July 3, 1945. K. E. GRANSTEDT 2,379,575

WRAPPER CARRIER IN CIGAR MACHINES

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Fig. 1

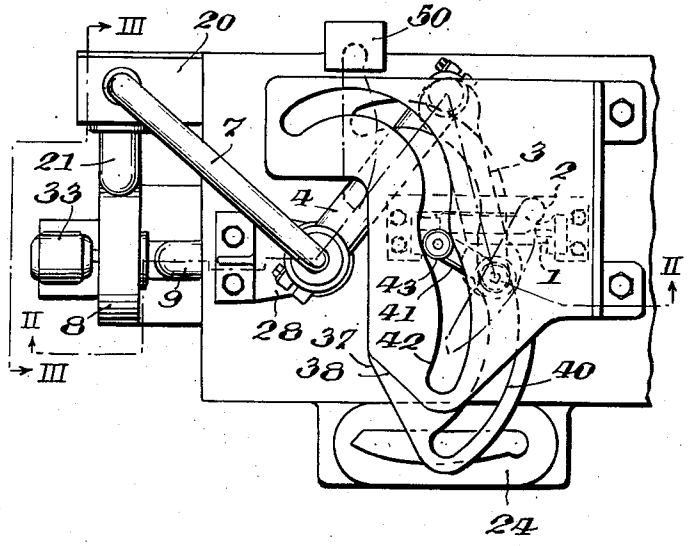
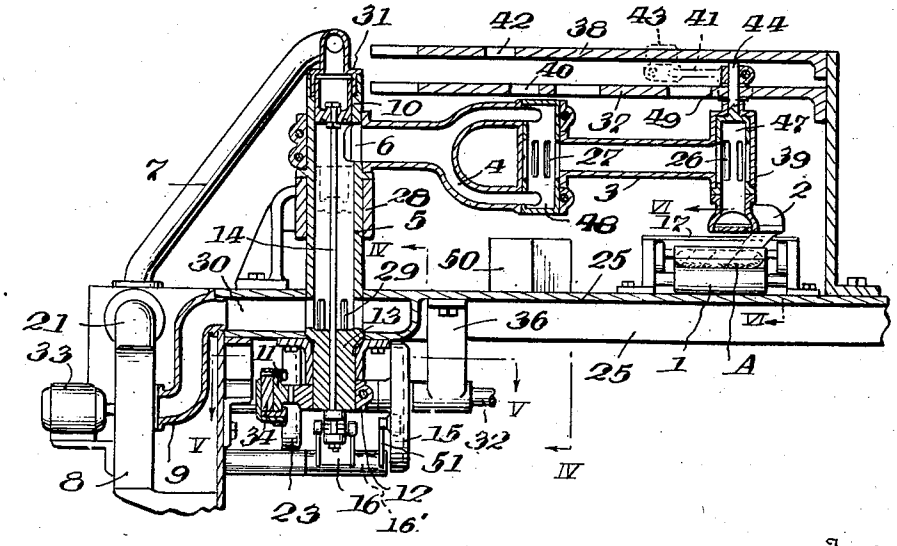


Fig. 2



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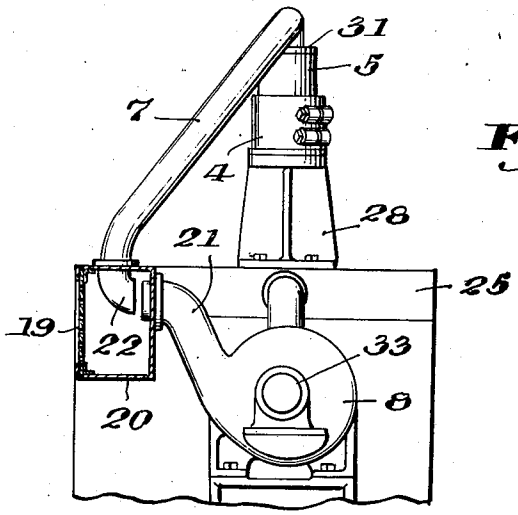


