(No Model.) 2 Sheets—Sheet 1.

M. A. WINGET.

CIGAR BUNCHING MACHINE.

No. 388,802. Patented Aug. 28, 1888.

Fig. 1.

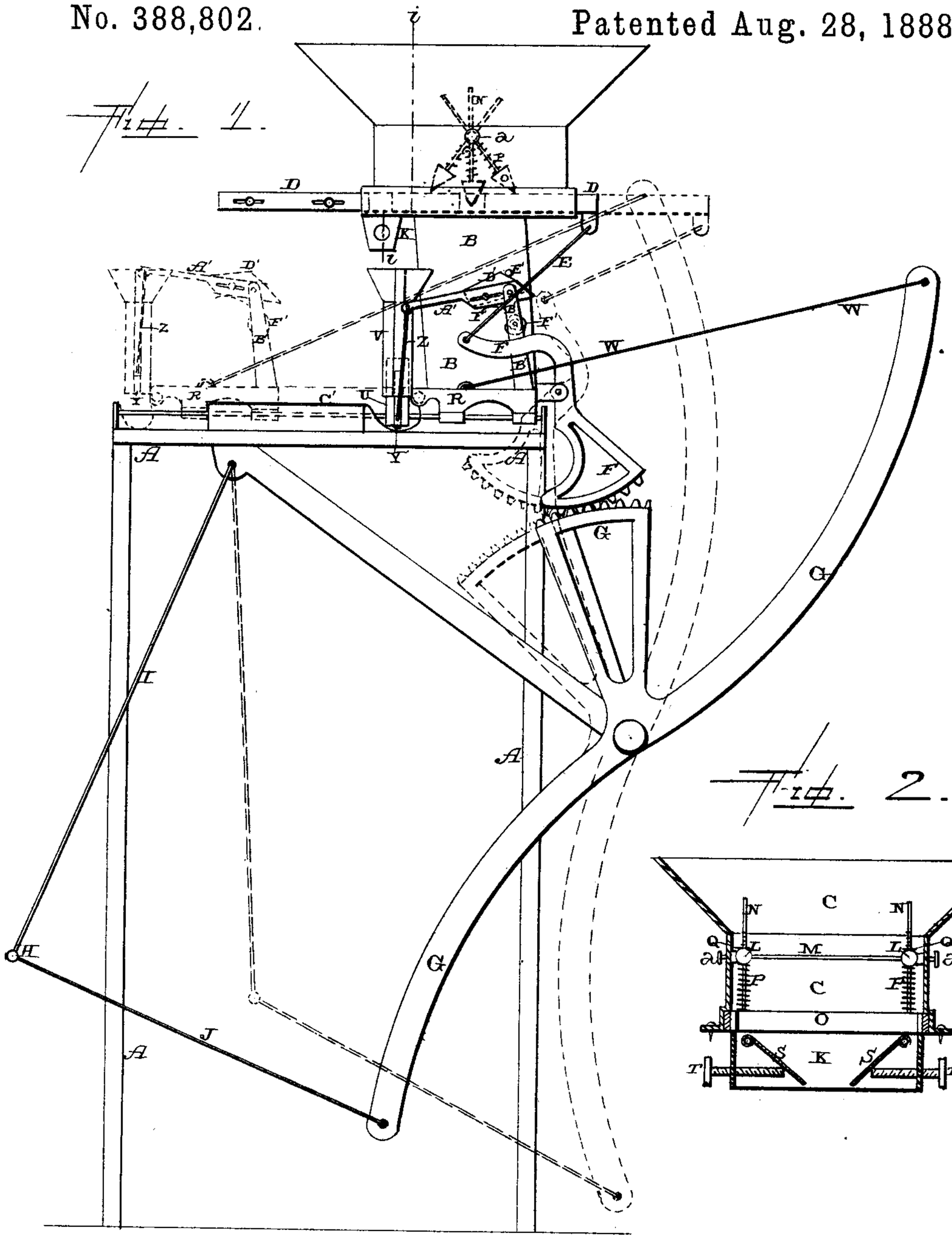

Fig. 2.

Witnesses.
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Edm. F. Ellis.

Inventor
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per
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Atty

(No Model.) 2 Sheets—Sheet 2

M. A. WINGET.

CIGAR BUNCHING MACHINE.

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Fig. 3.

