

No. 682,823.

Patented Sept. 17, 1901.

T. N. TRIPP.
WRAPPING MACHINE.
(Application filed Jan. 16, 1901)

(No Model.)

2 Sheets—Sheet 1.

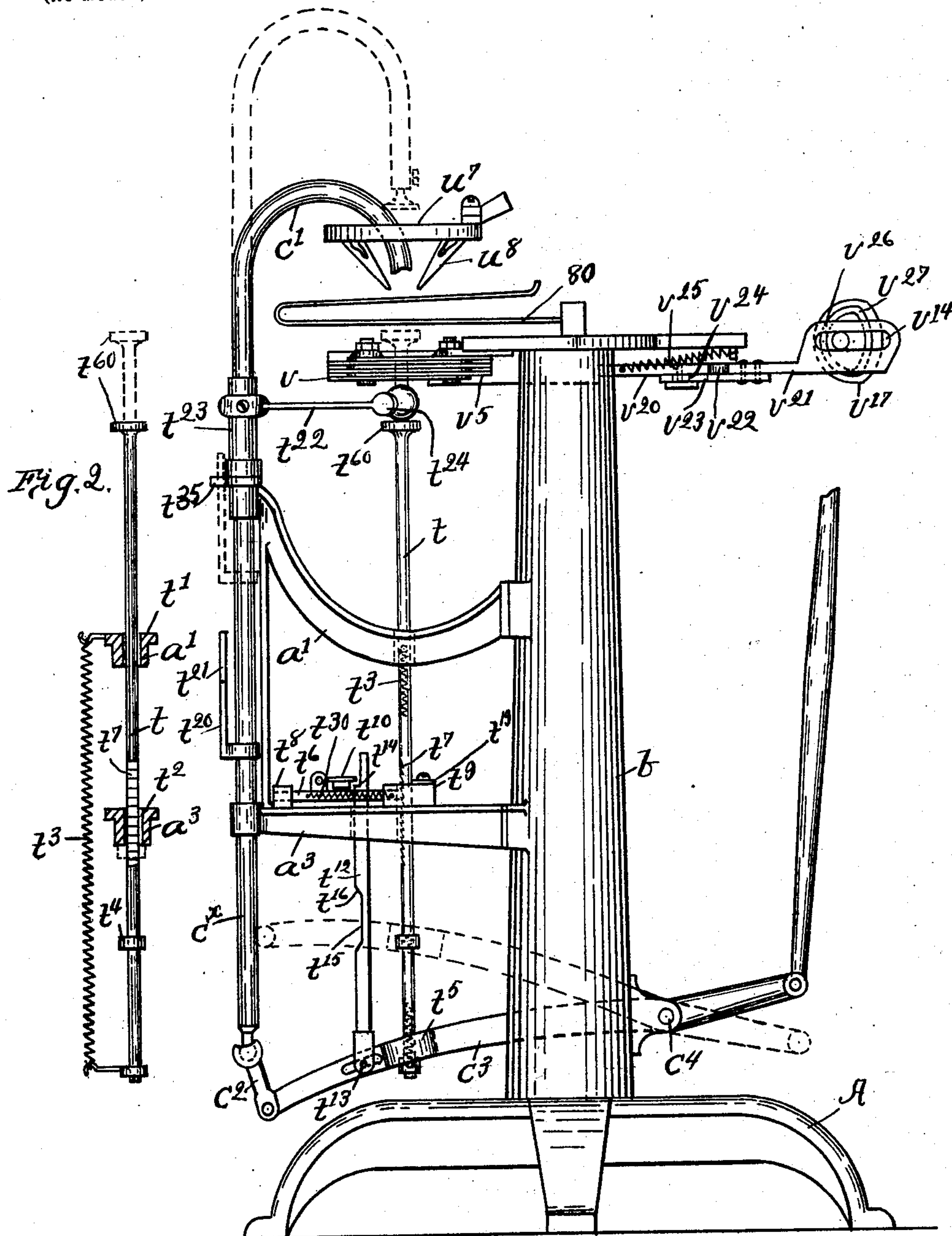


Fig. 1.

