May 3, 1932. L. E. DIOT 1,857,117

MACHINE FOR PLACING BANDS ON VARIOUS ARTICLES

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Fig.1 Fig.1a

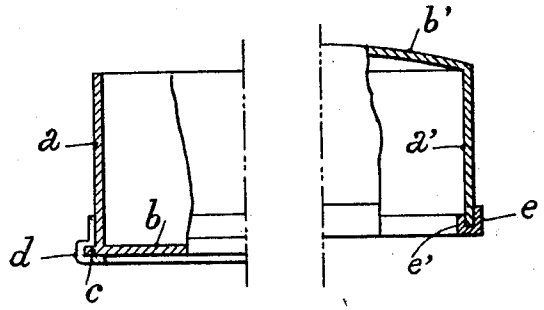


Fig. 2

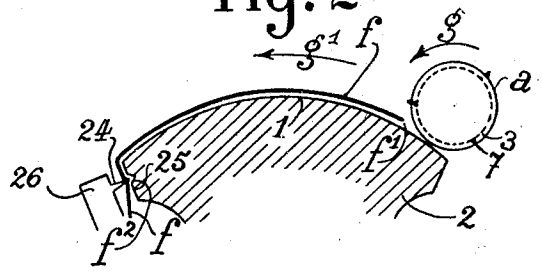


Fig. 3

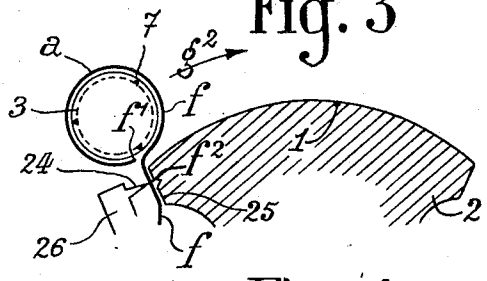
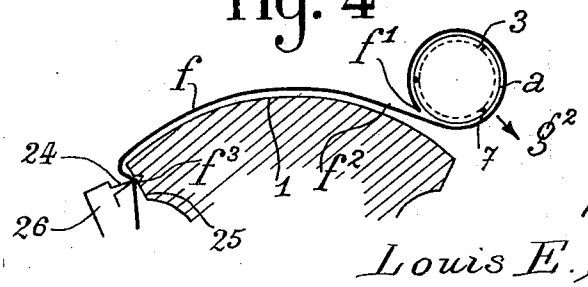


Fig. 4



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MACHINE FOR PLACING BANDS ON VARIOUS ARTICLES

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Fig. 5

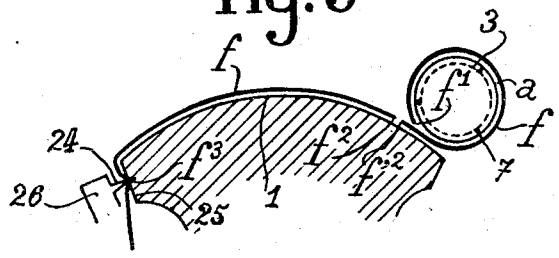


Fig. 13

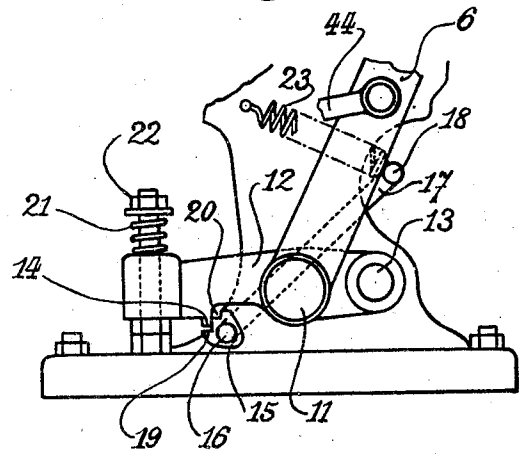
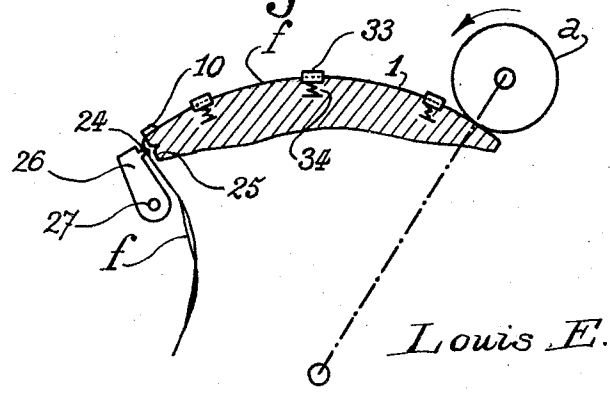


Fig. 14



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MACHINE FOR PLACING BANDS ON VARIOUS ARTICLES

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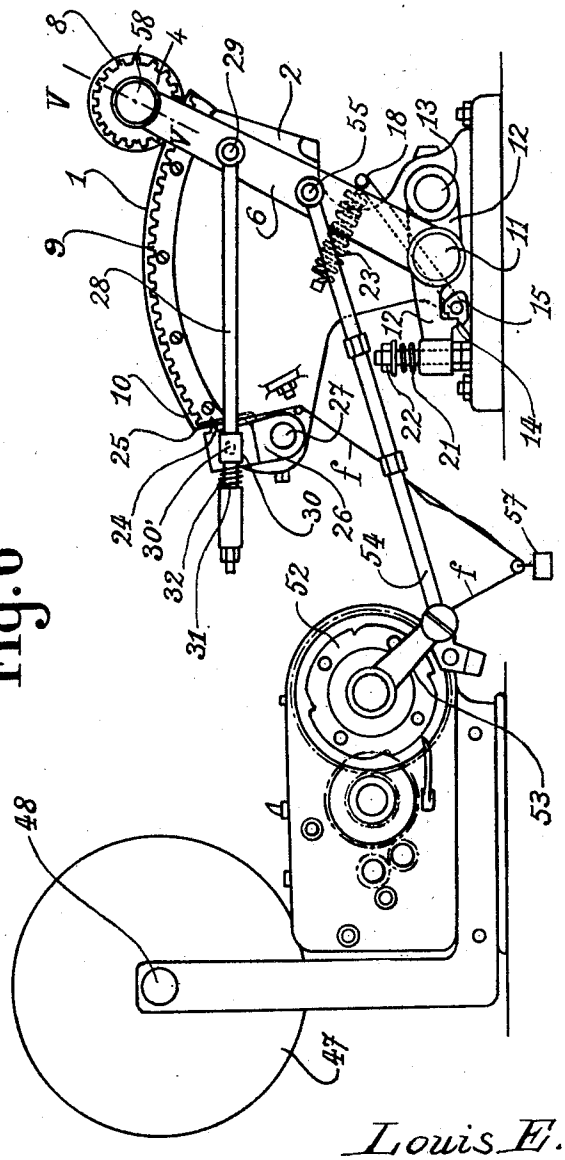


