

(No Model.)

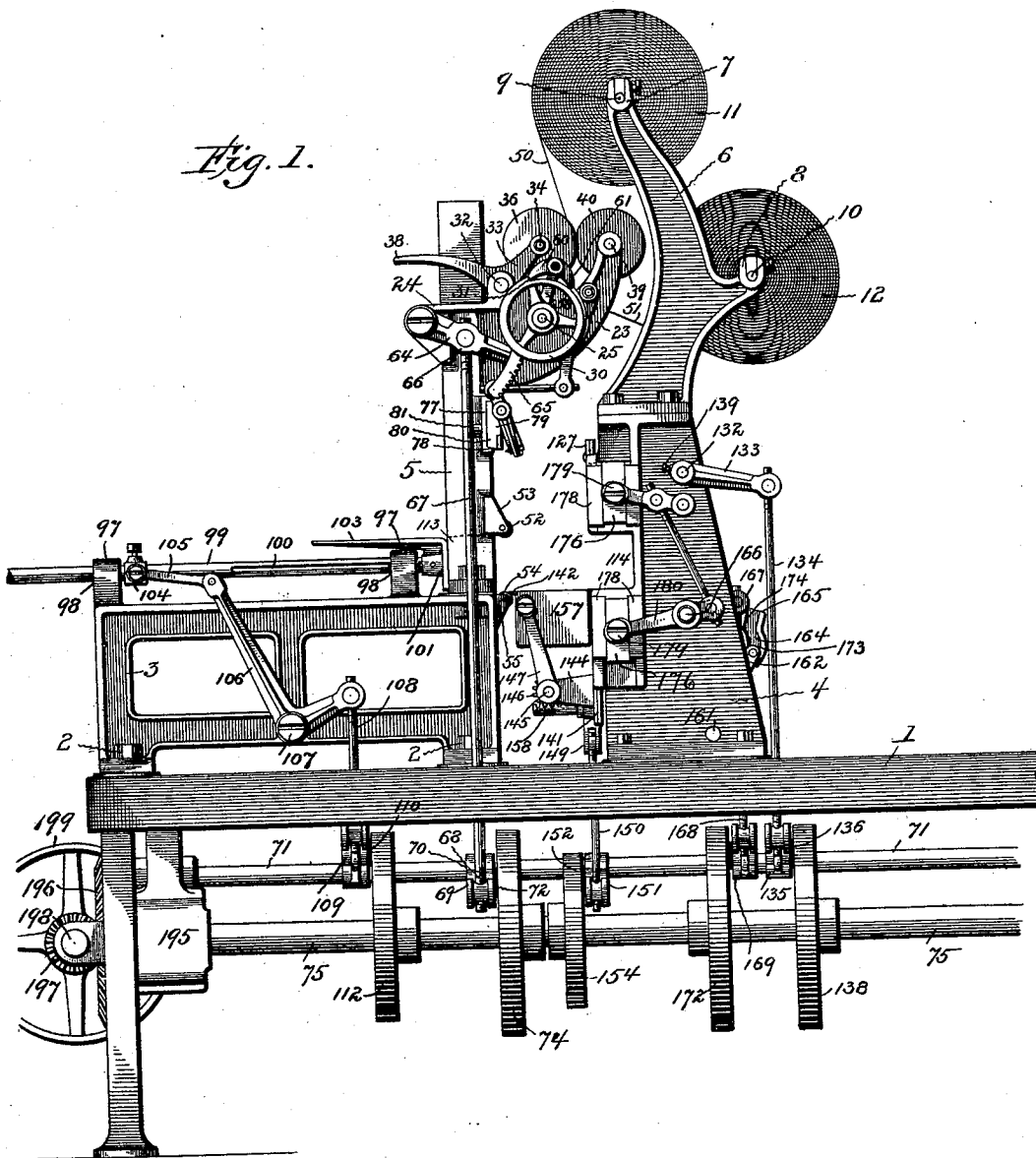
14 Sheets—Sheet 1.

F. C. HELMUTH.
PACKAGE FOLDING OR WRAPPING MACHINE.

No. 586,899.

Patented July 20, 1897.

Fig. 1.



Witnesses
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(No Model.)

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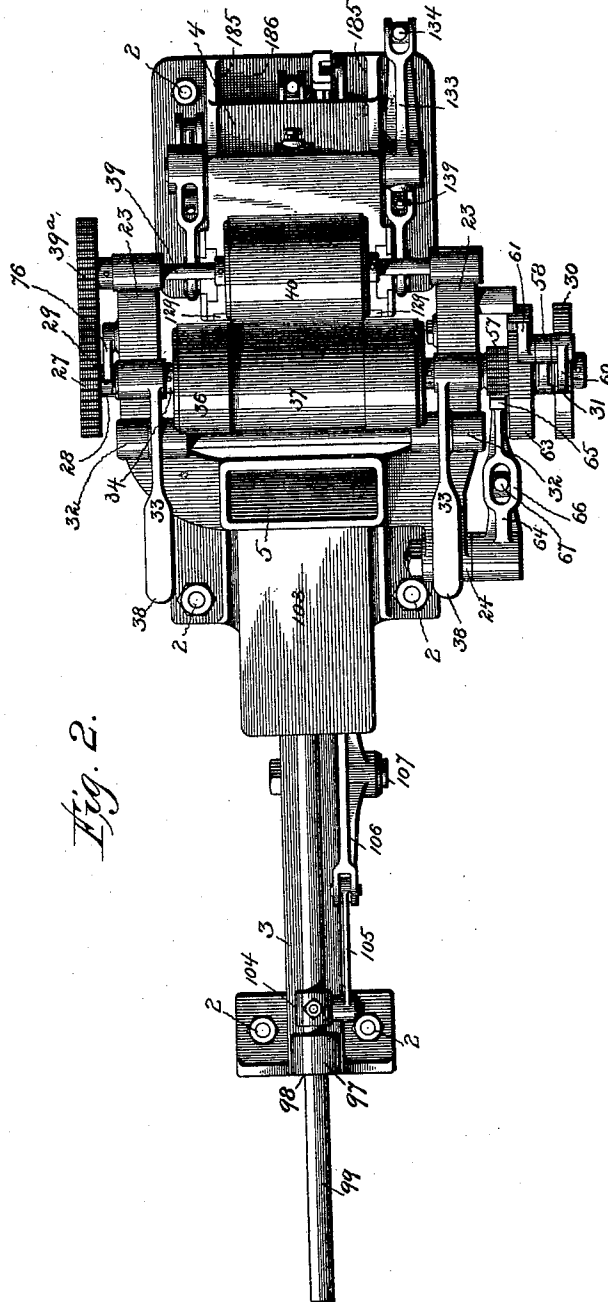


Fig. 2.

Witnesses
John Enders Jr.
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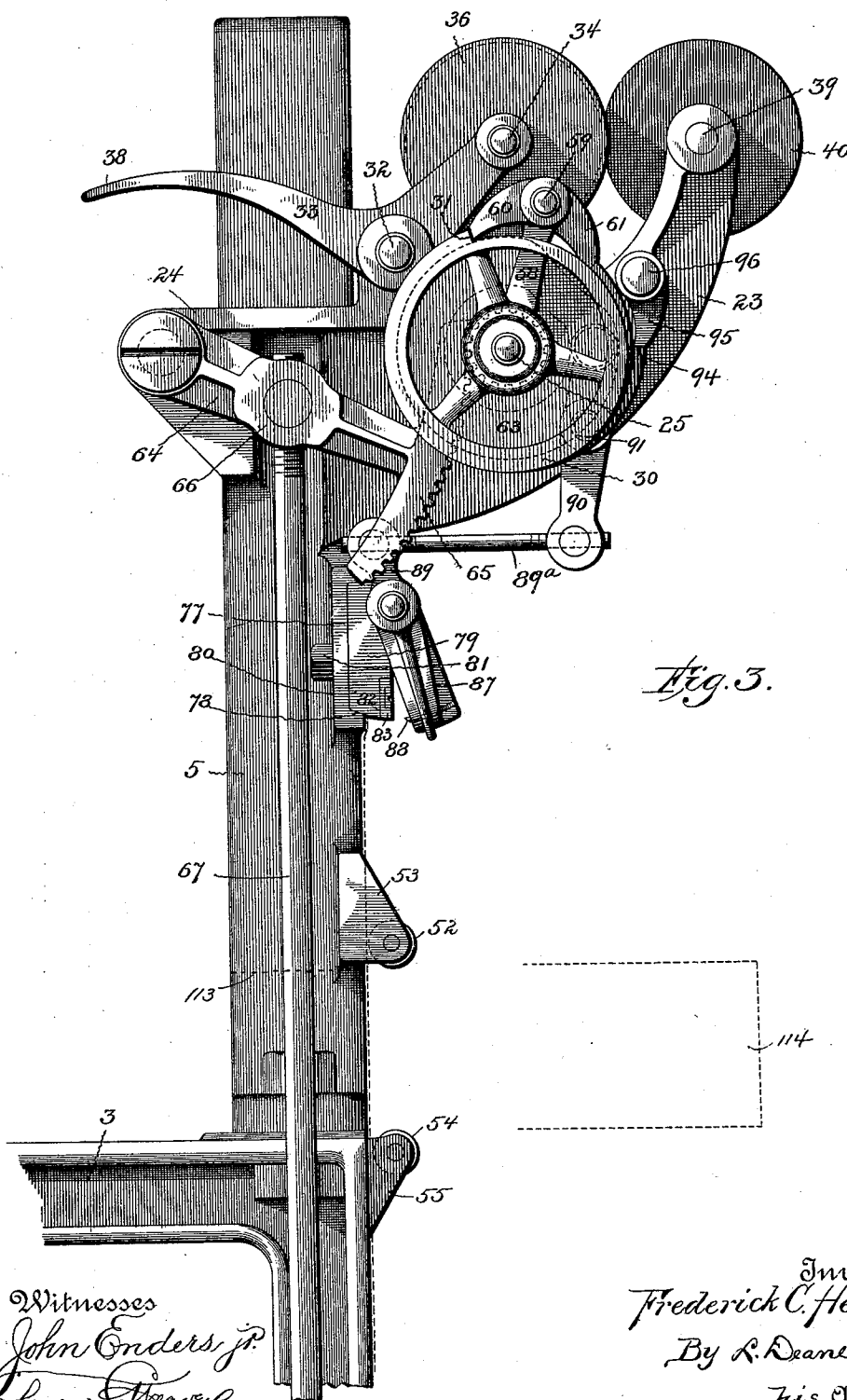
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Fig. 4.

