No. 707,742. Patented Aug. 26, 1902.

W. WEIERBACH & E. S. DICKSON.

CIGAR BUNCHING MACHINE.

(Application filed Dec. 13, 1900.)

(No Model.) 3 Sheets—Sheet 1.

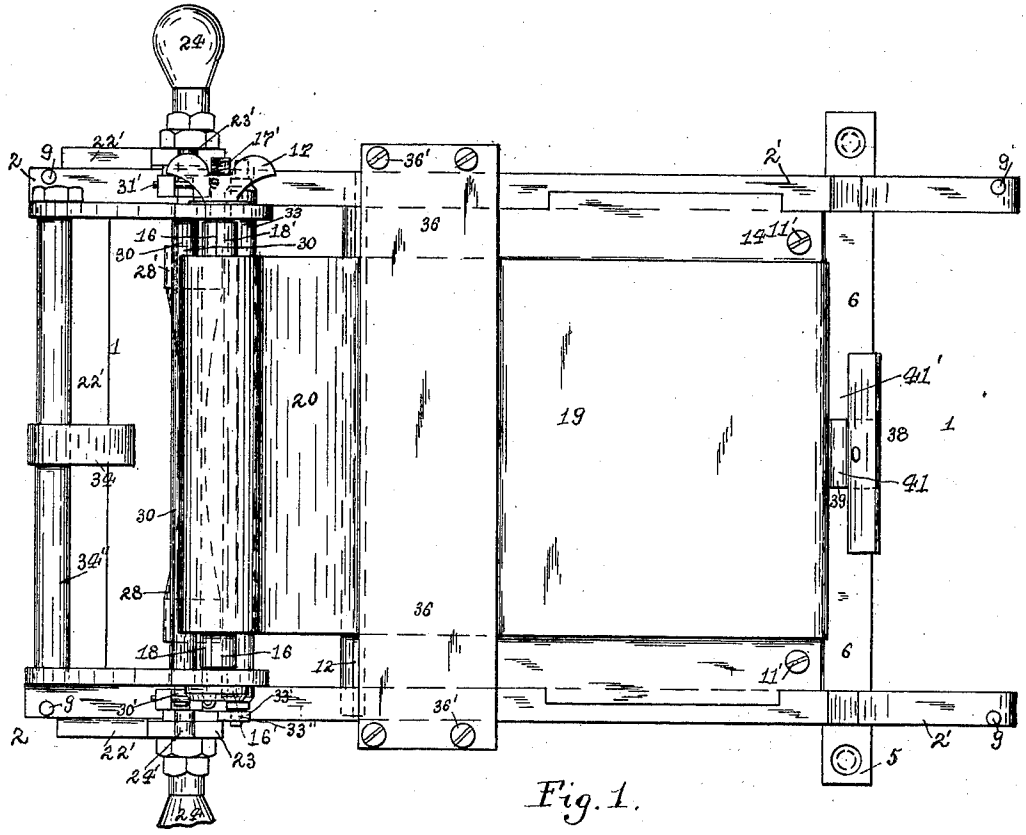

Fig. 1.