Fig. 6

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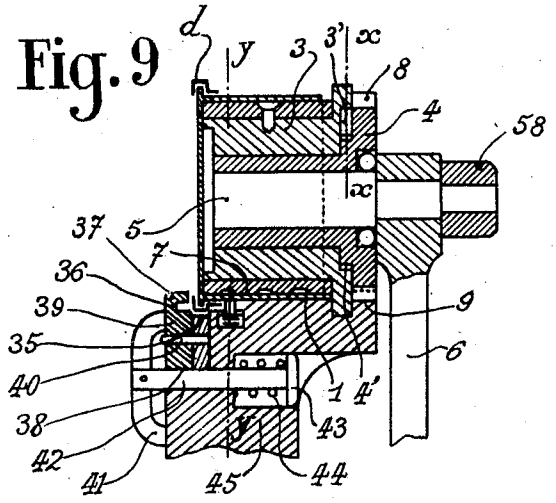
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MACHINE FOR PLACING BANDS ON VARIOUS ARTICLES

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Fig. 9



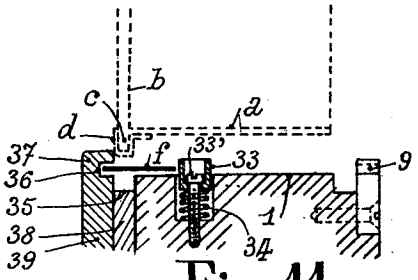


Fig. 11

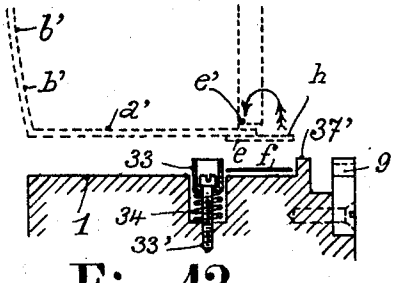
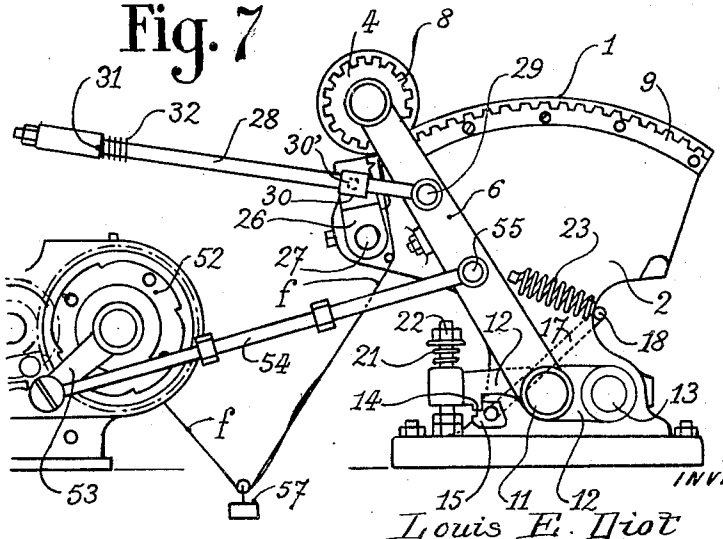


Fig. 12

Fig. 7



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MACHINE FOR PLACING BANDS ON VARIOUS ARTICLES

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Fig. 15

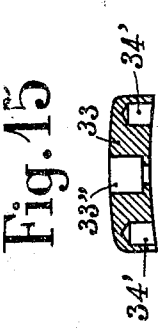


Fig. 10

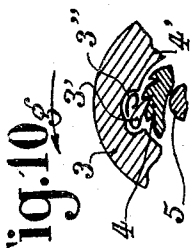
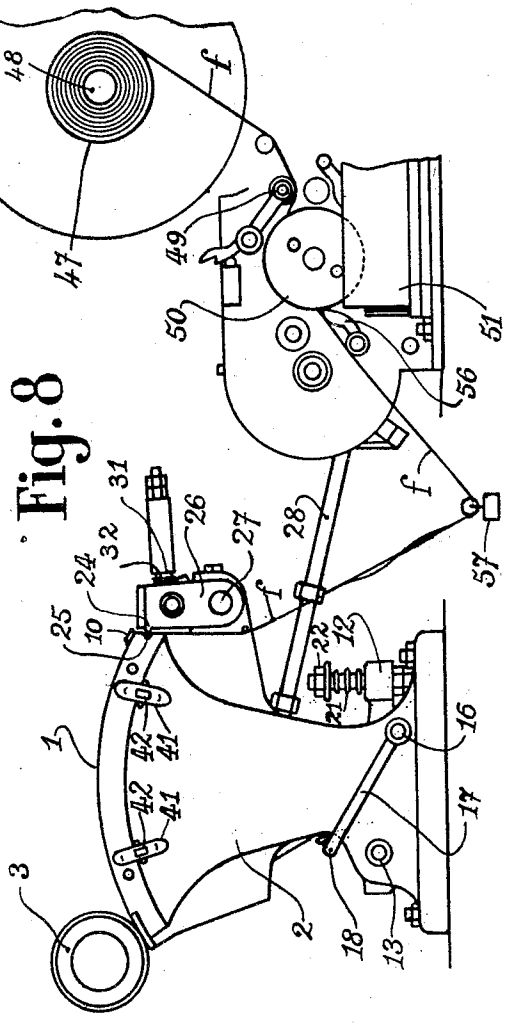


Fig. 8



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Patented May 3, 1932

1,857,117

UNITED STATES PATENT OFFICE

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MACHINE FOR PLACING BANDS ON VARIOUS ARTICLES

Application filed March 29, 1930, Serial No. 440,059, and in France June 21, 1929.

