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F. L. HERRINGTON & H. KNIGHT.

WRAPPER TRANSFERRING MECHANISM.

APPLICATION FILED APR. 9, 1904.

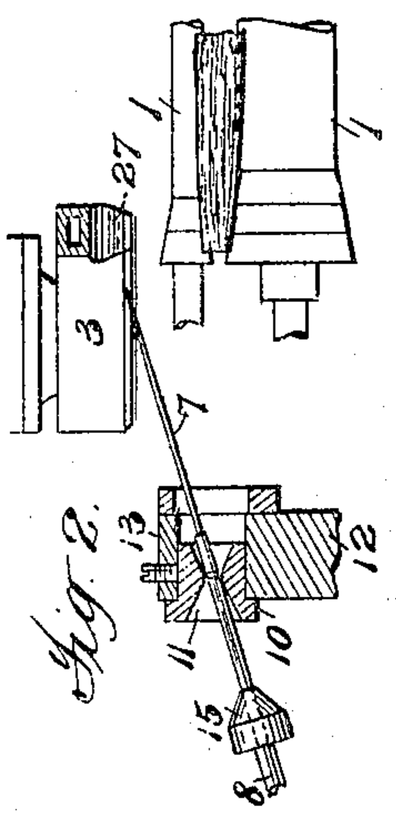

Fig. 2.

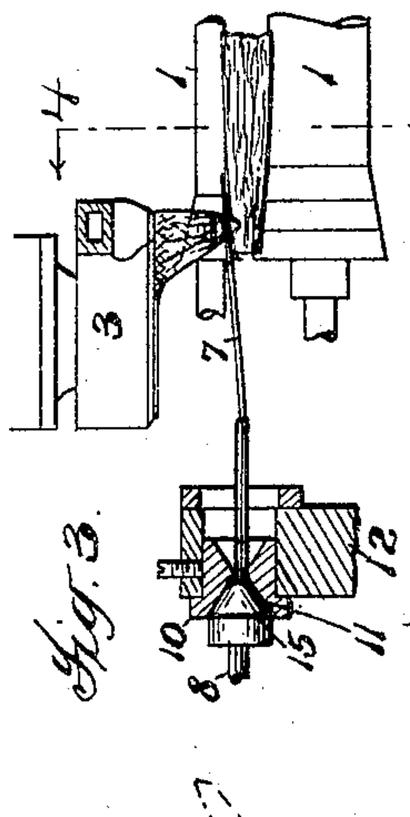

Fig. 3.

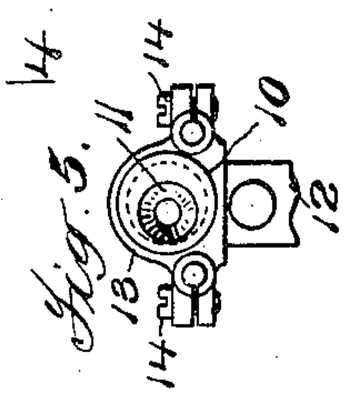

Fig. 5.

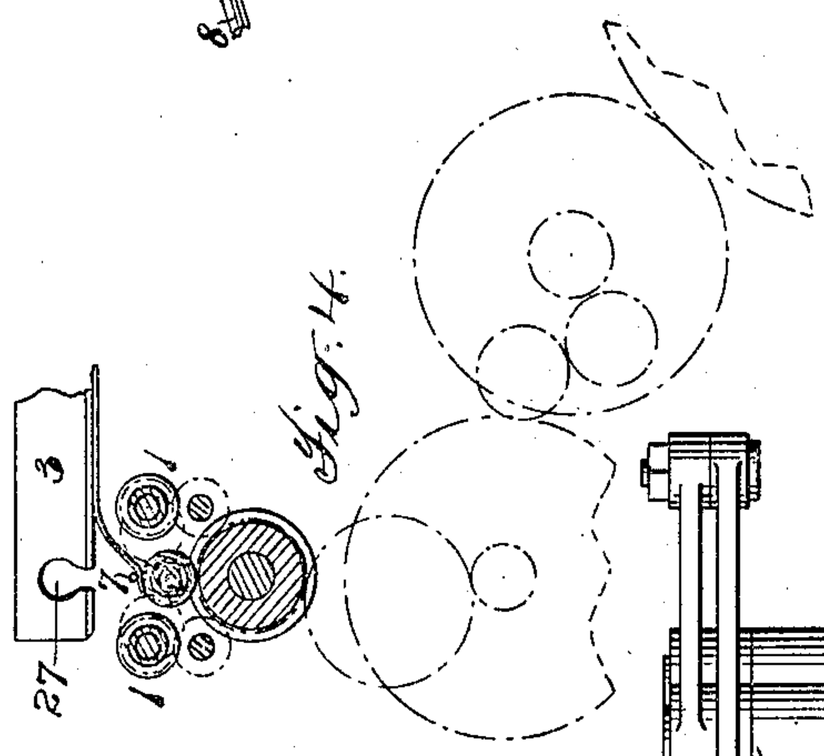

Fig. 4.

