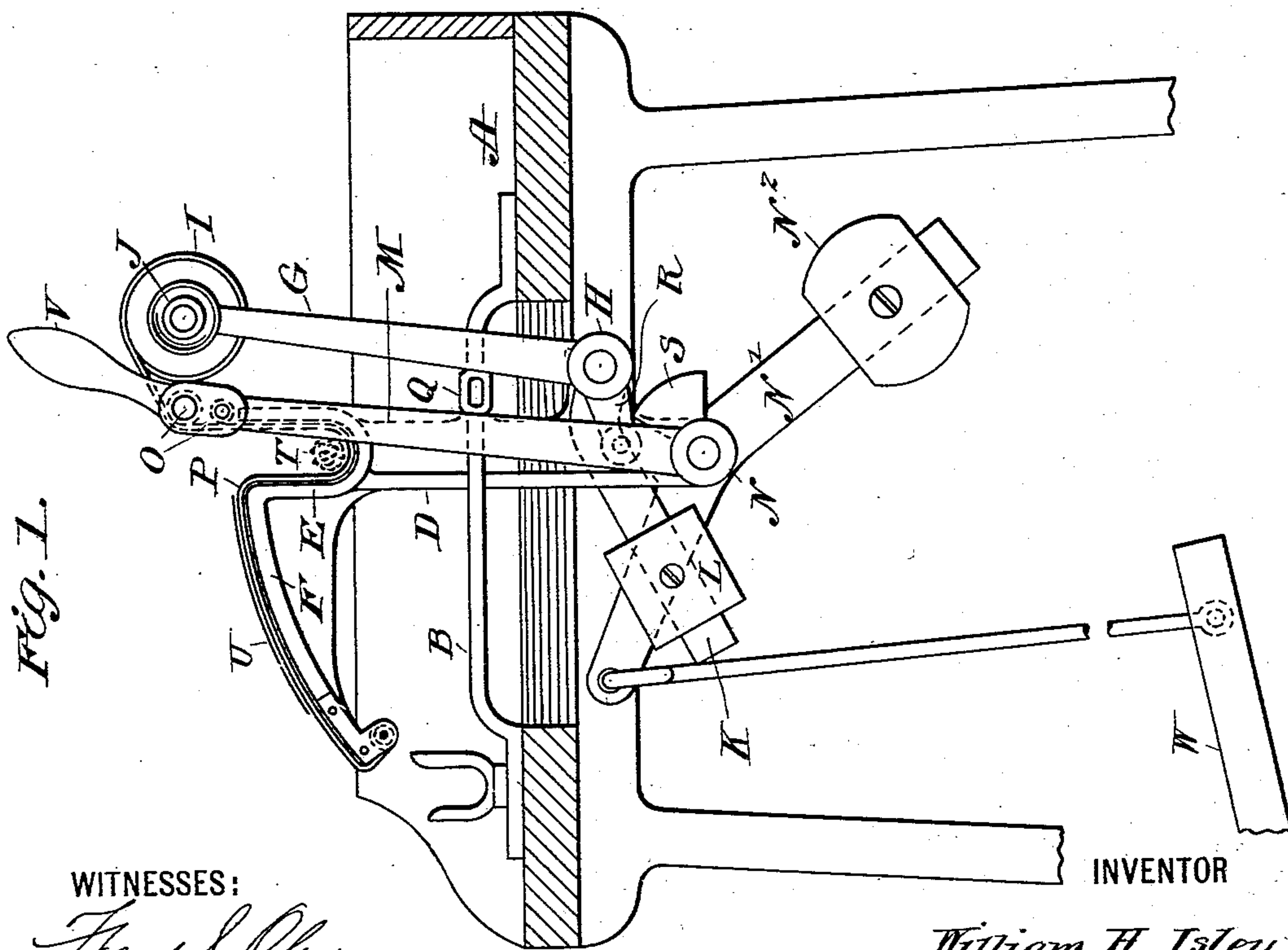