The present invention relates to a machine for placing strips or bands of various materials, paper, tissue, or the like around various objects; it is applicable more particularly, in the wrapping, trimming or covering operations which must be carried out in the manufacture of boxes, and to the placing of binding bands around the bodies and the lids of such boxes.

This machine comprises essentially:—

1. A fixed support for exposing the strip intended to form the binding bands.

2. A mandrel to receive the articles on which bands are to be placed.

3. A movable mandrel carrier to which is imparted an alternating motion relative to the above mentioned fixed support.

4. An arrangement imparting to the mandrel during each forward movement of the mandrel carrier, a rolling motion over the strip to be affixed which is exposed on the fixed support.

5. An uncoupling arrangement automatically effecting at the end of each forward movement the stoppage of the rolling motion and the removal of the article from the fixed support.

This machine can also include:

(*a*) An arrangement allowing the return of the mandrel carrier and the simultaneous exposure of a new length of strip on the fixed support.

(*b*) An arrangement for automatically severing the part of the strip which is to be affixed as a band element on the said article.

(*c*) An arrangement for applying adhesive to the said strip before it is extended upon the fixed support.

Numerous machines can be constructed according to the above mentioned arrangements.

One or more of the following arrangements can be adopted in these machines.

1. The fixed support for exposing the strip to be affixed may be cylindrical and circular.

2. The mandrel receiving the article to be treated can be loosely mounted on an axle rotating in one direction only.

3. The mandrel carrier may consist of a lever oscillating about an axis coaxial with the support for exposing the strip or band and constructed so that on displacement of this lever in one direction:

(*a*) The article to be treated is brought into contact with the strip which is exposed on the fixed support.

(*b*) This article, carried by the mandrel which is loose on its axle, turns around its axis during the forward movement of the mandrel carrier so that the article to be treated rolls over the glued strip so that this strip wraps itself about the article during this forward movement of the mandrel carrier.

4. The arrangement causing the rotational movement of the mandrel about its axis and its rolling on the fixed support consists of a pinion integral with the mandrel and a rack integral with the fixed support, the pinion engaging with the rack only during the forward stroke of the mandrel.

5. The arrangement causing the disengagement of the pinion and the rack at the end of the forward motion of the mandrel carrier may comprise:

(*a*) A cam coming into action at the end of this forward motion of the mandrel carrier.

(*b*) A movable support for the mandrel carrier which may be arranged on the bed of the machine and the position of which is determined by the above mentioned cam.

6. An arrangement stopping the movable support for the mandrel carrier during the return movement of the latter which may consist of a cam automatically returned into the stoppage position.

7. A releasing member for this movable support which is actuated by the mandrel carrier at the end of its return stroke which may consist of a movable abutment integral with the stoppage device located at the end of the return path of the mandrel carrier and provided with an automatic return.

8. An arrangement for automatically returning the movable support into its original position which returns the movable support automatically into its original position when it has been released by the above mentioned member.

9. Means for conveying the strip which

may consist of the wrapped article itself, its mandrel rotatable in only one direction on its axis and the mandrel carrier which, in the return stroke of the mandrel carrier into its initial position, causes a pull on the extended part of the strip which is integral with the manufactured article, which extends this new portion of the strip on the fixed support.

10. Means for stopping the extended strip which may comprise a cutter actuated by the mandrel carrier and which, after drawing out a predetermined length of the strip on its support, is moved towards the strip, forces it against the fixed support, and stops it, forming at the same time a section of less resistance in the strip thus held.

11. Means for separating the two parts of the strip, which allow of separating the portion of the strip rolled around the manufactured article from the other portion which has just been drawn out and then stopped on the fixed support, which means may consist of the article itself, the mandrel adapted to rotate only in one direction, the mandrel carrier, and the stoppage member for the strip, all of which are combined in such a manner that the stoppage of the strip is effected before the mandrel carrier completes its return stroke, in order that after this stoppage the manufactured article, which is during this time integral with the new portion of the strip extended and stopped on the machine, may, after the mandrel carrier has completed its return stroke, break the extended strip by tension, the tear being produced at the point in the strip which has been subjected to the action of the cutter and which is adjacent the manufactured article.

12. Guides mounted on the support used for exposing the strip, guiding the latter during its extension, and means for mounting these guides which may comprise:

(*a*) For one guide, members for instantaneous dismounting and remounting.

(*b*) For the other guides, resilient members allowing these guides to disappear in this support when the article to be wrapped passes above them.

13. An arrangement for applying adhesive material to the strip.

A machine of the above type can also be constructed for the purpose of affixing binding bands covering several faces of a peripheral projection or flange provided on the articles to be treated, in which case the fixed support for extending the strip is grooved, and the peripheral projection or flange of the article to be treated rolls in the groove in this support during the forward motion of the mandrel, engages the band in this groove, and folds it upon the various faces of the edge.

Finally, the machine may be actuated by any suitable means, either manually or mechanically.

The diagrammatic drawings attached hereto by way of example, and which are not to be considered as in any way limiting the scope of the present invention, show a machine of the above type constructed for the application of paper strips to cylindrical and circular boxes and the lids of boxes; this machine is shown provided with members for extending and automatically separating from the strip the band elements to be applied on the articles to be treated, and an arrangement for automatically applying adhesive material to this strip.

In these drawings:

Figure 1 is a part section, part elevation of half of a cylindrical box provided with a peripheral projection or flange the different faces of which are covered by a strip.

Figure 1[a] is a part section, part elevation of the lid for the preceding box, which lid is provided with a strip folded over internally.

Figures 2 to 5 show diagrammatically the different phases of a cycle of operations carried out by the machine shown in the following figures.

Figure 2 shows the box to be wrapped trimmed or covered, in its position on the mandrel which is in its starting position.

Figure 3 shows the same box which has been wrapped and is now at the end of the forward stroke of the mandrel.

Figure 4 shows the same box, at the end of the stroke by which the strip, has been extended on the fixed support.

Figure 5 shows the same box separated from the strip which has just been torn.

Figure 6 and the following figures show a machine carrying out the operations diagrammatically shown in Figures 2 to 5.

Figure 6 is a front elevation of this machine, the mandrel receiving the articles to be treated being shown in its initial position.