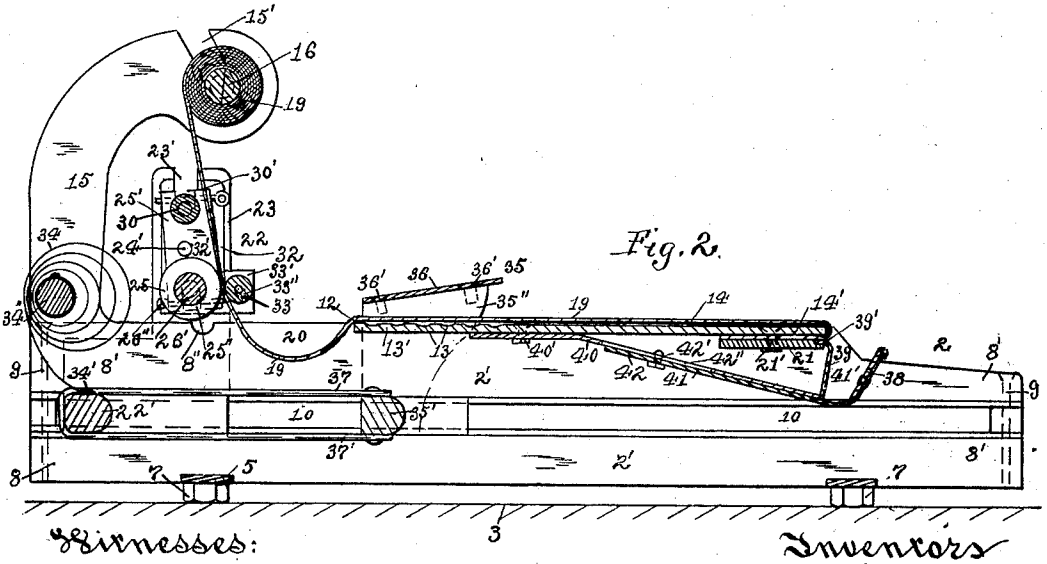

Fig. 2.

Witnesses:
W. A. Blakely
J. L. Trefallen Jr.

Inventors
William Weierbach
Edward S. Dickson
By J. McCooke
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 707,742. Patented Aug. 26, 1902.

W. WEIERBACH & E. S. DICKSON.

CIGAR BUNCHING MACHINE.

(Application filed Dec. 13, 1900.)

(No Model.) 3 Sheets—Sheet 2.

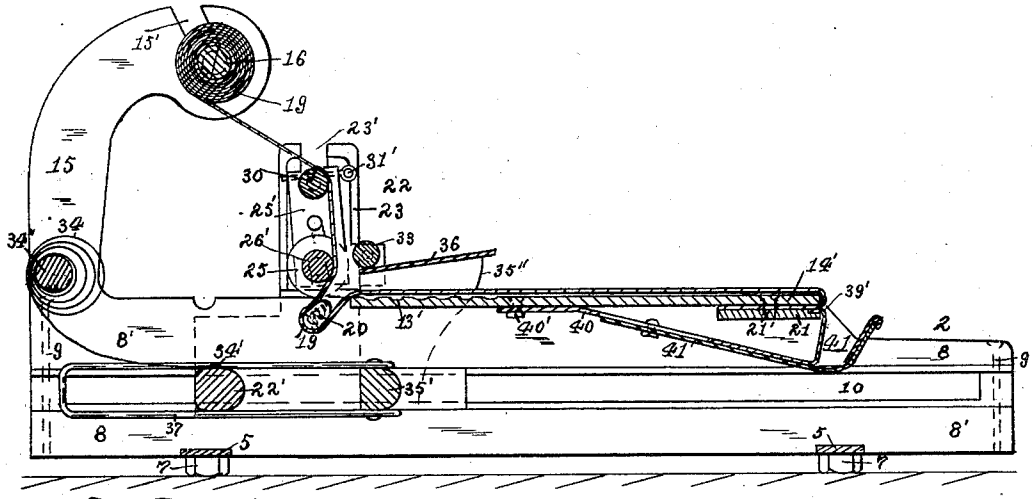

Fig. 3.