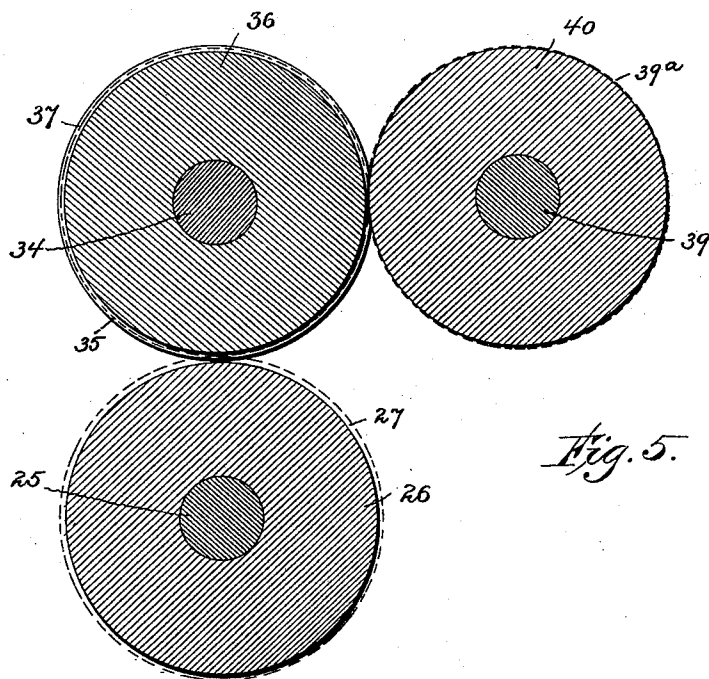
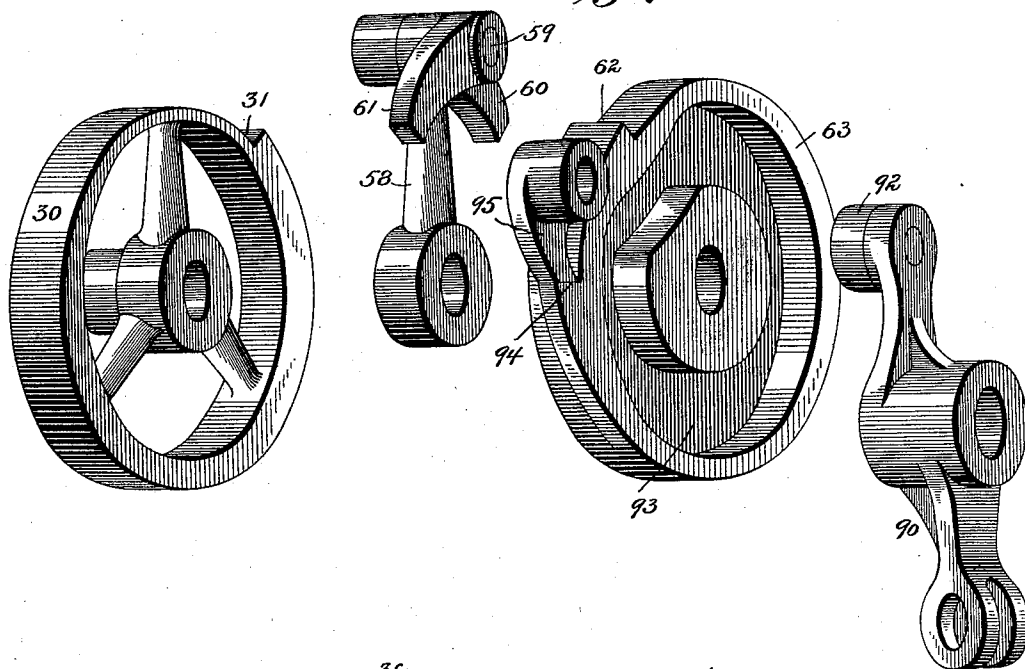


Fig. 5.

Witnesses
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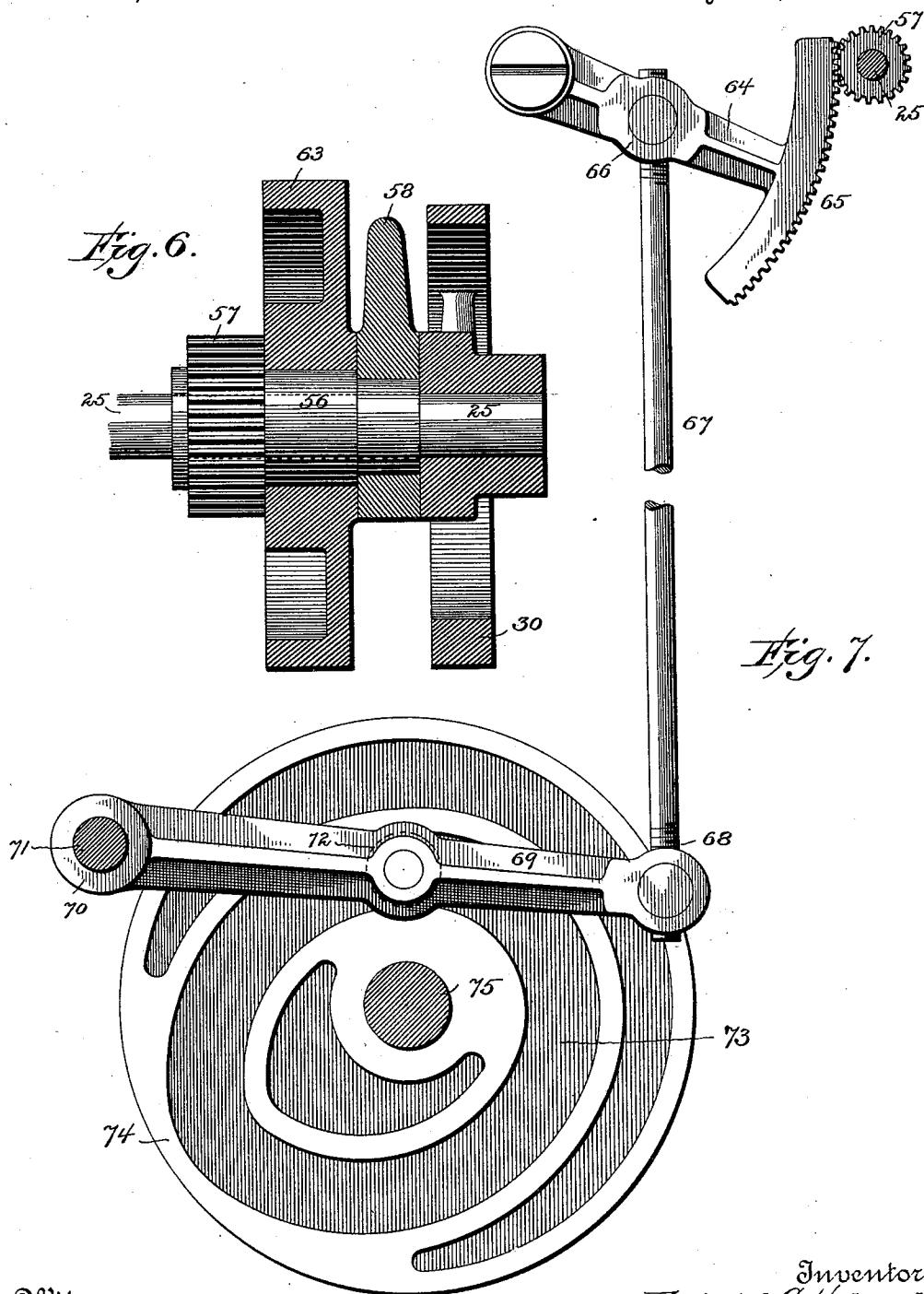
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PACKAGE FOLDING OR WRAPPING MACHINE.

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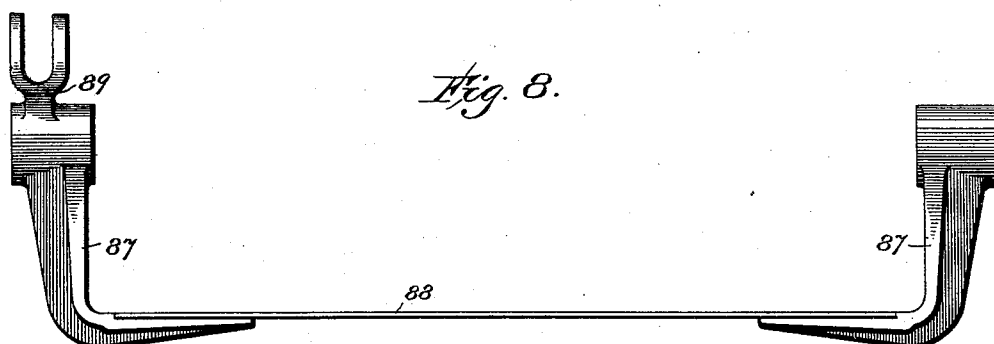


Fig. 8.

