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3 SHEETS—SHEET 1.

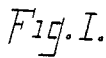


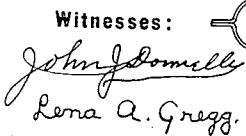
Fig. IX.

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3 SHEETS—SHEET 2.

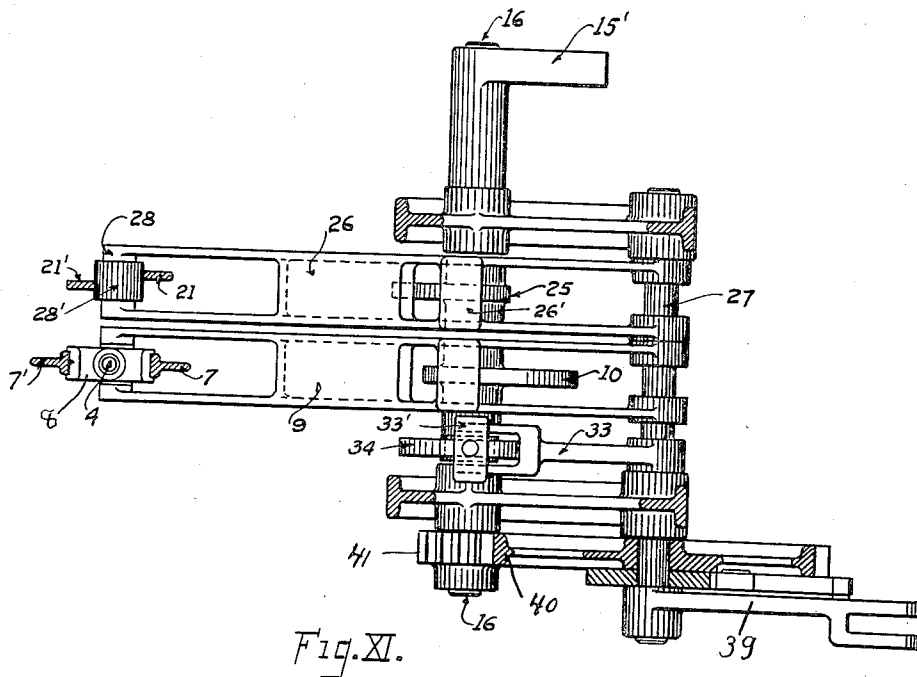
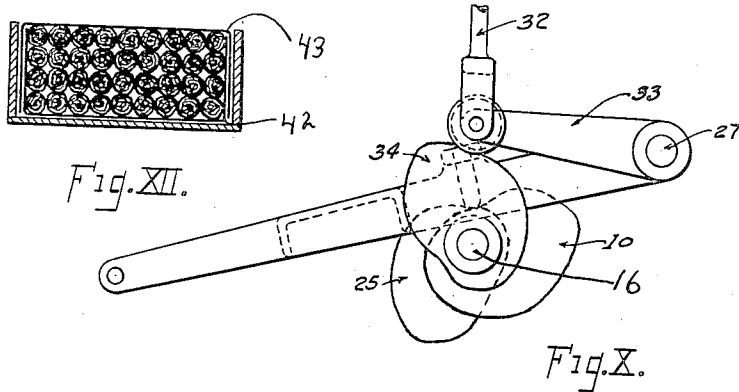


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CIGAR BANDING MACHINE.
APPLICATION FILED MAY 20, 1911.

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Patented Oct. 29, 1912.

3 SHEETS-SHEET 3.



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UNITED STATES PATENT OFFICE.

FRANKLIN E. TERRILL, OF LAKEWOOD, AND JOHN P. DOWD, OF CLEVELAND, OHIO.

CIGAR-BANDING MACHINE.

1,042,621.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed May 20, 1911. Serial No. 628,507.

To all whom it may concern:

Be it known that we, FRANKLIN E. TERRILL and JOHN P. DOWD, both citizens of the United States, residing at Lakewood and Cleveland, respectively, each in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cigar-Banding Machines; and we 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 the same.

This invention has reference to the banding of cigars, and more especially to the machine adapted for such banding.

The object of this invention is to provide a simple and effective construction of a machine which may be used by any cigar maker or manufacturer for the purpose of banding cigars, the machine being of a simple and effective type and not expensive.

Another object of this invention is to provide a machine adapted to band cigars in such a manner that when the band is placed on a cigar the meeting ends of the band form a projection which can be easily grasped for the removal of said band by the smoker.

Other objects of this invention will appear in the specifications following.

The invention consists, broadly, in a method of placing bands upon cigars, comprising the encircling of the cigar by the band and the cementing of the free ends of the band together so that the band ends will form a projection which may be easily grasped for the removal of said band by the user or smoker.

This invention consists in providing a machine for applying bands to cigars or the like in a manner particularly described, set forth and claimed in an application for U. S. Letters Patent signed by us on the 30th day of August 1911 having the filing date of September 1911 and bearing Serial Number 649,974, said application being a division of this application.

