F. W. FELGNER.

CIGAR-MACHINE.

No. 191,231. Patented May 29, 1877.

Fig. 1.

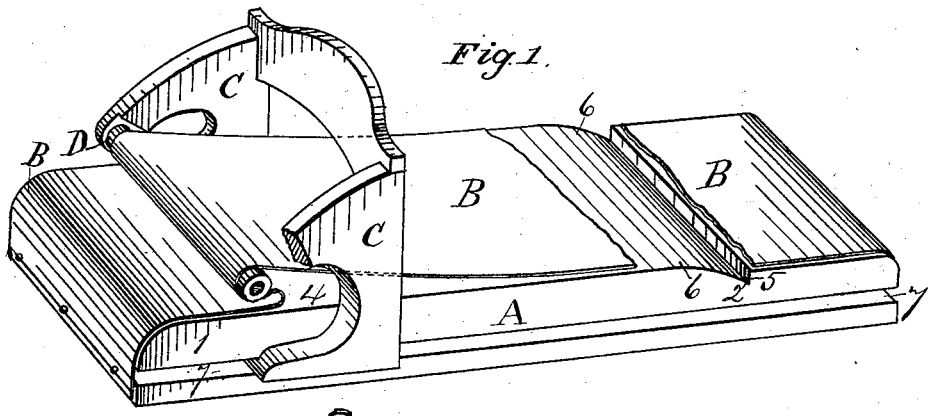


Fig. 2.

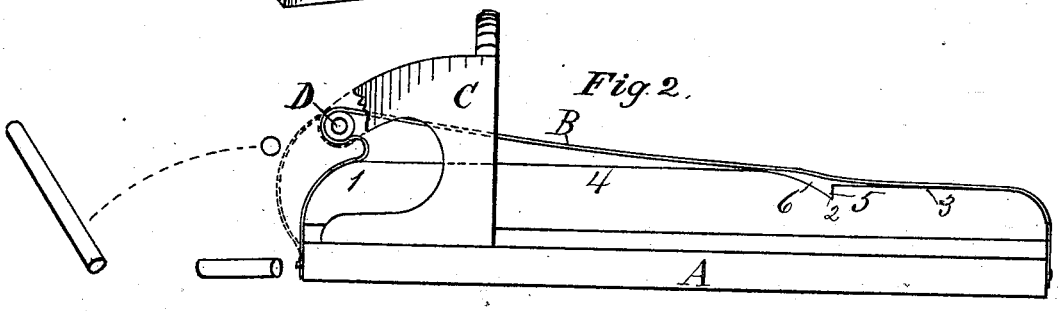
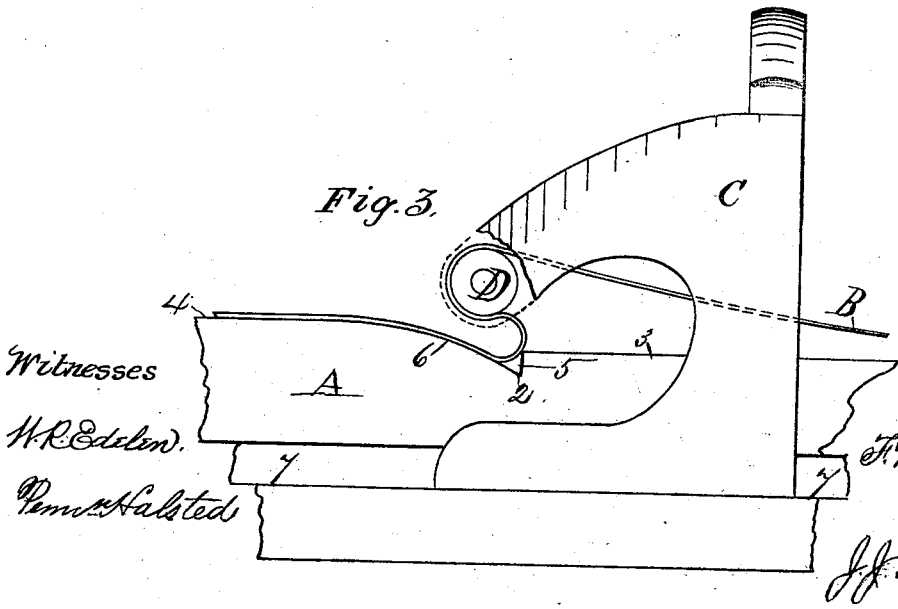


Fig. 3.



