

J. STEPHAN.
 APPARATUS FOR MAKING CIGARS.
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998,268.

Patented July 18, 1911.

Fig. 1.

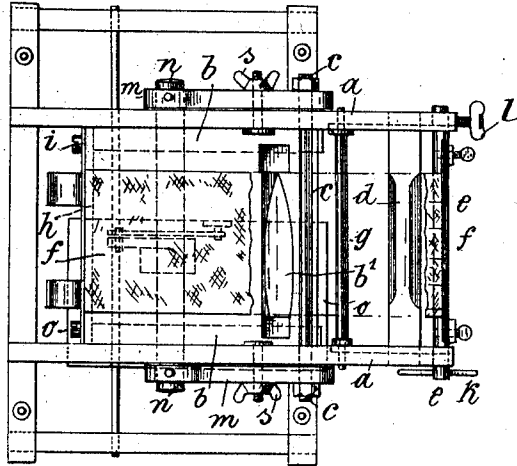


Fig. 2.

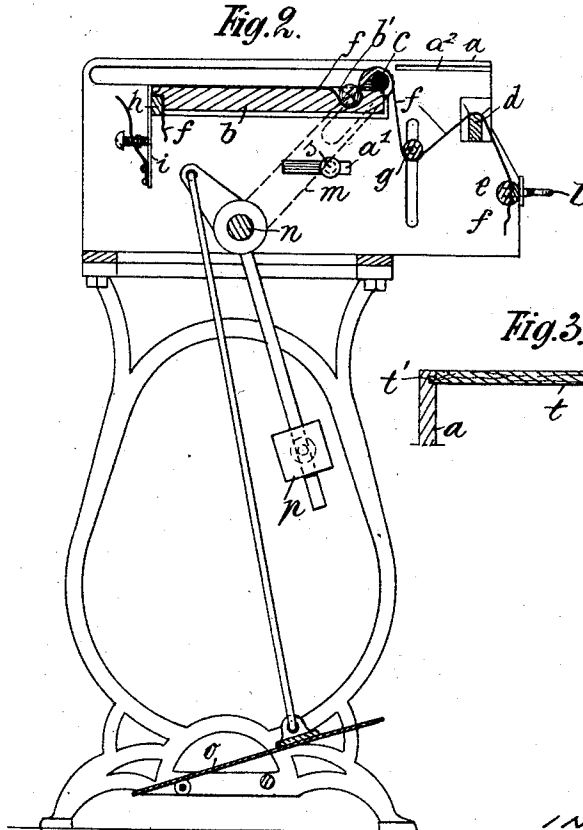
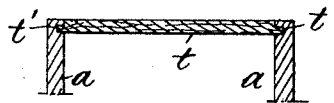


Fig. 3.



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APPARATUS FOR MAKING CIGARS.

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To all whom it may concern:

Be it known that I, JOHANNES STEPHAN, director, subject of the German Emperor, residing at Witzenhausen, Germany, have invented new and useful Improvements in Apparatus for Making Cigars, of which the following is a specification.

This invention relates to improvements in cigar rolling machines of the type which produce the bunch, forming the body of the cigar, in the fold or pocket of a rolling-cloth or apron with the aid of a cylindrical roller.

The invention consists firstly, in imparting tension to the rolling or bunching-apron by means of a model corresponding to the shape the cigar is to have. This method permits any desired shape of cigar to be manufactured more perfectly, and at the same time easily and accurately, than when manufactured by hand, or by means of the bunching machines tried hitherto including those in which shaped rollers are used.

The principal features of the machine for carrying the present method into effect are its simplicity, easy portability, and convenient adjustment for the various shapes desired.

The machine has a specially formed stretching-templet or block, which comes into operation when stretching the rolling-cloth or apron and when rolling the bunch. Further, the rolling-plate is formed with a recess exactly corresponding to the shape of the cigar to be rolled, so that the bunch can be shaped initially by hand. Moreover, the stroke of the side arms or levers, which guide the bunching-roller, is adjustable, so that rolling or bunching-plates of greater or less depth may be used; while the removable filler-plate is arranged to slide, so that it may be easily adapted to the alteration in stroke of the bunching-roller levers and to the depth of the particular bunching-plate in use. In this way the machine is suitable for rolling both the thinnest and thickest cigars, a bunching-plate of slight depth being used for thin bunches and the bunching-roller being adjusted for a corresponding small stroke; while a bunching-plate of greater depth is used for rolling thick bunches and a correspondingly longer stroke employed for the bunching-roller.

