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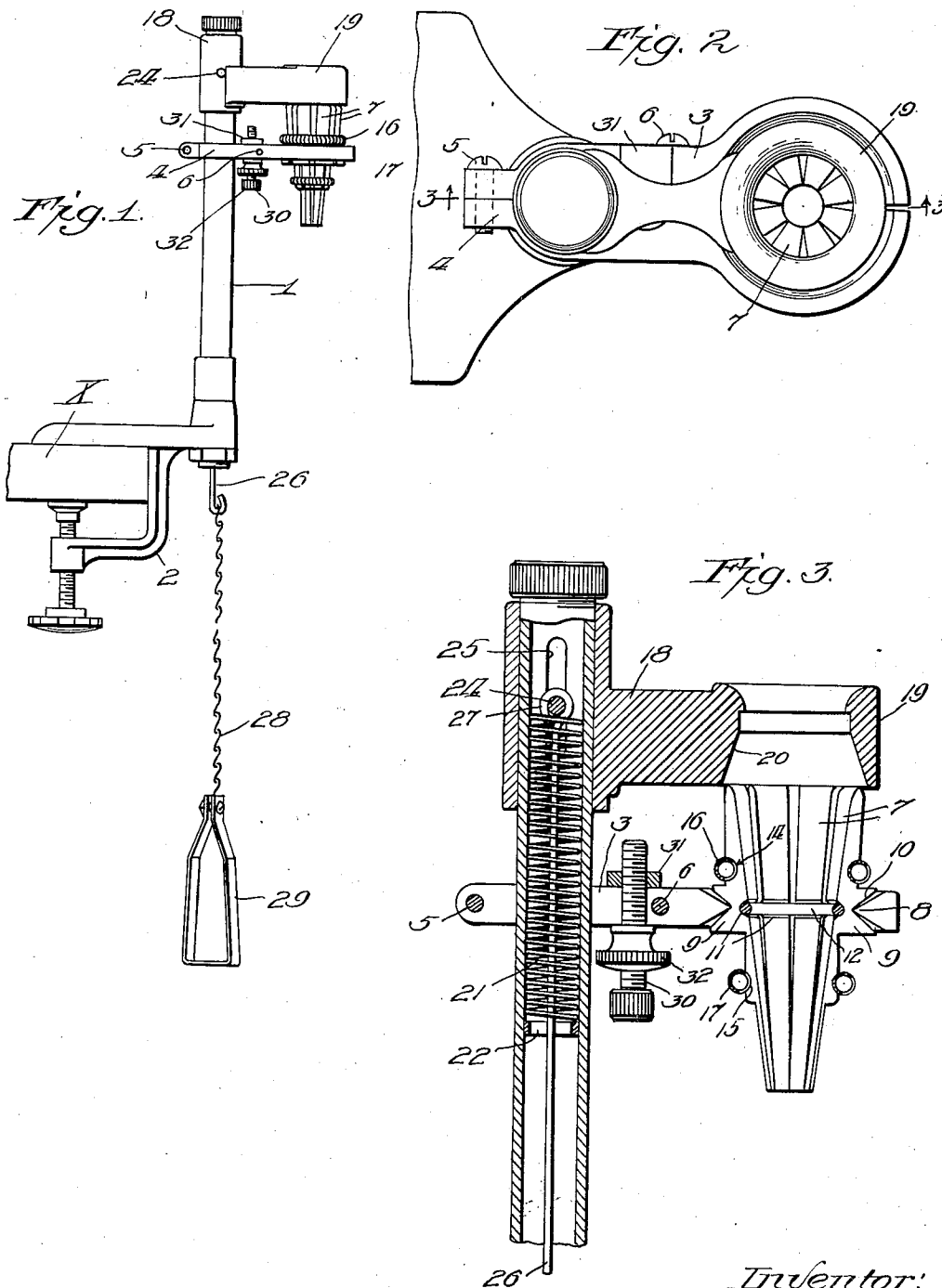
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2,184,687

CIGAR CAPPING MACHINE

Filed Jan. 12, 1938

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 4.

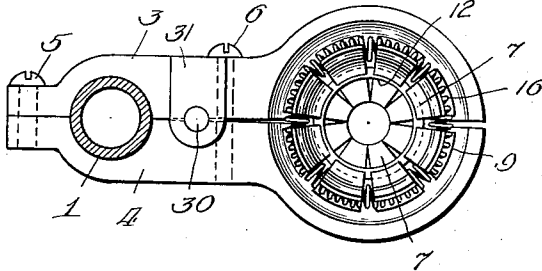


Fig. 6.

