

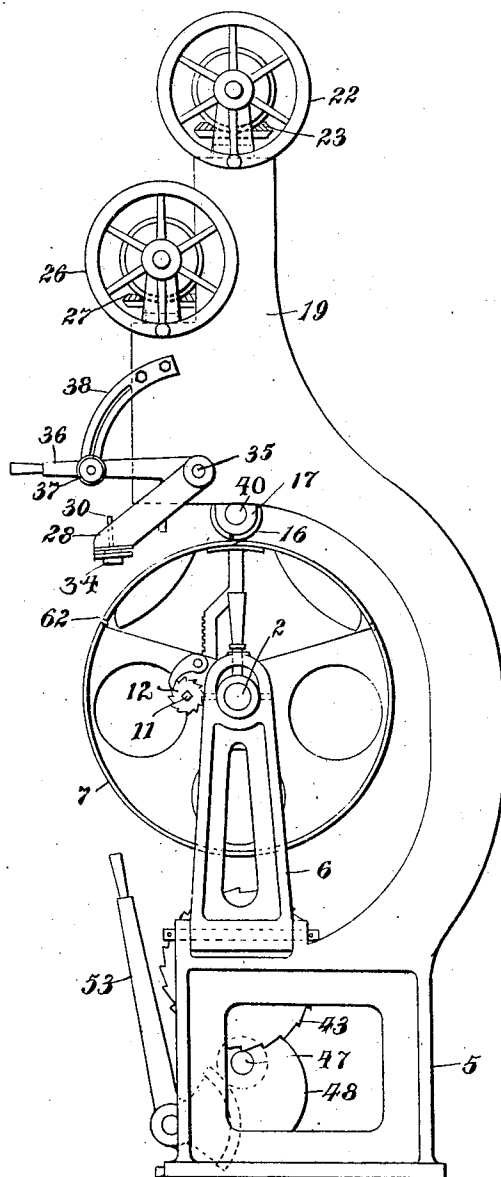
977,222.

H. ROBERTS.
VENEER PACKAGE MACHINE.
APPLICATION FILED MAR. 23, 1910.

Patented Nov. 29, 1910.

5 SHEETS—SHEET 1.

FIG. 1.



WITNESSES

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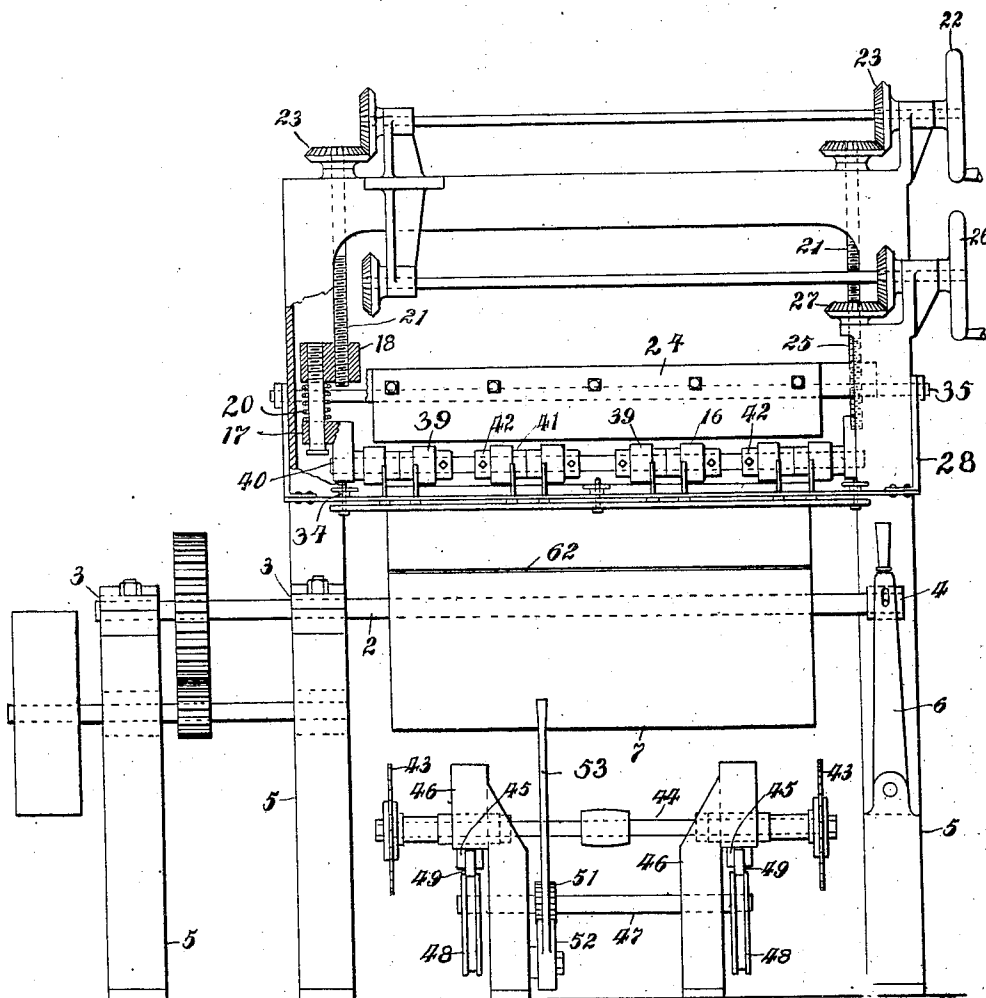
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5 SHEETS—SHEET 2.