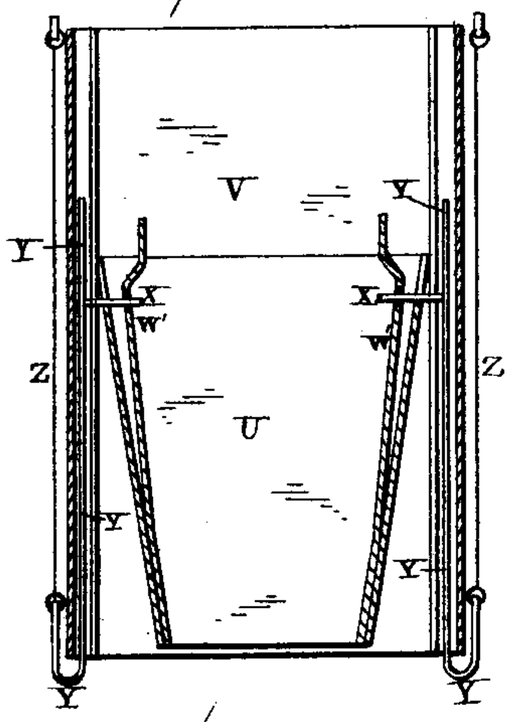


Fig. 5.

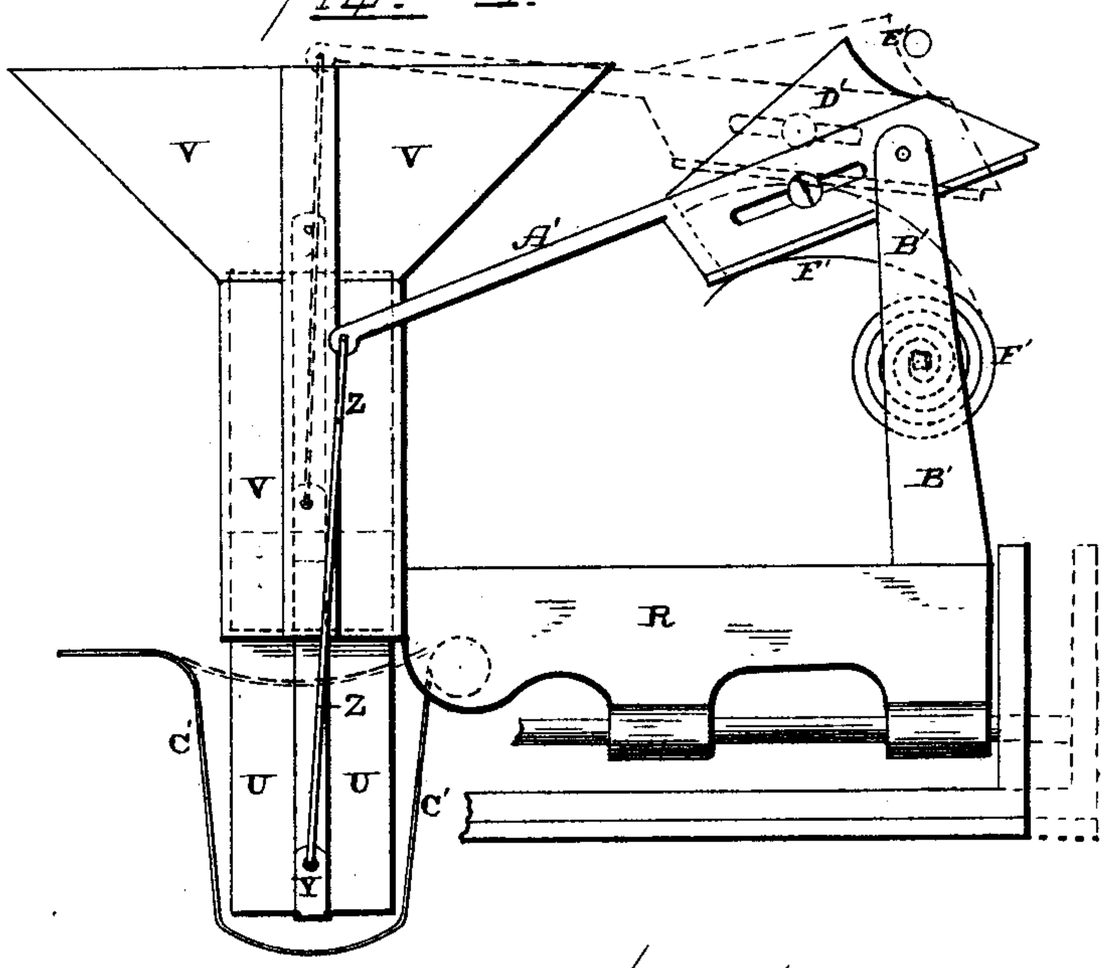


Fig. 4.