Fig. 1.

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UNITED STATES PATENT OFFICE.

FLORENCE L. HERRINGTON, OF NEW YORK, N. Y., AND HARRY KNIGHT, OF JERSEY CITY, NEW JERSEY, ASSIGNORS TO INTERNATIONAL CIGAR MACHINERY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

WRAPPER-TRANSFERRING MECHANISM.

No. 808,745. Specification of Letters Patent. Patented Jan. 2, 1906.

Application filed April 9, 1904. Serial No. 202,329.

To all whom it may concern:

Be it known that we, FLORENCE L. HERRINGTON, a resident of the city, county, and State of New York, and HARRY KNIGHT, a resident of Jersey City, county of Hudson, and State of New Jersey, citizens of the United States, have invented certain new and useful Improvements in Wrapper-Transferring Mechanism, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in wrapper-transferring mechanism for wrapping-machines, and more particularly for that class of wrapping-machines which are used to wrap cigars or cigar-bunches.

In wrapping cigars in which the wrapper is carried on a support and is delivered to the bunch in the wrapping mechanism difficulty has been experienced in properly positioning the end of the wrapper which is first wound on the bunch with respect to the bunch so that it may be securely wound thereon by the wrapping mechanism. Devices have heretofore been employed in which the wrapper is carried on a suction wrapper-carrier, a proper relative movement being produced between the carrier and the wrapping mechanism to deliver the wrapper to the bunch or other article to be wrapped, and in machines of this character the end of the wrapper has been delivered to the bunch or other article in the wrapping mechanism by a blast of air, which blows the wrapper down upon the bunch, and also by tipping or bending down a portion of the supporting-face of the wrapper-support. While these devices operate satisfactorily under some conditions, it has been found that under certain other conditions the end of the wrapper is not so positioned with respect to the bunch as to cause its end to be firmly attached thereto at the beginning of the wrapping operation.

This invention has for its object to produce a wrapping mechanism for cigars or other analogous articles in which the wrapper is held on a support and is then delivered by the support to the wrapping mechanism, a device being provided which positively engages the wrapper, takes it from the support, and delivers it to and holds it against the bunch in the wrapping mechanism.

With this and other objects not specifically referred to in view the invention consists in certain constructions and in certain parts, improvements, and combinations, as will be hereinafter fully described and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, Figure 1 is a rear view of so much of a wrapping mechanism having a preferred form of the wrapper-delivery device attached thereto as is necessary to an understanding of the invention. Fig. 2 is a detail elevation, partly in section, illustrating the wrapper-delivering device in its relation to the wrapper-support. Fig. 3 illustrates the same construction as that shown in Fig. 2 with the parts in different positions. Fig. 4 is a sectional view on the line 4 4 of Fig. 3, and Fig. 5 is an elevation illustrating a detail of construction.

Referring to the drawings, which illustrate one concrete embodiment of the invention, the improved wrapper-delivery device is shown in connection with a wrapper-carrier of the general type illustrated in the patent granted to Patterson and Arents as the assignees of Oluf Tyberg, dated July 24, 1900, No. 654,203. While this illustrates a preferred form of construction, it is remarked that the wrapper-delivering device might be used with wrapper-carriers of a different type.

The wrapping mechanism is marked 1, said mechanism being of the usual roller type, and therefore conventionally illustrated, the rollers being driven by a suitable train of gears 2 from any source of power. Any other form of wrapping mechanism may be substituted for the roller mechanism here shown.

In the construction selected to illustrate the invention the wrapper is delivered to the wrapping mechanism by means of a wrapper-support 3, which, as shown, is a suction-support. This support is mounted on a casting 4, which is given proper movements to deliver the wrapper to the wrapping mechanism. The particular construction by which this suction-support is given its movements is unnecessary to an understanding of the invention; but in the preferred construction it will preferably be substantially the same as that illustrated in the patent hereinbefore referred to, and reference is accordingly made to said patent for a full disclosure of a proper means

for effecting the movements referred to. The casting 4 and the suction-support are in communication with a pipe 5, which communicates with a pipe 6, said pipe leading by suitable connections to a suitable suction-producing mechanism.