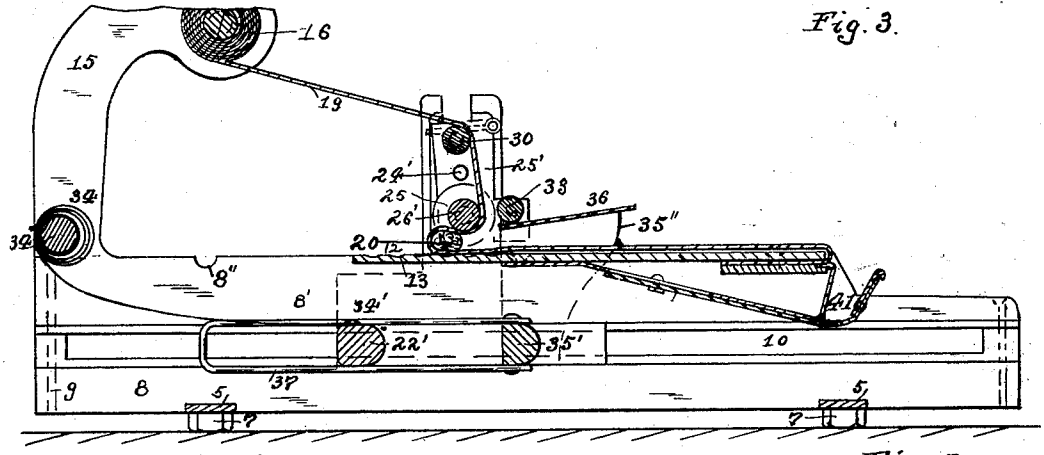

Fig. 4.

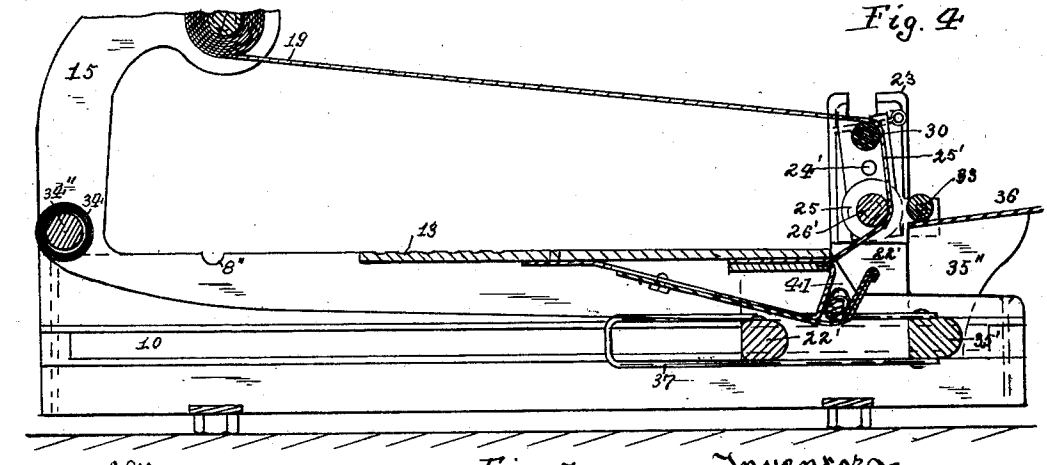

Fig. 5.

Witnesses:
W. A. Blakeley
J. L. Tryselius Jr.

Inventors
William Weierbach
Edward S. Dickson,
By J. McCooke,
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 707,742. Patented Aug. 26, 1902.

W. WEIERBACH & E. S. DICKSON.

CIGAR BUNCHING MACHINE.

(Application filed Dec. 13, 1900.)

(No Model.) 3 Sheets—Sheet 3.

