

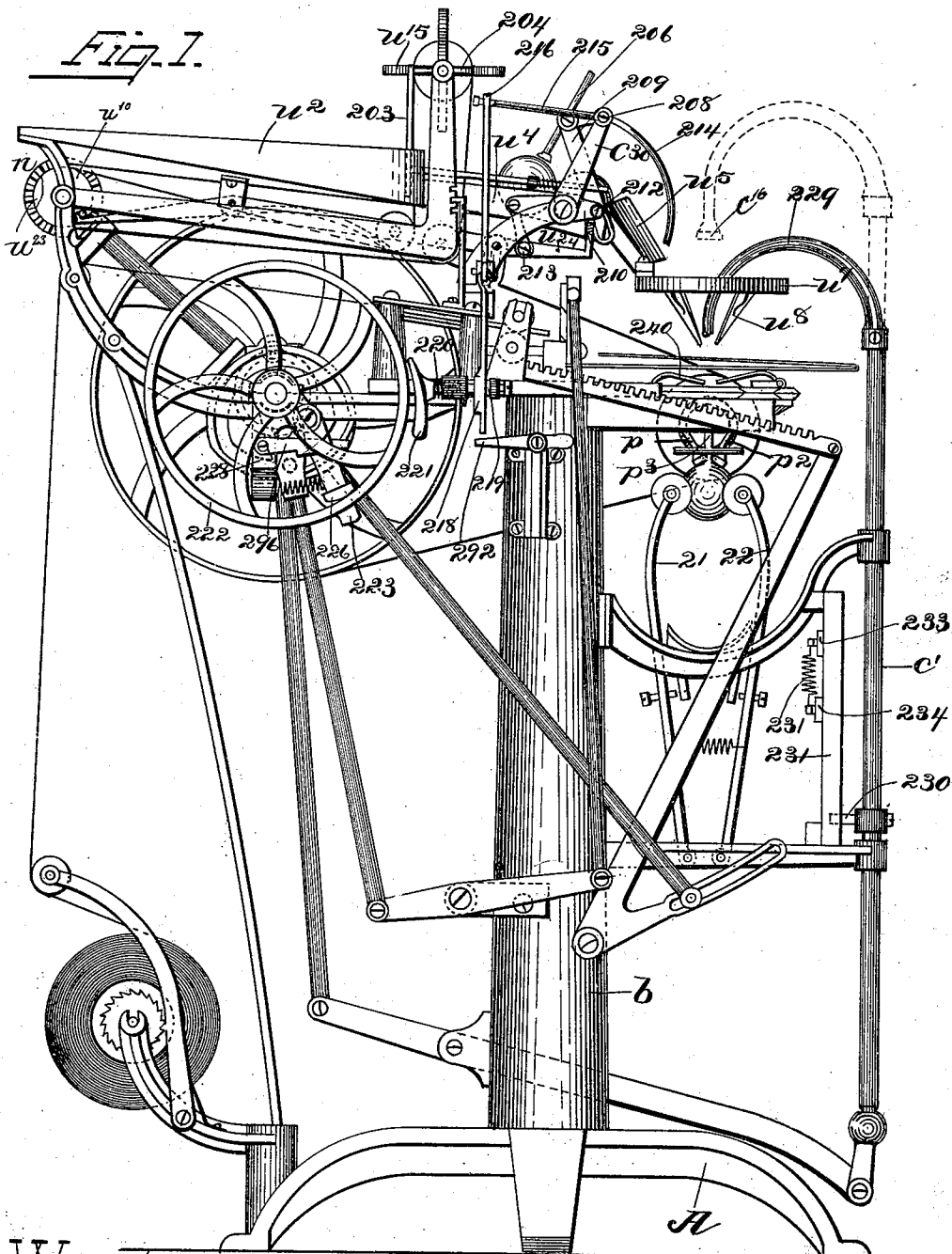
(No Model.)

2 Sheets—Sheet 1.

S. D. TRIPP.
WRAPPING MACHINE.

No. 548,677.

Patented Oct. 29, 1895.