My invention further consists in the details of construction of the machine, all of which will hereinafter fully appear, explained and set forth in the following specification and claimed in the claims.

In the drawings, Figure I, is a view in end elevation of a machine embodying my construction, showing the cigar in position

and the position of the parts just previous to the folding of the band around the cigar. Fig. II, is a view in side elevation illustrating the position of the parts as the band has been removed from its hopper or magazine with the cigar in position and the paster or moistener applied to one end of the band just previous to the operation of infolding the cigar by the band and the severing of the free ends of the band. Fig. III, illustrates the position of the parts of the band folding and trimming device, the cigar supported, and the position of the relative parts as the folding of the band is accomplished and trimmed. Fig. IV, illustrates a plan view looking from above on Fig. III, with Fig. V, as a view in side elevation of a fragment of one of the folding arms with the shear blade attached. Fig. VI, is a detached view illustrating the operation of the moistener or paste applying device, (either of which may be employed) and Fig. VII, is a top plan view of the same. Fig. VIII is a detached view of the magazine containing the bands and illustrating the band extracting tube in position to extract and position the band. Fig. IX is a detail view of the suction pump, showing the cam in connection for operating the same. Fig. X, is a detail view in side elevation of the operating gearing, including the cams and their cooperating levers. Fig. XI, is a view in plan of Fig. X showing the relative position of the cams and levers relative to the operating shaft and mechanism, also showing the foot operating mechanism. Fig. XII is an illustration of one method of packing the cigars showing the wooden cigar box and the two interposing boxes used during the packing process. Fig. XIII illustrates the cross section shape of the band after it has been displaced from the banding machine and Fig. XIV shows the position of the band when packed in the box.

1, represents a table or standard of any suitable construction upon which the operative parts of the mechanism are mounted. These operative parts include the magazine 1' for containing the bands 2', embodying a weight 2 for keeping the bands 2' in position within the magazine and feeding them downwardly. Other means, however, than the weight 2 may be employed for this purpose. The lower end of the magazine 1' is open, and this opening is of such an area

as to allow the bands to be extracted separately through the medium of the suction extractor 4, supplied preferably with a soft mouth 6, formed of rubber or like material, and adapted to engage one of the bands 2'. This is shown more clearly in Fig. II, of the drawings. This suction apparatus 4, comprising a pipe which leads (see Figs. I and II) to the lower portion of the machine and is operated through the medium of guides 7, 7', and the cross head 8, which in turn is operated through the lever 9, this lever in turn being operated by means of cam 10, thus the feeder or suction device for the selecting and positioning of the bands 2' is reciprocated first upwardly and in contact with the lowest band, then downwardly bringing the band with it to the position as shown in Fig. VI, when the moistening liquid is applied to the band, the band continuing its motion until it rests on the form or holder 12. Means of providing for the vacuum or suction in this selector and placer is through a flexible tube 14, which in turn communicates with the suction pump 15, (see more clearly Fig. I) this suction pump being operated also through cam 15' on shaft 16 as will be more fully hereinafter explained.

After the band has been pasted or moistened it is placed in position on the form 12, the cigar 18 is then placed in position (see Figs. I and II). The moistener 20 which may be of any suitable type, or may contain the paste, mucilage or glue as determined has previously come into action to moisten or paste one of the free ends of the band 2' and in order to make the action of this moistener or paste delivering device more positive, an auxiliary arm 20' is employed, the end of which co-acts with the moistening or pasting device to facilitate the delivery of such fluid or semi-fluid on one of the free ends of the band and sustains the end of the band 2'. The construction as I prefer to employ it, of this moistener or paste delivering device and its co-action with the parts, is more clearly illustrated in Fig. VI.

The next action is for the combined folding, embracing and shearing device to operate, the operation of this device is illustrated more clearly in Fig. II, by solid and dotted lines, the solid lines illustrating the operating arms opened and the dotted lines the position of the arms after the band has been placed in position around the cigar and the ends trimmed. These arms which are designated by 21 and 21' are provided at their free ends or upper ends with resilient jaws 23, 23', which may be spring pressed by means of spiral springs 24, 24', or by other suitable means; the object of making these jaws resilient being, to supply sufficient pressure to infold the band around

the cigar, but not sufficient pressure to injure the wrapper or filler of the cigar; the shearing portion of these arms, which comprises shear blades 25, 25' are formed rigid with the arms, and after the infolding of the band around the cigar is accomplished, the uneven ends of the band are trimmed, thus leaving the band in the proper desired position in relation to the cigar as illustrated in Fig. XIII.

The manner of operating the band folder and cutter is as follows: On the shaft 16, the cam 25 engages a pivoted arm 26 as at 26' at which point a roller may be employed if desired and the arm 26 being pivoted to a shaft 27 the opposite or free end 28 is raised or lowered by action of the cam 25, the free end is provided with a roller 28' which engages between the arm 21 and 21', of the folder and cutter which being crossed and pivoted as at 29 and 30 respectively, (see Fig. II.) The arms 21 and 21' are opened or closed at the operative ends as shown by the solid and dotted lines in Fig. II, and thus the folder and cutter are operated to band and cut the free ends of the bands as hereinabove set forth.

