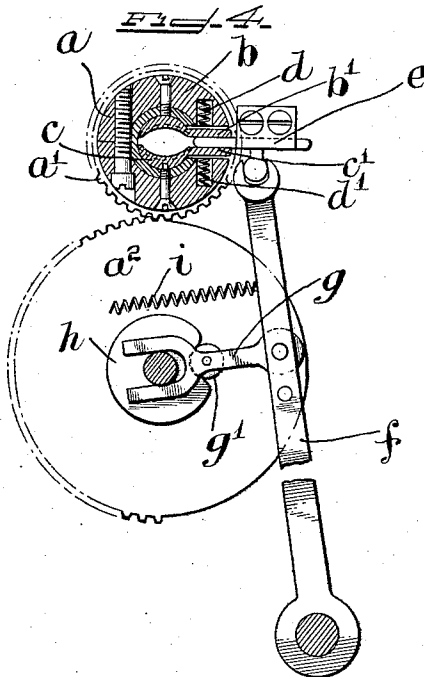
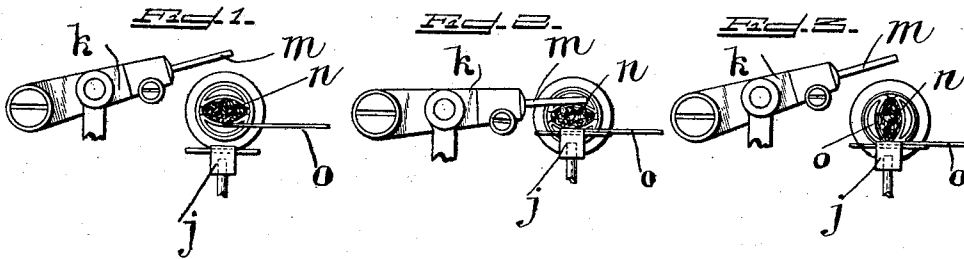


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WRAPPING MECHANISM FOR CIGARETTE CORK TIPPING MACHINES.
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UNITED STATES PATENT OFFICE.

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WRAPPING MECHANISM FOR CIGARETTE-CORK-TIPPING MACHINES.

1,009,341.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Application filed December 18, 1908. Serial No. 468,114.

To all whom it may concern:

Be it known that I, SALVADOR RAGONA, a citizen of the United States, residing at the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Wrapping Mechanism for Cigarette-Cork-Tipping Machines, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

My invention relates to improvements in wrapping mechanism for cigarette cork tipping machines and more particularly to that type of machine employing a rotary cigarette holder.

The main object of my invention is to provide a machine of this character wherein the opposite ends of the cork or other tipping material will be successively applied thereto by a positive pressure sufficient to insure the adhesion of the forward end of the tipping material to the cigarette prior to its being wrapped thereabout, and the adhesion of the rear end of said material to form the lap joint after such wrapping.

A further object is to provide a wrapping mechanism, which will, by the application of pressure to the cigarette, attach the forward end and form a lap, neutralize the elasticity inherent to the tipping material, and thus minimize the number of imperfectly tipped cigarettes delivered by the machine, arising from the imperfect formation of said lap.

A still further object is to provide in a wrapping mechanism of a tipping machine, a simple mechanism which will both apply the tip and seal the overlap, thus increasing the capacity of the machine. And a still further object is to provide a wrapping mechanism for a machine of this character which will be simple in construction and capable of applying the desired pressure without likelihood of injury to the cigarette end.

The invention consists broadly in a wrapping mechanism of a machine for cork tipping cigarettes, the combination of a rotary holder, means for holding one end of the tipping material close to the cigarette, a presser disposed diametrically opposite said means, and means actuating said presser, prior to the initiation of and after the completion of the rotation of said holder, whereby the forward end of the tipping material is caused to adhere to the cigarette and the

lap of said material is pressed to place; and in such other novel features of construction and combination of parts as are hereinafter set forth and described and more particularly pointed out in the appended claims.

Referring to the drawings:—Figure 1 is an end view of the wrapping mechanism showing the position of the platen plate and the presser as the section of tip is delivered relative to the cigarette and this mechanism; Fig. 2 is a view showing the position of the said platen plate and said presser just prior to the initiation of the rotation of the cigarette holder, which position will be duplicated immediately after the completion of said rotation; Fig. 3 is a similar view showing the position of the parts while the tip is being wrapped about the cigarette, and Fig. 4 is a detailed view showing the construction of the cigarette holder and the means opening and closing the jaws of same.

Like letters refer to like parts throughout the several views.