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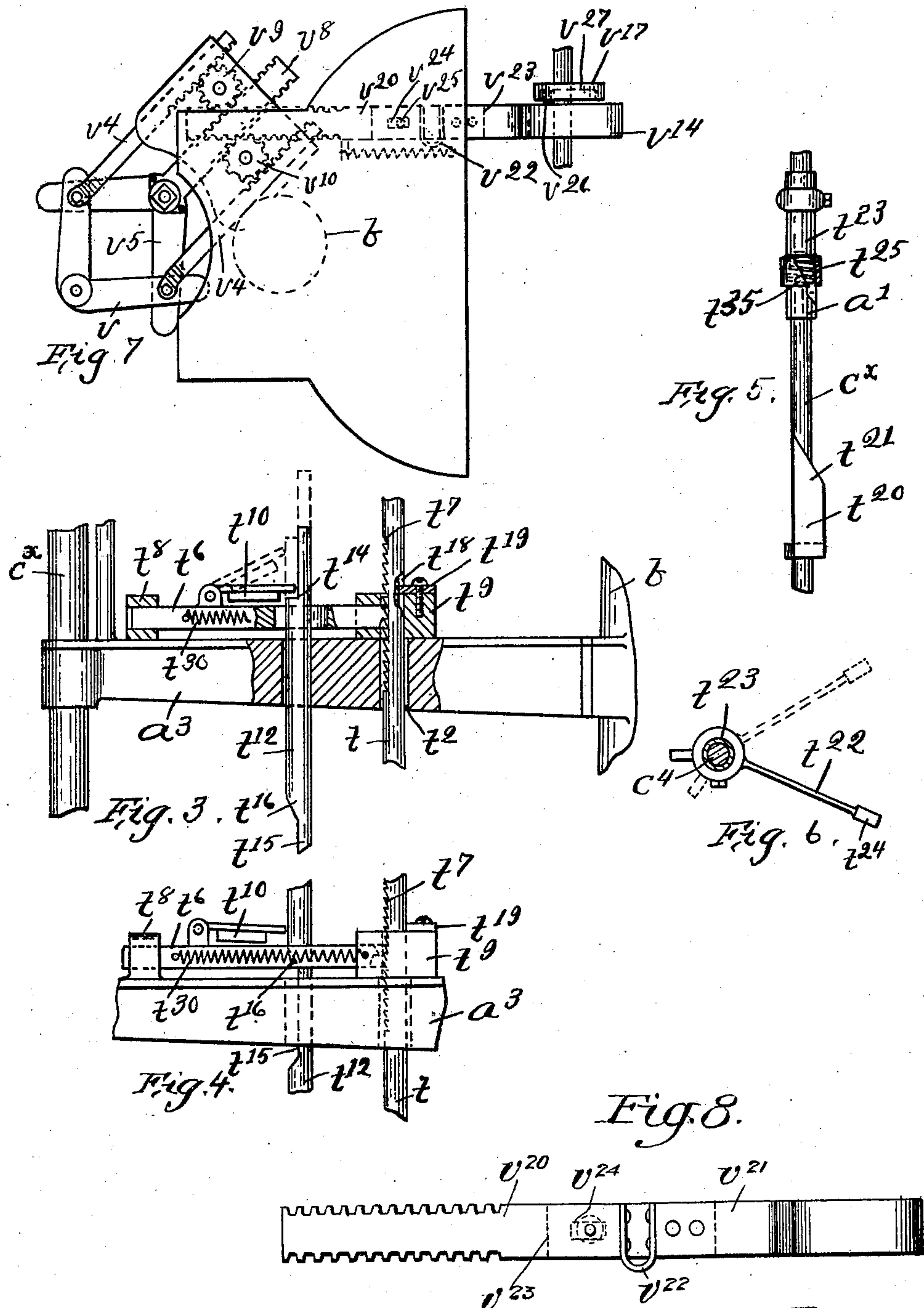
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UNITED STATES PATENT OFFICE.

THAXTER N. TRIPP, OF LYNN, MASSACHUSETTS.

WRAPPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 682,823, dated September 17, 1901.

Application filed January 16, 1901. Serial No. 43,537. (No model.)

To all whom it may concern:

Be it known that I, THAXTER N. TRIPP, of Lynn, county of Essex, 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 on the drawings representing like parts.

This invention relates to wrapping-machines, and is intended as an improvement upon the wrapping-machine shown and described in the United States Patents No. 472,202, dated April 5, 1892; No. 516,136, dated March 6, 1894; No. 548,677, dated October 29, 1895, and No. 595,421, dated December 4, 1897, which is especially designed for wrapping more or less spherical objects, such as oranges.