One construction of machine suitable for carrying my invention into effect is illustrated by way of example in the accompanying drawing.

Figure 1 shows a plan view. Fig. 2 is a sectional elevation, and Fig. 3 a detail sectional view.

The side-cheeks, *a, a*, of the machine-frame serve for receiving the parts effecting the bunching, that is, the bunching-plate, *b*, the bunching-roller, *c*, the templet, *d*, and the stretching-shaft, *e*. The rolling-apron *f*, runs from the rotatable stretching-shaft, *e*, where one of its ends is fixed, under a loose guiding-roller, *g*, to the bunching-roller, *c*, and over the bunching-plate, *b*, to the stationary transverse bar, *h*, where the apron is secured by means of a plate, *i*, held by screws or the like. The stretching-shaft, *e*, can be rotated by a handle, *k*, and fixed by means of a winged screw, *l*. The bunching-roller, *c*, is mounted in slots in two arms, *m, m*, which turn about a horizontal axis, *n*, and are actuated by the treadle, *o*, and brought back to their initial position by the counterweight, *p*.

The rolling-plate, *b*, and the stretching templet, *d*, are removable as is also the rolling-apron, *f*. The bunching-plate, *b*, is provided just in front of the bunching-roller, *c*, when the latter is in its backmost position with a recess, *b'*, exactly corresponding to the shape of the bunch to be produced, the recess curving gradually into the plane surface of the plate. The templet, *d*, is provided with recesses corresponding to the convex or bulged shape the cigar is to have.

For varying the stroke of the lateral arms, *m*, there are provided in the side-cheeks, *a*, horizontal slots, *a'*, furnished with adjustable thumb-screws, *s*, serving as stops for the arms. By means of these screws, *s*, the stroke of the arms, *m*, and consequently the movement of the bunching-roller may be easily adjusted.

A removable plate *t* serves as a table for the tobacco and binder leaves to be used in the machine, or it may be used for any convenient purpose. This plate *t* with its front edge should follow the bunching roller *c*, so that in case of insertion of a smaller bunching plate *b* and in case of another adjustment of the arm *m* with the roller *c*, the position of the plate *t* is to be changed accordingly. For this purpose the lateral edges of the filler-plate, *t*, are provided with a feather, *t'*, which fits into a correspondingly formed groove *a²* in the lateral cheeks, *a*. The plate, *t*, which is inserted into the cheeks, *a*, from behind may be of wood, so that the sensi-

bility of the workman's hand is not impaired by the coldness of an iron plate. The plate, *t*, may be secured in position in well-known manner, by means of set-screws.

5 For the purpose of adjusting the machine for manufacturing a certain brand of cigars, a special sample-cigar or dummy cigar is used, and for each brand of cigars a special set of rolling-plate *b* and templet *d* is used.
 10 The cavity *b'* in the plate *b* corresponds to the desired cigar-shape, and the templet *d* has an upper edge, which is, so to speak, the corresponding negative empty mold. During the adjustment, the dummy-cigar is en-
 15 veloped by the cloth *f*, whereupon the rear end of the band *f* is fastened in the binding-roller *e*. During this fastening-process the roll *g* is pressed against the upper ends of its slits. In accordance with the shape of the
 20 dummy-cigar, the longitudinal fiber of the cloth *f* is stretched more or less. When the cloth *f* has then been stretched to the extent appropriate for the respective brand of cigars, the wholesale manufacture of the
 25 cigars may then at once begin mechanically, because, by virtue of its tightness and of the shape of cavity *b'* and templet *d*, the cloth adapts itself to the shape of the desired cigar and thus forms the cigar-filler, which lies in
 30 the band, and takes the shape of the dummy-cigar. It is evident that for every different brand of cigars a different dummy-cigar must be used, as also a rolling-plate *b* with a differently shaped cavity *b'* and, likewise,
 35 a different templet *d*. The work can now commence, the binder leaves being spread out near the recess, *b'*, of the bunching-plate, the bunch of filling inserted into the recess, *b'*, and the bunching-roller, *c*, run over the
 40 bunching-plate, *b*, by actuation of the treadle *o*. The bunch is thus formed in the pocket of the rolling-apron, and is delivered at the front of the machine. The rolling-apron, as it has obtained its proper tension by being
 45 passed over the templet, *d*, yields sufficiently in order to render the structure of the bunch uniform, which is of the greatest importance for its quality. The bunches produced in this manner are preferably submitted to pres-
 50 sure in small molds for a few minutes only and are then provided by hand with the outer wrappers. The bunches, however, are suitable for further shaping or treatment in any desired manner.