FIG. 2.



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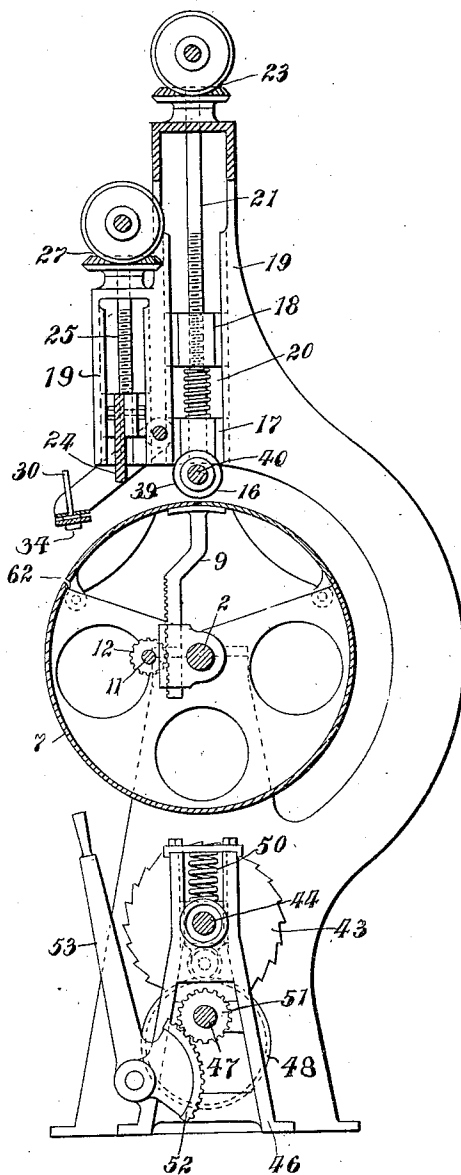
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5 SHEETS—SHEET 3.

FIG. 3.



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5 SHEETS—SHEET 4.

FIG. 4.

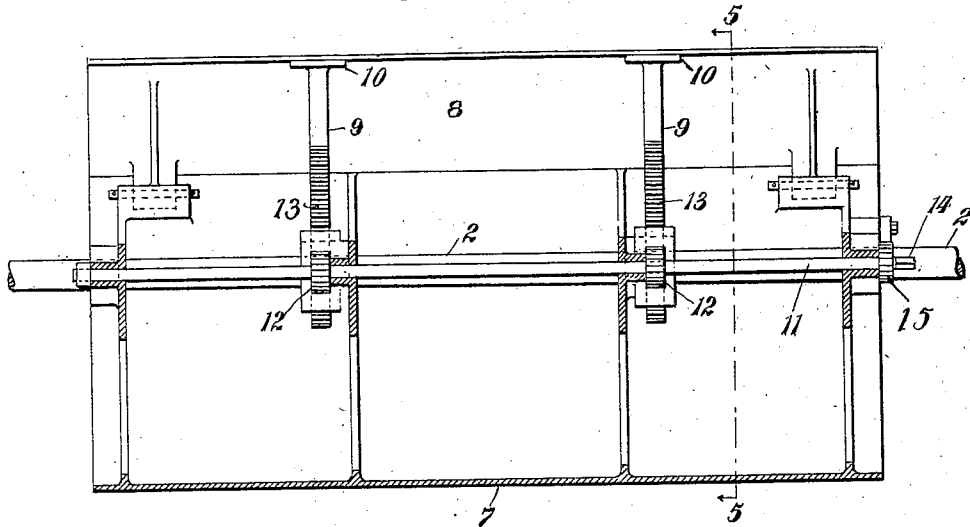


FIG. 5.

