

J. HAARER.
CIGAR MAKING MACHINE.
APPLICATION FILED JUNE 3, 1910.

987,457.

Patented Mar. 21, 1911.
2 SHEETS—SHEET 1.

Fig. 1.

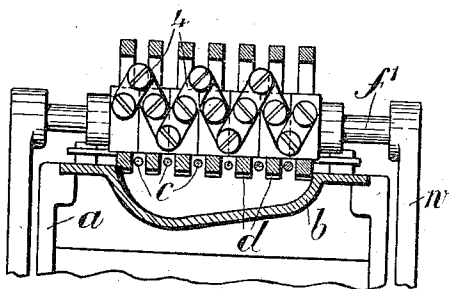
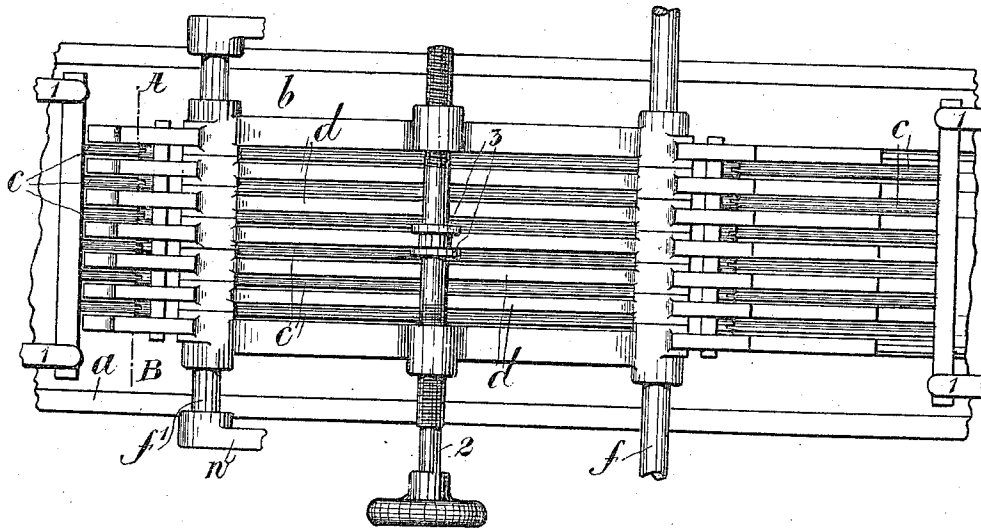


Fig. 2.

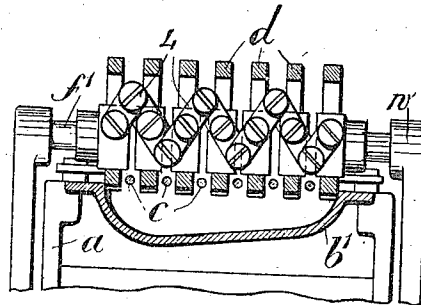


Fig. 3.

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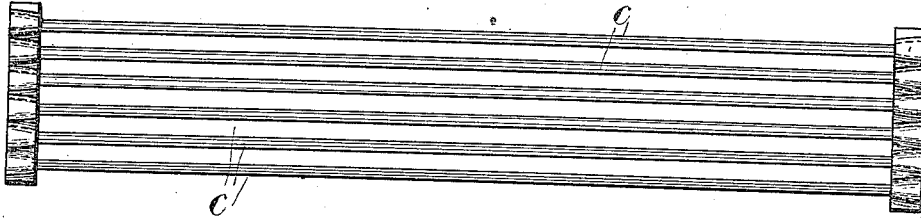


Fig. 5.

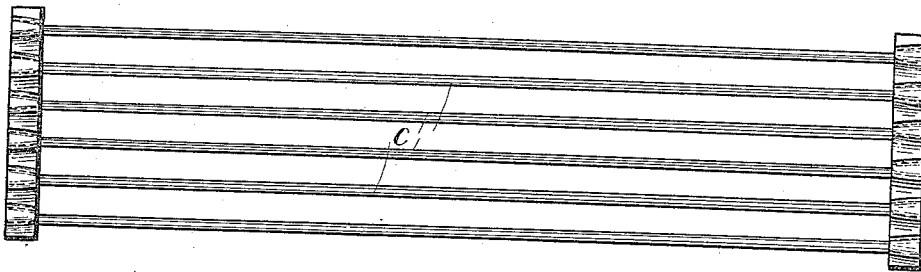
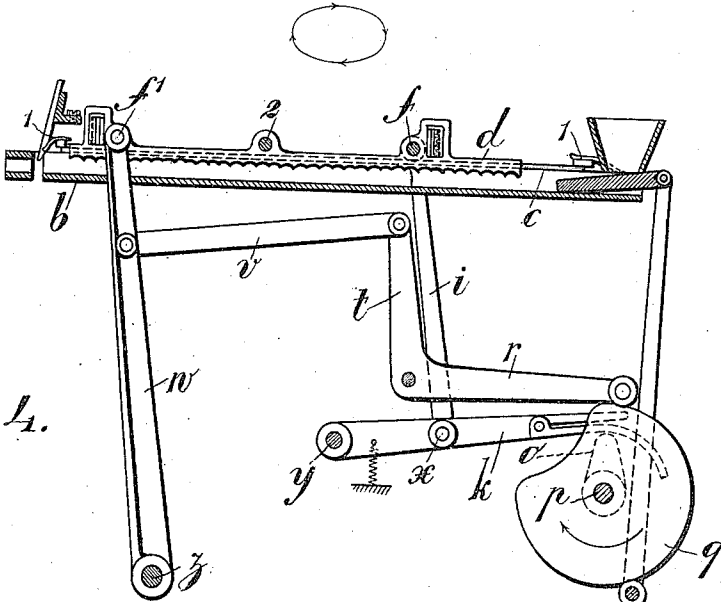


Fig. 4.