Fig. 3

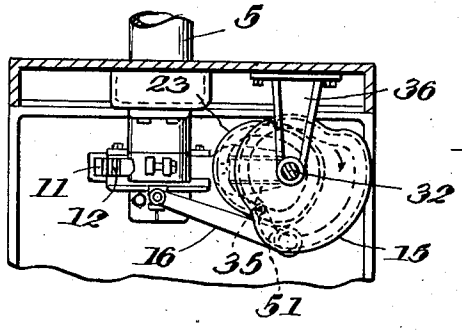


Fig. 4

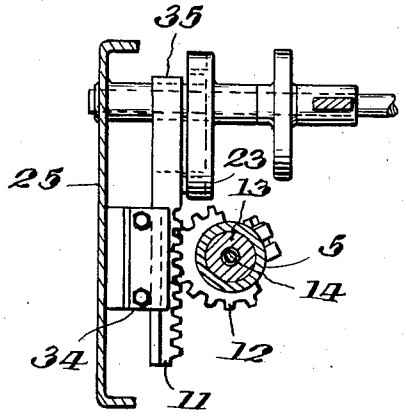


Fig. 5

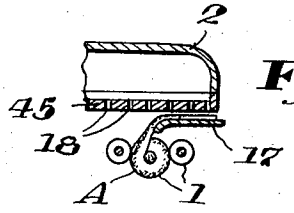


Fig. 6

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2,379,575

WRAPPER CARRIER IN CIGAR MACHINES

Karl Erik Granstedt, Stockholm, Sweden, assignor to Aktiebolaget Formator, Stockholm, Sweden, a Swedish joint-stock company

Application May 13, 1942, Serial No. 442,805
In Germany June 6, 1941

2 Claims. (Cl. 131—105)

This invention relates to an improvement in wrapper carriers for cigar machines, and it is an object of my invention to prevent the entrance of impurities or paste into the wrapper carrier at pivoted or articulated parts thereof, especially so as to obviate wear or clogging of such parts.

Another object of my invention is to accomplish an effective cleaning of all the perforations in the suction head of the wrapper carrier or to prevent impurities or paste from entering the suction head by such perforations.

Still another object of my invention is to accomplish effective cleaning of all the perforations of said suction head with the aid of pneumatic means which may be used for other purposes in the operation of the machine.

With these and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specially set forth in the claims hereunto appended.

In the drawings—

Fig. 1 is a plan view of part of a machine constructed in accordance with the invention;

Fig. 2 is an elevational sectional view taken on the line II—II of Fig. 1;

Fig. 3 is an elevational end view, partly in section, of some parts of the machine, taken on the line III—III of Fig. 1;

Fig. 4 is an elevational sectional view taken on the line IV—IV of Fig. 2;

Fig. 5 is a horizontal sectional view taken on the line V—V of Fig. 2; and

Fig. 6 is a sectional view on an enlarged scale, taken on the line VI—VI of Fig. 2.

Referring to the drawings, a cigar wrapping mechanism 1 having a tension plate 17, a wrapper cutting bed 24 and a supply 50 of adhesive are mounted on the machine frame 25 and operated in well known manner by mechanisms the structure of which is well known. A detailed description thereof is unnecessary to a full understanding of the present invention and therefore it is omitted in the interest of brevity. The wrapper having been cut out on the cutting bed 24 is transferred therefrom and delivered to the wrapping mechanism 1 by a pneumatic wrapper support 2. The wrapper support 2 is hollow and provided at its bottom end with a suction plate 45 having perforations 18. The wrapper support 2 is by means of a sleeve 47 rotatably journalled in the end 39 of a hollow reach arm 3, and its interior communicates with said arm through vertical slots 26 in the sleeve 47. The reach arm 3 is at 48 pivoted to a hollow supporting arm 4 and communicates with the interior thereof by means of vertical slots 27, so that the arms 3 and 4 constitute a hollow articulated wrapper carrier arm. The supporting arm 4 is secured to the upper end of a vertical hollow post 5 and communicates with same through an opening 6. The post 5 is supported and rotatably journalled in a standard 28 on the frame 25. At its lower end the post 5 communicates through vertical slots 29 with a suction chamber 30 in the machine frame. The suction chamber 30 communicates through a pipe 9 with the suction side of a fan 8 driven by a motor 33. The pressure side of the fan, i. e. its pipe 21, communicates through a pipe 7 with the upper end of the post 5. The connection of the pipe 7 to the post 5 consists of a head 31 which is secured to the pipe 7 and on which the post 5 is adapted to rotate. The pipe 21 of the fan projects into an air box 20 which has a strainer 19. The pipe 7 has within the air box 20 a curved extension 22 facing the mouth of the pipe 21.