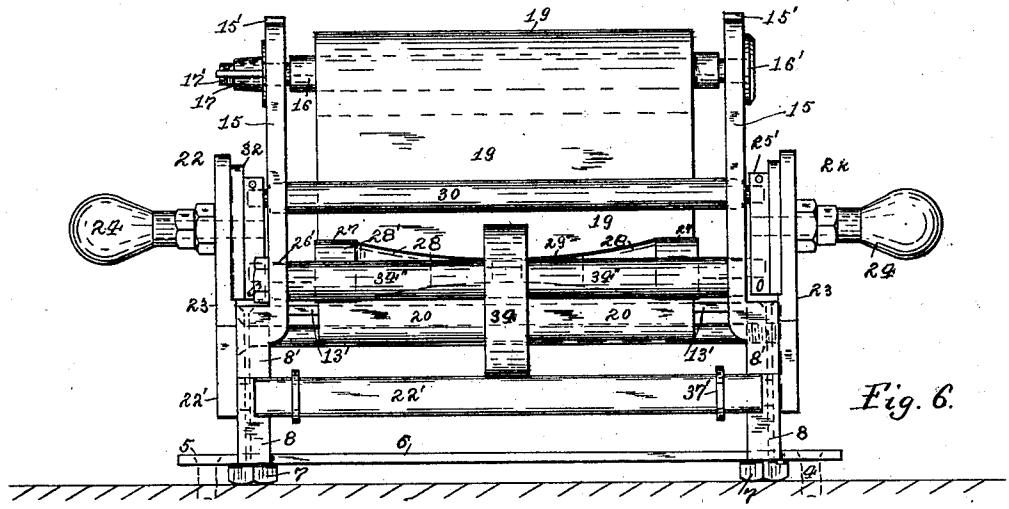

Fig. 6.

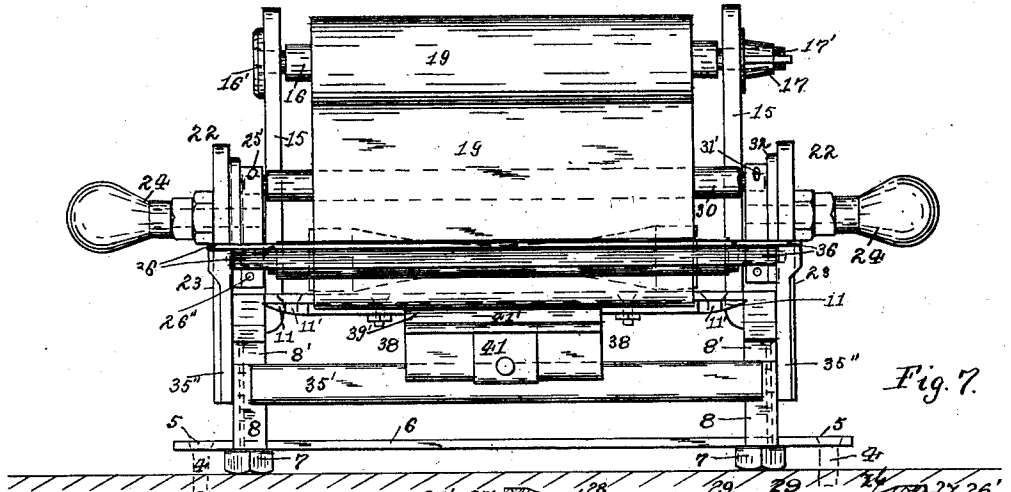

Fig. 7.

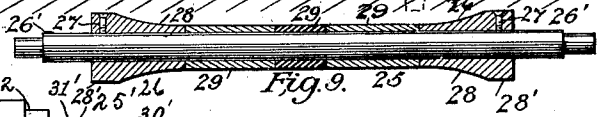

Fig. 9.

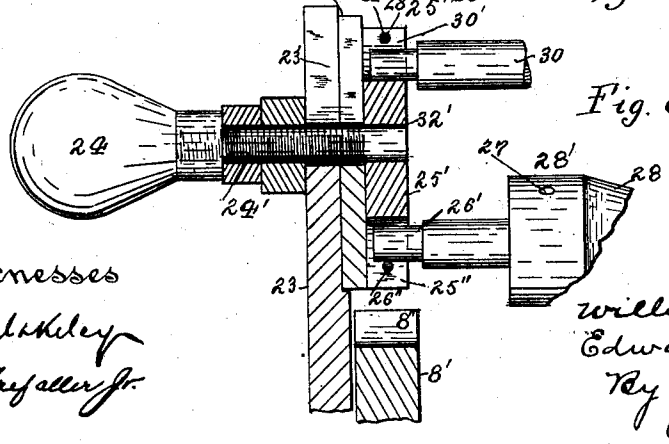

Fig. 8.

Witnesses
W. A. Blakely
J. L. Tryseller Jr.