Figure 7 is a similar view to the above, the mandrel receiving the articles to be treated being shown at the end of its forward stroke.

Figure 8 is a rear elevation of the machine, the mandrel being assumed to be in its initial position, as in Figure 6.

Figure 9 is a section on a larger scale along the line 5—5 of Figure 6 through the support for extending the strip, the mandrel and a box mounted thereon, the support for extending the strip being assumed to be provided with means for directly feeding a strip placed on the body of a box and simultaneously turned down upon the various faces of projecting flange provided on the box.

Figure 10 is a partial transverse section on the same scale, on the line *x*—*x* of Figure 9 showing a method of mounting the mandrel carrier with a free wheel.

Figure 11 shows on a larger scale the detail of the part of the said support serving for the extending of a strip intended to wrap a box with a peripheral projection or flange.

Figure 12 shows, also on a larger scale, the detail of the portion of the extending support receiving the strip intended for the wrapping of an ordinary edge of a box.

Figure 13 is a view on a larger scale of the arrangement for mounting the mandrel carrier lever in Figures 6 to 8.

Figure 14 is a diagrammatic section along the line y—y in Figure 9 showing the resilient members guiding the strip during its extension.

Figure 15 is a similar section on a larger scale showing one of these guides.

The same reference symbols indicate the same elements in the various figures.

The articles to be treated are supposed to be cylindrical and to be formed in Figure 1 by a cylindrical box a provided with a base b having a projecting flange c; the strips to be placed around these boxes are similar to the strips d which cover the various faces of the projecting flange c and part of the cylindrical portion a, and also if necessary the base b, and in Figure 1a it is formed by a lid a' b' which can be placed on the box a b and provided with a strip a folded internally at e' and

In Figures 2 to 5 and 6, 7, 8, 14, the fixed support for exposing the bands to be placed around the boxes, which are here assumed to be of circular section, consists of a cylindrical circular sector or support 1 integral with the bed 2 of the machine.

The mandrel receiving the boxes to be treated consists of a cylinder 3 provided with a boss 4 loosely mounted on an axle 5 integral with an oscillating arm 6, this boss 4 carrying teeth 4'; one or more pawls 3' controlled by springs 3'' located in the mandrel 3 allowing the boss 4 to drive the mandrel 3 in the direction of the arrow g in Figures 2 to 10, but opposing any rotation of the mandrel 3 in the direction opposite to the arrow g, relative to the boss 4.

The free wheel mounting thus formed by the members 3 and 3', 3'', 4 and 4' may of course be replaced by any other known free wheel mechanism.

Slight projections 7 provided on the mandrel 3, or any other equivalent members, ensure slight friction between the mandrel and the box mounted thereon so as practically to prevent any slipping of this box relative to the mandrel during a cycle of operations of the machine.

A box a is placed in position on the mandrel 3 when the latter is in the position shown in Figure 2. A strip f from the supply spool intended to form the strip to be applied is exposed on the support 1, with its end f' near the box a; the surface of this strip opposite the box a is supplied with any suitable adhesive substance. On commencement of the forward motion in the direction of the arrow g' (Figure 2), the box a comes into contact with the end f' of the glue coated strip f; at the same time, the mandrel 3 receives a rotational movement about its axis in the direction of the arrow g such that the box a integral with the mandrel rolls on the surface 1; the strip f rolls around the box a in this movement; at the end of the forward motion, the box a has turned through 360° (or through an angle of about 360°). It is then raised slightly above the support 1 by means described later, so that it no longer contacts with the support; it is then in the position shown in Figure 3.

The mandrel 3 is then moved backwards in the direction of the arrow g_2 (Fig. 3). During this return stroke, the mandrel cannot turn on its axis in the opposite direction to the arrow g in Figure 2; it therefore entrains the portion of the strip f located beyond the point f_2 and draws out on the support 1 a portion f_2, f_3 of this strip f of length equal to the portion f_1, f_2 which has just been wrapped around the box a (Fig. 4). When this has been done, a sharp edge 24 bears against the strip f and the side 25 of the bed 2 of the machine at the point f_3; the strip f is thus stopped on the bed 1 and at the same time the edge 24 decreases the mechanical resistance of the section f_3 of the strip in the same manner as it previously decreased the resistance of the section f_2 of the same strip. The edge 24 continues to bear against the strip f (Fig. 4), and the return movement of the mandrel 3 is then carried out in the direction of the arrow g_2, the mandrel moving from the position shown in Fig. 4 to that shown in Fig. 5. During this supplementary displacement of the mandrel, the portion f_2, f_3 of the strip is stopped firstly at the end f_2 by the box a which cannot turn in the opposite direction to the arrow g, and secondly at its end f_3 by the edge 24; at f_2, a section of less resistance, the box is subjected to the whole of the pull exerted on it by the box a; at f_3, owing to its contact with the support 1 of the machine, this pull is decreased; consequently the box a on passing from the position shown in Fig. 4 to that shown in Fig. 5 automatically causes rupture of the strip f at the weak part f_2 adjacent it, as this section f_2 is of less resistance and is subjected to the total action of the pull, while at f_3 the pull is decreased. The wrapped box a detached from the strip f can then be withdrawn from the machine and replaced by another. On withdrawing the box a from the mandrel 3 the operator may apply the end f'_2 of the strip to the box a by hand in order to complete glueing of this end f'_2 of the box.

The mechanism utilized in Fig. 6 and the following to carry out the various operations will now be described.

A pinion 8 is keyed on to the mandrel 3; the bed 2 is provided with a rack 9 adapted

to co-operate with this pinion during each forward movement of the mandrel.

A ramp 10 is arranged on the cylindrical sector 1, opposite the mandrel 3, at the end of the forward stroke of the latter, so as to raise the mandrel at this end of its stroke and to separate the teeth of the pinion 8 from these on the rack 9.

In order to allow this lifting of the mandrel, the axle 11 of the lever 6 is mounted on a second lever 12 movable about an axle 13 carried by the bed 2. This lever 12 carries a head 14 positioned opposite a cam 15 keyed on an axle 16 integral with a lever 17 located behind the bed 2; the end 18 of this lever is bent and brought to the side of the front face of the machine so that it is located in the path of the lever 6.