The device by which the wrapper is positively engaged, taken from the wrapper-support, and delivered to the wrapping mechanism may be varied widely in construction and will vary according to the particular type of wrapping mechanism and the particular construction of wrapper-support employed. As shown, this delivery device consists of a finger having a flexible tip 7, formed of any suitable material—as, for instance, steel wire—and a shank 8, to which the tip is secured in any desired manner. This finger may be operated and supported in any desired manner. As shown, however, one of the stationary parts of the machine is provided with a bracket 9, through which the rear portion of the shank 8 of the finger passes loosely. The finger is further supported by a suitable guide, and in the preferred construction this guide will be made adjustable, so that the finger may be properly directed in its movements. The particular construction of this guide may be varied within wide limits. As shown, however, it embodies a circular block 10, said block being provided with a conical recess 11, eccentrically located therein. In the construction shown this block is mounted in a bearing formed in a standard 12, which is secured to the frame of the wrapping mechanism and which serves to support some of the shafts of said mechanism. The block is held in position by a strap 13, the strap being secured by screws 14 in the usual manner. The shank of the finger is provided in the particular construction shown with a conical collar 15. The movement of the finger may be produced by mechanism of any suitable character. As shown, the shank passes through a perforation in a bent end 16 of an operating-rod 17, this bent end lying between the collar 15, before referred to, and a second collar 18, secured to the shaft in any suitable manner. This rod 17 connects with one of the arms 19 of a bell-crank lever 19 20, said bell-crank lever being pivoted at 21 to the frame of the machine. The arm 20 of the bell-crank, as shown, is provided with a roller 22, which at proper times in the operation of the machine is struck by a cam 23, carried on a cam-disk 24, mounted on one of the cam-shafts of the machine. The bell-crank is provided with a returning-spring 25, said spring, as shown, being connected to the arm 19 and to a suitable bracket 26, located on the frame of the machine. Where as in the construction shown the part of the wrapper to be engaged by the finger is held on the plane face of a carrier and where the transferring device for the end of the wrapper is, as shown, a finger, it is obvious that the carrier must be formed in such a way as to enable the finger to get behind the wrapper in order to positively engage it. In the construction shown this is effected by providing the carrier with a recess 27, which extends across the carrier near its front—that is to say, in the machine shown near the end of the carrier which carries the end of the wrapper which is to be first presented to the article to be wrapped.

In the construction shown, as before pointed out, the wrapper is delivered to the wrapping mechanism by producing a movement of the wrapper-support. When the wrapper-support is swung into proper position with respect to the wrapping mechanism—that is to say, when the tuck end of the wrapper is over the tuck end of the bunch—the cam 23 strikes the arm 22 of the bell-crank 19 20 and throws the finger forward, the position of the finger prior to the movement being that illustrated in Fig. 2. As the finger moves forward the flexible end 7 enters the recess 27, thus getting behind the wrapper on the wrapper-support, and the further movement of the finger causes the conical collar 15 to register with the conical recess 11 in the guide-block 12. As the conical collar registers with the recess in the guide-block the finger is thrown down, as indicated in Fig. 3, and the tuck end of the wrapper is pressed firmly onto the bunch and is there held. The wrapping mechanism now comes into operation and serves to wind the wrapper about the bunch. At the proper time and after the wrapping operation has begun the bell-crank slides off the cam 23 and the finger is retracted. It is obvious that by rotating the circular block 10 in its bearing the finger may be give such adjustments as are necessary in order to enable it to properly enter the recess 27 of the carrier.

Changes and variations may be made in the construction by which the invention is carried into effect. The invention is not, therefore, to be limited to the specific mechanism hereinbefore described, and illustrated in the accompanying drawings.

What is claimed is—

1. The combination with a wrapping mechanism, of a wrapper-support on which a wrapper is held, and a device operating to positively engage one end of the wrapper on the support, transfer it to and hold it against the article to be wrapped in the wrapping mechanism at the beginning of the wrapping operation, substantially as described.

2. The combination with a wrapping mechanism, of a wrapper-support on which a wrapper is held, means for effecting a relative movement between the wrapping mechanism and the support to deliver the wrapper to the wrapping mechanism, and a device operating to positively engage one end of the wrapper on the support, transfer it to and hold it against

the article to be wrapped in the wrapping mechanism at the beginning of the wrapping operation, substantially as described.