Witnesses

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by

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UNITED STATES PATENT OFFICE.

FREDRICK W. FELGNER, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN CIGAR-MACHINES.

Specification forming part of Letters Patent No. **191,231**, dated May 29, 1877; application filed May 1, 1877.

To all whom it may concern:

Be it known that I, FREDRICK W. FELGNER, of the city of Baltimore, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in the Method of and Means for Automatically Making Tobacco-Wrapped Cigarettes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a method and means for making automatically at a single act a tobacco-wrapped cigarette or cheroot without the need of any previous bunching, or bunching and paper wrapping, to give shape to the filler.

As heretofore practiced, it is generally customary, in order to make a hand-made tobacco-wrapped cigarette, to first cover the filling with paper in order to give it a form or bunch that will hold itself together, and afterward, say the next day, when dry enough to be likely to hold its form somewhat, this paper cover is removed by workmen, who then cover it with the tobacco wrapper as a substitute. This, it will be seen, demands three acts or steps—viz., the paper coating, the subsequent uncoating, and the final tobacco coating—involving much labor and delay, as well as the waste of the paper, and risking the damaging of each cigarette at every successive handling or manipulation. To avoid this some dealers do not remove the first or paper cover, but wrap the tobacco wrapper directly upon it; but this is objectionable to the smoker, inasmuch as the burning paper is more offensive than in the ordinary cigarette having a paper exterior, because it is closely confined under the tobacco wrapper, and its fumes cannot so readily escape in part into the surrounding atmosphere, but are more completely drawn through the cigarette into the mouth of the smoker; and, besides, there is less tobacco in cigarettes of a given size. Hand-made tobacco-wrapped cigarettes also, however skillfully made, will always have a somewhat rough and unsmoothed exterior, which it is desirable to avoid.

By my invention, besides avoiding all necessity of bunching, and all waste of paper, and making a better, more compact, and more sightly and salable article, a small girl can make complete from one thousand to twelve hundred per day, whereas a single workman could, by hand, ordinarily wrap only from six hundred to seven hundred bunches after they had been previously formed into bunches and covered with the temporary or preliminary paper covering.

Hand-made tobacco-wrapped cigarettes have also been made by taking plug-tobacco and cutting the plugs first transversely, and then slicing these short cakes lengthwise into small bars, and next reducing such bars by hand into an approximate cylindrical form, and finally wrapping the same by hand with tobacco.

This process limits to only such tobacco as is usually put up into plug form, and involves the time and labor and cost of giving it this form, besides the several acts of cutting down to the small solid bars, and then their reduction to the condition of a bunch, all which steps are avoided by my process, inasmuch as by my process the loose tobacco of any grade or quality required is immediately shaped and wrapped upon placing it in the machine—the requisite quantity—with a wrapper, and putting the machine in operation, as hereinafter fully described.

In the drawings, Figure 1 is a perspective view of a machine embodying my improvements, the belt being partly broken away; Fig. 2, a side elevation, showing the belt in two different positions as it ejects the finished cigarette; and Fig. 3, a partial side elevation, enlarged.

A is a flat bed or table of any suitable material, preferably of metal, having its forward end 1 rounded off, and having a peculiar depression or cut, 2, in its upper surface, extending across its face, and having the top 3 of the portion at the rear of such depression or hollow in a lower plane than the surface 4 of the bed. This depression 2 has an abrupt vertical or nearly vertical wall, 5, at its rear, forming a positive check or stop,

and its bottom is convex as it rises from the foot of this wall and merges into the floor of the bed, as shown at 6. The bed has also straight grooves 7, extending from end to end on each side.