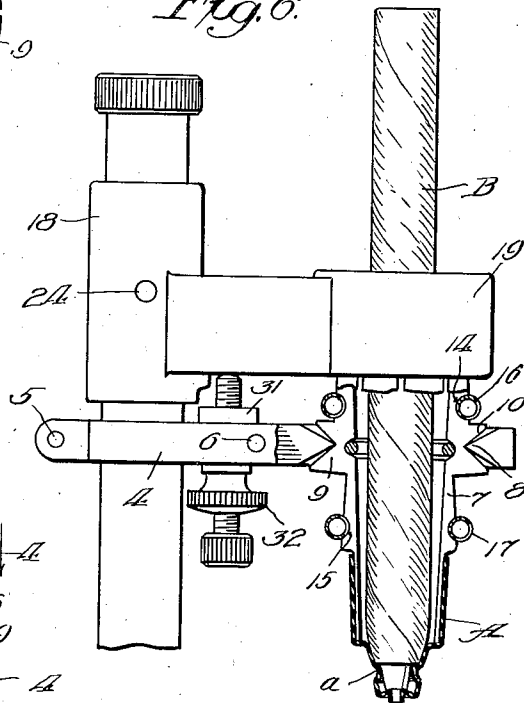


Fig. 5.

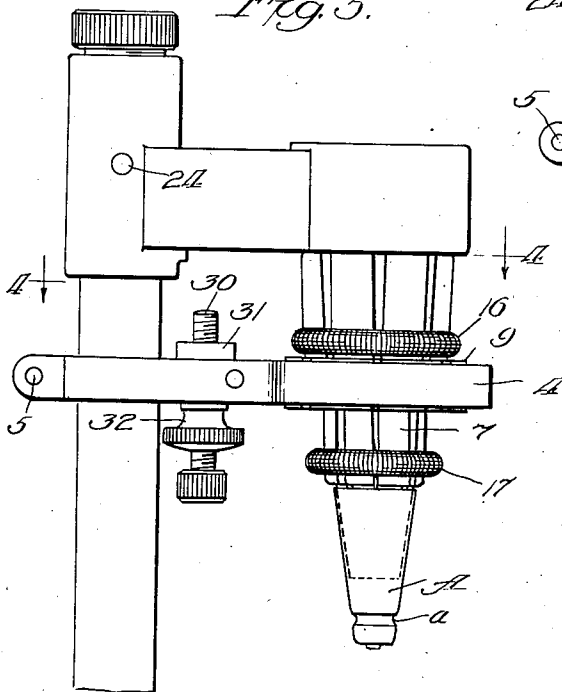


Fig. 7.

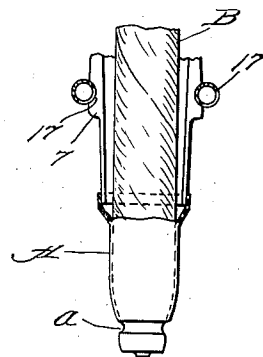
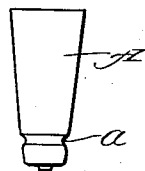


Fig. 8.



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UNITED STATES PATENT OFFICE

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CIGAR CAPPING MACHINE

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Application January 12, 1938, Serial No. 184,610

4 Claims. (Cl. 131—88)

There has been developed a thin-walled, elastic protective tip or cap for cigars, the principal purpose of which is to provide a dry smoke. Such a tip must fit snugly, even though an adhesive be employed to secure it upon the cigar. Therefore, care is required in placing the tips or caps on cigars, so as not to break the cigar wrappers and, if done by hand, the process is exceedingly slow, especially where no adhesive is used and a very tight fit is needed.

The object of the present invention is to produce a simple mechanism or machine by means of which elastic protective tips or caps may be quickly and effectively applied to cigars, without the least danger of damaging the cigar wrappers, and with the assurance that the tips or caps grip the cigars tightly enough to remain in place even in the case of a smoker who chews on his cigars.

By cigars I mean cigars of all kinds, including cigarillos, as well as cigarettes and pipe stems and, where the word cigars is used, it will therefore be understood that all of these things are intended.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a side view of a machine embodying the present invention; Fig. 2 is a top plan view of the machine on a larger scale; Fig. 3 is a section on line 3—3 of Fig. 2; Fig. 4 is a section on line 4—4 of Fig. 5; Fig. 5 is a side view of the upper end of the machine, on the same scale as Figs. 2 to 4, showing a tip or cap on the lower end of the expansible holder; Fig. 6 is a view partly in elevation and partly in section, illustrating the upper part of the machine with the head lowered and a cigar in position to strip a tip or cap from the holder; Fig. 7 is a view similar to Fig. 6, showing only the lower end of the holder and the tip or cap almost completely shifted from the same to the cigar; and Fig. 8 is an elevational view of a protective tip adapted to be applied to a cigar.