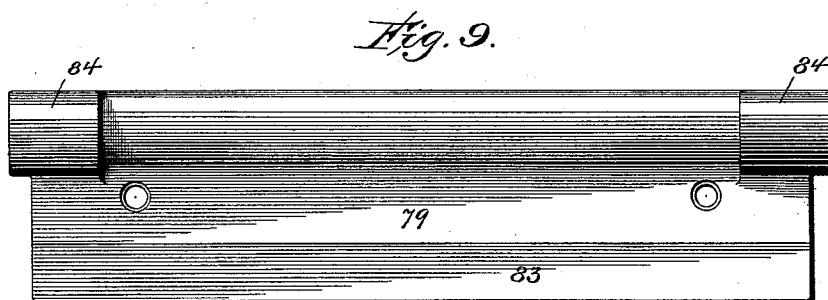


Fig. 9.

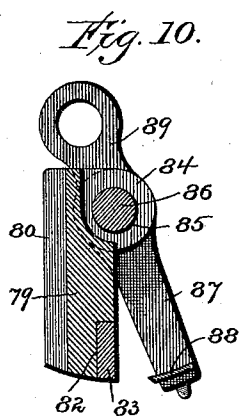
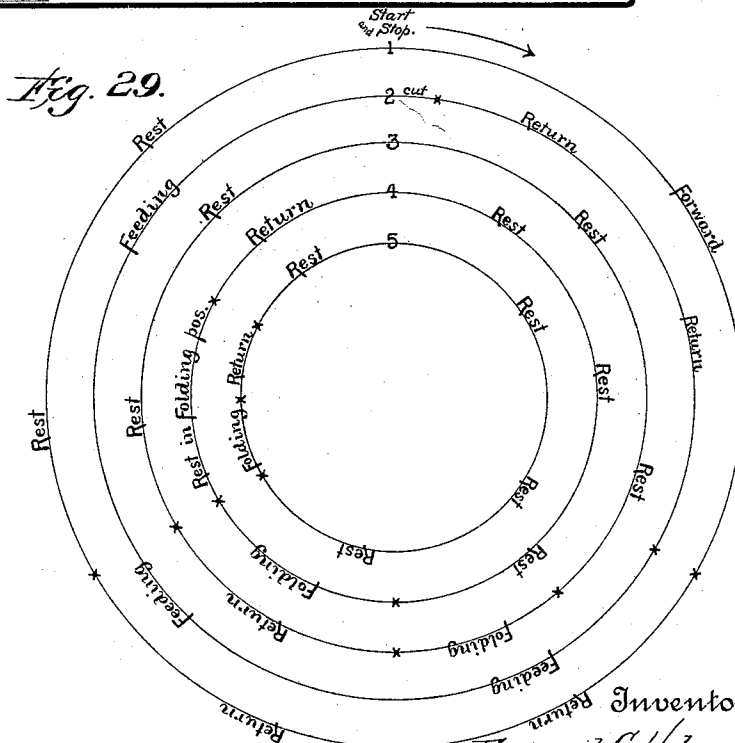


Fig. 10.



Witnesses
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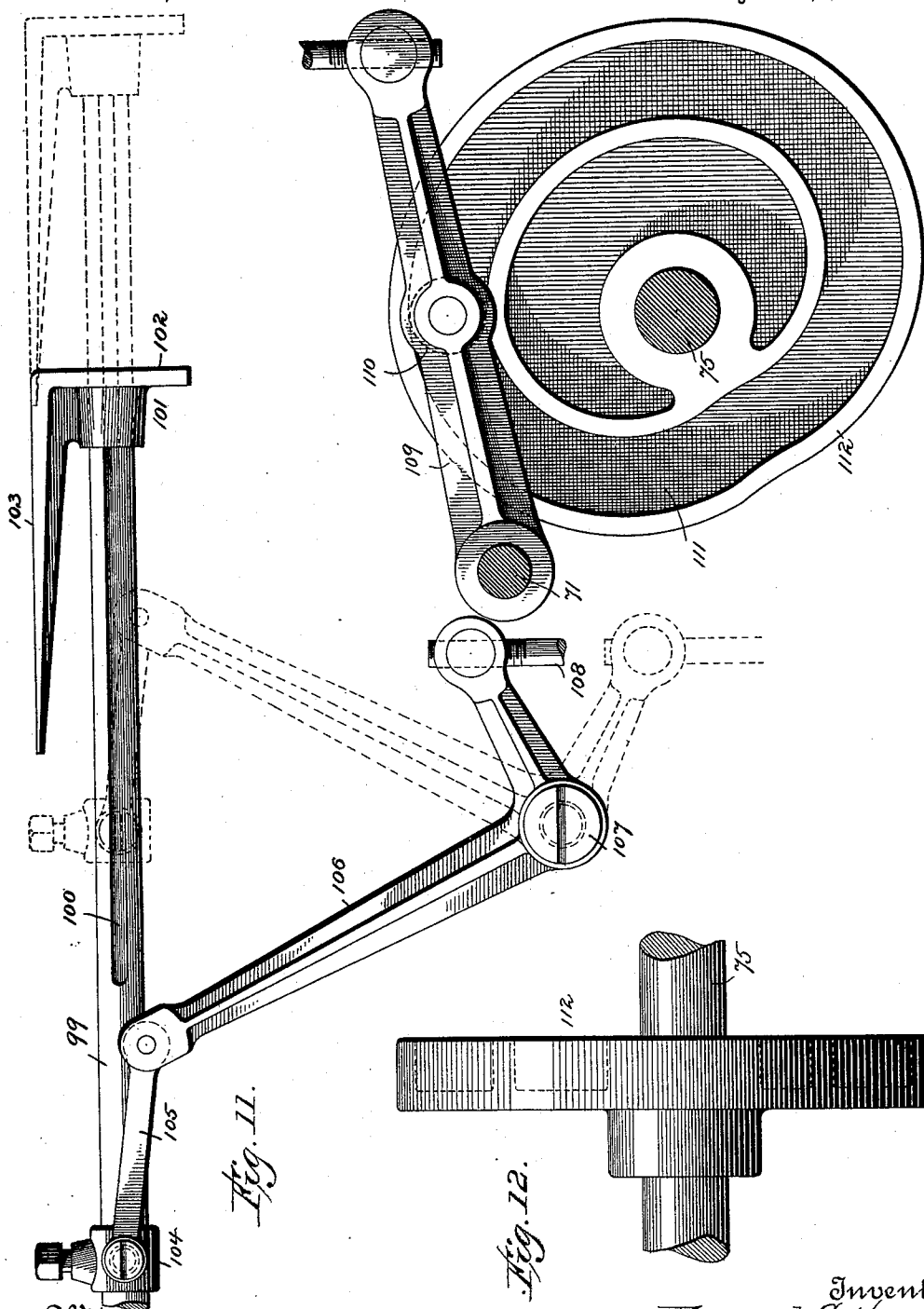
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PACKAGE FOLDING OR WRAPPING MACHINE.

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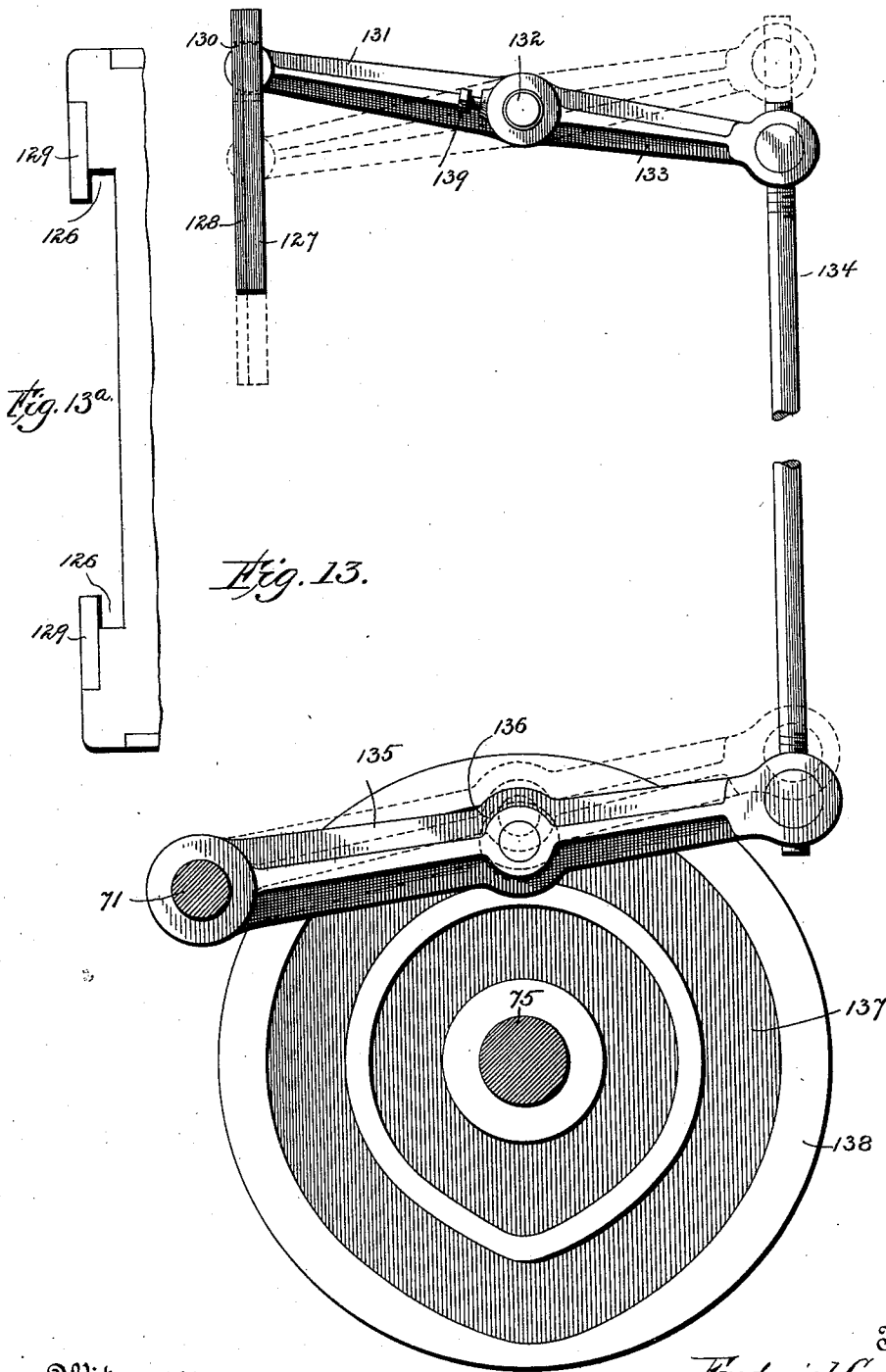
Fig. 12.