The cam 15 which through its action on the head 14 of lever 12 is adapted to change the position of said lever, is provided with two notches 19, 20 situated at different heights whereby to lock the lever 12 in the position given thereto by the cam 15; and returning member e. g. a spring 21 mounted between the lever 12 and abutment 22 tends continually to lower this lever 12 i. e. to keep the lever 6 down and consequently the pinion 8 in mesh with the rack 9.

A second returning member e. g. a spring 23 secured at one of its ends to the lever 17 and at the other end to the bed 2 tends to keep the abutment 18 in the path of the lever 6 (Fig. 7).

The means for extending, stopping and separating the bands from the strip comprise:

(*a*) For the extending of the strip *f* on the cylindrical sector 1:—the box *a* itself, around which the strip *f* has just been wrapped while still integral with the portion of said strip not used (Fig. 3), this box automatically entraining the strip by tractive force when, in the return stroke of the lever 6, and it thus passes from the position shown in Fig. 3 to that shown in Fig. 4. Figs. 3 and 4 show how the strip *f* is extended on the support 1 in this movement.

(*b*) For stoppage of the strip:—a member 24 acting as a sharp edge or cutter; this member is disposed opposite one side 25 of the bed 2 and is mounted on a lever 26 rocking about an axle 27 carried by the bed, the strip *f* passing between this cutter and the side 25, so that when the cutter 24 is moved towards the side 25 it presses the strip against this side 25 (Figs. 5 and 6) causing stoppage thereof; this movement of the cutter 24 is obtained by means of a rod 28 (Figs. 6 and 7) pivoted at one end 29 to the lever 6; this rod 28 slides in a guide 30 mounted on a pivot 30′ carried by the lever 26 and is provided at its other end with a shoulder 31; a helical spring 32 is mounted on the rod 28 between this shoulder 31 and the guide 30. These various members are combined in such a manner that, shortly before the end of the return stroke of the lever 6, the rod 28 entrains the lever 26 towards the side 25 by means of its shoulder 31 and the spring 32 so that the strip *f* is pinched between the member 24 and the side 25 and thus its motion is arrested (Fig. 4).

(*c*) For the severing of the strip:—the treated article *a*, the lever 6 and the cutter 24; in the position shown in Fig. 5, the article *a* is still integral with the portion of the strip *f* which has just been extended on the sector 1 and stopped by the member 24; also, when the lever 6 completes its return stroke and carries the box *a* from the position shown in Fig. 4 to that shown in Fig. 5, it exerts a tractive force on the portion f_2, f_3 of the strip; rupture thereof resulting in its section of less resistance i. e. at the point f_2 in this portion which, in the wrapping of the box previously passed through the machine, has been subjected to the action of the cutter 24 and is then adjacent the box A in the machine; rupture is thus produced in an exactly determined part of the strip, and the accurate cutting of the strip is thus ensured.

Shortly before the end of its stroke, the lever 6 strikes the abutment 18 and entrains it in its movement, overcoming the action of the spring 23; the lever 17 thus effects a rotational movement about its axis 16, thus passing from the position shown in Fig. 7, to that in Figs. 6 and 13, and the cam 15 follows this movement; the notch 20 then leaves the head 14 of the lever 12, and the notch 19 moves in front of the latter (Fig. 13); the spring 21 lowers the lever 12 until the head 14 bears against this notch 19 (Figs. 6 and 13); the axle 11 of the lever 6 is also lowered so that the pinion 8 is thus caused to re-engage with the teeth 9; all the elements of the machine are then replaced in their original positions. The box which carries the band formed by the portion f_1, f_2 of the strip *f*, is separated from the portion f_2, f_3 of the latter now extended on the sector 1; the box is withdrawn from the machine and can then be replaced by another box to be wrapped.

In order to facilitate the extension of the strip *f* on the sector 1 and also the winding of this strip about a cylindrical body, guides 33 may be provided in the sector 1 so as to form slight projections which guide the strip on the support after it has been extended; springs 34 (Figs. 11, 12, 14), disposed below these guides in recesses 34′ (Fig. 15), allow the former to disappear momentarily when the box and the mandrel 3 pass over them; a screw 33′ provided in a recess 33″ maintains each guide in position on the support 1 (Figs. 11, 13, 15).

As shown in Figs. 1, 9 and 11, a machine of this type allows of placing any kind of band around a box and of simultaneously turning the band upon the various faces of

a peripheral flange of the box. For this purpose, the sector 1 for extending the strip is provided with a groove 35 in which the peripheral flange *c* of the box to be treated may engage; a second groove 36 at right angles to the first is provided with an edge 37 forming a projection on the surface 1 for the extending of the strip *f*; when the strip *f* is pulled by a box *a*, one of its longitudinal edges slides in the groove 36 while the adjacent part of the strip covers the groove 35, and the opposite longitudinal edge passes over the sector 1 guided by the guides 33 (Fig. 11).

When a new box *a* placed on the mandrel 3 rolls on the sector 1, its projecting edge enters the groove 35, and it forces the strip *f* into this groove 35 to a certain extent so that the strip is automatically folded upon the faces of the edge *c* at the same time as it is applied to the cylindrical portion of the box (Figs. 9 and 11).

For the sake of clearness in the drawings the box *a b* has been shown in Fig. 11 in dotted lines and away from the support 1.

The flange *c* is thus completely covered or wrapped, the cylindrical surface of the box and the base being then enabled to receive their supplementary wrappings.

The above description shows that in order to obtain a binding similar to the strip *e* shown in Fig. 1, on the lid of a box, it is sufficient (Fig. 12) to extend a strip *f* on a support 1 similar to the above without the groove 35, and provided firstly with a projection 37′ and secondly with guides 33 arranged on the support 1 in such a manner that the strip *f* can be extended between the projection 37′ and these guides 33.

The lid of the box *b* is disposed on the support 1 in such manner that the strip *f* forms a more or less pronounced projection *h* on the lid *b*; when the latter is removed from the mandrel, this projection *h* can be easily forced by hand at *e′* in the interior of the lid, without retarding the operation of the machine. In Fig. 12 also for the sake of clearness in the drawings, the lid *a′*, *b′* has been shown in dotted lines and away from the support 1.