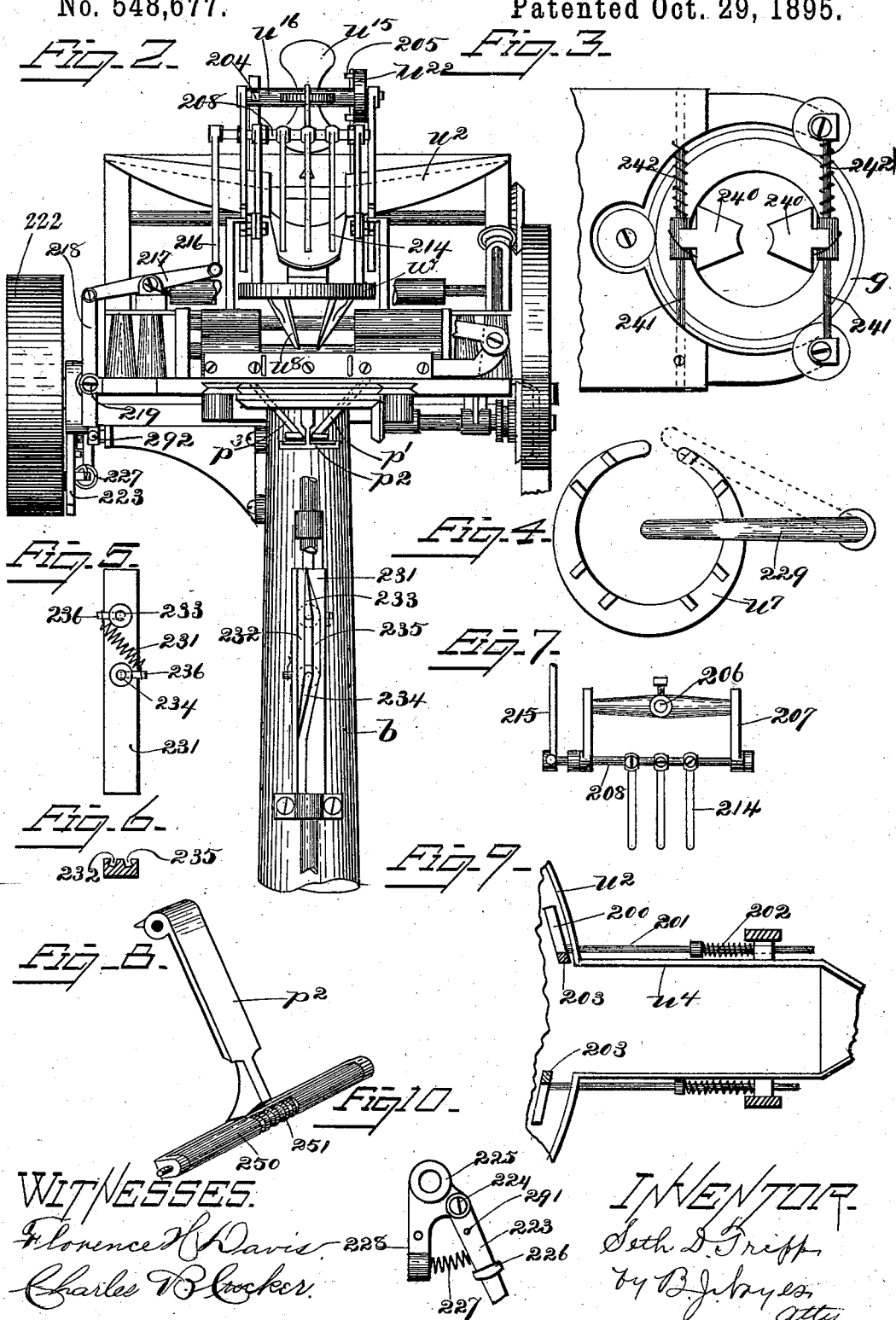
WITNESSES.
Florence H. Davis
Charles B. Cooper.

INVENTOR.
Seth D. Tripp,
by B. J. Hayes, atty.

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WRAPPING MACHINE.

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Florence H. Davis.
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UNITED STATES PATENT OFFICE.

SETH D. TRIPP, OF LYNN, MASSACHUSETTS.

WRAPPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 548,677, dated October 29, 1895.