3. The combination with a wrapping mechanism, of a wrapper-support lying in a plane which does not intersect the wrapping mechanism, means for effecting a relative movement between the wrapping mechanism and the support for causing the wrapper to be delivered to the article to be wrapped in the wrapping mechanism, and a transferring device operating to positively engage one end of the wrapper on the support, transfer it to and hold it against said article to be wrapped at the beginning of the wrapping operation, substantially as described.

4. The combination with a wrapping mechanism, of a suction wrapper-support lying in a plane which does not intersect the wrapping mechanism, means for effecting a relative movement between the wrapping mechanism and the support for causing the wrapper to be delivered to the article to be wrapped in the wrapping mechanism, and a transferring device operating to positively engage one end of the wrapper on the support, transfer it to and hold it against said article to be wrapped at the beginning of the wrapping operation, substantially as described.

5. The combination with a support on which a wrapper is held, of a wrapping mechanism, a finger, and means for operating the finger to engage the wrapper on the support, transfer it to and hold it against the article to be wrapped in the wrapping mechanism at the beginning of the wrapping operation, substantially as described.

6. The combination with a suction wrapper-support on which the wrapper is held, of a wrapping mechanism, a finger, and means for operating the finger to engage the wrapper on the support, transfer it to and hold it against the article to be wrapped in the wrapping mechanism at the beginning of the wrapping operation, substantially as described.

7. The combination with a recessed wrapper-support, of a wrapping mechanism, a finger, and means for operating the finger to cause it to enter the recess in the support and take the wrapper and then transfer it to the article to be wrapped in the wrapping mechanism, substantially as described.

8. The combination with a suction wrapper-support having a recessed face, of a wrapping mechanism, a finger, and means for operating the finger to cause it to enter the recess in the support and take the wrapper and then transfer it to the article to be wrapped in the wrapping mechanism, substantially as described.

9. The combination with a recessed wrapper-support, of a wrapping mechanism comprising suitable rollers, a transferring-finger, and means for operating the finger to cause it to enter the recess in the support and take the wrapper and then transfer it from the support to the article to be wrapped in the wrapping mechanism, substantially as described.

10. The combination with a recessed suction wrapper-support, of a wrapping mechanism comprising suitable rollers, a transferring-finger, and means for operating the finger to cause it to enter the recess in the support and take the wrapper and then transfer it from the support to the article to be wrapped in the wrapping mechanism, substantially as described.

11. The combination with a wrapper-support having a recess therein, of a wrapping mechanism, a transfer-finger, means for adjusting the finger to cause it to register with the support, and means for operating the finger to cause it to enter the recess in the support and take the wrapper and then transfer it from the support to the article to be wrapped in the wrapping mechanism, substantially as described.

12. The combination with a suction wrapper-support having a recess therein, of a wrapping mechanism, a transfer-finger, means for adjusting the finger to cause it to register with the support, and means for operating the finger to cause it to enter the recess in the support and take the wrapper and then transfer it from the support to the article to be wrapped in the wrapping mechanism, substantially as described.

13. The combination with a roller wrapping mechanism, of a recessed suction wrapper-support, means for giving the support a movement to deliver the wrapper to the wrapping mechanism, means for reciprocating the finger, and a guide operating to direct the finger into the recess in the support and to move the finger from the support to the wrapping mechanism, substantially as described.

14. The combination with a roller wrapping mechanisn, of a suction wrapper-support having a recessed face, means for effecting a relative movement between the support and the wrapping mechanism, whereby the wrapper is delivered to the article in the wrapping mechanism, a finger, a conical collar on the finger, a guide-block having a conical recess therein, and means whereby the block may be adjusted, substantially as described.

15. The combination with a roller wrapping mechanism, of a suction wrapper-support having a recessed face, means for effecting a relative movement between the support and the wrapping mechanism, whereby the wrapper is delivered to the article in the wrapping mechanism, a finger, a conical collar on the finger, a circular block having a conical recess eccentrically located therein, and a holder in which the block is adjustably mounted, substantially as described.

16. The combination with a wrapping mechanism, of a wrapper-support having a recessed

face, means for effecting a wrapper-delivery movement between the wrapping mechanism and the support, a finger, a conical collar mounted therein, a circular guide-block having a conical recess eccentrically located therein, a bearing in which the block may be adjusted, and means for reciprocating the finger, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

FLORENCE L. HERRINGTON
HARRY KNIGHT.

Witnesses:
SYDNEY I. PRESCOTT,
J. D. H. BERGEN.