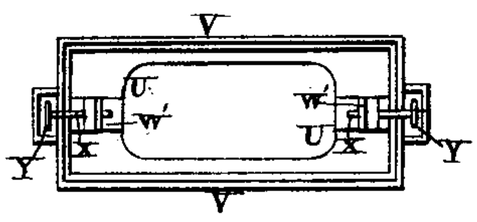


Fig. 6.

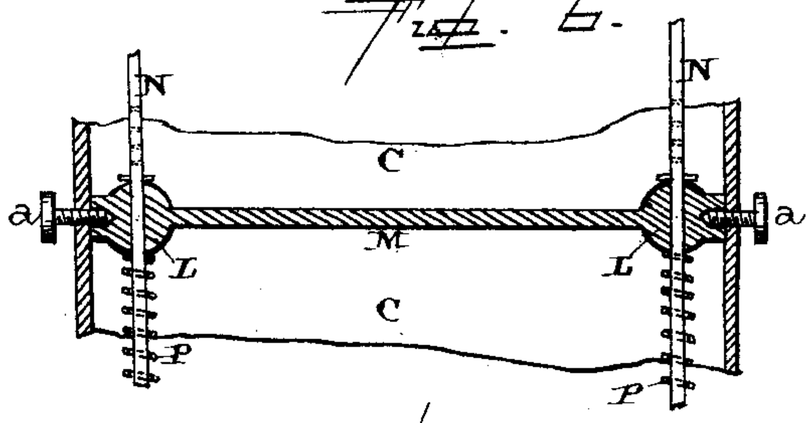


Fig. 7

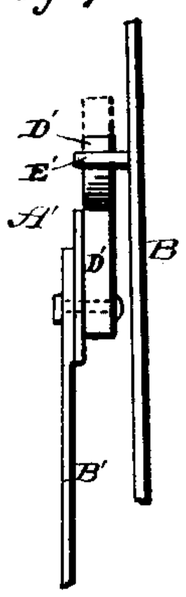
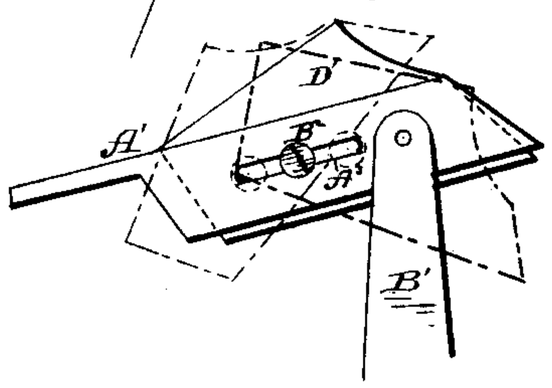


Fig. X.



Witnesses.
L. L. Gardner.
Edm. P. Ellis.

Inventor.
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per
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Atty.

UNITED STATES PATENT OFFICE.

MARION A. WINGET, OF COLUMBUS, OHIO, ASSIGNOR TO FARMERY R. WINGET, OF SAME PLACE.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 388,802, dated August 28, 1888.

Application filed October 28, 1887. Serial No. 253,618. (No model.)

To all whom it may concern:

