Aug. 26, 1941. C. F. RÖBER 2,253,868

APPARATUS FOR CLEANING THE SUCTION SURFACE ON A SUCTION HEAD CARRYING WRAPPERS IN CIGAR MACHINES

Filed June 7, 1939 2 Sheets-Sheet 1

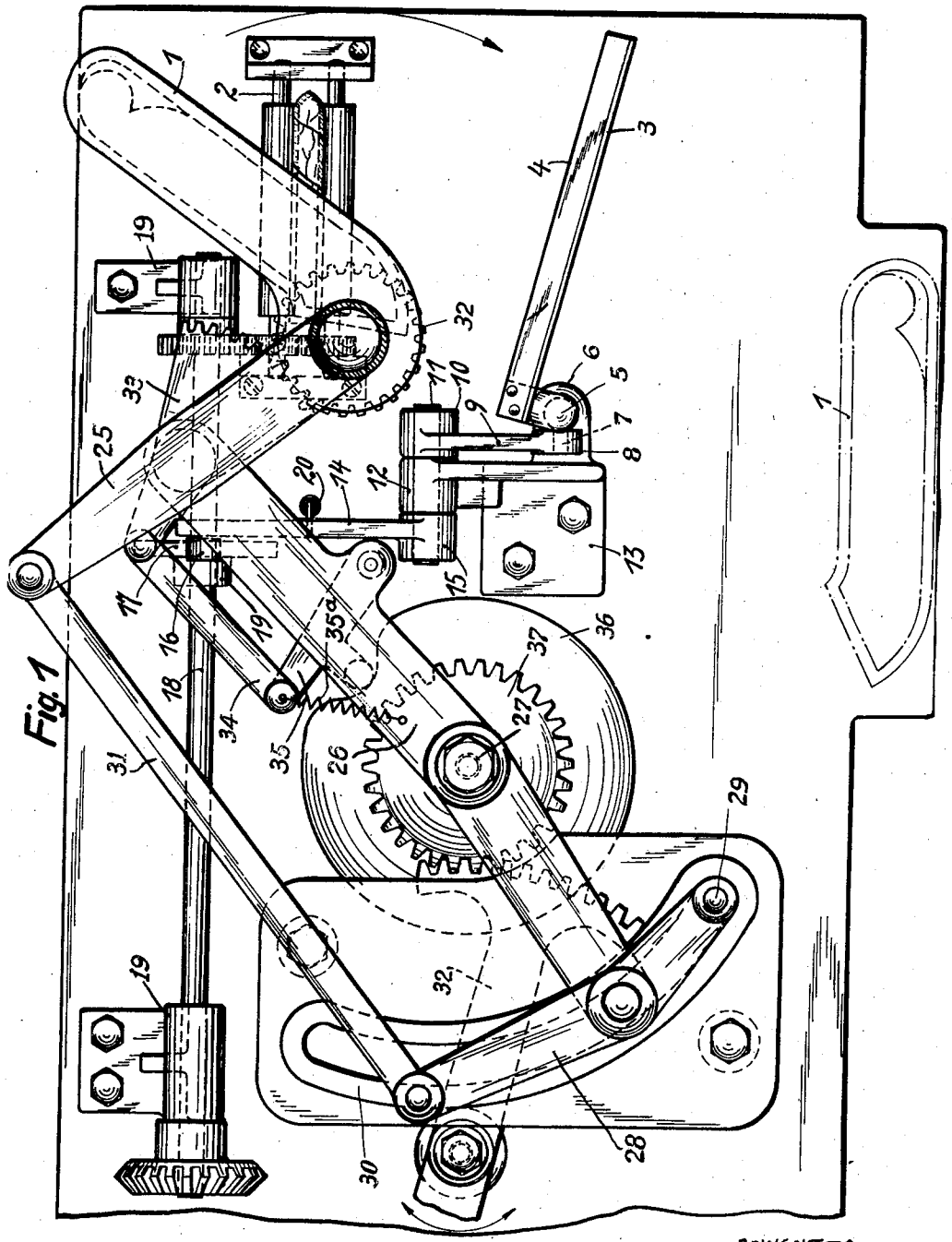


Fig. 1

INVENTOR
CONSTANTIN FRIEDRICH RÖBER

C. P. Goepel.
ATTORNEY.

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Fig. 2

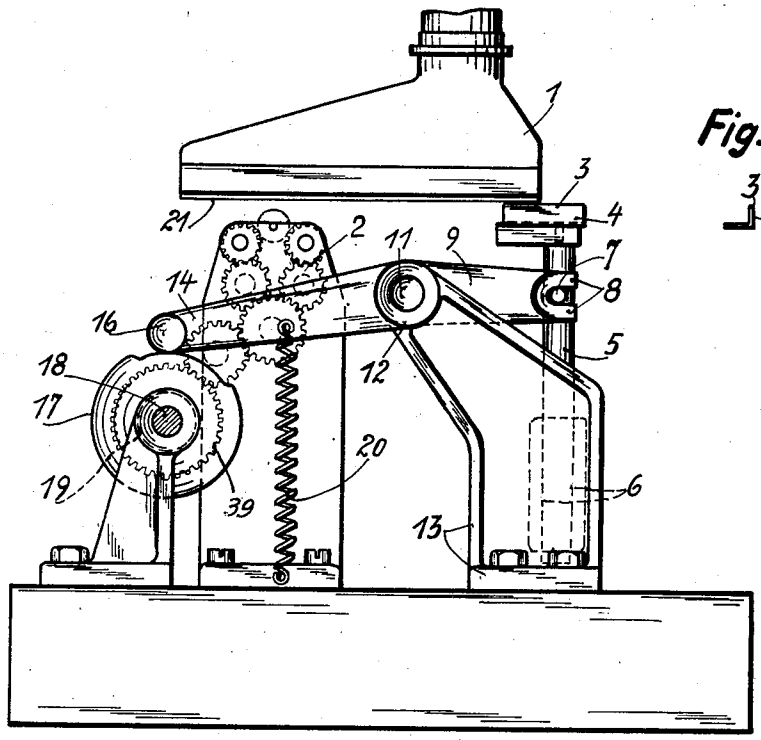


Fig. 3

INVENTOR
CONSTANTIN FRIEDRICH RÖBER

BY C. P. Goepel.

ATTORNEY.

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APPARATUS FOR CLEANING THE SUCTION SURFACE ON A SUCTION HEAD CARRYING WRAPPERS IN CIGAR MACHINES

Constantin Friedrich Röber, Dresden, Germany, assignor, by mesne assignments, to J. C. Muller N. V., Rotterdam, Netherlands

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In Germany June 22, 1938

4 Claims. (Cl. 131—105)

The present invention relates to cigar wrapping machines, and more particularly to means for cleaning the surface of the suction head after feeding a wrapper leaf to the cigar wrapping mechanism.

It is well known that cigar wrappers, which are applied to the cigar fillers in wrapping machines, are first cut to shape on a cutting table and are then removed from the cutting table and conveyed to the wrapping mechanism by means of a suction head adapted to the shape of the wrapper.

It is found by experience that there remain, adhering to the surface of the suction head, particles of tobacco which have to be removed from time to time in order to insure the positive and uninterrupted holding and transfer of the wrappers by the suction head.

Heretofore, as disclosed in U. S. Letters Patent No. 1,993,138, suction cleaning means has been proposed for this cleaning purpose. In this patent the suction remover is raised and lowered toward and from the suction head after delivery of a wrapper, and is adapted to operate only on the surface portion of the suction head which carries the wrapper. There must be at least a momentary stopping or dwell in the operation of the suction head while it is returning from the wrapping mechanism to the cutting table and during the time of actual contact of the suction remover with the suction head. During this momentary stopping of the suction head, the suction remover must be controlled not only as to its raising and lowering but also as to operation of the air suction in the remover. Further, means must be provided to prevent dirt and leaf particles, liberated by the suction, from entering and choking the suction piping.