Inventors
William Weierbach
Edward S. Dickson
By J. M. Cooke
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM WEIERBACH AND EDWARD S. DICKSON, OF PITTSBURG, PENNSYLVANIA, ASSIGNORS TO THE PITTSBURGH CIGAR MACHINE COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 707,742, dated August 26, 1902.

Application filed December 13, 1900. Serial No. 39,595. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM WEIERBACH and EDWARD S. DICKSON, residents of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Cigar-Bunching Machines; and we do hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to cigar-bunching machines, and has special reference to that class of machines that are used in making long-filler bunches.

The object of the present invention is to simplify this class of machines and to provide such form of machine which will be cheap and simple in its construction and operation and one in which the cigar-bunch can be formed rapidly and in as perfect a manner as possible.

Our invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which our invention appertains to construct and use the cigar-bunching machine, we will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a top or plan view. Fig. 2 is a vertical longitudinal section of the same, showing the parts in their normal positions ready to receive the tobacco. Fig. 3 is a like view showing the parts in position ready to carry the bunch onto the bunching-table. Fig. 4 is a like view showing the bunch traveling along the bunching-table. Fig. 5 is a like view showing the bunch deposited in the bunch-catcher. Fig. 6 is a rear view of the machine. Fig. 7 is a front view of the same. Fig. 8 is an enlarged sectional view of the roller-carriage mechanism, and Fig. 9 is a detail view of the bunching-roll.

Like figures of reference herein indicate like parts in each of the figures of the drawings.

Our improved cigar-bunching machine is shown at 1 and is provided with a frame 2 for carrying the bunching mechanism, which is adapted to be secured to working bench or table 3 by means of bolts 4, passing through extensions 5, formed on the braces 6, which extend across and within the frame 2 and are secured thereto by means of bolts 7. The frame 2 is provided with the two side frames 2′, which are formed in two pieces 8 8′ and are secured together, at each end thereof, by means of the bolts 9, so as to form the slots or tracks 10 between them. Secured by bolts 11′ to lugs or extensions 11 on the upper side pieces 8 is the bunching-table 12, which extends across and between the side pieces 8 of the side frames 2′ and is provided with a series of corrugations or grooves 13 at the rear end 13′ upon the upper face, while a smooth portion 14 is formed on said face at the front end 14′. Extending up from the side pieces 8 of the side frames 2 are the standards 15, which are provided with the slotted seats 15′ therein for the reception of the apron or cloth roll 16, which is provided with a collar 16′ at one end and its opposite end is threaded, as at 17′, for the reception of a thumb-nut 17 to hold said roll 16 in place. The roll 16 is made in two halves 18 18′ and between which is secured by screws 19′ one end of the bunching apron or cloth 19, which extends around said roll 16 and down between the side frames 2′ to form the pocket 20, after which it extends over the face of the bunching-table 12 and is secured under the front end 14 thereof between said table 12 and a plate 21 by means of bolts 21′. Fitting within the seats or tracks 10 between the side pieces 8 8′ and extending across between the side frames 2′ is the roller-carrying mechanism 22, composed of a slide 22′, which is U-shaped and provided with the standards or uprights 23, within which are formed the slotted seats 23′ for the reception of the threaded ends 24′ of the handles 24, which extend through said slotted seats 23′ and are secured within and carry the bearing-blocks 25′ for the cigar-bunching roll 25. The bunching-roll 25 is formed of a shaft 26′, which is held within slots 25″, formed in the lower end of the bearing-blocks 25′ by cotter-pins 26″ and upon