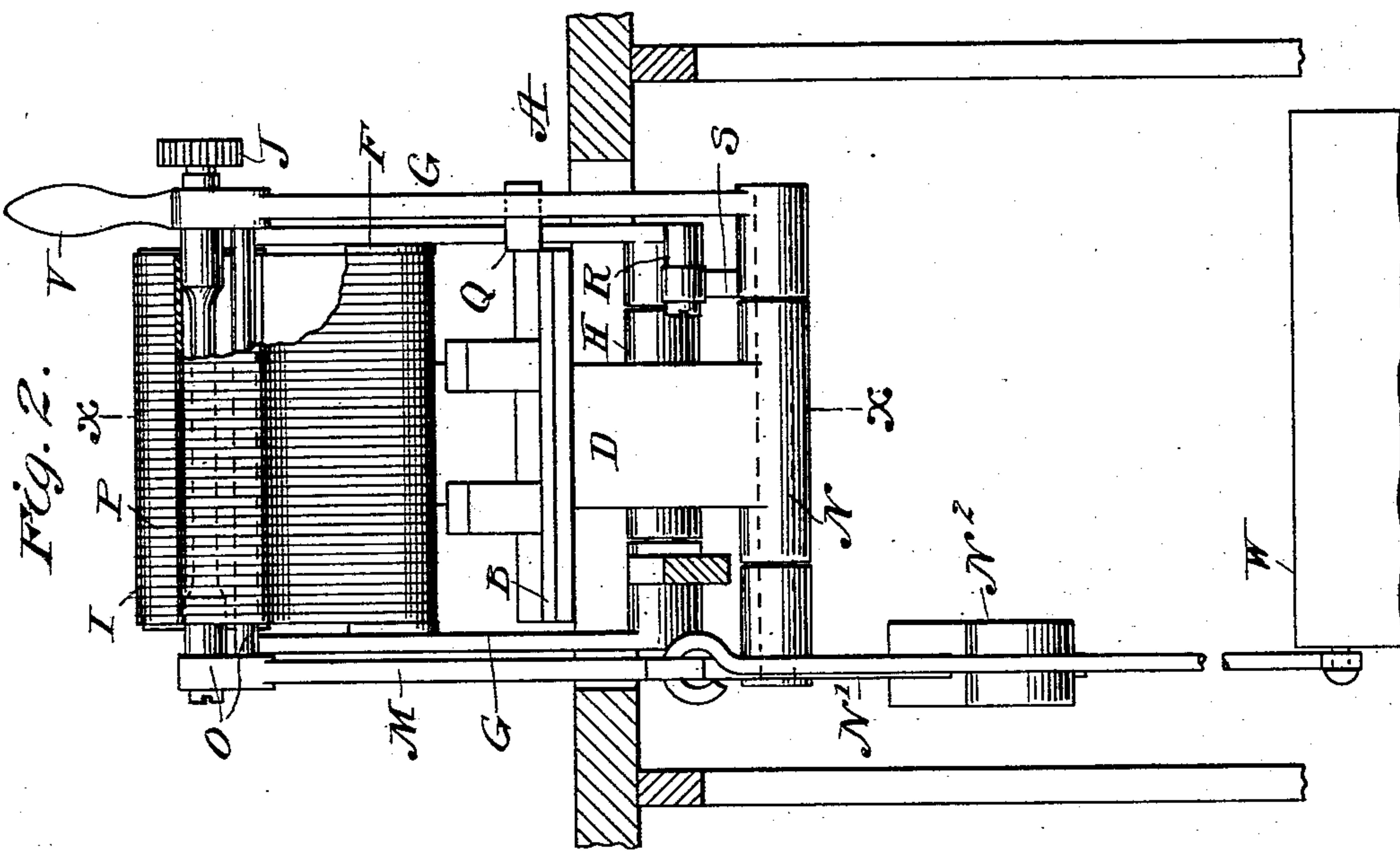
(No Model.)