Referring to the drawings, 1 represents a tubular post provided with any suitable supporting base which, in the arrangement illustrated, is a clamping jaw 2 to secure the post in an upright position to a table X or the like. An arm is fastened at one end to the post, toward the upper

end, and projects at right angles therefrom. For convenience, this arm may be divided longitudinally into two similar pieces 3 and 4, held together, with the post clamped between them, by screws 5 and 6.

Extending through and supported by the arm is a long tubular holder divided into a considerable number of sections 7, along longitudinal lines. The hole in the arm, in which the holder lies, is divided between the two halves of the arm, the material of which is cut away around the hole on both the upper and lower sides of the arm to produce an annular knife edge 8, bounding the hole. The sections of the tubular holder have lugs or projections 9 that form on the holder an external sectional collar about half way between the ends of the holder. The lugs are notched, transversely, on their outer sides, as indicated at 10, to form with each other a V groove surrounding the holder.

The parts are so proportioned that when the holder is placed between the halves of the arm, with the knife edge 8 entered in and engaged with the bottom of the grooves, the sections of the holder are spaced a little apart from each other. Therefore, if the holder be held expanded at the middle so as to cause the knife edge 8 to be bottomed in the external groove in the holder, the sections of the holder may rock about the knife edge, causing one end of the holder to contract while the other end expands. A convenient arrangement is to provide the holder with an internal groove 11 in the plane of the sharp bottom of the external groove and to fit a loose ring 12 in this internal groove.

The sections of the holder are tapered from top to bottom, being narrowest at the lower ends. The holder has two additional external grooves 14 and 15 surrounding the same, one being above and the other below the supporting arm. Surrounding the holder and seated in these two grooves are two elastic ties 16 and 17 which may conveniently be in the form of long coiled springs of small diameter bent into rings and each having its ends fastened together to maintain the ring shape thereof. The lower spring 17 is under the greater initial tension, so that the lower end of the holder is normally contracted until the sections thereof are in edge to edge contact, while the upper end is normally in an expanded condition.

The ring 12 is larger in internal diameter than the largest cigar to be provided with a protective cap or tip. Thus, the holder is normally in the form of a frusto-conical shell, small at

the lower end and large at the top. The parts are so proportioned that a tip or cap A for the smallest cigar to be operated upon can readily be slipped on the lower, contracted end of the holder, as shown in Fig. 5. Then, upon squeezing the upper end of the holder, the lower end is expanded, as in Fig. 6, and the elastic tip or cap is stretched until it is larger in diameter than the cigar B to which it is to be applied. If now a cigar is inserted in the holder from above, as in Fig. 6, and is pushed down, it carries the tip or cap with it, as shown in Fig. 7, finally stripping the tip from the holder and leaving it on the cigar. Obviously, as the tip moves down it is progressively freed from the expanding influence of the holder and therefore contracts progressively and grips the cigar.

The tip or cap is of the type illustrated in the patents to Arthur B. Adair, Nos. 2,075,493 and 2,083,769, provided with internal annular ribs *a* near the mouth end. Therefore, when the cigar is inserted in the machine, as in Fig. 6, it is arrested upon engaging the rib *a* and does not pass beyond that rib, further downward movement of the cigar being accompanied by a corresponding movement of the tip or cap. In other words, the tip, when on the cigar, contains at the mouth end the free space or pocket which is the aim of the construction claimed in the aforesaid patents.

The lower end of the holder must be expanded, before the cigar is inserted, in order to stretch the tip to a size that permits the cigar to be introduced into the same without rubbing the cigar wrapper against the interior of the lower end of the holder. This is easily accomplished by mounting on the post 1, above the arm thereon, a vertically-slidable head 18 having a laterally-projecting arm 19 paralleling the stationary arm on the post; the arm 19 having a large opening registering with the holder. The lower portion of this opening is made flaring, as indicated at 20, the largest diameter being somewhat greater than the normal diameter of the upper end of the holder. Normally the arm stands just above the holder so that, as soon as the head starts to move down, the flaring mouth of the opening therethrough receives the upper end of the holder and squeezes it to contract the same and, through the rocking of the sections of the holder, cause an expansion of the tip-bearing lower end.