which are mounted the end sleeves 26, which are secured upon said shaft 26′ by set-screws 27 and are provided with the tapered portions 28 and enlarged portions 28′ thereon, while between the tapered portions 28 on said sleeves 26 and loosely mounted around the shaft 26′ are the straight sleeves 29 and of the same diameter throughout, so as to turn freely upon said shaft 26′. Fitting within slots 30′ in the bearing-blocks 25′ is the guide-roller 30, which is held in place by means of the cotter-pins 31′, passing through said blocks 25′ and slots 30′, over the roller 30, and fitting between the uprights 23 and the bearing-blocks 25′ are the bearing-blocks 32, which are provided with the slots 32′ therein for fitting around the threaded ends 24′ of the handles 24, these bearing-blocks 32 being provided with extensions 33′ thereon, having slots 33″ therein, within which is journaled the binder-stretching roll 33. Securely connected to the slide 22′ by a bolt 34′ is the leaf-spring 34, which is wound around and secured to a brace-rod 34″, extending across and between the standards 15 on the side frames 2′, and mounted within the slots or tracks 10 of the side pieces 8 8′ and extending across between the side frames 2′ is the binder-table mechanism 35, composed of a slide 35′, which is U-shaped and provided with the uprights 35″ thereon, which extend up at right angles to the slide 35′ on the exterior of the side frames 2′ and has the binder-table 36 secured to the upper ends thereof by screws 36′. The binder-table 36 extends across the bunching-table 12 over the apron or cloth 19, and slotted links 37, provided with rear ends 37′, are secured to said slide 35′ and extend loosely over and around the slide 22′ of the roller-carrying mechanism 22. Secured at the front end 14′ of the bunching-table 12 and under the same is the bunch-catcher 38, which is composed of a rigid inner side portion 39, extending down in front of said table 12 and provided with a rearwardly-extending portion 39′ at its upper end, which is secured under and between the table 12 and the plate 21, while a like rearwardly-extending portion 40 is formed at its lower end, which extends back and is secured to the bottom of the table 12 by means of the bolts 40′. An outer spring portion 41 projects up in front of the inner side portion 39 to form the pocket 41′ and has a rearwardly-extending portion 42 secured thereto, which extends back and is secured by a bolt 42′ in a slot 42″, formed in the rearwardly-extending portion 40 on the inner side portion 39.

The operation of our improved cigar-bunching machine is as follows: The binder of tobacco to form the bunch is placed upon the binder-table 36, with a portion thereof extending down into the pocket 20, and after this is done the filler of tobacco is placed within said pocket 20, when the operator can grasp the two handles 24, and pulling the same toward him will cause the roller-carrying mechanism 22 to move forward to the position shown in Fig. 3, which will allow the apron or cloth 19 to conform to the shape of the bunching-roll 25, so as to permit the filler and binder to be gathered up by the apron or cloth 19 and close the pocket 20, leaving the bunch ready to be rolled upon the table 12. The roller-carrying mechanism 22 travels along the slots or tracks 10 in the pieces 8 8′ of the side frames 2′ by its slide 22′ fitting thereon, which slide 22′ also travels along within the slotted links 37, secured to and carried by the slide 35′ on the mechanism 35, and when the mechanism 22 reaches the position shown in Fig. 3 the uprights 23 thereon will come in contact with and strike against the uprights 35″ on the slide 35′ of the binder-table mechanism 35 and also move along the mechanism 35, with the mechanism 22, and permit the slides 22′ and 35′ of the mechanisms 22 and 35 to travel within the slots or tracks 10 in the side frames 2′. As the mechanisms 22 and 35 are thus moved along the binder on the binding-table 36 is stretched or smoothed out by the roll 33 and is wrapped around the filler and forms the bunch within the pocket 20, and on account of the apron or cloth 19 adjusting itself to the shape of the roll 25 the bunch is formed of cigar shape thereby. As the bunch travels over the bunching-plate 12 the corrugations or grooves 13 therein will act to keep the apron or cloth 19 from slipping and also acts to compact said bunch before reaching the smooth portion 14 of said table 12, where it will be more thoroughly rolled and compacted within the pocket 20, as shown in Fig. 4. When the mechanisms 22 and 35 have traveled along with each other to form the bunch within the pocket 20, the leaf-spring 34, connected to the slide 22′ and brace-rod 34″, will become extended and put under tension, and when the mechanisms 22 and 35 have reached the forward end of their stroke the apron or cloth 19 will become stretched or elongated over the guide-roll 30 and the bunch will be deposited in the pocket 41′ of the bunch-catcher 38, as shown in Fig. 5. After this is accomplished the operator releases his hold upon the handles 24 of the roller-carrying mechanism 22, which relieves the tension upon the leaf-spring 34, connected to the slide 22′ of the said mechanism 22, and so allows said spring 34 to unwind itself around the rod 34″ and draw back the roller-carrying mechanism 22 by its slide 22′ traveling in the tracks 10 of the side frames 2, and after the mechanism has traveled back a sufficient distance the ends 37′ of the slotted links 37 will come in contact with the rear face of the slide 22′ and so draw back the binder-table mechanism 35, connected to said links 37 and roller-carrying mechanism 22, to normal positions, as shown in Fig. 1. The machine is then ready for another operation by removing the bunch from the pocket 41′ of the bunch-catcher