In the accompanying drawings, I have illustrated only the wrapping mechanism and such parts of the holder for the cigarette as are necessary to understand the mode of operation for securing the interval of rest necessary to eject one cigarette from the holder and insert another therein. The tip feeding, pasting, cigarette feeding and ejector mechanisms are not shown as various types of same are well known in this art, and the showing thereof is not necessary to understand this invention. The machine in which this wrapping mechanism as shown in the drawings, is designed to be used in connection with is patented to me in and by Letters Patent of the United States, #869,394, dated October 29th, 1907, reference to which may be had for details of the machine. In the said machine, the end of a continuous strip or web of tipping material is fed by a strip feeding mechanism with the free end thereof projecting beyond a vertical diameter or a vertical line passing centrally through, the cigarette, and the projected end of the material is engaged by the wiper and applied to the side of the cigarette, a subsequent oscillation of this wiper serving by a wiping action to form the lap. While this manner of applying the material and forming the lap is effective, and a machine utilizing same has high efficiency, the resiliency inherent to cork, which, the cork being impervious to moisture, is not diminished by

the application of the paste to the paper reinforcement backing same, will occasionally, after the cigarette is ejected from the machine, cause the ends to spring away from the cigarette and destroy the lap, necessitating the application of these ends to the cigarette by hand or the stripping of the tip therefrom and the retipping of the cigarette.

In my present invention, I utilize a cigarette holder *a*, having mounted therein two jaws *b c* adapted to close under light spring tension as from the springs *d d'*, and supplemental springs when desired, acting directly on said jaws. The jaws *b c* carry lugs *b' c'* between which a wedge *e* is adapted to be inserted once during each revolution of the said holder by the lever *f*, connecting rod *g*, roller *g'*, cam *h* and spring *i*. These parts are the same as in my aforesaid patent but are located at one side of the cigarette holder instead of beneath same, a change necessitated by the fact that with an oval cigarette in my aforesaid patented machines, the long dimension of the cigarette is vertical to secure the lap on the side thereof toward the wiper and in my present machine it is horizontal in order to position the lap in the same place relative to the cigarette.

The holder *a* is provided with a continuous gear *a'* by means of which it is rotated, said gear being adapted to mesh with the intermittent gear *a²*, of twice the diameter of the former. This construction affords that interval of rest necessary to accomplish the ejection of the cigarette from the holder, the introduction of a fresh cigarette thereto, and the feeding of the tipping material relative to the cigarette, as well as the application of the end of the said material to the cigarette and the formation of the lap by pressure prior to the ejection of each cigarette.

Below the holder, and aligned with the protruding end of the cigarette, is a vertically reciprocating platen plate *j* adapted to be brought into engagement with the cigarette and remain in such engagement during the entire rotation thereof irrespective of any variance in the diameter of the cigarette. This reciprocating plate has the same construction and mode of operation as that referred to in my said patent, and a detailed description thereof is not, therefore, entered into, it being merely necessary to point out that it has such movements in view of the apparent necessity for same, by reason of the difference in position shown in Figs. 1, 2 and 3.

Mounted on the frame of the machine, adjacent to said holder is an oscillating arm *k* having a presser *m* extending over the holder so as to engage the cigarette end when the holder is lowered, and exerting directly vertical pressure upon the cigarette,

in a line passing through the center of the plate *j*. The presser *m* may be of metal, or rubber, or other flexible material, and the throw of the arm *k* must be so regulated as not to exert too great a crushing strain upon the cigarette end.

The oscillations of the arm *k* are synchronized with the rotation of the intermittent gear *a²* and its engagement and disengagement with the gear *a'* so that said presser will be actuated prior to the engagement of said gears *a' a²*, and immediately after their disengagement.

I have indicated the cigarette by the letter *n* and the tipping material to be applied thereto by the letter *o*.

The operation of the herein described mechanism is as follows:—The cam *h*, connecting rod *g*, lever *f* and wedge *e*, having opened the jaws *b c* by means of the lugs *b' c'*; a cigarette having been inserted in said jaws, and said jaws having been permitted to close lightly thereon under their spring tension by the withdrawal of said wedge, the end of a continuous strip or web of tipping material is brought under the cigarette with the end thereof positioned where the lap of the tip is to appear. As the present practice is to position this tip on one flat side of the cigarette, the holder will be so positioned as to present the long side of the cigarette downwardly toward the said strip. When the strip has been so positioned, the reciprocating platen plate *j* raises sufficiently to carry said end of the tipping material into engagement with the protruding end of the cigarette. Simultaneously with this upward reciprocation of the said plate the arm *k* will be oscillated to bring the presser *m* downward into engagement with the top of the cigarette (as shown in Fig. 2) and will exert sufficient pressure to cause the cigarette and the strip to adhere permanently. The arm *k* and presser *m* are then raised out of such engagement at which time the intermittent gear *a²* meshes with the gear *a'* and turns the holder which contains the cigarette, the platen plate *j* wiping the strip of tipping material about the end of the cigarette and holding it in such alignment as to prevent the application of the tip except upon a perfectly straight line. It will be observed that as the cigarette is rotated (see Fig. 3), the presser *m* is not in engagement therewith, so that the wiping of the tipping material about the cigarette is accomplished solely through the rotation of the holder and the close juxtaposition of the plate *j* to the protruding end of the cigarette. When the holder has made one complete revolution, the gear *a²* is disengaged from the gear *a'* and the holder, and its contained cigarette, comes to rest with the lap of the tip downwardly presented and in engagement with the plate *j*.