The moisture or paste is mounted on one end of a pivoted arm 31 which is pivotally attached to a rod 32 in turn operated through arm 33 pivoted to shaft 27 and by means of cam 34 which engages the outer end of said arm as at 33' where the rod 32 is attached, thus the cam 34 imparts vertical reciprocating movement to rod 32 and oscillating movement to arm 33 which in turn through offset lug 34' operates the auxiliary arm 20' (see Fig. II,) the arm co-acting on the free ends of the band to retain and moisten or paste it.

The moistener or paster point 20 may be of any suitable construction adapted to supply moisture or paste to the band and deliver it in small quantities to one of the free ends of the same. Fig. VI, shows a construction which we prefer to use which will be clearly understood without further explanation. The suction pump, (see Fig. IX) comprises a cylinder 15''' and a piston 15'' freely operating in said cylinder, the piston being thrown upward by means of the cam 15' which engages the lower end of the piston through a slot or opening 35 and is lowered or retracted by a spring 36 which surrounds the cylinder 15 and engages a cross bar 37 attached to the lower end of the piston 15'' and which also serves as a rubbing plate for cam 15'. The flexible hose 14 is secured at and communicates with the upper end of the cylinder 15 and also with the lower end of the suction extractor 4, (see Fig. VIII). The lower end of the magazine 1 is open to allow the suction extractor to come into contact with the lowest band and remove it to the form 12.

The machine is adapted to be operated manually or by machine power and is shown as being adapted to be operated by foot power through the pedal rod 38 and pawl arm 39 which in turn gives a quarter turn to gear wheel 40 and a complete revolution to pinion 41, setting in operation the entire evolution of the machine parts as hereinbefore set forth and as follows: As the cams continue their motion, the folding arms retract then the suction arm or tube 4 starts in the upward movement throwing the cigar out at the same time continuing up to the magazine, extracting a band and carrying the same first to the paster or moistener then down to the form 12; during the down motion the paste, glue or other adhesive is applied to one end of the band 2' as shown in Fig. VI.

The manner of supplying the cigars to the form 12 to be banded is as follows: A box or form 42 of the inner contour of the cigar box is placed in a cigar box and the cigars in the same being green, are pressed as usual, then an inverted form 43 is inserted around the packed cigars and the cigars thus inclosed are removed from the box in reverse order, the upper layer being on bottom and the cigars handled *seriatim* beginning from one end of the layer and after being banded are replaced, one after the other, in their original position in the box.

What I claim is—

1. A banding machine comprising means for selecting a band, means for moistening or pasting the inner surface of one of the ends of said band, means for folding said band around a cigar and means for pasting the free ends of the band together at their inner surfaces.

2. A banding machine comprising means for selecting a band, means for moistening or pasting the inner surface of one of the ends of said band, means for folding said band around a cigar and means for pasting the free ends of said band together at their inner surfaces, with means for trimming said free ends substantially as set forth.

3. A machine for banding cigars or the like comprising a magazine or hopper for holding the bands, a suction device for selecting and carrying a band from the magazine or hopper, first to a moistening or pasting device, next to a form, and means for

engaging the band so as to wrap or infold it around an article and paste the free ends of said band together, and a cutter co-acting with said folding and pasting device adapted to shear or trim the free ends of the band, substantially as set forth.

4. In a machine of the type set forth a combination with a band feeding device, a form or rest and means for supplying paste or moisture to a band, of oppositely disposed and operating folders located in juxtaposition to said form or rest and having cutters secured to and coöperating with them.

5. In a machine of the type set forth the combination with a band feeding device, a form or rest and means for supplying a paste or moisture to a band, of oppositely disposed and operating folders located in juxtaposition to said form or rest, said folders having resilient jaws and having cutters secured to and coöperating with them.

6. A cigar banding machine of the type set forth comprising a band hopper, means for extracting a band from said hopper and bringing it to a rest or form, means for applying an adhesive to said band, means for infolding and securing the band around the article to be banded, and means for trimming the band after being thus infolded.

7. A banding machine of the type set forth comprising a hopper for the bands, means for feeding the bands to the lower end of said hopper and means for displacing a band from the hopper and placing it on a form or rest, means for applying an adhesive to one end of said band, means for infolding the band around the article to be banded and means for shearing the band after thus infolded, said folding means consisting of oppositely disposed and operating arms provided with resilient heads and also being provided with trimming blades for the purpose set forth.

Signed at Cleveland in the county of Cuyahoga and State of Ohio this 9th day May 1911.

FRANKLIN E. TERRILL.
JOHN P. DOWD.

Witnesses:

JOHN J. DONNELLY,
FRANK C. GREGG.