38 and placing the same within a suitable mold, so as to be ready to be finished in the usual manner with a wrapper when desired.

The bunching-roll 25 can be made of any shape or length desired by the use of different-shaped sleeves 26 and different-length sleeves 29, and such roll 25 is capable of easy removal from the roller-carrying mechanism 22 by taking out the cotter-pins 26″ from the blocks 25′ when the mechanism 22 is at its normal or rear position, which will cause the shaft 26′ of the roll 25 to drop down from the slots 25″ in the blocks 25′ into recesses 8″, formed in the upper faces of the said pieces 8, from which recesses 8″ the roll can be removed and the sleeves 26 and 29 changed to the desired length or shape desired, after which the roll can be returned to place by inserting the ends of the shaft 26′ within the slots 25″ of the blocks 25′ and the cotter-pins 26″ inserted in the blocks 25′ under the shaft 26′ of the roll 25.

In case it is desired to remove the guide-roll 30 from the roller-carrying mechanism 22 for repairing the same or removal of the other parts of the roller-carrying mechanism all that is necessary is to remove the cotter-pins 31′ from the blocks 25′, when the roller 30 can be removed from the slots 30′, and when so desired the parts can be replaced, the roller inserted in the slots 30′, and held therein by the cotter-pins 31′, engaging with the blocks 25′ over the roller 30.

The apron or cloth 19 is sufficiently wide to engage with the enlarged ends or portions 28′ on the sleeves 26 in order to keep such cloth straight in rolling the bunch, and thus will also allow the apron or cloth to stretch in the center in order to draw the head and tuck ends of the bunch to the desired shape for the cigar. By arranging the apron or cloth 19 in this manner over the sleeves 26 it also prevents the twisting of the said apron or cloth in rolling the bunch to shape.

In the roller-carrying mechanism 22 the bunching-roll 25 is mounted directly under the apron or cloth guide-roll 30, and the binder-stretching roll 33 is mounted directly in front of and on substantially the same horizontal line with the bunching-roll, so that the apron or cloth 19 will pass upon the apron or cloth roll 16, down in front of the guide-roll 30, and between the bunching-roll 25 and the binder-stretching roll 33 to form the pocket 20 before passing onto the table 12, and this arrangement allows the stretching-roll 33 to pass on to the top of the binder-table 36 for gripping the binder thereon, as well as allowing the bunching-roll 25 to close the pocket 20 below, and the binder is thus stretched by passing between the roll 33 and the table 36.

It will be evident that ball or roller bearings can be used in the slides 22′ and 35′ for engaging with the tracks 10 in order to permit the parts to operate more freely and by one hand, if desired, and that when it is desired to use the machine for making bunches from scraps or short fillers a hopper can be supported above the machine, into which the scraps or short fillers can be fed and deposited therefrom into the pocket in the apron or cloth.

It will be obvious that instead of operating the roller-carrying mechanism and with it the binder-table mechanism by hand-power a suitable treadle device can be connected to said roller-carrying mechanism and the machine operated by foot-power, if desired.