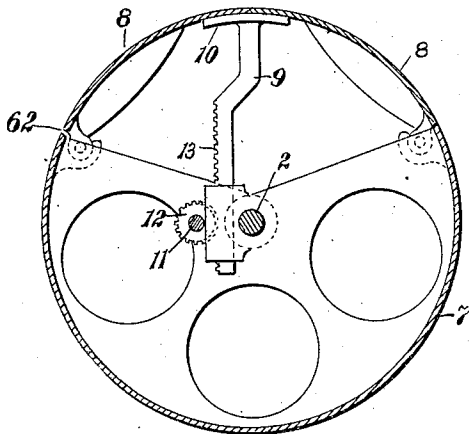


FIG. 6.

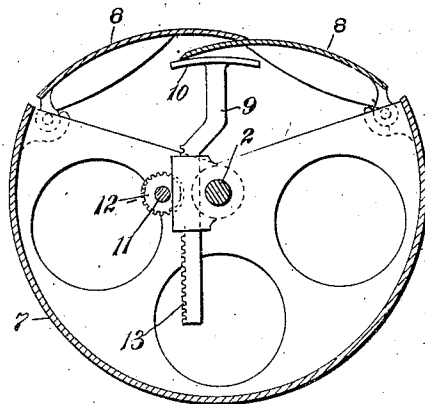


FIG. 7.

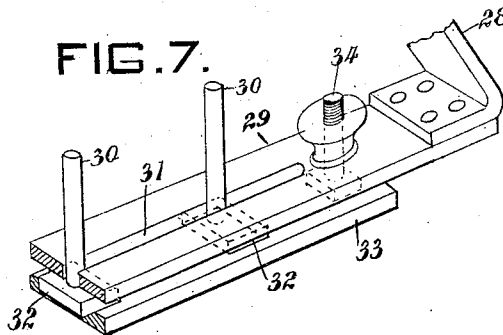
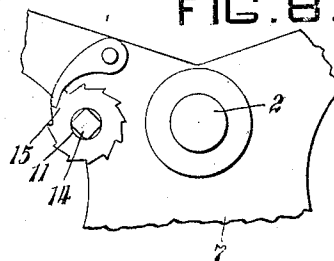


FIG. 8.



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5 SHEETS—SHEET 5.

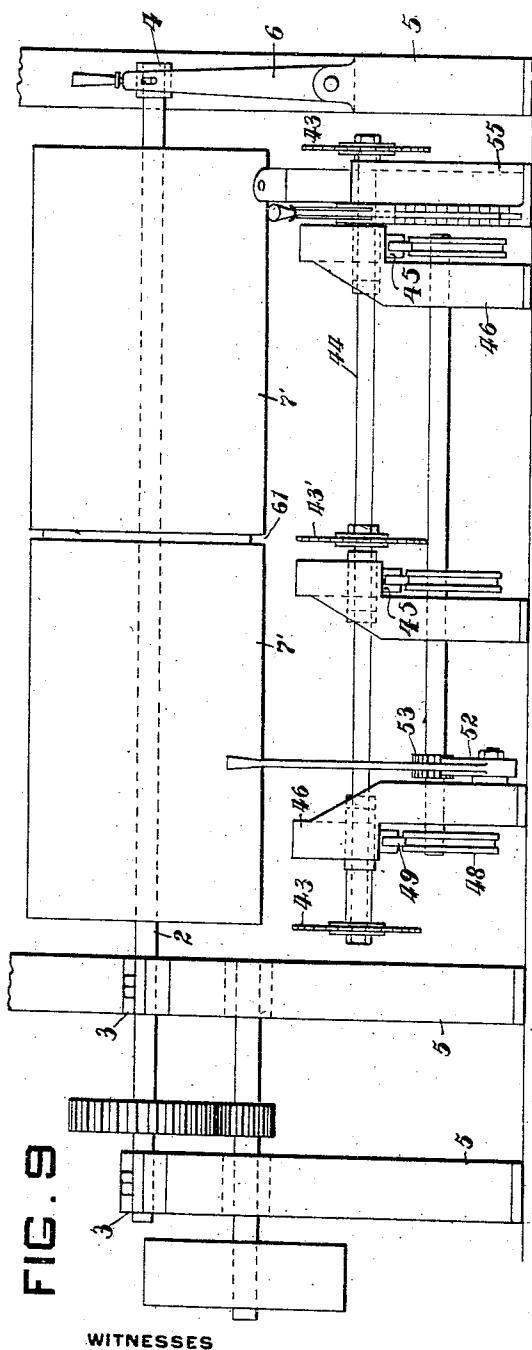
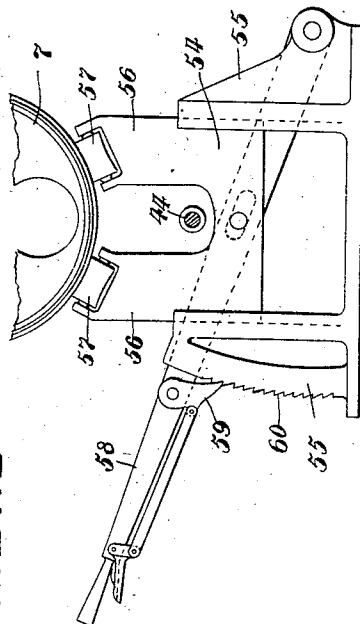