The non-absorbent character of the tipping material, (and such a characteristic is essential to give it value as a tip for cigarettes) makes it difficult to cause the upper lapped end to adhere to the lower. To obviate this difficulty, however, which is the main object of this invention, when the various parts are so positioned the oscillating arm *h* is again brought downward to cause the presser *m* to again engage the protruding end of the cigarette, and exert such a pressure thereon diametrically opposite the lap, as to force the cigarette downward slightly against the platen plate *j* and thus seal the lap sufficiently firmly to secure the permanent adhesion of the two ends of the tip to each other. The pressure exerted need not be great, and must be so controlled as not to bend or break the end of the cigarette. The width of the presser must be coincident with the width of the tipping material in order to seal the lap along its entire length.

It is not my intention to limit the invention to any particular type of tipping machine, it being apparent that the manner of feeding the cigarettes, the construction of the holder therefor, and the manner of feeding the web relative to the protruding end of the cigarette, are immaterial to this invention and may take any desired or well known form. I believe it to be new, however, to wrap the tipping material about the end of the cigarette by a rotary movement of the cigarette and to seal the lap by pressing the cigarette between the presser and the opposed platen, and I intend to claim such broadly.

Having described my invention, what I claim as new and desire to have protected by Letters Patent, is:—

1. In a machine for tipping cigarettes, a wrapping mechanism embodying therein a rotary holder, a reciprocating plate for holding one end of the tipping material close to the cigarette, a presser disposed opposite said plate, and means actuating said presser, prior to the initiation of, and after the completion of, the rotation of said holder, whereby the forward end of the tipping material is caused to adhere to the cigarette, and the lap of said material is pressed to place.

2. In a machine for tipping cigarettes, a wrapping mechanism embodying therein a platen plate adapted to engage one side of a tipped cigarette near the end thereof and a presser adapted to exert positive pressure on the other side of and near the end of a cigarette to cause one end of the tipping material to adhere to the cigarette, and to seal the overlap of said material.

3. In a machine for tipping cigarettes, a wrapping mechanism embodying therein a rotary holder, means intermittently

rotating said holder, a reciprocating plate for holding one end of a piece of tipping material close to the cigarette contained in said holder, a presser disposed opposite said plate, and means actuating said presser prior to the initiation of, and after the completion of each rotation of said holder, whereby the forward end of the tipping material is caused to adhere to the cigarette, and the lap of said material is pressed to place.

4. In a cigarette tipping machine a wrapping mechanism embodying therein a rotary holder, adapted to receive a cigarette with one end protruding therefrom, a plate positioned below and in close juxtaposition to the protruding end of said cigarette, whereby said material will be directed about the cigarette by the rotation of said holder, means exerting pressure upon said cigarette diametrically opposite said plate whereby the forward end of said material will be caused to firmly adhere to said cigarette and means actuating said means whereby a similar pressure will be applied to said cigarette after the material is wound thereupon to force the lapped tipping material against said plate.

5. In a cigarette tipping machine, a wrapping mechanism embodying therein a rotary holder, means whereby said holder is intermittently rotated, a reciprocating platen plate mounted parallel to the axis of said holder, whereby one end of the tipping material is held below the protruding end of the cigarette in said holder, an oscillating arm, a presser carried by said arm, and adapted to engage the protruding end of the cigarette opposite said platen plate, and exert pressure thereon, and means actuating said oscillating arm, whereby said presser will be caused to exert such pressure prior to the initiation of, and after the completion of each rotation of said holder whereby the forward end of the tipping material will be caused to adhere to the cigarette end, and the lap formed by the rear end of said material, and said forward end will be sealed.

6. In a cigarette tipping machine, a wrapping mechanism embodying therein an intermittently operative rotating holder having oppositely disposed semi-elliptical jaws, means closing said jaws under light tension, said jaws being arranged with their lesser dimensions vertically, a reciprocating plate disposed beyond the forward end of said jaws whereby it will be positioned below the protruding end of a cigarette carried by said jaws, the forward edge of said material being positioned by said feeding means below the axis of said holder, a presser positioned above said holder diametrically opposite said plate, and means actuating said presser after the feeding

movement of said strip feeding mechanism
and prior to the rotation of said holder,
and after each rotation of said holder
whereby pressure will be exerted upon the
5 cigarette to cause the strip of tipping ma-
terial to adhere thereto, and the lap of said
tipping material to be sealed.

In witness whereof, I have hereunto

affixed my signature, this 10th day of De-
cember, 1908, in the presence of two wit- 10
nesses.

SALVADOR RAGONA.

Witnesses:

GEORGE McCAY,
P. V. WENING.

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