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14 Sheets—Sheet 9.

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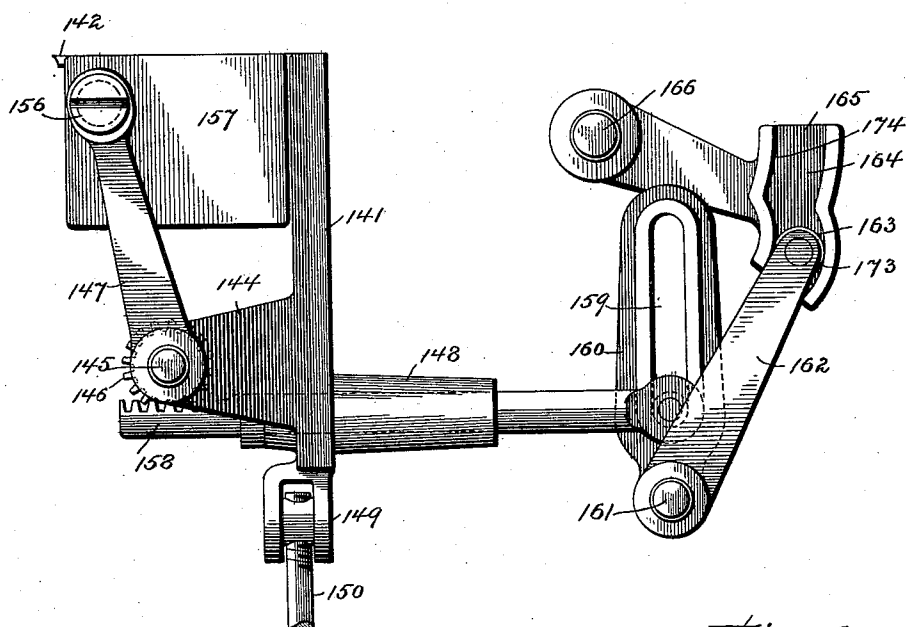
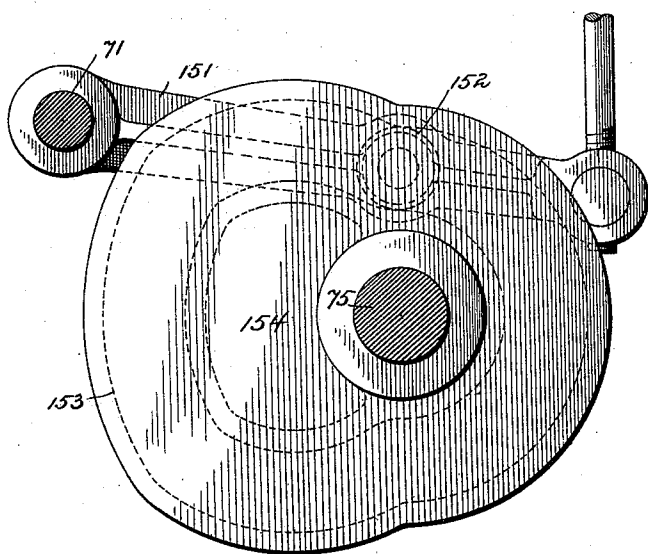


Fig. 14.



Witnesses
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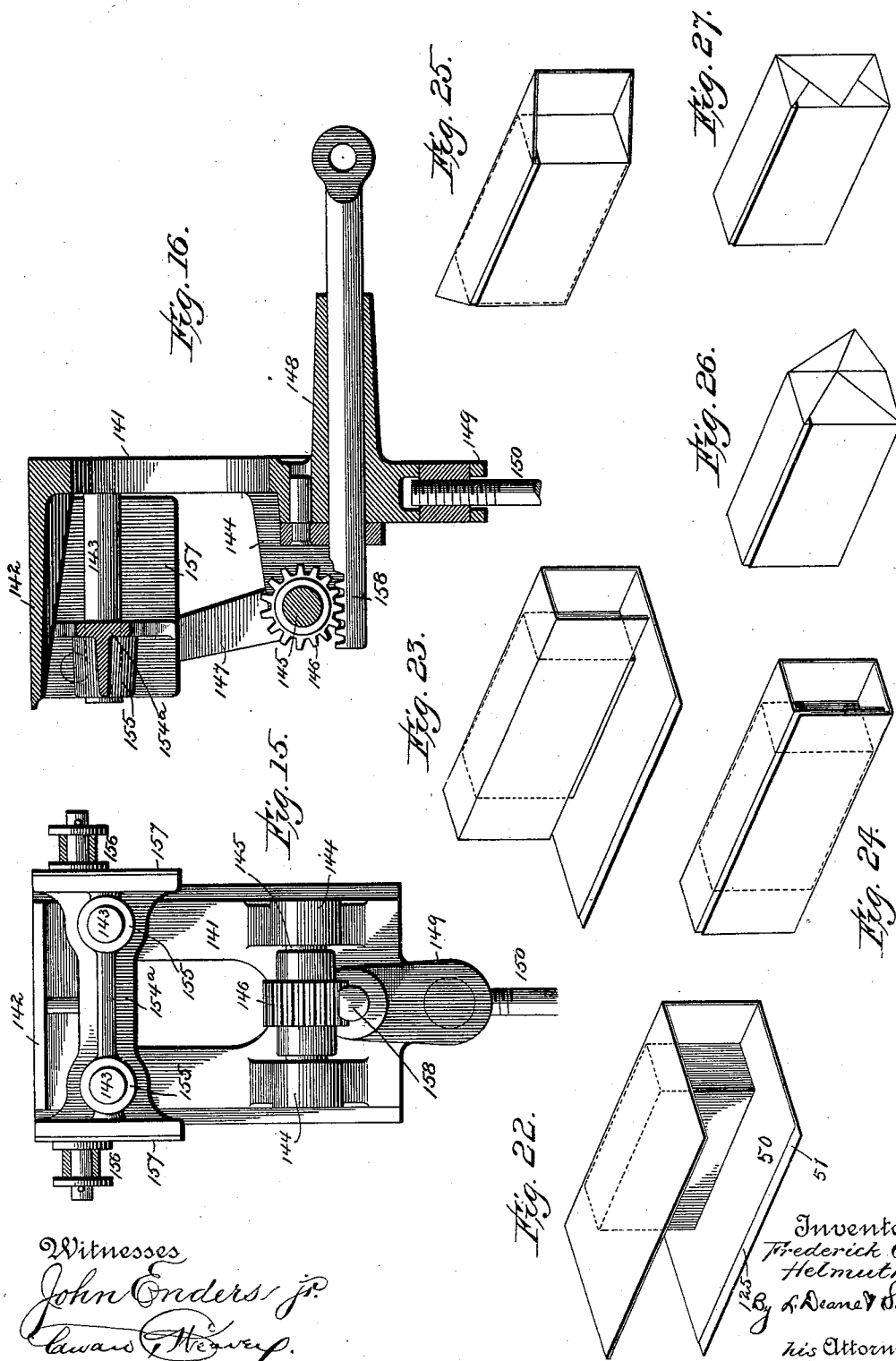
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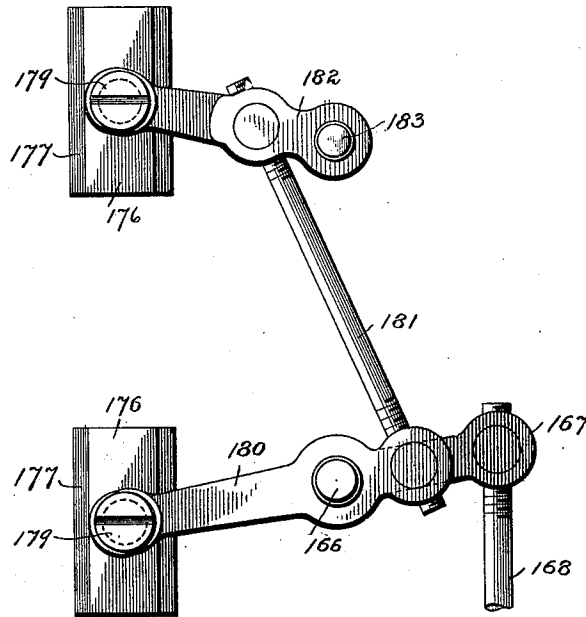
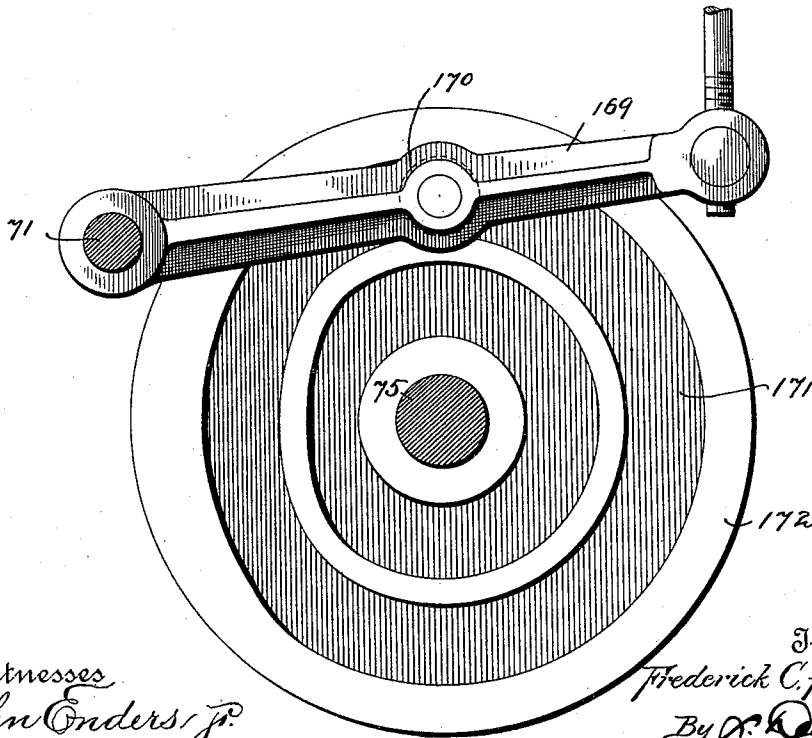


Fig. 17.