When the machine is used for wrapping or covering the edges *c* of boxes *a*, the groove 35 is formed by means of a key 38 mounted on the base 2, in order to allow operation with edges *c* of variable depth or diameter; a plate 39 is mounted against this key and the groove 36 is provided therein; these two elements 36 and 39 are preferably mounted on studs 40 integral with the base 2 and held in position by means of claws 41 mounted on rods 42 which pass through the base 2 and are provided with heads 43 combined with springs 44 located in recesses 45 in the base. With this method of mounting, the plate 39 can be instantaneously released from the studs 40 and removed; the key 37 can then be raised in the same manner and the elements 38 and 39 can be replaced by others.

As has been stated, a glueing apparatus can be combined with this machine, and in this case, this apparatus can be constructed as follows:—

A feed spool 47 movable about an axle 48 carries the strip to be glued which, guided by rollers 49, passes around a glueing cylinder 50 the lower portion of which dips into a tank 51 containing the adhesive liquid. A ratchet wheel 52 actuated by a pawl lever 53, operated by a crank rod 54 articulated at 55 to the lever 6, imparts an intermittent rotary movement to this cylinder, the rotation of which causes the strip *f* to be entrained and at the same time supplied with the adhesive substance.

Claws 56 detach the glued strip from the glueing cylinder; the strip, stretched if necessary by a light counterweight 57, then passes between the cutter 24 and the side 25 of the wrapping machine, in which it is treated as described above; the strip is turned over through 180° between the counterweight 57 and the cutter 24, so that its glued face which has been in contact with the glueing apparatus 50, and which in this apparatus was its under side, becomes, on the sector 1, the upper side facing the box to be wrapped.

The machine can be operated manually by means of a knob 58 or a handle mounted on the lever 6, or mechanically for example by means of a crank pivoted to said lever and actuated by a motor operating a Maltese cross wheel or other suitable element.

What I claim is:

1. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed is exposed, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for imparting to the mandrel provided with the said article during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier and means for removing the article provided with the band from the fixed support.

2. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed is exposed, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for imparting to the mandrel provided with the

said article during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, means for removing the article provided with the band from the fixed support, means for producing the return of the mandrel carrier to its original position and means for drawing out simultaneously a new length of the strip on the fixed support.

3. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed is exposed, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for imparting to the mandrel, provided with the said article during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, means for removing the article provided with the band from the fixed support, means for producing the return of the mandrel carrier to its original position, means for producing simultaneously the exposure of a new length of the strip on the fixed support, and means for separating automatically the part of the strip applied on the article when the mandrel carrier is returning towards its original position.

4. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for imparting to the mandrel provided with the said article (during each forward movement of the mandrel carrier, a rolling motion over the strip, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier and removing the article provided with the band from the fixed support.

5. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for imparting to the mandrel provided with the said article, during each forward movement of the mandrel carrier, a rolling motion over the strip, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, means for removing the article provided with the band from the fixed support, means for producing the return of the mandrel carrier to its original position and means for drawing out simultaneously a new length of the strip on the fixed support.

6. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for imparting to the mandrel, provided with the said article during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, means for removing the article provided with the band from the fixed support, means for producing the return of the mandrel carrier to its original position, means for producing simultaneously the exposure of a new length of the strip on the fixed support, and means for separating automatically the part of the strip applied on the article when the mandrel carrier is returning towards its original position.

7. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel, provided with the said article during each forward movement of the mandrel carrier, a rolling motion over the strip, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, means for removing the article provided with the band from the fixed support, means for producing the return of the mandrel carrier to its original position, means for drawing out simultaneously a new length of the strip on the fixed support, means for separating automatically the part of the strip applied on the article when the mandrel carrier is returning to-

wards its original position and means for applying an adhesive material on the said strip before it is extended on the fixed support.

8. A machine for placing bands on various articles, the said machine comprising in combination a fixed circular sector on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel provided with the said article, during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier and means for removing the article provided with the band from the fixed support.

9. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel receiving the article on which the band is to be placed, an axle on which the said mandrel is mounted, means provided between the said axle and said mandrel and permitting only one direction of rotation for the said mandrel, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relatively to said fixed support, means for giving to the mandrel, provided with the said article, during each forward movement of the mandrel carrier, a rolling motion over the strip and means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the said fixed support.

10. A machine for placing bands on various articles, the said machine including in combination a fixed circular support, on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis coaxial with the said circular support, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing, at the beginning of the forward movement of the lever, into contact with the strip, the article on which the band is to be affixed, and means for rotating the said article on the said strip during the forward movement of the lever, so that the strip wraps itself about the article during this forward movement.

11. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, and a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever.

12. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with said strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever, a movable support carrying the axis of rotation of the rocking lever, and means for positioning the said movable support during each stroke of the rocking lever.

13. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circu-

lar support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever, a movable support carrying the axis of rotation of the rocking lever, and a cam coming into action at the end of each forward motion of the said rocking lever for bringing the said axis of rotation of the rocking lever nearer the circular face of the fixed support when the rocking lever is coming to the end of its forward movement in order to disengage the pinion from the rack and the article from the fixed support.

14. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever, a movable support carrying the axis of rotation of the rocking lever, a cam coming into action at the end of each forward motion of the said rocking lever for bringing the said axis of rotation of the rocking lever nearer the circular face of the fixed support when the rocking lever is coming to the end of its forward movement in order to disengage the pinion from the rack and the article from the fixed support, and means for locking the said movable support during the return stroke of the rocking lever.

15. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever, a movable support carrying the axis of rotation of the rocking lever, a cam coming into action at the end of each forward motion of the said rocking lever for bringing the said axis of rotation of the rocking lever nearer the circular face of the fixed support when the rocking lever is coming to the end of its forward movement in order to disengage the pinion from the rack and the article from the fixed support and means on said cam for locking the said movable support during the return stroke of the rocking lever.

16. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever, a movable support carrying the axis of rotation of the rocking lever, a cam coming into action at the end of each forward motion of the said rocking lever for bridging the said axis of rotation of the rocking lever nearer the circular face of the fixed support when the rocking lever is coming to the end of its forward movement in

order to disengage the pinion from the rack and the article from the fixed support, means on said cam for locking the said movable support during the return stroke of the rocking lever, and a releasing member actuated by the rocking lever at the end of its return stroke and bringing back to its first position the movable support carrying the axis of the rocking lever.

17. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever, a movable support carrying the axis of rotation of the rocking lever, a cam coming into action at the end of each forward motion of the said rocking lever for bringing the said axis of rotation of the rocking lever nearer the circular face of the fixed support when the rocking lever is coming to the end of its forward movement in order to disengage the pinion from the rack and the article from the fixed support, means on said cam for locking the said movable support during the return stroke of the rocking lever, a movable abutment integral with the said locking cam and located on the last part of the return path of the rocking lever for releasing the movable support carrying the axis of the rocking lever, and a centering spring for bringing back to its first position the said released movable support.

18. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be mounted, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel, during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, disengaging means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the band support, means for laying, during the return stroke of the mandrel carrier, the said band on the rolling path of the fixed support.

19. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be mounted, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel, during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, disengaging means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the strip support, and means for conveying during the return stroke of the mandrel carrier, a new element of strip on the rolling path of the fixed support, means for stopping the said conveying motion of the strip when at the end of the return stroke of the said mandrel carrier.

20. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be mounted, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel, during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, disengaging means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the strip support, a feeding bobbin for the band elements to be affixed on the articles to be treated, means for unwinding from the said bobbin, during each return stroke of the mandrel carrier, a length of strip corresponding to the length of band element to be wound on each article, means for conveying the unwound part of the strip on the fixed support during each return stroke of the mandrel carrier and by the article itself on which the free end of the said unwound part of the strip has been wound during the previous forward stroke of the mandrel carrier, and means for stopping the conveying motion of the unwound part of the

band before the end of each return stroke of the mandrel carrier.

21. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material, is exposed with the said face outside, a mandrel receiving the article on which the band is to be placed, an axle on which the said mandrel is mounted, means provided between the said axle and the said mandrel and permitting only one direction of rotation for the said mandrel, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relatively to said fixed support, means for giving to the mandrel provided with the said article, during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the said fixed support, a feeding bobbin for the band elements to be affixed on the articles to be treated, means for unwinding from the said bobbin, during each return stroke of the mandrel carrier, a length of strip corresponding to the length of band element to be wound on each article, means for conveying the unwound part of the strip on the fixed support during each return stroke of the mandrel carrier and by the article itself on which the free end of the said unwound part of the strip has been wound during the previous forward stroke of the mandrel carrier and means for setting up simultaneously a section of reduced resistance in said unwound part of the strip, the said section being spaced from the like section set up in said unwound part of the strip during the previous return stroke of the mandrel carrier by an interval the length of which corresponds to the length of the band element to be affixed on each article, each band element so determined in the feeding strip and wound on an article being, finally, thus wholly severed from the adjacent element of said feeding strip when the conveying of these band elements is stopped on the fixed support before the end of the return stroke of the mandrel carrier.

22. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the band to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be mounted, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel, during each forward movement of the mandrel carrier, a rolling motion over the strip, disengaging means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the fixed support, means for conveying during the return stroke of the mandrel carrier a new part of the strip on the rolling path of the fixed support, guides arranged on the said support for guiding the said strip on the rolling path of the said support during the conveying of the said strip on the said support.

23. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the band to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be mounted, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel, during each forward movement of the mandrel carrier, a rolling motion over the strip disengaging means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the fixed support, means for conveying, during the return stroke of the mandrel carrier, a new part of the strip on the rolling path of the fixed support, and removable guides arranged on the said support for guiding the said strip on the rolling path of the said support during the conveying of the said strip on the said support.

24. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be mounted, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel, during each forward movement of the mandrel carrier, a rolling motion over the strip, disengaging means for stopping the said rolling motion at the end of each forward movement and simultaneously removing the article provided with the band from the fixed support, and means for conveying, during the return stroke of the mandrel carrier, a new part of the strip on the rolling path of the fixed support, and guides arranged on the said support for guiding the said strip on the rolling path of the said support during the conveying of the said strip on the said support, said guides being provided with resilient members allowing these guides to disappear in the support when the article rolls above them.

25. A machine for covering with a band

the various faces of a peripheral flange on an article comprising in combination a fixed support provided with a groove above which a strip intended to form the band to be placed and provided on one of its faces with an adhesive material is laid, a mandrel adapted for receiving the article on which the band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel provided with the said article, during each forward movement of the mandrel carrier, a rolling motion on the said fixed support with the peripheral flange of said article in contact with the face of the band to be affixed, said peripheral flange rolling in this groove during the forward motion of the mandrel, engaging the band in this groove and thus automatically applying it upon the various faces of said peripheral flange, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, and means for removing the article provided with the band from the said fixed support.

26. A machine for covering with a band the various faces of a peripheral flange on an article comprising in combination a fixed support provided with a groove above which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is laid, with the said face outside, a mandrel adapted for receiving the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for giving to the mandrel provided with the said article, during each forward movement of the mandrel carrier, a rolling motion on the said fixed support, with the peripheral flange of said article in contact with the face of the band to be affixed, said peripheral flange rolling in this groove during the forward motion of the mandrel, engaging the band in this groove and thus automatically applying it over the various faces of said peripheral flange, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, means for removing the article provided with the band from the said fixed support, means for conveying, during the return stroke of the mandrel carrier, a new length of the strip above said groove of said fixed support, and a lateral flange arranged on said fixed support with a groove arranged therein for receiving and guiding the longitudinal edge of the strip during the return stroke of the mandrel carrier.

27. A machine for placing bands on various articles, the said machine comprising in combination a fixed support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a mandrel to receive the article on which a band is to be affixed, a movable mandrel carrier, means for imparting an alternating motion to the said mandrel carrier relative to said fixed support, means for imparting to the mandrel provided with the said article, during each forward movement of the mandrel carrier, a rolling motion over the strip exposed on the fixed support, means for stopping the said rolling motion at the end of each forward movement of said mandrel carrier, means for removing the article provided with the band from the fixed support, and automatic means for applying adhesive to one face of the strip before it is laid on the fixed support.

