Feb. 19, 1946. C. ARELT 2,395,089

TOBACCO CONVEYER FOR CIGARETTE MACHINES

Original Filed April 15, 1937

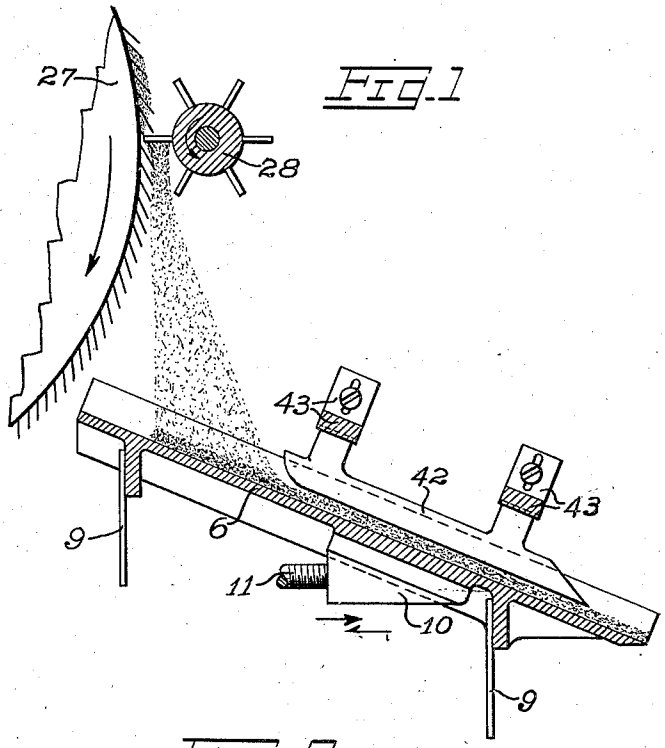


Fig. 1

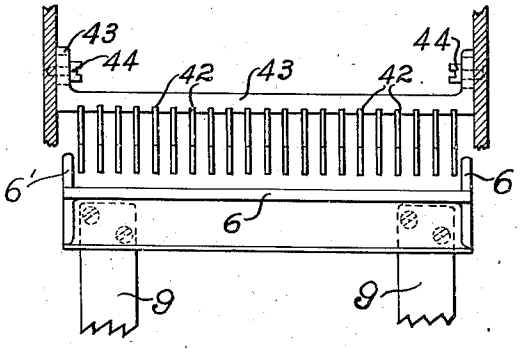


Fig. 2

Inventor:
CHARLES ARELT
By Jerges Hastings
Attorney

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TOBACCO CONVEYER FOR CIGARETTE MACHINES

Charles Arelt, Richmond Hill, N. Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Original application April 15, 1937, Serial No. 137,021, now Patent No. 2,270,862, dated January 27, 1942. Divided and this application November 7, 1941, Serial No. 418,119

3 Claims. (Cl. 198—220)

This invention relates to cigarette machines, and more particularly to mechanism for feeding tobacco to the cigarette forming devices thereof.

It has been found that when tobacco is picked from pin rollers or fed from conveyers and allowed to fall into a chute which discharges into the rod forming mechanism that inequalities will result, reflect in the finished cigarettes, and cause differences in weight and imperfect cigarettes unless some means are devised for controlling the tobacco as it is being fed to the cigarette forming mechanism.

According to this invention means have been devised for exerting a positive control upon the tobacco from the time it issues from the carding rollers of the feeding device until it is ejected into the chute. By means of this mechanism the tobacco is prevented from encountering the disturbing influences which are customarily encountered in a feed mechanism in which picker rollers tear the tobacco from feed rolls and allow it to fall in a more or less uneven mass into the forming elements.

According to this invention the tobacco as it issues from the carding rollers is fed to a vibratory conveyer on which the tobacco is formed into a layer of substantially uniform density and fed to a point where the advance portions are separated from the uniformly compacted layer and allowed to fall into the chute leading to the cigarette former.

One of the objects of the invention is to maintain the layer of tobacco upon the feeding surface of the vibratory conveyer at a definite thickness, and thereby prevent the formation of uneven portions across the tobacco layer fed over said surface.

With this and other objects not specifically mentioned in view, the invention consists of certain constructions and combinations shown and described in the accompanying specification and drawing, and specifically set forth in the accompanying claims hereunto appended.

In the drawing which accompanies and forms a part of this specification, and in which like characters of reference indicate the same or like parts:

Fig. 1 is a fragmentary longitudinal section of the vibratory conveyer equipped with overlying members for maintaining uniformity of the tobacco layer, showing the showering of the tobacco from the feed drum on to the conveyer; and

Fig. 2 is an end elevation of the vibratory conveyer and the members overlying the same.