Be it known that I, MARION A. WINGET, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Cigar-Bunching Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in cigar-bunching machines; and it consists in, first, the combination of the hopper, the slide which moves back and forth through its bottom, a pivoted lever connected to the slide by means of a connecting-rod, a carriage and operating-lever connected to the carriage by a connecting-rod, and which lever operates the lever which moves the slide, and a treadle whereby the carriage and the slide are automatically moved at the same time in opposite directions; second, the combination of the hopper, the slide which is moved back and forth through the bottom thereof, a connecting-rod connected to the slide, the pivoted-lever provided with teeth at its lower end, the carriage, the connecting-rod connected to the carriage, the lever which operates both the carriage and the lever, and the treadle connected to the lower end of the operating-lever; third, the combination of the slide which moves back and forth through the hopper, the carriage, the two pivoted levers, which are connected at their upper ends to the slide and carriage by rigid connecting-rods, and the treadle, the two levers being geared together so as to cause the slide and carriage to move simultaneously in opposite directions; fourth, the combination of the carriage, the funnel connected thereto, a shaper or former placed inside of the funnel and having a vertical movement, a spring-actuated lever connected to the shaper or former, a stop for moving the lever when the carriage is returned to position, and the apron; fifth, the combination of the carriage, the lever for moving it, the funnel secured to one end of the levers, the shaper or former placed inside of the funnel, the slides connected to the shaper or former, the connecting-rods, pivoted spring-actuated levers, the adjustable blocks connected to the levers, the stops, and the apron; sixth, the combination of the funnel, the carriage connected thereto, the shaper or former provided with springs, pins connected to the slides and which pass through slots in opposite sides of the funnel, the wings, connecting-rods, spring-actuated levers provided with adjustable blocks, the stops, and the apron; seventh, the combination of the support for the hopper, the hopper, the slide provided with a pocket, and the guide provided with an adjustable wing or wings; eighth, the combination of the hopper, the slide provided with a pocket, the plunger, the rods connected to the plunger, and the springs placed upon the rods for forcing the plunger downward, and the guides through which the rods pass; ninth, the combination of the hopper, the journals placed therein and connected together by a cross-rod, the slide provided with a pocket, the plunger provided with rods, and the springs placed around the rods, and, tenth, the combination of the hopper, the slide provided with a pocket, the plunger in the hopper, the rods N, which extend upward from the plunger, the pivoted journals through which the rods pass, the springs placed around the rods, and the pins, which are passed through the rods, all of which will be more fully described hereinafter.

The objects of my invention are to connect the slide and the carriage to operating-levers which automatically move them in opposite directions at the same time; to provide a spring actuated plunger for the hopper, for the purpose of keeping the tobacco stirred up and to feed it to the pocket in the slide; to provide the guide through which the falling tobacco passes with slides so as to guide the tobacco directly into the shaper or former, which is proportioned to the sized bunch which is to be formed; to connect an automatic mechanism to the shaper or former, so as to give it a vertical movement, and thus cause it to descend upon the apron and form a pocket therein to receive the loose tobacco, and to provide an automatically-moving mechanism, which, as the carriage is returned to

position, depresses the shaper or former, so that it will be forced downward upon the apron, and then retracted as the carriage begins its movement.

Figure 1 is a side elevation of a machine which embodies my invention. Fig. 2 is a vertical section of the hopper, the slide, and the plunger, taken on the line *i i*. Fig. 3 is a vertical section of the guide and the funnel. Fig. 4 is a plan view of the funnel, showing the shaper or former placed therein. Fig. 5 is a detached view of the funnel, carriage, and the operating mechanism for moving the shaper or former. Fig. 6 is an enlarged vertical section taken through the journals of the plunger-rods. Fig. 7 is a detail view of the adjustable blocks. Fig. 8 is a detached view showing in dotted lines how the blocks can be adjusted into different positions.

A represents a suitable frame, upon which the operating parts are mounted. Rising from the top of this table are the supports B, upon which the hopper C is placed. This hopper may be shaped either as here shown or in any other way that may be preferred, and moved back and forth through its bottom is the slide D. Connected to the rear end of this slide is the rigid connecting-rod E, and the lower end of this rod E is fastened to the pivoted curved lever F, which is provided with teeth at its lower end, which teeth mesh with corresponding teeth upon the lever G, which is also pivoted upon the frame, and which is operated at its lower end by the treadle H and the rods I J. The treadle H is suspended from the under side of the table by means of the rod I, and is connected to the lower end of the lever G by means of the rod J. When the treadle H is forced forward, the upper end of the lever G is forced backward toward the operator, thereby causing the upper end of the lever F to be moved forward, and through the connecting-rod E to move the slide D forward through the hopper, so as to receive a fresh supply of tobacco. When the treadle is moved backward into position, the movement of the lever F is reversed, and the slide D is forced backward, so as to discharge the tobacco from its pocket through the guide K. The slide D is operated entirely by the lever F and rod E, so that the operator has only to work the treadle to automatically operate both the slide and the carriage at the same time, but in opposite directions.