Application filed June 11, 1894. Serial No. 514,223. (No model.)

To all whom it may concern:

Be it known that I, SETH D. TRIPP, of Lynn, in the county of Essex and State of Massachusetts, have invented an Improvement in Wrapping-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

This invention has for its object to improve the construction of wrapping-machines—such, for instance, as shown in United States Letters Patent No. 472,202, dated April 5, 1892, and No. 516,136, dated March 6, 1894—and it consists in providing the wrapping-machine therein shown with a novel form of agitator for the oranges or other articles to be wrapped; also, in means for holding the next to the endmost article while the endmost article is being delivered from the hopper or from the trough or receptacle containing them; also, in an automatic stopping mechanism for the machine which is controlled by the delivery or passage of the articles to be wrapped from the hopper containing them to the wrapping devices; also, in an improved form of plunger for forcing the orange or other article down through the centering devices to the wrapping devices and in means for operating said plunger; also, to a novel form of centering or guiding device for the oranges or other articles to be wrapped, which may be used to supplement the centering devices therein shown; also, in a novel form or construction of the wrapper folding and twisting devices.

Figure 1 shows in side elevation a sufficient portion of the wrapping-machine embodying this invention to enable my present invention to be understood; Fig. 2, a front elevation of a portion of the machine shown in Fig. 1, many of the parts being removed for perspicuity; Fig. 3, a detail showing in plan view my novel form of supplemental centering device or guide for the oranges or other articles located just above the combined folding and twisting devices; Fig. 4, a detail of the plunger; Fig. 5, a detail showing a rear side view of the switch for the plunger; Fig. 6, a cross-section of the switch for the plunger; Fig. 7, a detail of the means for holding the next to the endmost orange and also a portion of the automatic stopping mechanism; Fig. 8, a detail of one

member of the combined folder and twister wherein my improvement thereof resides; Fig. 9, a detail of the agitator for the oranges or other articles contained in the hopper; Fig. 10, a detail of the clutch mechanism which forms a co-operate part of the automatic stopping mechanism.

The base A and stand or column *b*, rising therefrom and supporting the table or framework which supports the operating parts, the hopper *u*², and trough *u*⁴ leading therefrom, the centering device *u*⁷ *u*⁸, the wrapping device (shown, essentially, as a combined folding and twisting device) comprising the ring *g*, and depending spring-pressed arms *p* *p'* *p*² *p*³, the spring-pressed supporting-arms 21 22, the paper feeding and cutting mechanism, and the means for operating the plunger *c'* vertically, are all substantially as in United States Patent No. 516,136, hereinbefore referred to, wherein the parts are similarly lettered.

As my invention refers to improvements in or upon various parts of the machine therein shown, I will proceed to describe each separately.

In practice I find that as the oranges or other articles contained in the hopper *u*² pass through the narrow exit thereof into the trough *u*⁴ they are liable to form an arch around said exit, as well as otherwise prevent free and unobstructed passage therethrough, and to obviate this difficulty I have herein provided two agitators, one at each side of the exit, (see Figs. 1 and 9,) they each consisting of a flat plate 200, set edgewise and secured to a rod 201, sliding longitudinally in bearings provided for it on the sides of the trough *u*⁴ and encircled by springs 202, the tendency of which is to draw said plates 200 toward the forward end of the hopper *u*². The plates 200 are located within the hopper and one at each side of the exit thereof, and each has an upwardly-projecting arm 203, adapted to be engaged by positively-driven mechanism for alternately or otherwise pushing said plates 200 inwardly, and thereby disturbing the articles contained in the hopper. The means herein shown for moving inwardly said plates or agitators consists of two radial arms or pins 204, secured to and projecting in opposite ways from the shaft *u*¹⁶, which carries the blades *u*¹⁵, said pins successively

engaging the arms 203 of one of the agitators, and also two or more pins or projections 205, projecting inwardly from the disk or pulley w^{23} and successively engaging the arm 203 of the other agitator. These pins 204 and 205 may be so disposed that the agitators are operated or pushed inward alternately against the stress of the springs 202. Thus it will be seen that the oranges or other articles cannot obstruct the passage from the hopper to the trough.

