Oct. 9, 1928. 1,686,628

O. MULLER

BANDING MACHINE

Filed July 9, 1925

Fig. 1.

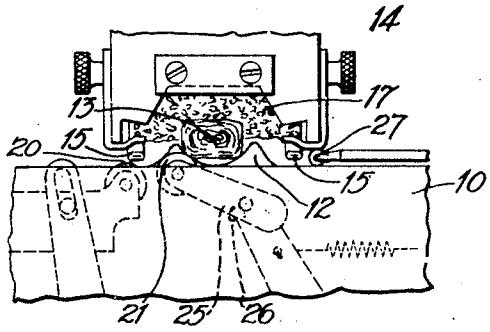
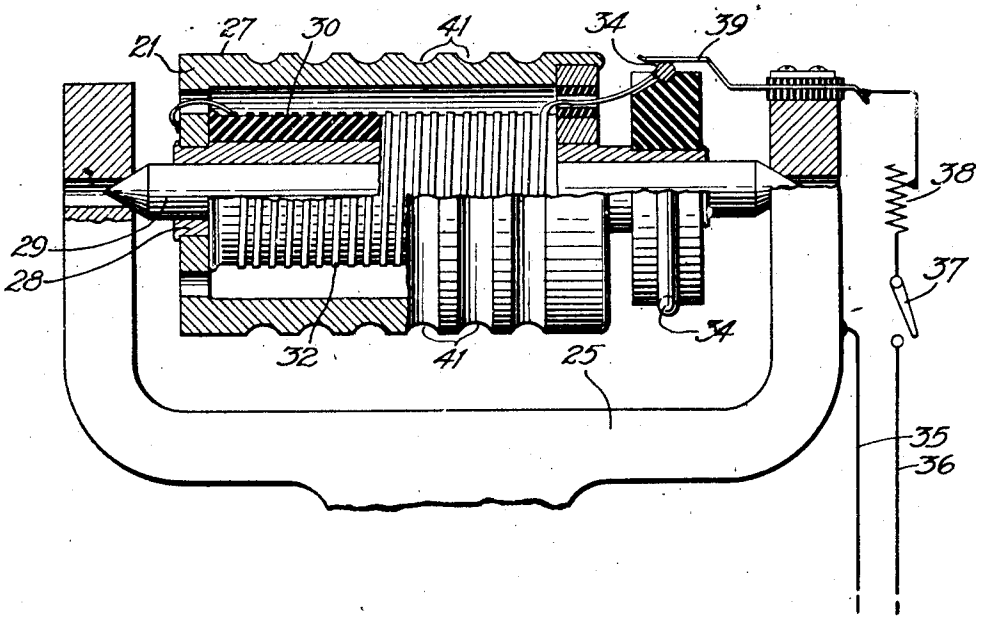


Fig. 2.



Inventor:

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UNITED STATES PATENT OFFICE.

OTTO MULLER, OF RICHMOND HILL, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO KNEHER MULLER COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

BANDING MACHINE.

Application filed July 9, 1925. Serial No. 42,450.

This invention relates to machines for banding cigars and similar articles and has for its object to secure the overlapping ends of a band or the like in a rapid and efficient manner.

Two methods have heretofore been used in banding cigars. In one method bands having dried gum, paste or the like at one end are used, the gummed end being moistened shortly before the ends are pressed together. In the other method wet paste is applied to an ungummed band just prior to the banding operation. In either of these methods an appreciable time is required for the wet adhesive material to become dry enough to hold. The result has been that some of the bands fail to remain on the cigars. Both of these methods have other objectionable features which are avoided by the use of this invention.

In accordance with the invention gummed bands are used and are wrapped about the cigar, preferably with the gummed end unmoistened. The ends are simultaneously pressed together and heated to a point where the gum is softened enough to quickly and permanently adhere to the ungummed surface. I have found in the case of bands which are now on the market that this result can be accomplished by the use of a very moderate degree of heat, not sufficient to injure either the cigar or the band.

The invention will be more fully understood by reference to the following detailed description and claims taken in connection with the accompanying drawings, in which:

Figure 1 is an elevation of a portion of a cigar banding machine showing how the invention is incorporated therein and

Figure 2 is a detail view of a roller and associated elements used in Figure 1.