Pivoted upon opposite sides of the hopper C are the journals L, which are connected together by the cross rod M, and up through which pass the rods N, which are connected at their lower ends to the plunger O. The journals L are pivoted upon the points of the set-screws *a* and turn freely thereon, so as to follow the movements of the plunger-rods.

Placed around the rods N, below the journals L, are the springs P, which bear against the journals at their upper ends and against the plunger O at their lower ones, for the purpose of keeping the plunger pressed downward, and thus causing it to be automatic in its movements.

Through the rods N, just above the journals, are formed small openings, through which the pins Q are passed for the purpose of regulating the tension of the springs upon the plunger. The object of the springs is to prevent a jar or stoppage of the slide D when a sudden motion is made, and to allow the plunger to automatically rise in case a small stone, stick, or nail should get in the tobacco, and thus allow the slide to continue its movement instead of stopping or breaking the machine. The upper ends of the rods N project a suitable distance above the journals L, and as the slide D is moved back and forth through the bottom of the hopper the plunger O is caused to move back and forth with it by catching in the pocket in the slide. The pivoted movement of the upper ends of these rods N as they play back and forth at each movement of the slide serve to keep the tobacco loose in the hopper. Were it not for these rods N, which have a back-and-forth movement, the tobacco would adhere to the sides of the hopper and thus fail to be fed evenly to the pocket in the slide. The operation of the plunger, its objects, and advantages are fully described in Patent No. 369,145, and hence need not be more fully described in this connection.

As the tobacco falls from the pocket in the slide, it passes through the guide K, secured to the under side of the top of the support B, and in which are placed the two adjustable pivoted wings, which are operated by the set-screws T, which pass through the ends of the guide and bear against the outer sides of the slides, as shown. The lower end of these wings S are regulated in relation to each other by the set-screws T, for the purpose of adjusting the wings to the size of the shaper or former U, which is used in the funnel V. This guide K is stationary, and each time the slide is moved backward to its full extent the tobacco in the slide is brought just over the guide, so that the charge of tobacco in the pocket drops down through the guide K into the funnel V and the shaper or former U. The funnel V is secured to the front end of the carriage R, which is moved back and forth by the lever G and the rigid connecting-rod W, as shown in Fig. 1. This funnel V is carried back and forth with the carriage R, and when the carriage is in position to begin its backward movement the upper end of the funnel is just under the guide K. In this funnel is placed a removable vertically-moving shaper or former U, which is regulated in size and shape to the size of bunch which is to be formed. Inside of this former or shaper U are placed the perforated springs W′, through which pass the pins X, for the purpose of holding the former or shaper in position. These pins pass through the slides Y, and through guiding-slots formed in the funnel, which slides have their lower ends to project below the lower end of the funnel V, so as to be connected by the rods Z

to the operating-levers A′, pivoted upon the standard B′, secured to the carriage R. The slides Y are placed in suitable guiding-pockets formed on the sides of the funnel, and which serve to keep the slides Y in position. As the slides are connected by the pins X with the shaper or former U, when the slides are given a vertical movement by the levers A′ and rods Z the shaper or former is given a corresponding movement. When the shaper or former is depressed, its lower edge is forced by the slides Y below the lower edge of the funnel V, so as to descend upon the top of the apron C′, and thus form the pocket to receive the bunch. The descent of this shaper or former U is regulated so as to occur when the carriage R is forced forward into position, and the adjustable blocks D′, connected to the pivoted levers A′, strike against the stationary stops E′ upon the support B for the hopper. The levers A′ are slotted so that the blocks D′ can be adjusted back and forth thereon, and thus by regulating the point at which they shall strike against the stops E′ regulate the distance that the free ends of the lever A′ shall be depressed.