55 It is obvious that the most varied shapes may be produced by the use of differently formed bunching-plates and tensioning-templets, which can be readily inserted and removed.

60 The machine is very efficient and is suitable for producing good and uniform bunches for cheap short-filler brands as well as for long-filler ones and also for the finest brands of the Havana type with binder-leaves, sev-
 65 eral inner layers, and a stretched filler. The

finest and most delicate binder-leaves may be used without any difficulty, effecting a saving of 30-40%. Owing to the mechanical tension of the apron and the use of a bunching-plate recessed to correspond to the shape, together with suitable templets, even an unskilled laborer will be enabled after a short time to produce good bunches of any suitable shape. The cigars produced by means of this machine are characterized by their excellent bunching and uniform rolling; they draw well and burn nicely and evenly, thus considerably enhancing the flavor of the cigar.

Having thus described my invention, I declare that what I claim is:—

1. In a cigar-bunching machine, in combination, a frame, a bunching-plate mounted therein, said plate being provided with a recess corresponding to the shape of the bunch to be produced, the surface of said plate being otherwise smooth and flat, a cylindrical rolling-apron secured in front of the plate and passing over it, a bunching-roller located in a fold of the apron, means for supporting and operating the roller, means for stretching the apron and maintaining it stretched, said means consisting solely of a templet corresponding to the shape the cigar is to have and carried by the frame rearward of the plate and a removable model of the shape of the bunch to be produced, said model being capable of being introduced into the rolling apron.

2. In a cigar-bunching machine, in combination, a frame, an exchangeable bunching-plate mounted therein, said plate being provided with a recess corresponding to the shape of the bunch to be produced, the surface of said plate being otherwise smooth and flat, a cylindrical rolling-apron secured in front of the plate and passing over it, a bunching-roller located in a fold of the apron, means for supporting and operating the roller, exchangeable means for stretching the apron and maintaining it stretched, said means consisting solely of an exchangeable templet corresponding to the shape the cigar is to have and carried by the frame rearward of the plate and a removable model of the shape of the bunch to be produced, said model being capable of being introduced into the rolling apron.

3. In a cigar bunching machine, in combination, a frame having horizontally slotted cheeks, a removable bunching-plate mounted therein, a rolling-apron secured in front of the plate, and passing over it, a bunching-roller located in a fold of the apron, an axis mounted in the frame-cheeks, arms turning on the axis and carrying the roller, treadle-mechanism for rotating the axis, set-screws in the slots of said cheeks, for limiting the stroke of the arms, a removable templet, corresponding to the shape the

cigar is to have, carried by the frame rearward of the plate, and means, located back of the templet, for stretching the apron, substantially as described.

- 5 4. In a cigar bunching machine, in combination, a frame, a bunching-plate mounted therein, a rolling-apron secured in front of the plate and passing over it, a bunching-roller located in a fold of the apron, means
10 for supporting and operating the roller, a templet, corresponding to the shape the cigar is to have, carried by the frame rear-

ward of the plate, means, located back of the templet, for stretching the apron, and a slidable filler-plate carried by the cheeks at the back of the machine, substantially as described. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHANNES STEPHAN.

Witnesses:

HEINRIK WAGNER,
RUDOLF ZAUER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."