To overcome the disadvantages and delays in the operation of the above cleaning device, and other attempts heretofore made, is an object of the present invention.

The present invention cleans the entire wrapper receiving surface of the suction head without interruption in the travel of the head and without the necessity of employing pneumatic means for effecting the cleaning operation.

Another object of the invention is to provide a simple scraper which is raised and lowered only and which when raised is held rigid in the path of the suction head so that as the head returns, after delivering a wrapper to the wrapping mechanism, the head wipes its wrapper contact surface over the scraper and the adhering particles of dirt and tobacco are effectively removed without entering the suction piping and clogging or choking the machine.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views,

Figure 1 is a fragmentary top plan view of a cigar wrapping machine, the parts above the suction head being removed, showing an embodiment of the improved cleaner of this invention applied thereto.

Figure 2 is a side elevation of the same, the suction head operating mechanism being removed, and

Figure 3 is a detail end view of the scraper employed.

Referring now to the drawings, and first to Figure 1, there is shown one form of swinging support for the suction head 1, but it is understood that any suitable means may be used for accomplishing this purpose. As shown in Figure 1, 1 designates a suction head which is pivotally mounted on one end of an arm 25 of a swinging support for the suction head. The arm 25 is pivoted intermediate its ends on the outer end of a lever 26 which swings from an intermediate point on a supporting post 27, and the inner end of the lever 26 carries a pivoted arm 28 having a guide stud 29 on one end engaging an arcuate guide 30 eccentric to the post 27. The other end of the arm 28 is connected by a link 31 to the other end of the arm 25 for swinging the same and the head 1 when the lever 26 is swung. The suction head 1 is swung into the necessary angular relations over the wrapping mechanism 2 and the cutting table, as shown at 1 in broken lines at the bottom of Figure 1, by a gear 32 on the head 1 meshing with a segment 33 pivoted on the lever 26 and operated by a link 34 connecting the segment to a follower 35 also on the lever 26 and bearing on a cam plate 36 on the post 27. The follower 35 is held against the cam plate 36 by means of a spring 35a which is secured at one end to the lever 26 and at the other end to the pivotal connection between link 34 and follower 35. A gear 37 on the lever 26 is operated by a sector 38 to reciprocate the swinging support and operate the head back and forth between the cutting table and the wrapping mechanism 2.

With reference now to Figures 1 and 2, there is disposed beneath the path of travel of the suc-

tion head 1, indicated by the arrow in Figure 1, a scraper 4 having a scraper edge 3, the scraper being of angular form as shown in detail in Figure 3, and with the scraping edge 3 directed upwardly so as to wipe across the lower wrapper receiving surface of the suction head 1. This scraper 4 is fixed at its inner end to a post 5 which is vertically movable in a socket 6 so that the scraper may rise and fall toward and from the path of the suction head 1. The post 5 is provided with a transverse pin 7 projecting from one side thereof at a point beneath the scraper 4 to receive a fork 8 carried on the end of a lever 9 having a hub 10 fixed to a shaft 11.

The shaft 11 is pivotally mounted in a bearing 12 provided on the upper end of a fixed post or standard 13, and the shaft 11 extends through the bearing 12. The projecting end of the shaft 11 has secured to it the hub 15 of an arm 14 which extends to one side of the post 13 and is provided upon its free end with a roller 16 bearing against the face of a cam 17 secured to a shaft 18 mounted in bearings 19. A spring 20 is carried by the frame and is connected at its end to the lever 14 for normally urging the same downwardly and maintaining the roller 16 against the face of the cam 17. It will be noted that the cam 17 has a depressed portion in one side and this depressed portion is of a circumferential length to hold the arm 14 depressed and the scraper 4 in raised position for a period of time sufficient for the head 1 to wipe across the upper edge 3 of the scraper.