Witnesses
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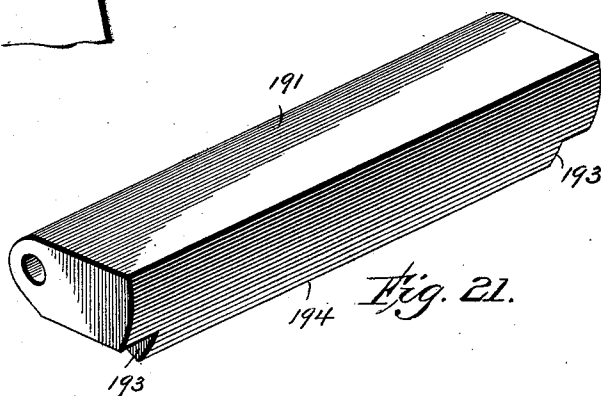
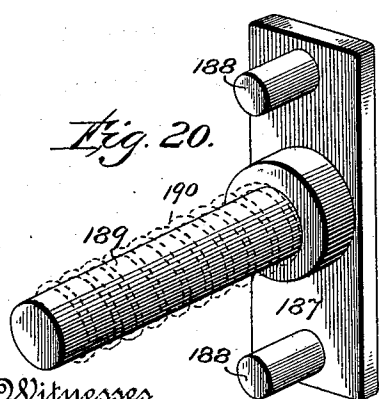
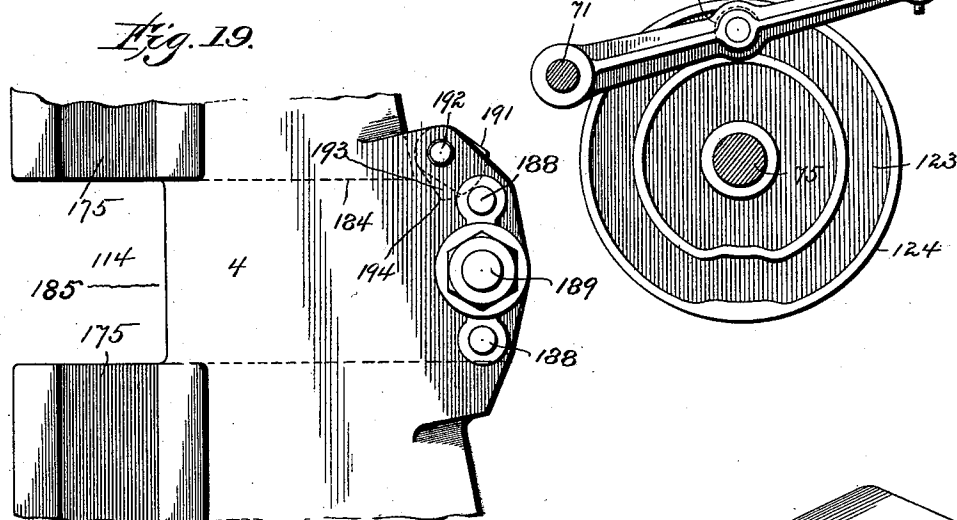
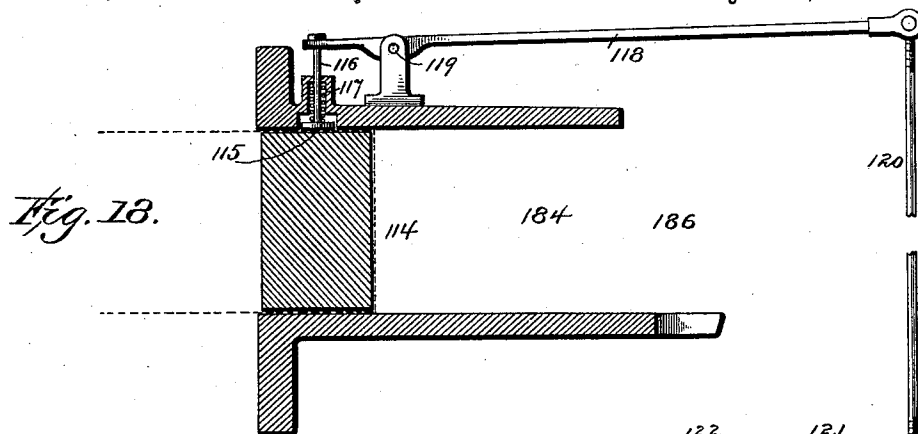
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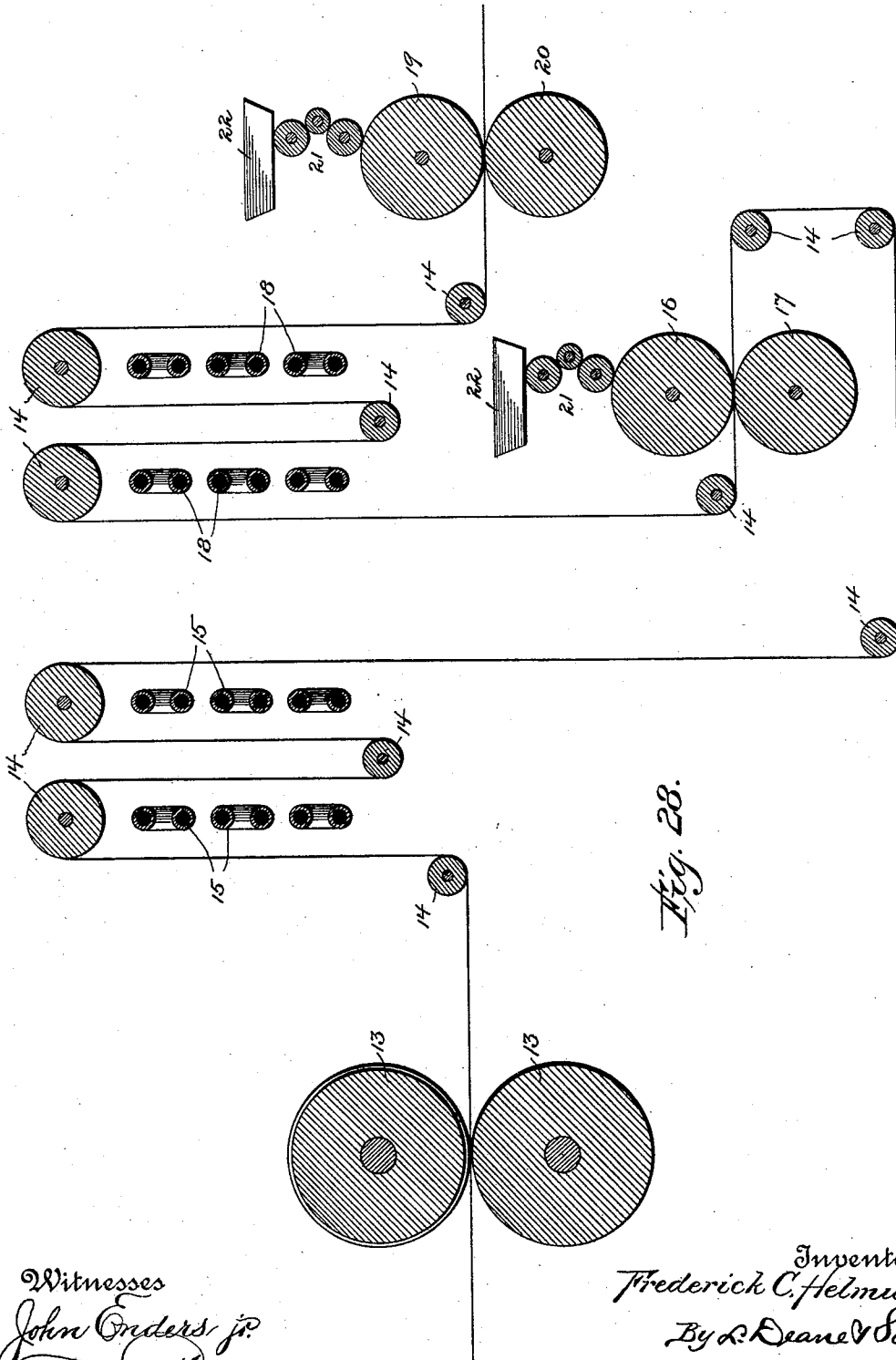


Fig. 28.