The invention has for its object to improve and simplify the construction of the machine shown particularly in said Patent No. 595,421, to the end that the holder for the article, which was therein provided for receiving the article, with its wrapper, and for upturning the edges of the wrapper when the article, with its wrapper, was forced into its grasp, may be omitted and in lieu thereof a rest provided for the article, upon which the article, with its wrapper, will be deposited and supported while the edges of the wrapper are upturned and gathered in and secured together; also, to provide means for ejecting the wrapped article; also, to improve the construction of the mechanism by which the edges of the wrapper are secured together, whereby certain variations may be compensated for automatically.

The invention consists in details of construction, as will be hereinafter pointed out. Figure 1 shows in side elevation a sufficient portion of a wrapping-machine embodying this invention to illustrate it. Fig. 2 is a detail of the rest on which the article, with its wrapper, is deposited and held while the edges of the wrapper are turned up, gathered in, and secured together. Figs. 3 and 4 are details of the locking device for the rest. Figs. 5 and 6 are details of the ejector. Fig. 7 is a detail of the yielding connection provided for the actuating mechanism of the jamming or pinching devices. Fig. 8 is a detail to be referred to.

The base A; stand or column *b*, rising therefrom and supporting the table or other framework for the operating parts; the centering device, consisting of the ring *u*⁷, having a number of depending spring-acting fingers *u*⁸, down through which the orange or other article is forced by the plunger *c*¹; the bar *c*³, pivoted at *c*⁴ to the stand *b*; the link *c*², connecting one end of said bar to the lower end of the plunger *c*¹; the stationarily-attached arms or brackets *a*¹ *a*³ on the stand *b*, which afford bearings for the plunger-rod *c*^x and other parts to be described; the wires 80, which project forward beneath the centering device and which hold the severed wrapper directly beneath said centering device, and therefore constitutes the wrapper-support, and the device disposed beneath said wrapper-support, constructed and arranged to gather in and jam or pinch together the edges of the wrapper, comprising the pile of two armed plates *v* and the pile of two armed plates *v*⁵, the rack-bars *v*⁴ *v*⁴, pinions *v*⁹ *v*¹⁰, and rack-bar *v*⁸ are all constructed substantially the same as shown in the aforesaid Patent No. 595,421, although herein said device is adapted to upturn the edges of the wrapper, as well as gather in and secure the edges of the wrapper together.

*t*⁶⁰ represents the rests and, as herein shown, consists of a slightly-concaved or flat disk formed at the upper end of a vertical rod or bar of suitable length, which passes through holes *t*¹ *t*², formed, respectively, in the arms *a*¹ *a*³, which serve as guides for the bar. The bar *t* is normally held in its elevated position by means of a spring *t*³, which is connected at its upper end to a hook on the arm *a*¹ and at its lower end to a hook on the lower end of the bar. When said bar *t* is in its normal elevated position, as represented by dotted lines, Figs. 1 and 2, a collar *t*⁴, secured to the bar *t* by a set-screw, bears against the under side of the arm *a*³, which limits its upward movement, and when said bar is in this position the upper end thereof projects up through the opening between the plates *v* and *v*⁵ and terminates just below the wrapper, which will be supported on the wrapper-support 80 or on any other suitable wrapper-support. The bar *c*³ is formed or provided with a recess at *t*⁵ in one side of it, which

provides ample space for the lower end of the bar t to work, although it will be understood that said bar t is not connected to said bar c^3 .

When the plunger c' descends, the orange 5 or other article is forced down through the centering device and through the wrapper-support 80 onto the rest t^{60} , which at such time occupies its most elevated position, and then as said plunger further descends the orange or other article, with its wrapper and 10 rest t^{60} , on which said article and wrapper have been deposited and on which they are held by the plunger, is forced down through the device, composed, essentially, of the plates 15 v and v^5 , until the top of the article occupies a plane below said device, and then the rest t^{60} will occupy approximately the position shown by full lines, Fig. 1. As the rest t^{60} , on which the article and wrapper are held by 20 the plunger, passes down through the opening between the plates v and v^5 the edges of the wrapper will be turned up about the article into substantially vertical position, and consequently no additional means need be 25 provided for accomplishing this result. It will be understood, however, that the article and its wrapper are still held in position on the rest by the plunger. When the rest, with the article and wrapper thereon, has been 30 forced down by said plunger into the full-line position shown in Figs. 1 and 2, the top of the article will occupy a position just beneath the lowermost plates v and v^5 , and the upturned edges of the wrapper will occupy a 35 position in the opening between said plates. The movement of the plunger is sufficient to always force the article down to this position regardless of the size of the article. The bar t will then be locked by means to be de- 40 scribed, while the plunger rises, and as said plunger rises the plates v and v^5 are brought together to gather in and jam or pinch and thereby secure together the edges of the wrapper.