The greater circumferential length of the cam 17 is such that it holds the arm or lever 14 raised and the scraper 4 depressed for a sufficient period of time during which the suction head 1 picks up a wrapper 21 at the cutting table as shown in dotted lines at the bottom of Figure 1, and carries and delivers the wrapper 21 to the wrapping mechanism 2, the scraper 4 being lowered at this time to prevent contact of the scraper with the wrapper 21 so that the suction head 1 may travel uninterruptedly to the wrapping mechanism. After delivery of the wrapper 21 the scraper 4 is then raised by the spring 20, acting through the arm 14 and lever 9 so as to remove from the lower wrapper 21 engaging or contact surface of the head 1 all particles of dirt and tobacco which may adhere to the surface of the head.

It will also be noted that the scraper 4 is so disposed that as the head 1 wipes across the edge 3 of the scraper the latter is disposed substantially transversely of the longitudinal axis of the head so that all portions of the face of the suction head will be brought into scraping contact with the edge 3 of the scraper.

From Figure 2 it will be noted that the cam 17, which is fixed to the shaft 18, is operated by a gear 39 which meshes with the gears of the wrapping mechanism 2 so that the cam 17 operates in timed relation relative to the wraping mechanism and consequently with the other working parts of the machine.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:

1. In a cigar wrapping machine, the combination with the usual suction head and a swinging support therefor to move the head from the cutting table to the wrapping mechanism, a scraper disposed between the cutting table and the wrapping mechanism, a vertically movable support for the scraper, and periodically operating means connected to the support for raising the scraper into a position for contact with the lower surface of the suction head during the return movement thereof from the wrapping mechanism to the cutting table whereby the lower surface of the suction head will wipe said scraper during the return movement of the suction head.

2. In a cigar wrapping machine having a suction head and a swinging support therefor for moving the head back and forth between the cutting table and the wrapping mechanism of the machine, a scraper disposed between the cutting table and the wrapping mechanism, and operating means supporting the scraper for raising and lowering the same to frictionally engage the scraper with the wrapper receiving surface of the head during the return movement of the latter from the wrapping mechanism to the cutting table whereby the lower surface of the suction head will wipe said scraper during the return movement of the suction head.

3. In a cigar wrapping machine having a suction head and a swinging support therefor to carry the suction head back and forth between the cutting table and the wrapping mechanism, a scraper disposed between the cutting table and the wrapping mechanism, a vertically moving post connected to the scraper for supporting the same, a rocking lever pivotally mounted on the machine and connected at one end to the post and having a roller on its opposite end, a cam having a cam shaft and gearing connecting the same to said wrapping mechanism for timing the operation of the cam to the operation of the machine, a spring carried by the machine and engaging said rocking lever to maintain the roller thereof against said cam, said cam having a recessed portion for the reception of the roller to permit rocking of the lever and the raising of said scraper for contact with the lower edge of the suction head as the latter returns from the wrapping mechanism whereby the lower surface of the suction head will wipe said scraper during the return movement of the suction head.

4. A cigar wrapping machine having a suction head and a swinging support for the suction head to carry the latter back and forth between the cutting table and the wrapping mechanism, a vertically movable post mounted on the machine, a scraper carried by the post and extending transversely therefrom across the path of travel of the suction head, a lever mechanism pivoted on the machine and connected to the post for raising and lowering the same to raise and lower the scraper relative to the path of travel of the suction head, and a cam mounted on the machine and connected thereto for timed operation on the lever mechanism to raise the scraper for contact with the lower surface of the suction head as the latter returns from the wrapping mechanism whereby the lower surface of the suction head will wipe said scraper during the return movement of the suction head.

CONSTANTIN FRIEDRICH RÖBER.