28. A machine for placing bands on various articles, the said machine including in combination a fixed circular support on which a strip intended to form the bands to be placed and provided on one of its faces with an adhesive material is exposed with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the lever begins, the article on which the band is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the above article on the strip during the said forward movement of the lever, a movable support carrying the axis of rotation of the rocking lever, a cam coming into action at the end of each forward motion of the said rocking lever for bringing the said axis of rotation of the rocking lever nearer the circular face of the fixed support when the rocking lever is coming to the end of its forward movement in order to disengage the pinion from the rack and the article from the fixed support, means on said cam for locking the said movable support during the return stroke of the rocking lever, a releasing member actuated by the rocking lever at the end of its return stroke and bringing back to its first position the movable support carrying the axis of the rocking lever, a feeding bobbin for the strip intended to form the band elements to be affixed on the articles to be treated, means for unwinding from the said bobbin, during each return stroke of the mandrel carrier, a length of strip corresponding to the length of band element to be wound on each article,

means for conveying the unwound part of the strip on the fixed support during each return stroke of the mandrel carrier and by the article itself on which the free end of the said unwound part of the strip has been wound during the previous forward stroke of the mandrel carrier, means for setting up simultaneously a section of reduced resistance in said unwound part of the strip, the said section being spaced from the like section set up in said unwound part of the strip during the previous return stroke of the mandrel carrier by an interval the length of which corresponds to the length of the band element to be affixed on each article, each band element so determined in the feeding strip and wound on an article being, finally, thus wholly severed from the adjacent element of the said feeding strip when the conveying of this strip is stopped on the fixed support before the end of the return stroke of the mandrel carrier, removable guides mounted on the fixed support for guiding the strip on the rolling path of the said support, during the conveying of the same on the said support, said guides being provided with resilient members to disappear in the support when the article rolls above them, and automatic means for providing one face of the strip with an adhesive substance at its outlet of the bobbin and before its laying on the fixed support.

29. A machine for affixing a band element, provided on one of its faces with an adhesive substance, around an article, the said machine comprising in combination a fixed circular support on which a strip provided on one of its faces with an adhesive substance is laid with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axle, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band element is to be placed, means for bringing into contact with the strip, and as soon as the forward movement of the rocking lever begins, the article on which the band element is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the said article on the fixed support during the forward motion of the mandrel, a movable support carrying the axis of rotation of the rocking lever, means for positioning the said movable support with the said axis of rotation coaxial with the circular support during the forward motion of said rocking lever, means for changing, at the end of the forward stroke of said rocking lever, the position of the movable support, and thus bringing the said axis of rotation nearer the circular face of the fixed support in order to disengage the pinion from the rack and the treated article from the fixed support, means for locking the said movable support in the new position during the return stroke of the rocking lever, means for releasing the movable support at the end of the said return stroke of the rocking lever, means for replacing the said movable support into its original position at the beginning of the next forward stroke of the rocking lever, a feeding bobbin for the strip intended to form the band elements to be affixed on the articles to be treated, means for unwinding from the said bobbin, during each return stroke of the rocking lever, a length of the strip corresponding to the length of a band element to be wound on each article, means for providing one face of the said unwound part of the strip with an adhesive substance, means for conveying the unwound part of the band on the fixed support, with the said face outside, the said conveying being effected during each return stroke of the rocking lever and by the article itself on which the free end of the unwound part of the strip has been wound during the previous forward stroke of the rocking lever, means for stopping the conveying motion of the strip before the end of each return stroke of the rocking lever, and means for setting up simultaneously a section of reduced resistance in said part of the band, the said section being spaced from the like section set up in said part of the band, during the previous return stroke of the rocking lever, by a distance the length of which corresponds to the length of the band element to be affixed on each article, each band element so determined in the feeding band and wound on an article being, finally, thus wholly served from the next element of the said feeding band when the conveying of this next element is stopped on the fixed support before the end of the return stroke of the rocking lever.

30. A machine for covering with a band element provided on one of its faces with an adhesive substance, the various faces of a peripheral flange of an article, the said machine comprising in combination a fixed circular support provided with a groove above which a strip provided on one of its faces with an adhesive substance is laid with the said face outside, a lever rocking about an axis which is coaxial with the said circular support during each forward movement of this lever, an axle mounted on the said rocking lever, a mandrel mounted on the said axis, means permitting only one direction of the rotation of the said mandrel on the said axle, the said mandrel being adapted for receiving one article on which a band element is to be placed with its peripheral flange opposite to the hereinabove groove, means for

bringing into contact with the strip, and as soon as the forward movement of the rocking lever begins, the peripheral flange on which the band element is to be affixed, a pinion integral with the mandrel, a rack integral with the fixed support, the pinion engaging with the rack during the forward motion of the mandrel for rolling the said peripheral projection in the groove of the fixed support during the forward motion of the mandrel, engaging the band element in this groove and, thus, automatically, applying it over the various faces of said peripheral projection, a movable support carrying the axis of rotation of the rocking lever, means for positioning the said movable support with the said axis of rotation coaxial with the circular support during the forward motion of said rocking lever, means for changing at the end of the forward stroke of said rocking lever the position of the movable support, and thus bringing the said axis of rotation nearer the circular face of the fixed support in order to disengage the pinion from the rack and the treated article from the fixed support, means for locking the said movable support in the new position during the return stroke of the rocking lever, means for releasing the movable support at the end of the said return stroke of the rocking lever, means for replacing the said movable support into its original position at the beginning of the next forward stroke of the rocking lever, a feeding bobbin for the strip intended to form the band elements to be affixed on the articles to be treated, means for unwinding from the said bobbin, during each return stroke of the rocking lever, a length of the strip corresponding to the length of the band element to be wound on each article, means for providing one face of the said unwound part of the strip with an adhesive substance, means for conveying the unwound part of the strip, on the groove of the circular part of the fixed support, with the said face outside, the said conveying being effected during each return stroke of the rocking lever and by the article itself on the peripheral projection of which the free end of the strip has been wound during the previous forward stroke of the rocking lever, means for stopping the conveying motion of the strip before the end of each return stroke of the rocking lever, means for setting up simultaneously a section of reduced resistance in said part of the band, the said section being spaced from the like section set up in said part of the band during the previous return stroke of the rocking lever, by a distance the length of which corresponds to the length of the band element to be affixed on each article, each band element so determined in the feeding strip and wound on an article being, finally, thus wholly severed from the next element of the said feeding strip when the conveying of this next element is stopped on the fixed support before the end of the return stroke of the rocking lever.

In witness whereof I have hereunto set my hand.

LOUIS EDOUARD DIOT.