The loose flexible belt B, made of rubber, rubber cloth, or other suitable material, is attached to the outer ends, respectively, of the bed A near its base, the belt being loose enough, as in some varieties of machines for covering cigars, to form a bend or double in a portion of it to hold the tobacco to be wrapped, as a traveling carriage, C, and its cylindrical roller D moves over the bed. The carriage has inward projections running in the grooves 7 as guides.

The object of having the part 3 back of the depression 2 lower than the part 4 of the bed is, that the bend of the belt which receives the tobacco may be free to be distended by it, and that the wall 5, while serving as a stop, shall not flatten the belt vertically. And, in this connection, it will be observed that, inasmuch as the carriage moves only in right lines, its roller also must move in right lines, and not in a curve or arc; therefore the tobacco, as the carriage starts, must be at once compressed into a narrowing space. As it rises, the convex grade 6 and this compression, independent of that caused by the mere act of rolling, continues until this grade is passed, and the level portion of the bed has been reached by the tobacco filling under treatment, and during all the rest of the route along the level or horizontal bed, and until the cigarette is completed, the compression and compacting due to the rolling and pressure of the impelling-belt continue.

This mechanism constitutes the entire apparatus, no other appliances of any kind being needed.

To operate the machine, the roller-frame or carriage is moved backward until it permits the belt, when doubled under it, to sag into the recess 2. A sufficient quantity of tobacco for a filling for a cigarette is then placed in such double or bend, the rear or vertical wall 5 of the recess preventing the belt, and consequently the tobacco, from dropping or falling back, and thus keeping it in proper shape; and when deposited, and after one corner or end of the tobacco wrapper has been laid upon the apron or belt, beneath the roller, and the roller-frame has commenced to move forward, the operation of the belt, in pulling forward the "filling," up and over the convex curve 6, is to assist in the compacting and tight rolling, and forming thereby a more consolidated and smooth-surfaced cigarette, better for handling and for smoking, and having a more finished appearance than when made in any other way known to me.

It will be understood, of course, that the dampened tobacco wrapper is to be given a little paste near its end just prior to its final coil upon the filling, in order to close the wrapper.

The bed A has no pocket or recess to receive the finished article, as in some cigar-machines, but, on the contrary, the portion 4 is an unbroken, smooth plane, terminating in the downward curve 1; and when the cigarette is finished, it has not to be picked up by hand and removed from the bed or from a pocket therein, thus demanding the time and attention of the attendant; but, as the roller-frame is not abruptly or otherwise checked by any stopping device during its forward motion, the continuous groove permits the continuance of this forward motion after the cigarette is finished, and the latter is thus still carried forward by the belt, and pushed by its bend or double over the end 1 of the machine, such bend thus serving automatically to deliver the cigarette, either by its pushing action or by an actual quick ejection, as the bight or double of the belt springs out from under the roller; this delivery relieving the attendant from any need of touching or handling the cigarettes for this purpose, and saving much time, while at the same time avoiding all liability of damaging them by unnecessarily picking up every one as soon as made.

The belt, as well as the surface of the bed, is entirely flat.

The machine, by being made broad enough, will make cheroots in precisely the same manner as above described, but will make them cheaper, better, and more rapidly, and much more compact, handsomely finished, and marketable, than the hand-made ones now in the market.

By making the roller D slightly conical—that is, of larger diameter at one end than at the other—the cigarette or cheroot will be given a corresponding form.

I claim—

1. The flat bed A, provided with the convex portion 6, wall 5, and reduced surface 3 at the rear of said wall, as and for the purposes set forth.

2. In combination with the belt, and with the carriage C and its roller, applied and arranged to be both traversed in right lines, the bed A, having the convex rise 6, merging into its horizontal portion, and connecting with the wall 5 to form the pocket, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

FREDRICK W. FELGNER.

Witnesses:

E. L. FELGNER,

WM. BONE.