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UNITED STATES PATENT OFFICE.

JULIUS HAARER, OF FRANKFORT-ON-THE-MAIN, GERMANY.

CIGAR-MAKING MACHINE.

987,457.

Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed June 3, 1910. Serial No. 564,766.

To all whom it may concern:

Be it known that I, JULIUS HAARER, a subject of the German Emperor, and resident of Frankfort-on-the-Main, Germany, have invented a certain new and useful Improvement in Cigar-Making Machines, of which the following is a specification.

The present invention relates to improvements in machines for producing cigar bunches. Such machines are usually provided with a feed channel in which the tobacco is moved along by means of conveyer bars and is at the same time pressed down on to the bottom by means of bars. These pressure bars have previously been fixed stationary in the machine; as however, the channel has to be exchanged according to the different forms of cigars it may easily occur that with a broad channel the pressure bars will not sufficiently cover the same to prevent the tobacco from rising.

The advantages presented by this invention consist therein that the pressure bars are substituted by a grating pressing resiliently upon the tobacco, the spacing of the rods of said grating being adjusted to suit the width of the channel employed.

According to the invention the conveyer bars which are disposed between the rods of the grating are arranged so that the distances between them can be varied correspondingly with the spacing of the grating rods.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is a plan, Figs. 2 and 3 are cross sections on the line A B of Fig. 1 representing two different working positions. Fig. 4 is a front elevation to a smaller scale showing the channel in section and also the operating means. Fig. 5 shows in plan a modification of the grating in different breadths for depressing the tobacco.

The channel *b* is interchangeably arranged within the machine frame *a*. Above said channel are arranged conveyer bars *d* which are toothed on their lower edges and which are movable transversely upon the shafts *f* and *f*¹. The transverse movement is effected by a right and left handed screw spindle 2 engaging the two outside conveyer bars by means of its thread and the middle one by means of a collar 3. The outside conveyer bars are connected with the intermediate bars by means of so called shears 4 as shown in Figs. 2 and 3. Upon rotation of the spindle 2 the dis-

tance between the conveyer bars can therefore be altered as desired. The actuation is effected in known manner by means of a shaft *p* carrying a cam disk *q* and a tappet *o*. The cam disk *q* actuates a bell crank lever *r*, *t*, which is connected by a link *v* to levers *w* mounted on a shaft *z* and pivotally connected at their free ends with the shaft *f*¹. The tappet *o* engages a lever *k* pivoted at *y* and carrying a shaft *x* having two links *i* pivotally connected with the shaft *f*.

When the shaft *p* is rotated the conveyer bars *d* are moved through the intermediary of the members *r*, *t*, *v*, *w*, *f*¹ in conjunction with the members *k*, *x*, *i*, *f* in such manner that they will describe an elliptical path, dipping into the mold when moving toward the left, and being raised slightly above the mold when moving toward the right (see Fig. 4:) so that the tobacco contained in the mold will be carried with them only in one direction. The movement of the bars is indicated at the top of Fig. 4 by the small ellipse of arrows. The mold *b* is covered over its whole width by a grating consisting of rods *c* disposed between the conveyer bars. The rods *c* are pressed down resiliently against the tobacco contained in the mold by means of springs 1, thus preventing the tobacco from rising.

In order to produce cigar bunches of different form, channels of different breadth are placed into the machine frame *a*. If for instance a narrower channel *b* (Fig. 2) is exchanged for a wider one *b*¹ (Fig. 3) the distance between the conveyer bars *d* is correspondingly altered to suit, by rotating the spindle 2, as will be seen by comparing Fig. 2 with Fig. 3. By altering the position of the conveyer bars *d* the grating rods *c* disposed between them are correspondingly moved (Figs. 2 and 3) so that the spacing is also always adjusted to suit the width of the channel. Instead of forming the grating of independent rods, gratings as shown in Fig. 5 may be used, in which the rods are rigidly connected at their ends, and are at different distances apart corresponding to the different widths of the molds. These gratings are inserted in the corresponding channel and also pressed down upon the tobacco by means of springs. Instead of subjecting the grating to the action of springs, gratings resilient in themselves may be used for pressing down the tobacco. Variation of the spacing of the conveyer bars may

also be effected in other ways and not by shears as illustrated.

Having now described my invention I declare that what I claim and desire to receive by Letters Patent of the United States is:—

5 1. In a cigar-making machine, devices for pressing down and conveying the tobacco, comprising in combination interchangeable channels, gratings composed of rods for
10 pressing down and conveying the tobacco, conveyer bars entering into the spaces between rods of said grating, and means for varying the spacing of said conveyer bars.

2. In a cigar-making machine, devices for
15 pressing down and conveying the tobacco, comprising in combination interchangeable channels, gratings composed of rods for pressing down and conveying the tobacco, conveyer bars entering into the spaces be-
20 tween rods of said grating, means for varying the spacing of said conveyer bars and acting therethrough to vary the spacing of said rods.

3. A cigar making machine comprising in combination, a frame, interchangeable chan- 25 nel members therefor, elements for pressing and conveying the tobacco in said channel member, and means for adjusting said elements to correspond to the width of the channel used.

4. A cigar making machine comprising in combination, a frame, a channel member therefor, elements for compressing and conveying the tobacco in said channel member, mechanism connecting said elements to per- 35 mit movement thereof and maintain the same uniformly spaced, and means for adjusting said elements toward and from each other.

In testimony whereof I have signed my 40 name to this specification in the presence of two subscribing witnesses.

JULIUS HAARER.

Witnesses:

WALTER ELTREN,
JEAN GRUND.

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