FIG. 9

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FIG. 10



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UNITED STATES PATENT OFFICE.

HENRY ROBERTS, OF PITTSBURG, PENNSYLVANIA.

VENEER-PACKAGE MACHINE.

977,222.

Specification of Letters Patent.

Patented Nov. 29, 1910.

Application filed March 23, 1910. Serial No. 551,067.

To all whom it may concern:

Be it known that I, HENRY ROBERTS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Veneer-Package Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to that class of veneer package machines in which a collapsing drum in cooperation with pressure means is employed to form the package; the pressure means comprising usually a compression roller by means of which the material is wrapped on the revolving drum and the presser plate for holding, in the formed package, the overlapping end of the material in position for fastening.

The object of my invention is to improve the construction of the forming drum; providing a drum which may be effectually and readily collapsed and established; also to so construct the compression roller as to be instrumental in insuring symmetrical application of the stiffening hoops, when employed, to the body of the package. I also aim to improve certain other details of construction, as will be hereinafter more fully described.

I will now describe my invention, referring to the accompanying drawings, so that others skilled in the art to which it appertains, may understand and construct the same.

Figure 1 is a side elevation of a veneer package machine embodying my invention; Fig. 2 is a front elevation of the same partly in section; Fig. 3 is a vertical sectional view; Fig. 4 is a longitudinal sectional view of the forming drum; Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 4; Fig. 6 is a similar view but showing the drum contracted or collapsed; Fig. 7 is a fragmentary perspective view of the adjustable hoop guide; Fig. 8 is a fragmentary elevation of one end of the drum, showing means for holding the collapsible drum segments in normal extended position; Fig. 9 is a front elevational view showing auxiliary means for supporting the drum during endwise removal of the package therefrom; and Fig. 10 is a side elevation of the auxiliary drum supporting means.

The reference numeral 2 indicates the usual drum carrying shaft or spindle which

is journaled in the bearing 3—4 of the main frame 5 of the machine; the end bearing 4 being carried by the arm 6 which is pivotally carried by the frame 5 so that it may be shifted to clear the finished package in its endwise removal from the drum. The former or drum 7 is provided with the inwardly foldable segments or leaves 8 whereby the drum is rendered contractible or collapsible to enable removal therefrom without binding of the finished cylindrical package. To permit of such collapsing of the drum as well as to cause a return of the leaves 8 to normal position for cylindrical establishment of the drum, I provide the internally radially or substantially radially shiftably mounted arms 9 which are provided each with the head plate 10 by means of which the leaves 8 are held normally open, as shown in Fig. 5, and upon which one of the leaves slidingly bears as the leaves are folded inwardly, as will be readily seen by referring to Fig. 6. Such radial shifting, spoken of above, of the arms 9 is brought about by means of the rotatory rod 11 through the medium of pinions 12 which mesh with the toothed-face 13 of the arms 9; the rod 11 being carried by the main portion of the drum 7 and having one end square-finished as at 14 for the reception of a suitable operating handle (not shown). Locking of the arms 9, when caused to be shifted to the position shown in Figs. 4 and 5, is accomplished by means of the suitable ratchet and pawl arrangement 15 which serves to prevent a reverse rotation of the shifting rod 11 after the rod has operated through the pinions 12 and gear face 13 to shiftably extend the arms 9 in the manner described above; the ratchet being carried by the rod 11 while the pawl of the arrangement is carried by a respective end face or web of the drum 7, as is clearly shown in Figs. 1 and 8.