2 Sheets—Sheet 1.

W. H. ISLEY.  
CIGAR BUNCHING MACHINE.

No. 572,170.

Patented Dec. 1, 1896.



WITNESSES:

*Frank S. Oliver.*  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. ISLEY, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO DAVID WOOD, OF BROOKLYN, NEW YORK.

## CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 572,170, dated December 1, 1896.

Application filed March 16, 1895. Serial No. 541,994. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. ISLEY, of Jersey City, county of Hudson, and State of New Jersey, have invented a new and Improved Cigar-Bunching Machine, of which the following is a full, clear, and exact specification.

My invention relates to improvements in cigar-bunching machines, which improvements have for their object simplicity in construction and action, durability, and economy.

Another object of the invention is to regulate the variable tension of the bunching-apron, so that it will not wrinkle or gather upon the rolling-table in front of the roller, for the reason that when so wrinkled the apron will not perform to a satisfactory degree the function for which it is intended.

My invention is illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of my invention, showing rolling-table support, partly in section. Fig. 2 is a front elevation of the machine. Fig. 3 is a sectional view taken on the line *xx*, Fig. 2. Fig. 4 is a plan view of my invention, the parts being in the position indicated in Fig. 3; and Fig. 5 is a side view of a detailed portion of the invention.

Similar letters refer to similar parts throughout the several figures.

A is a bench or table of any desirable pattern. Mounted over an opening in said table is a framework or base B, upon which the moving parts find their support, as hereinafter described. Projecting upwardly from said base B is a standard D. In the upper portion of this standard there is provided a concavity or depression E. Projecting from one side of this concavity or depression and supported, preferably, by the said standard D is a rolling-table F.

G is a tension-frame pivotally mounted in the lower part of the base B on suitable journal-bearings H H.

I is an adjustable roller revolubly mounted at the upper end of the tension-frame G.

J is a jam-nut by which the said roller I is tightened or loosened, so that the same may be permitted to roll freely or held stationary as desired.

K is an arm projecting from one of the journals H of the tension-frame G. This arm K is by preference provided with a counterweight L, for the purpose hereinafter described.

M is a shaping-frame pivotally mounted in the lower part of the base B on suitable journal-bearings N N.

N' is an arm projecting from said journal-bearings and by preference carrying a counterweight N<sup>2</sup>, for the purpose hereinafter described. Toward the upper end of the shaping-frame bunching-rollers O O, of any desired pattern, are carried.

P is an apron one end of which is by preference fixedly secured to the forward under edge of the rolling-table F, while the other end is supported and carried by the adjusting-roller I. The normal position of the shaping-frame is indicated in Fig. 1, in which position it is shown as resting against a stop Q on the framework or base B. The normal position of the tension-frame is shown in the same figure, in which it is seen to rest against the opposite side of the said stop Q. The said shaping and tension frames seek the normal position by the action of the counterweights N<sup>2</sup> and L, respectively, and when in this position the bunching-rollers O O repose on the side of the concavity or depression opposite the roll-table, leaving the said concavity or depression E open, so that a bight of the apron may be pushed thereinto.

R is a crank-arm secured to and projecting from the journal H of the tension-frame G.

S is a cam secured to and projecting from the journal N. The journals H and N are substantially parallel, and the cam S is adapted to move in the path of the crank-arm R, so that when the shaping-frame is moved so as to carry the bunching-rollers O O over the rolling-table F the said cam S will contact with the crank-arm R, causing the tension-frame G to swing back into the position indicated in Fig. 3, the cam and crank-arm when the parts are in that position being indicated in Fig. 5, causing the bunching-apron P to tighten to the proper degree.

In operation a charge T of tobacco is first placed on the bight in the apron which rests in the concavity E. A binder U is placed



upon the rolling-table, so that its forward edge by preference projects nearly to the edge of the concavity E. The shaping-frame is then moved, the bight in the apron is closed by the bunching-roller, the tension-frame is thrown back by the fixed and positive action of the cam S against the crank-arm R, and the charge T is carried over the rolling-table F, taking up the binder as it advances. At the forward end of the rolling-table the pocket or bight in the apron P is opened and the finished cigar-bunch is discharged into a suitable receptacle. A handle V or the ordinary foot-treadle W may be provided as a medium by which the shaping-frame may be moved.

It will be observed that the essential feature of my invention consists in the novel means herein described to provide a fixed and positive tension to the apron at the proper instant. I am aware that heretofore it has been common to make use of a spring whereby the tension-frame is retracted, but in all such instances the normal position of the tension-frame is away from the rolling-table, causing a constant tension of the apron, which is overcome by the intervention of separate mechanical means at intermittent periods. Furthermore, the tendency of the spring is not as positive as the action of the cam, which cannot yield. In machines of this character where the resistance offered to the bunching-roller by the apron varies it is desirable that a positive means be afforded whereby a uniform movement may be given to the tension-frame. Furthermore, in operation when the cigar-bunch is discharged from the machine the parts resume their normal position automatically, thereby affording sufficient time for the operator to take the cigar-bunch out of the receptacle and place it in the separate mold commonly employed. In utilizing this invention there is no tendency for the apron to wrinkle or gather up in front of the bunching-roller as it is advanced over the rolling-table, for the reason that the tension-frame cannot yield to permit the slack which must necessarily be present to permit the apron to so wrinkle or gather up.