I also find in practice that it is necessary or quite important to hold the next to the endmost orange while the endmost orange is being delivered from the trough w^4 to the wrapping devices, and for the accomplishment of this end I provide a stop or pressure arm 206, (see Figs. 1 and 7,) made as a rod with an enlarged lower end adapted to bear upon or against the next to the endmost orange and adjustably mounted in a yoke or frame 207, loosely connected to a rod 208, having its bearings at the upper end of the arms c^{60} . This stop or pressure arm is designed to bear upon the article by gravity, and as a means of raising it I have herein shown an arm 209, connected at its upper end to said loosely-pivoted yoke or frame 207 and having its lower end slotted, and a pivoted lever 210, one end of which has a pin adapted to engage the slotted end of the arm 209 and the other end of which is connected by a link 213 with the orange-delivering arm w^{24} , so that at each time the arm w^{24} is raised to lift the endmost orange over the ledge at the outer end of the trough w^4 the gravitating stop or pressure arm 206 will bear upon the next to the endmost orange and thereby hold it until such time as the arm w^{24} resumes its normal position.

As an automatic stopping mechanism for the machine, I have provided mechanism which is controlled by the oranges or other articles as they pass from the hopper to the wrapping devices, and for convenience have arranged it to be operated by the articles as they pass along the chute w^5 . Above the chute w^5 , which thus conducts the oranges to the wrapping devices, is located, as herein shown, three fingers 214, adjustably secured to the rod or shaft 208, said fingers terminating at such distance away from the bottom of the chute as to more or less obstruct the path of progress of the articles, so as to be engaged by said articles as they pass along the chute beneath the fingers. These fingers 214 are designed to be employed as a means of controlling the operation of the automatic stopping mechanism of the machine. Fixed to the rod or shaft 208 is a rearwardly-extended arm 215, to the outer extremity of which is attached a vertical rod or link 216, the lower end of which is connected to the inner end of a pivoted lever 217, and to the outer end of said lever 217 a bar 218 is attached, depending therefrom vertically, the lower end of which is increased in thickness or broadened, and when said bar is in its lowermost

position said broadened end occupies a position between an adjustable stop on the one side and a spring-pressed rod 220 upon the other side, but when raised is entirely removed from between said parts. When the fingers 214 are in their normal position of rest, the lower end of the bar 218 is interposed between the stop and spring-pressed rod, but when said fingers are raised, said end portion is correspondingly raised. The rod 220 bears an end piece 221 having an oblique face and located near the periphery of the drive-wheel 222 of the machine which is mounted loosely upon the main shaft f^5 , and said rod, and consequently its end piece, is held pressed toward said drive-wheel by the spring, yet when the lower end of the bar 218 is raised or removed from between the rod 220 and stop 219 said end piece is free to yield. A clutch mechanism is provided for the drive-wheel which, as herein shown, consists of an arm 223, pivoted at 224 to the hub 225, secured to the main driving shaft. The arm 223 has upon one side of it a friction block or projection 226, which engages the inner face of the rim of the drive-wheel 222, being held pressed firmly into engagement therewith by a spring 227, one end of which bears against the arm 223 and the other end against the arm 228, projecting from the hub 225. At each revolution of the drive-wheel 222 the arm 223 strikes the oblique face of the end piece 221, passing by it if the bar 218 is elevated, as it will be when the fingers 214 are raised by an article passing beneath them, said end piece freely yielding to permit the arm to pass by, but if the bar 218 is in its lowermost position when the arm 223 arrives at and strikes the end piece 221 said arm will engage therewith, and as the end piece cannot yield said arm is turned on its pivot 224, and the friction-block 226 disengaged from the rim of the drive-wheel. By this group of mechanism it will be seen that each time an orange or other article passes along the chute w^5 beneath the fingers 214, the latter are raised and the bar 218 lifted from between the rod 220 and stop 219, so that the arm 223 may freely pass by; but if said arm 223 arrives in position to engage the end piece 221 at the time that said bar 218 is interposed between said parts, then, in such case, the arm will strike the end piece, and being restrained thereby the driving-wheel will be disengaged from its shaft f^5 and continue to rotate loosely thereon. A hand-lever 296 is or may be pivoted to the arm 228, being held by friction in whatever position it may be placed, and adapted to engage a pin 291 on the arm 223 when said arm is moved to disengage the clutch, thereby manually controlling the operation of said clutch; also, a hand-lever 292 is pivoted to the column b , which is adapted to raise the bar 218 whenever desired.