Passing through the slots A^3 in the lever A′ are the set-screws B^2, which pass into or through the blocks B′, and which by frictional contact serve to hold the blocks B′ into any position into which they may be adjusted. The blocks B′ can be adjusted back and forth upon the lever A′ the length of the slots A^3, and by loosening the screw the block can be turned at any desired angle, as shown in Fig. 8, and then clamped tightly in that position by tightening the screw. When the block is moved endwise in the slot, it is adjusted so as to strike against the stop E′ at different points, and thus the distance the carriage shall move before the levers A′ are operated is regulated at will. The springs F′, secured to the supports B′, bear against the lower edges of the levers A′, so that as soon as the carriage R begins its forward movement and blocks D′ are moved out of contact with the stops E′ the springs throw the free ends of the levers A′ upward, and thus return the shaper or former U into position in the funnel V. When the rear edges of the blocks D′ strike against the stops E′ the levers A′ are turned upon their pivots so as to depress the shaper or former U a distance that is regulated entirely by the adjustment of the blocks D′ upon the levers A′. When the shaper or former U is depressed, as shown in Fig. 5, it strikes against the top of the apron C′, and forms a pocket to receive the bunch just as the pocket is discharged from the slide D and drops into the funnel V. At the same time that the carriage starts backward toward the operator for the purpose of rolling the bunch, the block D′ moves out of contact with the stop E′, and then the spring F′ throws the lever A′ upward, so as to return the shaper and former to position, and the slide D is moved forward to have the pocket again filled with tobacco.

When it is desired to exchange one sized shaper or former for another, the operator passes his hand down through the top of the funnel V, catches hold of the upper ends of the springs W′, moves them inward, so as to detach them from the pins X, and then the shaper or former can be removed and one of a different size placed in position. By making these shapers or formers removable the loose tobacco out of which the bunch is to be formed is deposited in the pocket in a form that is best adapted to the length of the bunch that is being made, and thus the size and length of the bunch can be regulated at will. As above explained, the operator has but to operate the treadle, when the slide D and carriage R will be automatically operated, leaving the operator the free use of both hands for forming the bunch.

Having thus described my invention, I claim—

1. In a bunching-machine, the combination of the hopper, the slide, a pivoted lever connected thereto by means of a rigid connecting-rod, the carriage, an operating-lever connected thereto by a rigid connecting-rod, and which lever operates the lever which moves the slide, and a treadle whereby the carriage and the slide are automatically moved at the same time in opposite directions, substantially as shown.

2. The combination of the hopper, the slide which is moved back and forth through the bottom thereof, the rigid connecting-rod E, and the pivoted lever F, provided with teeth at its lower end, the carriage, the connecting-rod W, the lever G, which operates both the carriage and lever, and the treadle connected to the lower end of the lever G, substantially as described.

3. The combination of the slide which moves back and forth through the hopper, the carriage, the two pivoted levers, which are connected at their upper ends to the slide and carriage by rigid connecting-rods, and the treadle, the two levers being geared together, so as to cause the slide and carriage to move simultaneously in opposite directions, substantially as set forth.

4. The combination of the carriage, the funnel connected thereto, a shaper or former placed inside of the funnel and having a vertical movement, a spring-actuated lever connected to the shaper or former, a stop for moving the lever when the carriage is returned to position, and the apron, substantially as specified.

5. The combination of the carriage, the lever for moving it, the funnel secured to one end of the levers, the shaper or former placed inside of the funnel, the slides connected to the shaper or former, the connecting-rods Z, pivoted spring-actuated levers A′, the adjustable blocks connected to the levers, the stops, and the apron, substantially as shown.

6. The combination of the funnel, the carriage connected thereto, the shaper or former provided with springs W′, pins X, connected

to the slides Y, and which pass through slots in opposite sides of the funnel, the wings, connecting-rods Z, spring-actuated levers A', provided with adjustable blocks D', the stops E', and the apron, substantially as described.

7. The combination of the support for the hopper, the hopper, the slide provided with a pocket, and the guide K, provided with an adjustable wing or wings, substantially as set forth.

8. The combination of the hopper, the slide provided with a pocket, the plunger, the rods connected to the plunger, the springs placed around the rods, and the journals or bearings through which the rods pass, substantially as specified.

9. The combination of the hopper, the journals placed therein, the slide provided with a pocket, the plunger having the rods N, connected to opposite ends, and the springs around the rods, the journals being connected together by the cross-rod M, substantially as shown.

10. The combination of the hopper, the slide provided with a pocket, the plunger O in the hopper, the rods N, which extend upward from the plunger, the pivoted journals through which the rods N pass, the springs placed around the rods, and the pins which are passed through the rods, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MARION A. WINGET.

Witnesses:
C. L. MATTHEWS,
H. STIERBERGER.