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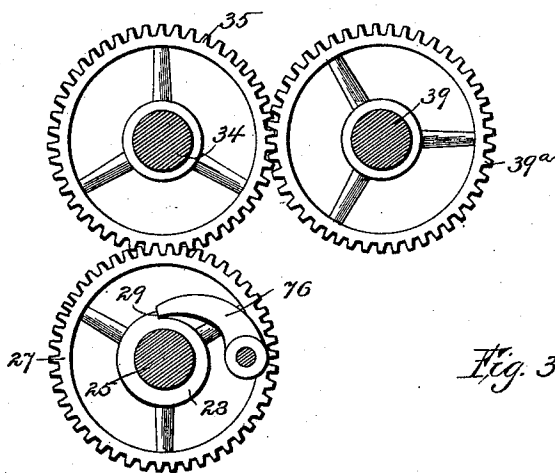
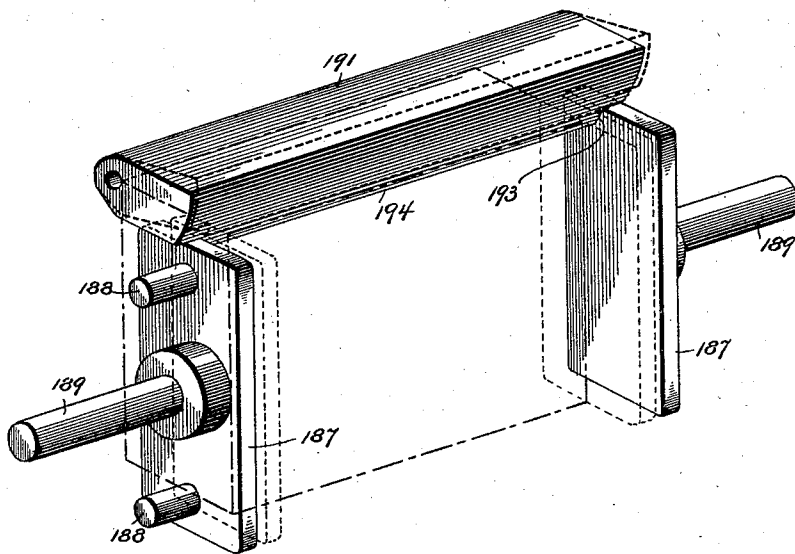


Fig. 30.

Fig. 31.



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UNITED STATES PATENT OFFICE.

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PACKAGE FOLDING OR WRAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 586,899, dated July 20, 1897.

Application filed April 30, 1896. Serial No. 589,734. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. HELMUTH, a citizen of the United States, residing at Long Island City, in the county of Queens and State of New York, have invented certain new and useful Improvements in Package Folding or Wrapping Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for wrapping packages and bundles, and while the machine I have herein described is designed to wrap cakes of soap I do not confine myself to such a use.

In the art of wrapping soaps for the market it has been found desirable that there should be an inner and outer wrapper therefor. Usually the inner wrapper, or that next the soap, is of some peculiar material, such as oiled or waxed paper, that it may not stick to the soap or permit moisture to have easy access thereto. The outer wrapper is usually of an ornamental character and bears advertising matter and directions for use. It is also found desirable in practice that the inner wrapper should just meet at its edges or lap but a small portion, while the outer wrapper should lap a much more considerable distance.

It is the object of my invention to perform in their proper order all the adjustments and foldings of the papers to properly wrap the soap and to combine with such a machine mechanism for printing the legends upon the outer wrapper and to prepare the same for the purposes and ends already outlined.

In carrying out my invention I provide a table-frame with a power-shaft having mounted thereon a series of cams actuating a series of pivoted levers coupled to the various parts of the machine to actuate the same at the proper portion of the revolution of the said shaft. Above this frame are arms carrying rolls of the paper fabric and mechanism for feeding a proper length of the paper, for cutting it, for placing the soap cake in its proper position thereto, and for duly wrapping the said cake and ejecting it in a finished state. Moreover, I have devised printing

mechanism to duly print the outer paper and to feed the same properly to the folding mechanism.

I will now describe in detail my invention with the aid of the accompanying drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a plan of the same. Fig. 3 is an enlarged detail of the feeding and cutting mechanism. Fig. 4 is the detail of the pawl movement of the feeding mechanism. Fig. 5 is a section of the feeding-rolls. Fig. 6 is a section of the feeding-gear. Fig. 7 is a detail of the feed-roll-actuating mechanism; Figs. 8, 9, and 10, details of the cutting mechanism. Fig. 11 is the horizontal plunger and its actuating cam-wheel, and Fig. 12 is a side view of said cam-wheel. Fig. 13 is a view of a vertical side-folder and its actuating cam-wheel, with a detail, Fig. 13^a, showing the method of retaining the folding-plates in position. Fig. 14 is a view of a vertical side-folder, the horizontal end-folder, and the actuating cam-wheel therefor. Fig. 15 is an end view of the folding mechanism of Fig. 14, and Fig. 16 is a longitudinal section thereof. Fig. 17 is a view of the vertical end-folders and the actuating cam-wheel therefor. Figs. 18, 19, 20, and 21 are details of the folder-box and channel thereof. Figs. 22, 23, 24, 25, 26, and 27 represent the package at the several stages of its folding. Fig. 28 represents the printing mechanism. Fig. 29 is a diagrammatic chart of the several cam-wheels. Fig. 30 is a view of the click-wheel and gears for connecting the feed-rolls. Fig. 31 is a view showing the movement of the repress-plates and their controlling-dog.

In all of the figures the same numeral indicates the same part.

1 is the main frame of the machine, upon which are secured by the bolts 2 the horizontal plunger-frame 3 and the wrapping-box frame 4. Secured to the plunger-frame 3 by bolts 2 is the soap-channel 5, bearing also the wrapper feeding and cutting mechanism to be later described. Secured in a like manner by bolts 2 to the wrapping-box frame 4 are the vertical arms 6 with bearings 7 and journaled in which are the shafts 9 and

10 of the paper-web roll 11 for the inner wrapper and the paper-web roll 12 for the outer wrapper.

The roll 12 may be dispensed with and the web be fed directly into the folding-machine from the feed-rolls 13 of the printing mechanism, comprising the traveler-rolls 14, the ink-drier steam-coils 15, cylinder printing and platen rolls 16 and 17, the drier steam-coils 18, and the cylinder printing and platen rolls 19 and 20, all shown in Fig. 28. The cylinder printing-rolls 16 and 19 are adapted to print both sides of the outside wrapper with any desired devices, the drier-coils being interposed to dry the web for the next succeeding operation. The said printing-rolls are continuously inked by the distributing-rolls 21, receiving their supply from the fount 22.

The soap-channel 5 is of such a size and form that it will feed the cakes of soap downward into the machine in an orderly manner, and it is supplied from a hopper or other device not deemed necessary to show. Integral to the said channel 5 are the webbed arms 23, projecting from the sides thereof and extending forward and upward. One of the said arms 23 is provided with a rearward projection 24, the use of which will be hereinafter described. Supported by the arms 23 is the wrapper-paper-feeder device, which will now be described in detail.

Journalled in the arms 23 is the main feed-roll shaft 25, secured to the mid portion of which is the feed-roll 26 and to the ends the gear-wheel 27 and the adjacent click-wheel 28, having the single click 29 and the large click-wheel 30 with its single click 31.

Pivotally secured to the arms 23 at 32 are the lever-arms 33, journalled in which is the shaft 34, secured to which is the gear-wheel 35, meshing gear-wheel 27, and the roll 36 with the depressed face or annular recess 37 in the surface thereof, the said roll 36 being adapted to rest upon the roll 26 with a pressure adjustable by weighting the free arm 38 of lever 33.

Journalled to the arms 23 is the shaft 39, secured to which is the gear-wheel 39^a, meshing the gear-wheel 35, and the roll 40, of such length that it will enter the annular recess 37 and press the face thereof.

The web of wrapper-paper from the roll 11 is gripped between the depressed face or annular recess 37 of the roll 36 and the roll 40 and fed thereby between the rolls 36 and 26, but not gripped thereby for the reason that the roll 26 does not enter the annular recess 37. The wrapper-paper from the roll 12 or from the printing mechanism already described passes between the rolls 36 and 26, and being somewhat wider than the annular recess 37 is gripped by said rolls. It will now readily be seen that a proper rotation of the main feed-roll shaft 25 will feed the paper from both web-rolls 11 and 12, and that the

inner wrapper 50 will be located between the outer wrapper 51 and the soap-channel 5, and both will be fed downward in front of the said soap-channel 5 and under the friction-rolls 52, journalled in the integral projecting lugs 53 of the said channel 5 and under the friction-roll 54, journalled in the projecting lugs 55 of the frame 3. I will now describe the mechanism for actuating the said feeding-rolls.

Mounted on the main feed-roll shaft 25 and within the click-wheel 30 is the sleeve 56, secured upon which is the gear-wheel 57 and the crank-arm 58, having at its end the oppositely-projecting studs 59, pivotally mounted on which are the pawls 60 and 61, pointing in opposite directions. The pawl 60 is adapted to engage the click 31 of the click-wheel 30, and the pawl 61 to engage the click 62 of the cam-wheel 63, loosely mounted upon the said sleeve 56 and located between the gear-wheel 57 and the crank 58. The use of this cam will be hereinafter described.

Pivotally secured to the before-mentioned rearward projection 24 is the radial arm 64 of the segmental gear 65, meshing the gear-wheel 57. In the mid portion of the radial arm 64 is the eye 66, projecting through which is the rod 67, journalled therein and pivoted at its other end to the end 68 of the lever 69, pivoted at its other end 70 on the fixed shaft 71, running the length of the frame 1. In the mid portion of the lever 69 is a journalled pulley 72, racing in the groove 73 of the cam-wheel 74, secured upon the main shaft 75 and rotating therewith. When the said cam-wheel 74 lowers the lever 69, it depresses the segmental gear 65 and rotates the gear-wheel 57, its sleeve 56, and the crank-arm 58, secured thereto, and engaging the pawl 60 with the click 31 of the click-wheel 30, rotates the said click-wheel 30, the main feed-roll shaft 25, and the main feed-roll 26, and through the gear-wheels 27 35 39^a rotates the feed-rolls 36 and 40, thus feeding out a predetermined amount of the wrapping-papers. When the said rolls have fed out the proper amount of said papers, the pawl 76, pivoted to the arm 23, will drop into the click 29 of the click-wheel 28 and will prevent any return rotation of the said rolls.

When the cam-wheel 74 raises the lever 69, it elevates the segmental gear 65 and rotates the gear-wheel 57 and the crank-arm 58 in an opposite direction. The pawl 61 now engages the click 62 of the cam-wheel 63, which is adapted to actuate the paper-cutting device that will be hereinafter described.