While the group of mechanism herein shown is simple and effective, yet I do not desire to limit my invention to any particular construc-

tion of mechanism whereby one or more fingers are operated by the articles to be wrapped to effect the engagement or disengagement of a clutch mechanism between the driving-wheel and shaft driven by it.

The rod or plunger c' is herein shown as having its upper end 229 curved or made semi-circular with an enlarged end c^{16} , preferably rubber-faced, which overhangs the centering device $u^7 u^8$, and as the plunger descends bears upon and forces the orange or other article to be wrapped down through said centering device and into engagement with the combined folder and twister, and as said rod or plunger rises it is turned axially a short distance, so that its upper-end portion swings out of the ring u^7 of the centering device, returning to its normal position to again descend and engage an article which may be delivered beneath it as it approaches its most elevated position. In order to effect this axial movement of the rod or plunger c' as it is moved upward, it is herein shown as provided at or near its lower end with a laterally-projecting pin 230, which engages a switch mounted on or supported by the framework, (see Figs. 1, 2, and 5,) said switch being herein shown as consisting of a block 231, provided with a straight vertical longitudinal groove or passage 232, in which the pin 230 travels as the plunger descends, and two switch-arms 233 234, one at each end of said groove and pivotally connected to the block and pointing in opposite ways, one up and one down, and a groove 235, formed in said block beside the groove 232, which communicates at each end with said groove 232, the communicating-passages being opened and closed by said switches.

The switch-arms 233 234 are each provided with a laterally-extended pin 236, (see Fig. 5,) projecting in opposite ways and connected by a spring 237, the tendency of which is to hold both switch-arms yieldingly in their normal positions—that is to say, the switch 233 closing the communicating-passage between the upper ends of the grooves 232 235 and the switch 234 opening the communicating-passage between the lower ends of said grooves.

The grooves 232 and 235 are formed in the block 231 obliquely with relation to each other, as shown in Fig. 6. As the plunger descends, the pin 230 follows in the straight vertical groove 232, passing by the switch-arm 234 as it approaches the lower end of said groove, said switch-arm yielding for the passage of the pin, and as the plunger ascends it is turned axially by the pin 230 striking said switch-arm 234, and being thereby directed into the groove 235, and as it approaches the upper end of said groove the pin 230 passes by the switch-arm 233, which yields for the passage of the pin, thereby returning to its normal position at the upper end of groove 232. It will be seen that as the plunger descends it follows a straight vertical path, and as it

returns it is turned axially a few degrees and thereafter restored to its normal position. It will be observed that this form of plunger is very much simpler than that shown in the patent referred to, as well as the means for operating it or turning it axially; but it is obvious that said plunger may be operated in precisely the manner herein described by quite different mechanism, and my present invention is not limited to the precise construction of operating mechanism for the plunger.

In addition to the centering device $u^7 u^8$, I have herein arranged just above the combined folding and twisting devices a supplemental centering device, (see Figs. 1 to 3,) shown as a pair of plates 240, arranged at opposite sides of the ring g and projecting inwardly and mounted on rods or shafts 241, having their bearings in the framework and parts supported thereby and encircled by spiral springs 242, the tendency of which is to normally hold said plates 240 in their elevated or horizontal position, yet permitting them to descend by the weight of the article thrust upon them.

The folding and twisting devices are made as in the patent referred to, with the exception that on two of the transverse bars or end portions of the folding and twisting arms—as $p p^2$, for instance—friction-rolls 250 are journaled, extending substantially, from end to end of the transverse bar, and midway between the ends of said friction-rolls a series of corrugations 251 are provided, such corrugated friction-rolls enabling the arms to effectually nip and thereafter more easily disengage the twisted wrapper.