Positioned preferably at the top of the drum 7, is the compression roller 16 by means of which the package material is caused to be firmly wrapped upon the revolving drum 7. This roller 16 is carried by the blocks 17 and 18 which are slidingly mounted in the uprights 19 of the main frame 5; the blocks 17 and 18 being provided with the interposed coiled springs 20 by means of which a cushion effect is given to the roller 16. Means for causing shifting of this cushioned or compression roller into and out of operative association with

the forming drum 7, comprise the twin screw feed arrangement 21, carried by the frame 5 and which, operatively engages with the shiftable block 17 of the roller. A suitable hand wheel 22 serves, through the medium of the beveled gearing 23, to form operating means for the screw feed.

The usual clamping or presser bar for holding the overlapping end of the formed package in position for fastening, is indicated by the numeral 24. This presser bar, in my improved apparatus, however, is adapted to be operated by means of the twin screws 25, which correspond with the feed arrangement, above described, of the compression roller 16; the hand wheel 26 forming, with the beveled gearing 27, means for operatively rotating the screws 25.

Pivotaly carried by the upright members 19 of the frame 5 are the arms or brackets 28 to which is secured the rack 29 which extends, adjacent the presser bar 24, across the face of the drum 7. Carried by this rack 29 are the hoop guiding fingers 30 between which the stiffening hoops pass in their presentation to the drum; the fingers being adjustably mounted on the rack 29 so as to accommodate hoops of various widths.

As shown in Fig. 7 this adjustability of the hoop guiding fingers 30 is accomplished by forming a longitudinal slot 31 in the rack 29, in which the fingers 30 are mounted; each finger being provided with the T-head 32 against which the bar 33 is adapted to be clamped by means of suitable clamping screws 34 for holding the fingers in adjusted position along the rack. And by means of the pivoted mounting of the hoop guide rack carrying arms 28, desired angular adjustment of the rack 29 may be had. To effect such adjustability of the rack 29 I fixedly secure the arms 28 to their pivoted mounting or shaft 35 which is journaled in the frame 5 and provide such shaft 5 with the adjusting lever or arms 36 (see Fig. 1) carried by which is the clamping screw 37 which is adapted to cooperate with the slotted clamping plate 38 to hold the said lever 36 in adjusted position. Such angular adjustability also permits of the rack 29 being swung upward to an inoperative position after serving to guide the hoops in their presentation to the veneer body, for convenience in the nailing or fastening of the overlapping end of the material.

To insure symmetrical disposition of the stiffening hoops in their application to the body of the package, I so construct the compression roller 16 as to be instrumental in aligning the hoops as they are caused to pass, through revolution of the drum 7, between the compression roller 16 and the body of the package. The compression roller so constructed is clearly shown in Fig. 2 and com-

prises the rolls 39 carried by the journal 40. These rolls 39 are arranged in sets of two rolls each; the rolls of each set being provided with oppositely disposed recesses 41 by means of which they cooperatively assist to prevent lateral shifting of the traveling hoop. By means of the suitable set collars 42 the rolls 39 may be adjusted along their journal or shaft; such adjustment contemplating the accommodation of the recesses 41 to hoops of various widths.

The usual circular saw for dressing the ends of the cylindrical package before it is removed from the drum, is indicated by the numeral 43. The saw shaft or spindle 44 is journaled in the bearings 45 which are slidably mounted in the standards 46 situated beneath the drum 7. Journaled in the standards 46, parallel with and beneath the saw spindle, is the rotatory shaft 47 fixedly carrying the eccentrics 48 which, by a rotation of the shaft 47, serve, through the intermediary of the bearing rollers 49, to slidably shift against the tension of the springs 50, the shaft 44 for presentation of the saw to the revolving package. To the eccentric shaft 47 is secured the pinion 51 with which meshes the segmental rack 52 of the lever 53, pivotaly carried by a standard 46. It is evident that by a rocking of the lever 53 a rotation, by means of the pinion 51 and rack 52, of the shaft 47 will be set up for a shifting of the finishing saw 43 into and out of operative engagement with the formed package, as above described.