Various other modifications and changes in the construction, arrangement, design, and shape of the various parts of our improved cigar-bunching machine may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages. It will thus be seen that our improved cigar-bunching machine is cheap and simple in its construction and operation and by its use a great saving can be made in the formation of the cigar-bunches. It will permit of the making of any shape or size of bunches with practically little change in its parts, and the bunch so formed will be free from twists and defects and be as perfect as though made by hand. The machine contains few operating parts and on account of the size and being portable can be attached to any bench or table and operated in a rapid and easy manner by any unskilled person. By its use this class of machines is greatly simplified and their production greatly increased.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a cigar-bunching machine, the combination of a stationary main supporting-frame having tracks therein, a bunching-table within said frame, an apron passing over said table and adapted to form a pocket therein, a roller-carrying mechanism and a binder-table mechanism adapted to travel on said tracks, means connected to said roller-carrying mechanism for moving the same forward, connections from said roller-carrying mechanism to the binder-table mechanism, to permit the former to strike against the latter, and a leaf-spring connected to said frame and roller-carrying mechanism for permitting the latter and binder-table mechanism to move forward over the table to form a bunch in said pocket and be returned to place.

2. In a cigar-bunching machine, the combination of a stationary main supporting-frame having tracks therein, a bunching-table within said frame, an apron passing over said table and adapted to form a pocket therein, a roller-carrying mechanism and a binder-table mechanism provided with slides thereon adapted to travel on said tracks, handles connected to said roller-carrying mechanism for moving the same forward, slotted arms on said binder-table mechanism adapted to engage with said roller-carrying mechanism to permit the latter to strike against the former, move forward and return to place with it, and

a leaf-spring connected to said frame and roller-carrying mechanism for permitting the latter and the binder-table mechanism to move forward over the table to form a bunch in said pocket and be returned to place.

3. In a cigar-bunching machine, the combination of a frame, a bunching-table on said frame, a rigid portion extending down in front of said table having a lip at its upper end secured to the bottom of said table, an extension on the lower end of said rigid portion secured to the bottom of said table, and an adjustable spring portion extending up in front of said rigid portion and secured to the extension to form a bunch-catcher.

4. In a cigar-bunching machine, the combination of a frame, a bunching-table on said frame, a rigid portion extending down in front of said table having a lip at its upper end secured to the bottom of said table, an extension on the lower end of said rigid portion secured to the bottom of said table, a spring portion extending up in front of said rigid portion to form a bunch-catcher therewith, and a spring extension on said spring portion, and a bolt engaging with a slot in the extensions of the rigid portion and spring portions to adjust the latter.

5. In a cigar-bunching machine, the combination of a frame, a bunching-table within said frame, an apron or cloth mounted in said frame and adapted to form a pocket before passing over the bunching-table, a binder-table on said frame, a bunching-roll journaled on said frame, an apron-guiding roll mounted above said bunching-roll, and a binder-stretching roll mounted in front of and on substantially the same horizontal level with the bunching-roll, said stretching-roll being adapted to reciprocate horizontally with the binding-roll.

6. In a cigar-bunching machine, the combination of a stationary main supporting-frame having recesses therein, bearing-blocks on said frame provided with slots in their lower ends, and a bunching-roll adapted to be held in said slots and be removed therefrom into the recesses in the frame.

7. In a cigar-bunching machine, the combination of a frame, and a bunching-table mounted on said frame, said table having a series of grooves in its upper face at the rear end thereof for compacting the bunch and a smooth upper face at the front end thereof for smoothing the bunch after being compacted.

8. In a cigar-bunching machine, the combination of a frame, a bunching-table within said frame, a reciprocating bunching-roll mounted on said frame having tapered and enlarged cylindrical portions thereon, and an apron or cloth mounted on said frame and adapted to engage with the enlarged portions before forming a pocket and passing on to the bunching-table.

In testimony whereof we, the said WILLIAM WEIERBACH and EDWARD S. DICKSON, have hereunto set our hands.

WILLIAM WEIERBACH.
EDWARD S. DICKSON.

Witnesses:
J. N. COOKE,
O. W. RAFFERTY.