I claim—

1. In a wrapping machine, a hopper having a narrow exit for the escape of the articles one by one, combined with two plates 200, located within the hopper, one at each side of the exit, set edgewise and facing the articles in the hopper, and with means for moving them inwardly to force the articles contained in the hopper away from said exit, substantially as described.

2. In a wrapping machine, a hopper having a narrow exit for the escape of the articles one by one, combined with two agitators located one at each side of said exit, consisting of plates 200, secured to spring pressed-rods 201, with means for operating them alternately, substantially as described.

3. In a wrapping machine, a hopper having a narrow exit for the escape of the articles one by one, combined with two agitators located one at each side of said exit, consisting of plates 200, secured to spring pressed rods 201 and vertical projection 203, and pins projecting radially from a rotating shaft for engaging said projection 203 and thereby operating said agitator, substantially as described.

4. In a wrapping machine, a receptacle from which the articles are delivered one at a time and delivering mechanism consisting of the

pivoted arm u^{24} , and means for operating it, combined with a holder for the next to the endmost article consisting of a pressure rod 206, pivoted frame supporting it and actuating mechanism connecting said supporting frame with the arm u^{24} , substantially as described.

5. In a wrapping machine, a receptacle for the articles to be wrapped and wrapping devices, combined with a drive wheel loosely mounted on the main shaft of the machine, clutch mechanism secured to said shaft and adapted to clutch the drive wheel and having an outwardly projecting operating arm, an oblique-faced yielding end piece lying in the path of said clutch-operating arm, mechanism for holding or permitting said end piece to yield having as a cooperative part of it one or more fingers lying in the path of progress of the article, between the receptacle holding them and the wrapping devices, substantially as described.

6. In a wrapping machine, a receptacle for the articles to be wrapped and wrapping devices, combined with a drive wheel loosely mounted on the main shaft of the machine, clutch mechanism secured to said shaft and adapted to clutch the drive wheel and having an outwardly projecting operating arm, an oblique-faced yielding end piece lying in the path of said clutch-operating arm, a stop located near by said end piece, a bar moving in and out between said end piece and stop, which prevents it from or permits it to yield, and one or more fingers lying in the path of progress of the articles between the receptacle holding them and the wrapping devices, connected with and adapted to move said bar, substantially as described.

7. In a wrapping machine, a receptacle for the articles to be wrapped, delivering mechanism for the articles, and wrapping devices, one or more fingers 214 normally lying in the path of progress of the articles between the receptacle holding them and the wrapping devices, to be positively moved by said articles, the bar 218 connected with and adapted to be moved by said fingers, spring pressed rod 220, and stop located near by and opposite one end thereof, receiving between them the bar 218, when the fingers are not raised by the

articles, end piece 221 on said bar 218, having an oblique face, the drive wheel 222 mounted loosely on the main shaft, a clutch mechanism having an operating arm 223 which strikes said end piece 221, revolving with the drive wheel when the end piece yields and permits passage of the arm, but held by said end piece when the latter is prevented from yielding, as by the interposition of the bar 218 between the rod 220 and stop, substantially as described.

8. In a wrapping machine, wrapping devices and means for delivering the articles thereto, one by one, combined with a plunger, means for moving it vertically, and a switch for moving it axially as the plunger ascends, substantially as described.

9. In a wrapping machine, wrapping devices and means for delivering the articles thereto, combined with a plunger, means for moving it vertically, a laterally projecting pin 230 on said plunger, and a switch 231 having a vertical longitudinal groove 232, a groove 235 communicating therewith at each end, and two switch arms 233, 234, whereby the plunger descends in a vertical line but is turned axially as it ascends, substantially as described.

10. In a wrapping machine, wrapping devices and means for delivering the articles thereto one by one, and a centering device above the wrapping devices, combined with a supplemental centering device located between the aforesaid centering device and the wrapping devices, and consisting of spring actuated plates 240, substantially as described.

11. In a wrapping machine, the combination with means for delivering the articles one at a time, of combined folding and twisting devices comprising the ring g and several spring pressed folding and twisting arms depending therefrom, at least two of which are provided with corrugated friction rolls 250, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SETH D. TRIPP.

Witnesses:

B. J. NOYES,

FLORENCE DAVIS.