Figure 1 shows an arrangement of certain parts of a banding machine which is shown in its entirety in my application Serial Number 3,924, filed January 22, 1925. Only such parts are illustrated herein as are necessary to an understanding of this invention. The essential parts are briefly, a support for the cigar, means for placing a band adjacent the cigar and partially wrapping it thereabout, means for bending the ungummed end of the band against the cigar and means for causing the gummed end to overlie the ungummed end. As illustrated the latter means is so constructed as to be readily heated and to be pressed against the overlapping end to cause adhesion.

Obviously the above referred to mechanisms can be operated manually or by any desired motive power with suitable connections thereto. It is preferred, however, to operate them by means of the driving elements described in detail in my prior application above referred to.

In my prior application the roller used for bending the ungummed end of the band was a carrier of moisture. With this invention the supply of moisture can be and preferably is omitted.

Referring now to the drawings by reference numbers, the bench 10 is provided on its upper surface with cradle shaped cigar rests one of which is shown at 12. A cigar 13 is shown in position thereon.

The drawing shows the lower portion of a head 14 which carries two suction tubes 15. The suction tubes have forwardly extending horizontal portions having suction ports (not shown) in their lower surfaces. Held in position by suitable clamps is a block of sponge rubber 17, which forms the lower surface of the head 14. The head 14 is movable from the position shown in the drawing to a position over a pile of cigar bands. The uppermost cigar band is lifted by suction and carried to a position where it lies across the cigar. The head 14 is then depressed to the position shown and the sponge rubber strips the ends of the band from the suction tubes and wraps the band about three sides of the cigar. At this time the ends of the band extend downward through an opening in the bench 10 between the supports 12.

Mechanism for completing the banding operation comprises rollers 20 and 21 which are movable horizontally in paths enabling them to engage the under surface of the cigar. The normal position of the roller 20 is that shown in Figure 1. The normal position of the roller 21 is at the right of the cigar just beneath the guide roller 23.

The roller 20 is first moved to the right far enough to bend the ungummed end of the band underneath the cigar. The rollers 20 and 21 are then moved simultaneously to the left to the position shown in the drawing. By this operation the gummed end of the band is bent underneath the ungummed end.

The roller 21 is maintained at a sufficiently high temperature to soften the adhesive material on the band and is held against the band with sufficient force to cause firm and rapid adhesion. A convenient manner of applying an upward force to the roller 21, is to mount it on a jointed arm 25 having a spring 26 acting about the pivot of the joint.

The preferred way of heating the roller 21 is shown in Figure 2. The roller comprises an outer shell 27 and a sleeve 28 on the shaft 29, all of metal. A sleeve 30 of insulating material surrounds the sleeve 28. On the insulating material 30 is wound resistance wire 32 of the kind ordinarily used in electrical heating units. One end of the wire is grounded on the metal portion of the roller and the other end is connected to an insulated ring 34. Electric current is supplied from a suitable source, such as an ordinary house lighting circuit, through wires 35 and 36. Wire 35 is connected to ground and wire 36 is connected through a switch 37 and a rheostat 38 to a brush 39 which makes continuous contact with the ring 34. The brush 39 is suitably mounted on insulation carried by one fork of the arm 25.

The surface of the roller 21 may be corrugated by providing annular grooves 41, which may be desirable to insure distributed contact with the band in case the cigar has an uneven surface.

While the invention is shown in one embodiment, it obviously can assume other forms, and certain features of the invention can be used for sealing gummed surfaces other than cigar bands. The heated roller may of course be heated by means other than that described herein.

What is claimed is:

1. In cigar banding apparatus, means for holding a band partly surrounding a cigar, said band having adhesive material at one end, means for bending one end of the band against the cigar, a roller for bending and pressing the other end against said first end, and means for heating said roller.

2. The combination of claim 1, in which said heating means is within said roller.

3. The combination of claim 1, in which said heating means is an electric heater within said roller.

4. In combination a body of soft resilient material for bending a band about three sides of an article, means for bending the ungummed end of the band against the article and a heated surface for bending the gummed end of the band upon the other end and pressing it thereagainst.

5. In a cigar banding machine, means for placing a band partly about a cigar, means for bending one end of the band against the cigar, and a heated surface operating to bend the other end of the band against said first end and to press it thereagainst, the simultaneous heat and pressure co-operating with adhesive material between the band ends to cause firm adhesion.

In witness whereof, I hereunto subscribe my name this 1st day of July A. D., 1925.

OTTO MULLER.