Within the post 5 there is slidably arranged a valve 10 secured to a stem 14 which is axially movable in a guide 13 that forms the bottom end of the post 5. The valve stem 14 is at its lower end pivotally connected to the forked end of a double lever 16 one arm 51 of which is actuated by a cam disc 15. The double lever 16 is pivotally mounted on stub shaft 16' (Fig. 2). The cam disc 15 is keyed to a shaft 32 which is rotatably journaled in a bracket 36 and continuously driven by any suitable means (not shown). Thereby the valve 10 is moved up and down within the post 5 between the upper position shown in full lines and the lower position shown in dash and dot lines in Fig. 2 to alternately connect the support arm 4 pneumatically with the suction pipe 9 and the pressure pipe 7.

For turning the post 5 to make the wrapper support 2 perform its wrapper delivering movement a sector gear 12 is secured to same and meshes with a rack 11 which is slidably movable in a guide 34 and has a forked end 35 actuated by a cam disc 23 secured to the shaft 32. For guiding the wrapper support 2 to obtain traversing as well as angular movements two guide plates 37 and 38 are mounted above one another and secured to the machine frame. The sleeve 47 of the wrapper support 2 has an upper extension 44 projecting out of the hollow end 39 of the reach arm 3, and on said extension is rotatably journalled a roller 49, tracking in a curved slot 40 in the lower guide plate 37. To the upper end of the pin 44 is secured a rocking arm 41 which has at its free end a roller 43 that tracks in a

curved slot 42 of the upper guide plate 38. When the post 5 swings the articulated wrapper carrier arm 3, 4 to move the wrapper support 2 from the cutting bed 24 to the wrapping mechanism 1 the guide slot 40 will cause the wrapper support 2 to perform a traversing movement in a definite curved path and, simultaneously, the guide slot 42 will cause the wrapper support to turn about its axis, i. e. about the axis of the extension 44. When the wrapper is transferred from the cutting bed 24 and delivered to the bunch A in the wrapping mechanism 1 the valve 10 is in its raised position (Fig. 2), so that the wrapper support 2 is interiorly subjected to suction until near the end (Fig. 6) of the wrapping operation. Thereby the wrapper is by suction held on the suction plate 45. Then the valve 10 is lowered, so that air under a slight superatmospheric pressure is forced into the articulated wrapper carrier arm 3, 4 and the wrapper support 2, whereby air is expelled through the perforations 18 of the plate 45 and throws the wrapper flag down onto the tension plate 17. When the wrapping operation has finished and the valve 10 has opened the opening 6 completely air is expelled forcibly through all the perforations 18 of the suction plate 45, so that impurities and paste that might have previously been sucked into the perforations 18, are expelled therefrom. This reversed current of air will also prevent adhesive and impurities (sand, etc.) from gaining access to the bearing surfaces at the pivot 47 of the wrapper support 2 and the articulated knee-joint 48 of the arms 3 and 4. Thereby no impurities possibly mixed with adhesive will build up in the air passages (the slots 26 and 27, for instance) and clog same and, furthermore, no matters will accumulate there and wear the bearing surfaces.

I claim:

1. In a cigar machine, a hollow wrapper support, a hollow post, a valve in said post, a hollow articulated arm one end of which is connected with said wrapper support and its other end being connected with said post to establish communication between the interior of said wrapper support and the interior of said post, an air pump having a suction side and a pressure side connected to said post, and means for actuating said valve to alternately establish through said post pneumatic intercommunication between the interior of said hollow arm and the suction and pressure sides of said air pump.

2. In a cigar machine, a hollow wrapper support, a valve chamber, a valve in said chamber, a hollow wrapper carrier arm having a front section to the free end of which said wrapper support is pivotally connected and a rear section connected by a knee-joint to said front section and also connected with said valve chamber to establish communication between the interior of said wrapper support and the interior of said valve chamber, an air pump having a suction side and a pressure side connected to said valve chamber, and means for actuating said valve to alternately establish through said valve chamber pneumatic intercommunication between the interior of said hollow arm and the suction and pressure sides of said air pump.

KARL ERIK GRANSTEDT.