Referring to Figs. 1 and 2, the tobacco is fed by picker roller 29 shown in Fig. 1 from a carding drum 27 also shown in Fig. 1 in a loose shower on to a table or plate 6. The latter extends from a point adjacent the drum 27 and beneath a plurality of spaced members, hereinafter described, to a concave channel (not shown) similar to the channel formed in the casting 7 shown in my Patent No. 2,270,862. To this casting, as shown in said patent, side plates are fixed near its ends, the discharge edge of this channel constituting the entrance of the delivery chute of the cigarette machine. The plate 6 above referred to is resiliently supported by means of vertical elastic strips 9 and is thrown into rapid vibrations of short amplitude by an electric vibrator which may be similar to that shown in copending application No. 39,563, filed September 7, 1935, by C. F. Randolph, issued April 29, 1941, as Patent No. 2,239,858 or other suitable device, attached to it by a bracket 10 and an adjustable screw 11. The plate 6 has side flanges 6' to which extension strips (not shown) are fastened so as to bear against the inner faces of the side plates (not shown) of the casting. Plate 6 and the channel formed in the casting are substantially of the same width as the carding drums of the tobacco feed, and associated with the plate 6 are members 42 hereinafter described which cooperate therewith to render the tobacco layer advanced by it of as uniform a height as possible.

In the feeding mechanism shown, it has been found that tobacco thrown from the feed drum on to plate 6 may have a tendency to form into lateral waves extending transversely of plate 6 and thereby cause a non-uniform mat to be formed as the tobacco is fed. In order to effectively prevent this formation as well as to maintain the mat of substantially uniform height, a series of parallel vanes 42 fixed to bars 43 are adjustably mounted over plate 6, said vanes being arranged in vertical planes and extending in the direction of movement of the tobacco layer. The lower or bottom surfaces of these vanes lie in a plane parallel to the conveyer table or plate 6 at a predetermined distance therefrom. Bars 43 are provided with slotted angle ends (see Fig. 2) which engage with the side walls of the tobacco feed mechanism and are adjustably secured thereto by screws 44. The vanes or members 42 are spaced a short distance apart to provide a plurality of spaced surfaces parallel to the surface of the plate 6 which continuously engage the tobacco layer advanced thereunder by the vibration of the plate 6, and thereby prevent the formation of lateral waves therein and even up the

flow of tobacco over the table 6, and insure that an even mat of tobacco will be fed.

The illustrated construction may be varied within the scope of the claims, for the particular device selected to illustrate the invention is but one of many possible concrete embodiments of the same. The invention is not, therefore, to be restricted to precise details of the structure shown and described.

This application is a division of my co-pending application Serial No. 137,021, filed April 15, 1937, which issued January 27, 1942, as Patent 2,270,862.

What is claimed is:

1. In a tobacco feeding mechanism, the combination with means for showering tobacco, of a vibratory conveyer having a tobacco feeding surface arranged to receive the tobacco showered from said means, a device for vibrating said conveyer to distribute the tobacco showered upon said conveyer into a layer upon said tobacco feeding surface and feed said tobacco layer over said surface, a plurality of spaced, stationary elongated members mounted above said conveyer and extending in the direction in which the tobacco layer is fed upon said conveyer, the major portion of the lower edges of said members being disposed in substantially parallel relationship to said tobacco feeding surface to engage the tobacco layer while it is fed by said tobacco feeding surface and thereby prevent the formation of laterally extending waves in said tobacco layer, and a support for said members.

2. In a tobacco feeding mechanism, the combination with means for showering tobacco, of a conveyer having a tobacco feeding surface arranged to receive tobacco showered from said means, resilient supports for said conveyer, a device for vibrating said conveyer to distribute the tobacco showered thereon from said means into a layer upon said tobacco feeding surface and feed said tobacco layer over said surface, and a plurality of spaced, stationary, elongated members mounted above said conveyer and extending in the direction in which the tobacco layer is fed by said conveyer, the major portion of the lower edges of said members being disposed in substantially parallel relationship to said tobacco feeding surface to engage the tobacco layer while it is being fed on said tobacco feeding surface and thereby prevent the formation of laterally extending waves in said tobacco layer, and a support for said members, said support being adjustable toward and away from the tobacco feeding surface of said conveyer.

3. In a tobacco feeding mechanism, the combination with a device for showering tobacco, of a vibratory conveyer table having a flat tobacco feeding and supporting surface arranged to receive and support tobacco showered from said showering device onto said table surface, a device for vibrating the table to form the tobacco showered thereon into a layer and to feed said layer to one end of said table for delivery therefrom, and stationary tobacco confining means secured in fixed position overlying said table and having tobacco engaging portions arranged in a plane substantially parallel to said surface and at a predetermined distance therefrom to engage said layer at positions across its width and extending lengthwise along the path of said layer for a major portion of its length to a position adjacent the delivery end of the table, to maintain a layer of substantially uniform thickness at said position.

CHARLES ARELT.