It is to be noticed that there is a certain variation of the feed of the two wrapper-papers. The ends of the two paper-webs having been made even, the feeding of the outside wrapper-paper will be a little faster than that of the inner wrapper-paper, thus giving the former its proper overlapping. This desirable result is accomplished by the

depressed face or annular recess 37 of the roll 36. The perimeter of this portion of the roll is somewhat less than that of the end portions and will consequently feed out a little less of the inner wrapper-paper than of the outer wrapper-paper.

A certain portion of the wrapper-papers having been fed down to the position under the friction-rolls 52 and 54 it is now ready to be cut off by the cutting device.

On the front face of the soap-channel there is a planed face 77 with the rabbets 78 at the ends thereof. Upon this face is fitted the plate 79 with shoulders 80 entering the rabbets 78, the two parts being secured by screws or bolts 81. Secured in the rabbet 82 of the plate 79 is the shear-knife 83, and at the ends of the said plate project the lugs 84, with bearings 85, in which rotates the shaft 86, secured to which are the knife-arms 87, secured to which is the knife-blade 88, adapted to shear the knife 83. One of the arms 87 has a projecting portion 89 pivoted to the link 89^a, likewise pivoted to a lever 90, journaled on the stud 91 of the arm 23 and pivoted to the friction-roll 92 at its free end, the said roll racing in the groove 93 of the cam-wheel 63, actuated, as described, by the pawl 61. To prevent the return of the said cam-wheel 63, a click 94 on the rim thereof is engaged by the pawl 95, pivoted to the stud 96 of the arm 23.

The groove 93 of the cam-wheel 63 is adapted to actuate the lever 90 at the moment the return of the segmental gear 65 takes place and actuates the said cam-wheel, thus commencing the shearing of the knife-blade 88 and the cutting of the wrapping length. It is to be noticed that the knife-arms 87 are secured to their shaft 86 in a slightly-skewing plane in order that a certain shear may be given to the knife-blade 88.

At the moment before the cutting of the wrapper has been completed another mechanism comes into operation—that is, the horizontal plunger.

Upon the plunger-frame 3 are the pedestals 97 with the bearings 98, in which reciprocates the plunger-rod 99, feathered or keyed to one of said bearings in the slot 100. Secured to the end of the rod 99 is the plunger-head 101, having the face 102 and the table extension 103. Secured to the rod 99 is an adjustable wrist 104, journaled to which is the link 105, pivoted to the bell-crank 106. The said bell-crank 106 is pivoted to the plunger-frame 3 at 107 and to the connecting-rod 108, pivoted to the end of a lever 109, journaled at its other end to the before-mentioned shaft 71. The said lever 109 is provided at its mid portion with a journaled friction-roller 110, racing in the groove 111 of the cam-wheel 112, secured to the main shaft 75 and rotating therewith.

The groove 111 of the cam-wheel 112 is so formed that at the moment the wrapper-papers are nearly cut off, as already described,

the lever 109 will be depressed, and through the rod 108 and the bell-crank 106 the plunger 101 is quickly thrust forward through the open portions 113 of the soap-channel, and carrying the bottom cake of soap with it impinges the same against the wrappers 50 and 51 and pushes the whole into the wrapping-box 114 of the frame 4. The space between the soap-channel 5 and the wrapping-box 114 is spanned by a table-plate that will be hereinafter described. When the soap is in its position in the wrapping-box 114, it is maintained by the frictional contact of the small plunger 115, placed in the top thereof, the stem 116 of which is a keeper for the spring 117, adapted to press the said plunger downward, and pivotally secured to the end of which is the lever 118, fulcrumed at 119 and pivoted at its free end to the connecting-rod 120, pivoted to a lever 121, journaled to the before-mentioned shaft 71. To the mid portion of the said lever 121 is journaled the friction-roller 122, racing in the groove 123 of the cam-wheel 124, secured on the line-shaft 75 and rotated thereby. The groove 123 of the said cam-wheel is adapted to lower the lever 121, and by means of the connecting-rod 120 and lever 118 to raise the plunger 115 at the moment a new cake to be wrapped is pushed into the wrapping-box 114 in the manner already described.

When the plunger 101 has pushed the cake of soap against the wrapper 50 and 51, as already described, the rollers 52 and 54 will lay the wrappers so they assume the position shown in Fig. 22, the outer wrapper overlapping the inner wrapper, as shown at 125. While the plunger 101 is being retracted for its new movement, its table 103 supports the upper wrapper so that the succeeding folder will lay it smoothly and neatly to the position in Fig. 23. This is accomplished by the action of the vertical side-folders, which will now be described in detail.

In the face of the wrapping-box frame 4 and just above the said wrapping-box 114 are the vertical guideways 126, fitting in and reciprocating on which is the folder-plate 127 with the rabbets 128, in which the plates 129 project and are adapted to maintain the said folder-plate 127 in its seat. In the said folder-plate there is an open slot 130, through which projects the arm 131 of the rocking shaft 132, journaled in the frame 4, and the other arm 133 of which is pivoted to the connecting-rod 134, pivoted at its other end to the lever 135, journaled to the shaft 71. At the mid portion of the said lever 135 is journaled the pulley 136, racing in the groove 137 of the cam-wheel 138, secured to the main shaft 75 and rotated thereby. The arm 133 is secured to the shaft 132 by the set-screw 139, that it may be so adjusted as to vary the traverse of the arm 131.

The groove 137 of the cam-wheel 138 is adapted at the proper period of its revolution to raise the lever 135, the connecting-rod 134, and depress the folder-plate 127, making the

fold of the wrapper-papers, as shown in Fig. 23. At the moment the folder-plate 127 commences its return movement the mechanism for making the lower fold begins its operation.

In the face of the frame 4 and just below the wrapper-box 114 are the guideways 140, fitting in and reciprocating on which is the folder-plate 141, secured thereto in a similar manner to the folder-plate 127 and provided with the rearwardly-extending table-plate 142, adapted to span between the soap-channel 5 and the wrapper-box 114 in the manner and for the purpose already described. Projecting from the said folder-plate 141 and directly beneath the said table-plate 142 are the parallel studs 143 and below these the integral lugs 144, journaled in which is the shaft 145, having secured thereto the pinion-wheel 146 and at its extremities the arms 147. On the opposite side of the folder-plate 141 is the cylindrical boss 148, the opening of which passes entirely through the said plate. At the lower end of the folder-plate 141 is the bifurcated lug 149, in which is pivotally secured the connecting-rod 150, pivoted to the end of lever 151, the other end of which is journaled to the shaft 71. In the mid portion of the said lever 151 is journaled the friction-roll 152, racing in the groove 153 of the cam-wheel 154, secured to the main shaft 75 and rotating therewith. The groove 153 of the said cam-wheel 154 is adapted at the proper period of the rotation of the main shaft to raise the lever 151, the connecting-rod 150, and the folder-plate 141. This folds the lower portion of the wrappers, and the package now presents the appearance of Fig. 24. The next movement of the machine is to press in the end portions of the wrappers, as shown in Fig. 25, and this is accomplished in the following manner by the horizontal end-folders:

Adapted to slide backward and forward upon the studs 143 is the cross-head 154^a by means of the bearings 155. The said cross-head is provided at its ends with the wrists 156 and has secured to its ends the folder-plates 157, adapted to embrace the folder-plate 141 and project beyond the same when the cross-head 154^a is pushed forward on its studs 143 in the manner now to be described.

The arms 147 are journaled to the wrists 156. Meshing the pinion-wheel 146 is the rack-bar 158, adapted to reciprocate in the opening of the boss 148 and which is pivoted in the slot 159 of the slotted lever 160, secured to the shaft 161, journaled in the frame 4; also secured to the shaft 161 is the lever 162, to the end of which is journaled the friction-roll 163, racing in the groove 164 of the cam-segment 165, secured to the shaft 166, journaled in the frame 4; also secured to the shaft 166 is the arm 167, pivoted to the connecting-rod 168, pivoted to the end of the lever 169, journaled to the shaft 71. In the mid portion of the said lever is journaled the friction-

roller 170, racing in the groove 171 of the cam-wheel 172, secured to the shaft 75 and rotated thereby. The groove 171 of the cam-wheel 172 is adapted to lower, at the proper portion of the rotation of the shaft 75, the lever 169, the connecting-rod 168, and the arm 167, likewise moving downward the cam-segment 165. A part 173 of the said cam-segment groove 164 is eccentric to the center of said cam and is adapted upon the downward movement of the cam-segment 165 to actuate the lever 162, the shaft 161, and the slotted lever 160 and to move the rack-bar 158, actuating the pinion-wheel 146, the shaft 145, the arms 147 in such manner as to press forward the cross-head 154 and the folder-plates 157, folding in the wrapper-papers in the position as shown in Fig. 25. The remaining portion 174 of the cam-segment groove 164 is concentric to the center of said cam and maintains the folder-plates 157 at rest during the succeeding motion of the vertical end-folder actuated by rotation of the shaft 166, already described.

In the sides of the frame 4 and located just above and below the wrapping-box 114 are the planed recesses 175, fitting and reciprocating in which are the folder-plates 176, having rabbets 177, into which project the plates 178, adapted to maintain the said folder-plates 176 in their seat. Each of the said folder-plates 176 is provided with a projecting stud 179.

The lower folder-plates 176 are moved upward by the lever-arm 180, fulcrumed and secured to the shaft 166 and pivotally connected to the before-mentioned studs 179. The free end of the lever 180 is pivoted to a connecting-rod 181, pivotally secured to the lever 182, journaled to the stud 183 of the frame 4 and with its free end pivotally secured to the before-mentioned studs 179 of the upper folder-plates 176. It will thus be readily seen that the same rotation of the shaft 166 that moves the lower folder-plates 176 upward will move the upper folder-plates 176 downward. When this motion is completed, the wrappers have assumed the position in Fig. 26. The return movement of the cam-wheel 175 operates to first return the folder-plates 176 to their first position and then to return the folder-plates 157. Then the cam-wheel 154 lowers the folder-plate 141 out of the way of the horizontal plunger 101, which now brings a new cake of soap from the soap-channel, with its wrapper-papers 50 and 51, and pushes it into the wrapping-box 114.