To accommodate the machine to various sizes of bunches, the adjusting-roller which carries one end of the bunching-apron P may be loosened and set so as to give the proper slack thereto. If desirable, also bunching-rollers of varying shapes and sizes may be substituted. It is obvious that the cam S and the crank-arm R may be readily modified as desired, and a roller might be added to the end of the crank-arm to reduce the amount of frictional contact between the parts, if found expedient, without departing from the spirit of my invention. If desirable, springs could be substituted in place of the counterweights above described.

I am aware that it is not broadly new to combine in a cigar-bunching machine a rolling-table having a concavity therein, a bunch-

ing-apron, a pivotally-supported tension-frame supporting one end of said apron, means for causing the tension-frame to swing to relax the apron as the bunching-roller assumes its normal or inoperative position, and a crank-arm secured to the journal of the tension-frame, with a pivotally-supported shaping-frame carrying a bunching-roller; and a cam secured to the journal of said shaping-frame, adapted to operate the tension-frame to tighten the apron through the medium of the crank-arm as the bunch is being rolled.

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

1. In a cigar-bunching machine the combination with a rolling-table having a concavity in rear thereof, of a pivotally-supported tension-frame normally held in rear of and adjacent the said concavity, a bunching-apron secured at one end to the upper portion of the tension-frame and at its other end to the forward end of the rolling-table and a pivotally-supported shaping-frame also normally in rear of said concavity but in front of the tension-frame, and means carried by the journal of the shaping-frame for positively engaging the tension-frame and moving it in the direction opposite to the direction of the shaping-frame; substantially as described.

2. In a cigar-bunching machine, the combination of a rolling-table, a concavity in the rear thereof, a bunching-apron, a pivotally-supported tension-frame supporting one end of said apron, means for normally causing the tension-frame to swing toward the rear of the rolling-table, and a crank-arm secured to the journal of the tension-frame, with a pivotally-supported shaping-frame carrying a bunching-roller, a cam secured to the journal of said shaping-frame and adapted to operate the tension-frame through the medium of the crank-arm, substantially as and for the purpose specified.

3. A cigar-bunching machine consisting of a pivotally-mounted tension-frame adjustably carrying the rear end of a bunching-apron, a crank-arm projecting from the journal-bearing of said tension-frame, in combination with the rolling-table and bunching-apron, and a pivotally-supported shaping-frame carrying a bunching-roller toward its upper end, and carrying a cam upon its journal-bearing adapted to engage with the crank-arm on the tension-frame to cause the upper end of said tension-frame to move rearward away from the concavity in the rear end of the rolling-table, for the purpose of affording tension to the said bunching-apron during the entire process of rolling the bunch and with the counterweight located on an arm projecting from the tension-frame journal-bearing and operated as described.

4. In a cigar-bunching machine, the combination of a pivotally-supported tension-frame, a rolling-table having a concavity as



described, a bunching-apron, and means to  
cause the said tension-frame to normally  
swing toward the concavity in the rear of said  
rolling-table, a stop Q, with a pivotally-sup-  
5 ported shaping-frame and means to cause the  
same to normally swing toward the rear of  
the rolling-table where it is checked by said  
stop Q, a bunching-roller carried by the shap-  
ing-frame, and with means as described in-  
10 cluding a cam and crank-arm for causing  
positive and coöperative action between said  
tension-frame and shaping-frame so that as  
said shaping-frame is moved toward the front  
of the rolling-table the tension-frame will be  
15 moved in the opposite direction.

5. In a cigar-bunching machine, a pivotally-  
supported tension-frame G, an arm K pro-  
jecting from said frame G, counterweight L,  
crank-arm R adjustably carried by said arm

K projecting from said tension-frame bear- 20  
ing, and an adjusting-roller I supported by  
said tension-frame, in combination with a  
pivotally-supported shaping-frame M, a  
bunching-roller O carried thereby, arm N'  
projecting from said shaping-frame axle and 25  
carrying a counterweight N<sup>2</sup>, with a cam S, a  
stop Q on said framework for checking the  
frames G and M, and a concavity E in the  
upper end of said framework, and with a roll-  
table and apron P, one end of which apron is 30  
secured to the forward end of said roll-table,  
the other end being secured to the said ad-  
justing-roller I, substantially as described.

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