The sliding head is normally held in its raised position by a compression spring 21 within the hollow post; the lower end of the spring resting on a sleeve or bushing 22 fixed in the post, and the upper end engaging with an overlying cross pin 24 carried by the head and extending through vertical slots 25 in the wall of the post. The head may be drawn down by means of a rod or wire 26 extending up through the bottom of the post and provided at its upper end with a hook 27 engaged with the cross pin. A chain or other flexible member 28 hangs down from the lower end of the rod and is provided with a stirrup 29 to permit the head to be lowered by bearing down on a foot of the operator entered in the stirrup.

It is not necessary to press the head down as far in the case of a tip for a small cigar as it is where the tip is larger, for a large cigar. I have therefore provided means for arresting the downward movement of the head at the point best suited for the particular work in hand. This means consists of a long screw 30 extending

up through the stationary arm on the post and through a plate 31 fixed to the top of the arm member 3 and overlapping the arm member 4. There is a lock nut 32 on the screw below the arm. Upon backing off the nut 32, the screw 30 may be turned to raise or lower its upper end and thus allow the head to descend less far or farther when the stirrup is pressed down.

The operation of the parts having been described in connection with their structural features, it is sufficient to say that, the adjustable stop having been set to correspond to the particular size of cigar to be tipped, a tip is placed on the holder as in Fig. 5, the stirrup is pressed down, and a cigar is then lowered through the hole in the movable head and into the holder. When the cigar reaches the internal rib or bead in the tip, below the holder, a slight downward pressure is exerted on the cigar, causing it to move down and carry the tip with it; the tip progressively contracting about the cigar as it is stripped from the holder. After the tip has been completely separated from the holder, the cigar may either be lifted up to remove it through the top of the machine, or it may be dropped through the lower end of the holder. The pressure on the stirrup is then released and the sliding head rises and the lower end of the tubular holder contracts and is ready to receive another tip.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:

1. In a cigar capping machine, a support, a tubular element divided lengthwise into sections and extending through said support, means acting yieldably on said sections to contract one end of said element until it is smaller than the end of a cigar to be capped, whereby a cap may easily be slipped on the contracted end, and means acting on said element to expand the contracted end until it is larger than the cigar, thereby permitting the cigar to be inserted in the tubular element and strip therefrom a cap stretched thereon.

2. In a cigar capping machine, a support, a tubular element extending through said support and divided longitudinally into sections, the shapes and widths of the lower ends of said sections being such that when such ends are arranged edge to edge they form a frustum of a cone whose smaller base is considerably smaller than the cross-sectional area of a cigar to be capped, means yieldably holding the lower ends of said sections in said frusto-conical formation, bearings for said sections on said support to permit said sections to rock about points between their ends to contract the upper end of the tubular element and expand the lower end, a member above and movable from and toward said support, said member having a frusto-conical opening therethrough in registration with said tubular element and adapted to receive the upper end of the latter to contract the same and expand the lower end.

3. In a cigar capping machine, a support, a tubular element extending through said support and divided longitudinally into sections, the shapes and widths of the lower ends of said sections being such that when such ends are arranged edge to edge they form a frustum of a

cone whose smaller base is considerably smaller than the cross-sectional area of a cigar to be capped, means yieldably holding the lower ends of said sections in said frusto-conical formation, bearings for said sections on said support to permit said sections to rock about points between their ends to contract the upper end of the tubular element and expand the lower end, a member above and movable from and toward said support, said member having a frusto-conical opening therethrough in registration with said tubular element and adapted to receive the upper end of the latter to contract the same and expand the lower end, and an adjustable stop to limit the movement of said member toward said support and thereby limit the degree of expansion of the lower end of the tubular element.

4. In a cigar capping machine, an open-ended tubular element having an unobstructed interior and divided longitudinally into sections, the shapes and widths of the ends of said sections at

one end of said element being such that when such section ends are arranged edge to edge they form a frustum of a cone whose smaller base is considerably smaller than the cross sectional area and whose larger base has a diameter larger than that of a cigar to be capped, means supporting said tubular element in a manner to leave unobstructed spaces beyond both ends for a distance at least as great as the length of said cigar and to permit each section thereof to swing in a radial plane, means yieldingly holding the lower ends of said sections in said frusto-conical formation whereby a cap may easily be slipped upon the same, and means acting on said element to expand the contracted end until it is larger than the cigar and hold it in this expanded condition, thereby permitting the cigar to be inserted in the tubular element and strip therefrom a cap stretched thereon without requiring the cigar to come in contact with said tubular element.

JOSEPH FREUD.