It is to be noted that when the folder-plate 141 rises it carries the rack-bar 158 with it, the pivoted end thereof moving upward in the slot 159 of the slotted lever 160.

As the plunger 101 brings a new cake of soap into the wrapping-box 114 the one already wrapped is pushed into the horizontal soap-channel 184, the edges 185 of which fold down the remaining part of the wrappers, so that they now present the aspect in Fig. 27.

The packet in the present condition is not folded quite as tightly as has been found in practice to be desirable, which difficulty has been obviated by an extra pressing of the folded parts at the delivery end 186 of the channel 184. Recessed into the sides of the said channel 184 are the plungers 187 with the guide-studs 188 and the stem 189 projecting through openings in the side of the said channel. About the stem 189 is the coil-spring 190, adapted to press the plungers 187 against the end folds of the soap-packet as it advances along the channel.

In the top of the channel is secured the dog 191 by pivots 192, the dog having at its ends the shoulders 193, adapted to rest upon the plungers 187, the dog holding them apart a certain distance. The dog 191 is so located with reference to the plungers 187 that the soap-package is well abreast the said plungers before it impinges the foot 194 of said dog, raising it and permitting a free movement of the plungers 187. Likewise in the passage of the last package of a series the said package will leave the foot 194 of the dog 191 while still well abreast the plungers 187, so the said dog 191 will fall with its shoulders 193 over the said plungers and hold them apart. These movements are adapted to prevent the breaking down of the corners of the soap cake by the plungers 187 either at the beginning or end of a series passing through the soap-channel.

When the packet is pressed from the channel 184, it is in a merchantable condition and may be assembled and stored in any desired manner.

Each and all of the mechanical movements are made in proper sequence during one rotation of the main shaft 75 by means of the various cam-wheels already described. In Fig. 29 will be seen a chart of the several principal cam-wheels, showing their operative relation during one revolution of the said main shaft.

The main shaft is journaled in the hangers 195 of the frame 1 and has at its end the bevel gear-wheel 196, meshing the bevel gear-wheel 197, mounted on the shaft 198, journaled in the hanger 195 and provided with the power-pulley 199.

Having fully described my invention and its operation, I will now define the matter I desire to secure by Letters Patent and claim—

1. In combination with mechanism for wrapping a package, a device for feeding the wrappers thereto, comprising the paper-rolls, the feed-rolls 26 and 36, the annular recess in the said roll 36 and the feed-roll 40 impinging therein, combined with a mechanism for intermittently rotating the said feed-rolls, substantially as and for the purpose described.

2. A feed-roll device for wrapping-machines, comprising a journaled shaft, a feed-roll secured thereto, a gear-wheel 27 at one end thereof, a click-wheel and stop-pawl adjacent thereto, a click-wheel secured at the other end of said shaft, a sleeve mounted thereon, a pinion and a crank-arm secured to

the said sleeve, the said crank-arm bearing a pivoted pawl at its end adapted to engage the click-wheel combined with a journaled roll 36 with a gear-wheel 35 meshing with the said gear 27 and having the annular recess 37 therein, a roll 40 adapted to enter the said recess, and a gear-wheel secured to said roll and meshing the gear-wheel 35, substantially as and in the manner described.

3. In a package-wrapping machine, the combination of wrapping mechanism, means for feeding the wrappers comprising a feed-roll, a click-wheel secured thereto, and a rotatable crank-arm with a pawl engaging the same, a wrapper-cutting device comprising a fixed shear, a movable shear, a link and pivoted lever secured thereto, a cam, a roller on the end of the said lever racing in the groove of said cam, a click on the rim of said cam, a pawl pivoted to the said crank-arm and adapted to engage the said click, and a mechanism for actuating the said crank-arm, as and for the purpose described.

4. In combination with a package-wrapping mechanism, a wrapper feeding and cutting device therefor comprising a journaled shaft 25, a feed-roll and click-wheels 28 and 30 secured thereto, a sleeve 56 mounted thereon, the pinion 57 and the crank-arm 58 secured to the said sleeve, the cam 63 movably mounted thereon, clicks 62 and 94 on the rim of the said cam, a cam-actuated segmental gear meshing the pinion 57 and actuating the same and the crank-arm 58, pawls 60 and 61 pivoted to the said crank-arm and adapted to engage the clicks of the wheel 30 and the cam 63, a pawl 95 adapted to stop the said cam, and a shearing mechanism actuated by the said cam, substantially as and in the manner described.

5. In a package-wrapping machine, a wrapper-feeding mechanism, and means for engaging the object therewith combined with a wrapper-folding mechanism therefor comprising a slidable plate, a recess in the machine-frame retaining and guarding the said plate, the projecting shelf or table 142 of said plate, and means for reciprocating the said plate in its seat, substantially as described.

6. In a package-wrapping machine, a wrapper-feeding mechanism and means for engaging the object with the wrappers, combined with a wrapper-folding mechanism, comprising a slidable plate, a recess in the machine-frame retaining and guiding the said plate, a projecting shelf 142 of said plate, a connecting-rod pivotally secured to said plate and to a pivoted lever, and a cam mounted on the main shaft and adapted to actuate the said lever, for the purpose and in manner described.

7. In a package-wrapping machine, a wrapper-folding mechanism therefor comprising a cross-head slidably mounted upon guide-studs, projecting plates secured to the said cross-head, wrist-pins at the end of the said cross-head, the journaled shaft 145, the crank-arms secured thereto and to the wrist-pins, a

pinion secured to said journal, a rack-bar meshing said pinion and means for reciprocating the said rack-bar in the manner and for the purpose described.

5 8. In a package-wrapping machine, a wrapper-folding mechanism therefor, comprising a slidable plate 141, a seat in the machine-frame therefor, means for reciprocating the said plate, guide-studs projecting from said
10 plate, a cross-head sliding on the said studs, projecting plates secured to the said cross-head, combined with means for reciprocating the said cross-head upon its guide-studs, in the manner and for the purpose described.

15 9. In a package-wrapping machine, a wrapper-folding mechanism therefor, comprising a slidable plate 141, a seat in the machine-frame therefor, means for reciprocating the said plate, guide-studs projecting from said
20 plate, a cross-head sliding on the said studs, projecting plates secured to the said cross-head, wrist-pins at the ends of the said cross-head, the journaled shaft 145, the crank-arms secured thereto and to the said wrist-pins,
25 the pinion 146 secured to the said shaft, a lug 148 projecting from the plate 141, the rack-bar slidably mounted therein and meshing the said pinion, a journaled shaft 161, a slotted lever 160 secured thereto in the slot whereof
30 the rack-bar is pivoted, a lever 162 likewise secured to the shaft 161 and actuated by the segmental cam 165, in the manner and for the purpose described.

10. In a package-wrapping machine, a
35 wrapper-folder mechanism therefor, comprising upper and lower slidable plates 176 seated in recesses in the main frame, a journaled shaft 166, an arm 167 secured to the said shaft and actuated by a cam mounted on the main
40 shaft, the pivoted levers 180 secured to the ends of said shaft and to the lower slidable plates 176, the pivoted levers 182 secured to the upper slidable plates 176 and rod-coupling levers 182 and 180, substantially as and
45 for the purpose described.

11. In a package-wrapping machine, a wrapper-folding mechanism comprising a
50 downwardly-slidable plate with means for actuating the same, an upwardly-slidable plate with means for actuating the same, horizontally-slidable plates mounted upon said upwardly-slidable plate and means for actuating the same, combined with upwardly and
55 downwardly slidable plates with means to cause the same to synchronously approach each other and to recede, substantially as and for the purpose described.

12. In a package-wrapping machine, a wrapper-folding mechanism comprising a
60 horizontal plunger 101 with means for actu-

ating the same, a downwardly-slidable plate with means for actuating the same, an upwardly-slidable plate with means for actuating the same, horizontally-slidable plates mounted upon said upwardly-slidable plate
65 and means for actuating the same, combined with upwardly and downwardly slidable plates with means to cause the same to synchronously approach each other and to recede, substantially as and for the purpose de-
70 scribed.

13. In a package-wrapping machine, a mechanism for holding the package in position while being wrapped, comprising a piston and head, a spring adapted to press the
75 same against the package, a pivoted lever 118 secured thereto and a cam mounted on the main shaft actuating the said lever for the purpose and substantially as described.

14. In a package-wrapping machine, the
80 combination with mechanism for feeding and cutting wrappers and a mechanism for feeding the article to and for folding the said wrappers, a mechanism for holding the said package while being wrapped, comprising a piston
85 115 and head 116, the spring 117 therefor, the release-lever 118 and the cam movement adapted to actuate the said lever, substantially as and for the purpose described.

15. In a package-wrapping machine, a re-
90 press device for the completed package, comprising plates, guide-studs therefor, springs actuating said plates and a dog adapted to release and to stop the said plates, in the manner and for the purpose described.
95

16. In a package-wrapping machine, a repress device for the completed package, comprising plates, guide-studs 188 projecting therefrom, and a piston 189 slidably secured in the machine-frame, the spring 190 actuating
100 the said plates, a dog 191 pivotally secured in said frame, and the notches 193 in said dog adapted to stop the said plates, substantially as and for the purpose described.

17. In a package-wrapping machine, the
105 combination of mechanism for feeding and cutting the wrappers, a mechanism for feeding the article and folding the wrappers thereabout, and a repress mechanism comprising the plates 187, the springs 189 actuating the
110 same and the pivoted dog 191 adapted to stop and to release the said plates, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

FREDERICK C. HELMUTH.

Witnesses:

HERMANN WIENCKE,
T. J. SCHLEICHER.