In Figs. 9 and 10 I show means for supporting the respective end of the drum when the arm 6 is disengaged from the end of the shaft 2 preparatory to the endwise removal of the finished package. This mechanism comprises the support 54 which is vertically shiftable mounted in the frame 55 beneath the drum 7. This support is provided with the arms 56 which extend upward at each side of the saw spindle 44, and in which are journaled the drum supporting rollers 57. And pivotaly mounted on the frame 55 and operatively connected to the support 54 is the lever 58 by means of which the support 54 may be elevated and lowered for bringing the supporting rollers 57 into and out of supporting association with the forming drum. The lever 58 is provided with the suitable pawl 59 which is adapted to engage with the ratchet face 60 of the pawl 55 for holding the drum support 54 in elevated operative position. This roller arrangement serves to effectually support the drum against sagging while still permitting of the ready removal of the package. By reason of this supporting means for the forming drum, I may employ, as shown in Fig. 9, without liability of sagging during removal of the package, a drum 7 of length sufficient to accommodate the simultaneous formation of several

packages; the continuous cylindrical package being adapted to be severed or cut to the desired lengths without removal from the drum, by means of the intermediate saw 43' operating in conjunction with the peripheral drum-recess 61.

The operation of my apparatus will be readily understood from the foregoing description. Any suitable means may be employed for driving the drum and circular saws. The sheet of package material may be initially secured to the drum in any suitable manner. For this purpose, however, I show the drum 7 as having the longitudinal slot or recess 62 into which the forward end of the material is adapted to be inserted preparatory to its being wrapped around the drum. In the employment of stiffening hoops, the hoops are preferably progressively fastened to the body of the package, as they are caused to be fed thereto, obviating thereby any necessity of straightening or evening up of the hoops after passing from the recessed roller 16.

The advantages of my invention will be appreciated by those skilled in the art. The apparatus is simple, compact, and symmetrical in construction and effective in operation.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a veneer package machine, a forming drum having segmental portions pivotally mounted upon substantially peripheral fulcrums and adapted to fold inwardly, the free ends of the segments being adapted to abut when the segments are normally extended, and thereby form a continuous unbroken surface, and a radially movable support engaging the free ends of the segments.

2. In a veneer package machine, a forming drum having segmental portions mounted upon substantially peripheral fulcrums and foldable inwardly with their free ends overlapping, the free ends of the segments being adapted to abut when the segments are normally extended, and thereby form a continuous unbroken surface, and a radially movable support engaging the free end of the inner segment in folded position and the ends of both segments in extended position.

3. In an apparatus of the character described, the combination with a supporting frame, of a forming drum, a shaft journaled in the frame and extending longitudinally of the face of the drum, and a series of rollers loosely rotatively carried by the shaft and arranged in sets of a plurality of rollers each; the rollers of each set being coöperatively recessed for the reception of the

stiffening hoops, and means for relatively adjusting the sets and the individual rollers of each set along the shaft.

4. In an apparatus of the character described, the combination with a supporting frame, of a forming drum, sliding blocks carried by the frame, a shaft journaled in the blocks and extending across the face of the drum, a series of rollers loosely rotatively carried by the shaft and arranged to coöperatively guide the stiffening hoops in their passage to the body of the package, means for shifting the rollers into and out of operative association with the drum and means for relatively adjusting the sets and the individual rollers of each set along the shaft.

5. In an apparatus of the character described, the combination with a supporting frame, a forming drum, a shaft journaled in the frame and extending longitudinally of the face of the drum, a series of rollers loosely rotatively carried by the shaft and arranged to coöperatively guide the stiffening hoops in their passage to the body of the package; the rollers being in sets of a plurality each, and means for relatively adjusting the sets and the individual rollers of each set along the shaft.

6. In an apparatus of the character described, the combination of a rotatory shaft, a forming drum mounted thereon, a rigid bearing for one end of the drum shaft, a portable bearing for the other end of the drum shaft, and movable into and out of alinement with the drum, and auxiliary means for supporting the drum when the last named bearing has been shifted from supporting engagement with its respective end of the drum shaft for endwise removal of the package from the drum.

7. In an apparatus of the character described, the combination of a rotatory shaft, a forming drum mounted thereon, a rigid bearing for one end of the drum shaft, a portable bearing for the other end of the shaft, and movable into and out of alinement with the drum, a frame, an auxiliary drum support slidably mounted in the frame, and means for bringing the support into operative relation to the drum when the portable bearing has been shifted from supporting engagement with its respective end of the drum shaft for endwise removal of the package from the drum.

In testimony whereof, I have hereunto set my hand.

HENRY ROBERTS.

Witnesses:

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