By providing a rest for the article instead 45 of a holder, such as shown in Patent No. 595,421, articles of different sizes and shapes may be forced down upon it and may be held thereon while the edges of the wrapper are 50 gathered in and secured together, whereas irregular-shaped articles thrust into the grasp of said holder were liable to turn in said holder and when turning would pull the wrapper to one side, which was objectionable, and 55 said holder had to be adjusted more or less for large and small articles.

To hold the bar t in its lowermost position while the plunger ascends, a locking device is provided which, as herein shown, comprises 60 a sliding bar or dog t^6 , mounted in guideways in which it is free to slide horizontally, the forward extremity of said sliding bar being formed with a tooth adapted to engage any one of a number of ratchet-teeth t^7 , formed 65 on one side of the bar t . The horizontal guideways in which the bar or dog t^6 slides are formed in blocks t^8 t^9 , mounted on the

arm a^3 . A latch t^{10} is pivotally connected to the top of the sliding bar or dog t^6 , which projects into the path of movement of a ver- 70 tically-movable rod or bar t^{12} , and said bar t^{12} is loosely connected at its lower end at t^{13} to the arm c^3 , while its upper end projects up through a hole in the arm a^3 and also through 75 a hole in the sliding bar t^6 , and said bar t^{12} is formed at its upper end with a shoulder t^{14} , which is designed to engage said latch t^{10} and lift it as said bar t^{12} ascends. The bar t^{12} is cut away at a point intermediate its length 80 for a short distance, as at t^{15} , and is formed with an inclined portion or cam t^{16} at one end of said cut-away portion t^{15} , and when said bar t^{12} is lifted to its most elevated position said cut-away portion t^{15} comes opposite the 85 end of the latch t^{10} . As the bar t^{12} is connected to the bar c^3 , it will be seen that said bar t^{12} will be raised simultaneously with the plunger c^x , and as said bar t^{12} is raised the latch t^{10} will be lifted into the dotted-line po- 90 sition shown in Fig. 3 and will remain lifted until the cut-away portion t^{15} of said bar t^{12} comes opposite the end of the latch, when said latch will immediately drop into the full-line position shown in Fig. 3. During 95 the time the bar t^{12} rises the sliding bar or dog t^6 will remain in locking engagement with the bar t . As the bar t^{12} descends the inclined portion or cam t^{16} will engage said latch t^{10} and will thrust said latch and bar or dog t^6 , to which it is connected, to one side, causing 100 said bar or dog to disengage the bar t , whereupon said bar t will be immediately raised by the spring t^3 . When the bar t^{12} resumes its lowermost position, the shouldered end t^{14} of said bar will come opposite the end of the 105 latch t^{10} and will permit the sliding bar or dog t^6 to be moved inwardly by means of its actuating-spring t^{30} to engage the ratchet-teeth on the bar t and lock it. It will be understood that when the bar t^{12} resumes its 110 lowermost position the bar t will be depressed by the plunger. To maintain the proper relative position of the bar t , it is formed on one side with a splineway t^{18} , and a finger t^{19} is attached to the block t^9 , which enters said 115 splineway.

A plate t^{20} is attached to the plunger-rod c^x at a point substantially midway its length, the free end of which is formed with an inclined portion t^{21} , which serves as a cam, and 120 said plate is designed to serve as an actuator for an ejector. The ejector herein shown consists, essentially, of an arm t^{22} , (see Figs. 1, 5, and 6,) adjustably secured to a sleeve t^{23} , mounted loosely on the plunger-rod c^x , and 125 said arm t^{22} projects from said sleeve horizontally and is provided at its extremity with a disk or ring t^{24} . The arm t^{22} is made long enough for the disk or ring t^{24} to engage the oranges or other article on the rest t^{60} and is 130 disposed on the sleeve at a proper elevation to swing in a horizontal plane just above said rest t^{60} . The arm t^{22} is swung but a portion of a cycle by the oscillation of the sleeve t^{23} .

The sleeve t^{23} rests upon the arm a' and has a lateral projection t^{35} , which extends into the path of movement of the cam t^{21} , so as to be engaged by said cam as the plunger rises, and when engaged by said cam said sleeve will be turned a partial revolution and the arm t^{22} operated to eject the orange or other article. To restore the arm t^{22} to its normal position when the cam t^{21} descends, a spring t^{25} is placed in a recess provided for it in the lower end portion of the sleeve, one end of which is connected to the sleeve and the other to the arm a' .

The actuating device for the plates or jaws $v v^5$ is herein shown as a bar (see Figs. 7 and 8) made in two parts $v^{20} v^{21}$, disposed in alignment, with a U-shaped spring v^{22} disposed between them, or any other form of spring could be substituted for said U-shaped spring. One of said parts, as v^{21} , has secured to it an arm v^{23} , which overlies the other part v^{20} , and the overlying part of said arm v^{23} has formed in it a slot v^{24} , in which a pin v^{25} works, which projects from the part v^{20} . The part v^{21} is guided by resting on the shaft bearing the cam v^{17} , and said part has a pin v^{26} , which enters a groove v^{27} in said cam v^{17} . As the cam rotates the two-part actuating-bar $v^{20} v^{21}$ will be moved in and out.

I claim—

1. In a wrapping-machine, the combination of a device for gathering in the edges of the wrapper, a wrapper-support located above said device, a rest, normally held in proximity to, yet beneath, said wrapper-support, means for forcing the article down through said wrapper-support onto said rest, and for forcing said rest, with the article and wrapper thereon down below said device to different positions according to the size of the article, and a locking device for said rest, adapted to engage and hold it in its different positions with the article below said device, substantially as described.

2. In a wrapping-machine, the combination of a device for upturning and gathering in the edges of the wrapper, a wrapper-support located above said device, a rest consisting of a vertically-movable spring-supported rod normally occupying a position in proximity to, yet beneath said wrapper-support, and above said device, a plunger for forcing the article with its wrapper down through said wrapper-support onto said rest and for forcing said rest, with the article and wrapper thereon, down through said device to different positions below it according to the size of the article to thereby upturn the edges of the wrapper, means for engaging and holding said rest in its different positions with the article below said device, and means for operating said device to gather in the upturned

edges of the wrapper while the rest is thus held, substantially as described.

3. In a wrapping-machine, the combination of a device for gathering in the edges of the wrapper, a wrapper-support located above said device, a rest normally held in proximity to, yet beneath said wrapper-support, a plunger and means for operating it for forcing the article down through said wrapper-support onto said rest and for forcing said rest with the article and wrapper thereon, down below said device, and a locking device for said rest adapted to engage it when in its lowermost position, the actuating member of which is connected to the means employed for operating said plunger, substantially as described.

4. In a wrapping-machine, the combination of a device for gathering in the edges of the wrapper, a wrapper-support located above said device, a rest normally held in proximity to, yet beneath, said wrapper-support, a plunger and means for operating it for forcing the article down through said wrapper-support onto said rest, and for forcing said rest, with the article and wrapper thereon, down below said device, a locking device for said rest, which engages it in its lowermost position, and holds it while said plunger rises and releases it at the beginning of the descent of the plunger, the actuating member of which is connected to the means employed for operating said plunger, substantially as described.

5. In a wrapping-machine, a rest for the article consisting of a vertically-movable rod having a plurality of teeth, a spring supporting it in elevated position, a locking device for said rod comprising a dog adapted to engage any one of a number of teeth on said rod, and means for operating said dog, substantially as described.

6. In a wrapping-machine, a set of jamming or pinching jaws for the edges of the wrapper, an actuating-bar for operating said jaws, a yielding connection forming a coöperative part of said bar and means for operating said bar, substantially as described.

7. In a wrapping-machine, a set of jamming or pinching jaws for the edges of the wrapper, an actuating-bar therefor composed of two parts or members loosely connected together and a spring interposed between said parts or members, substantially as described.

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

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Witnesses:

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