

July 2, 1929.

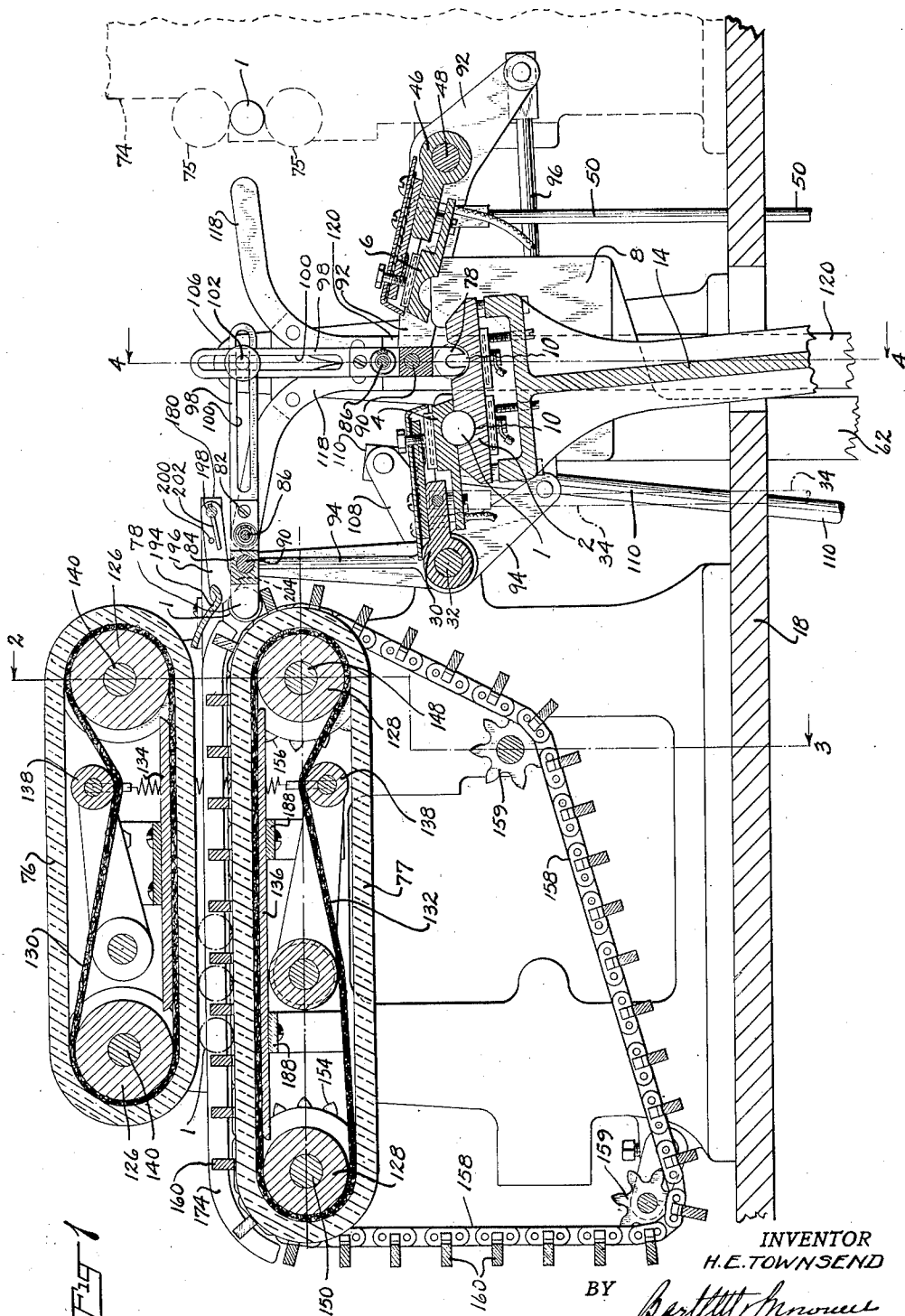
H. E. TOWNSEND

1,719,404

SEALING MACHINE

Filed Dec. 9, 1925

6 Sheets-Sheet 1



INVENTOR
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July 2, 1929.

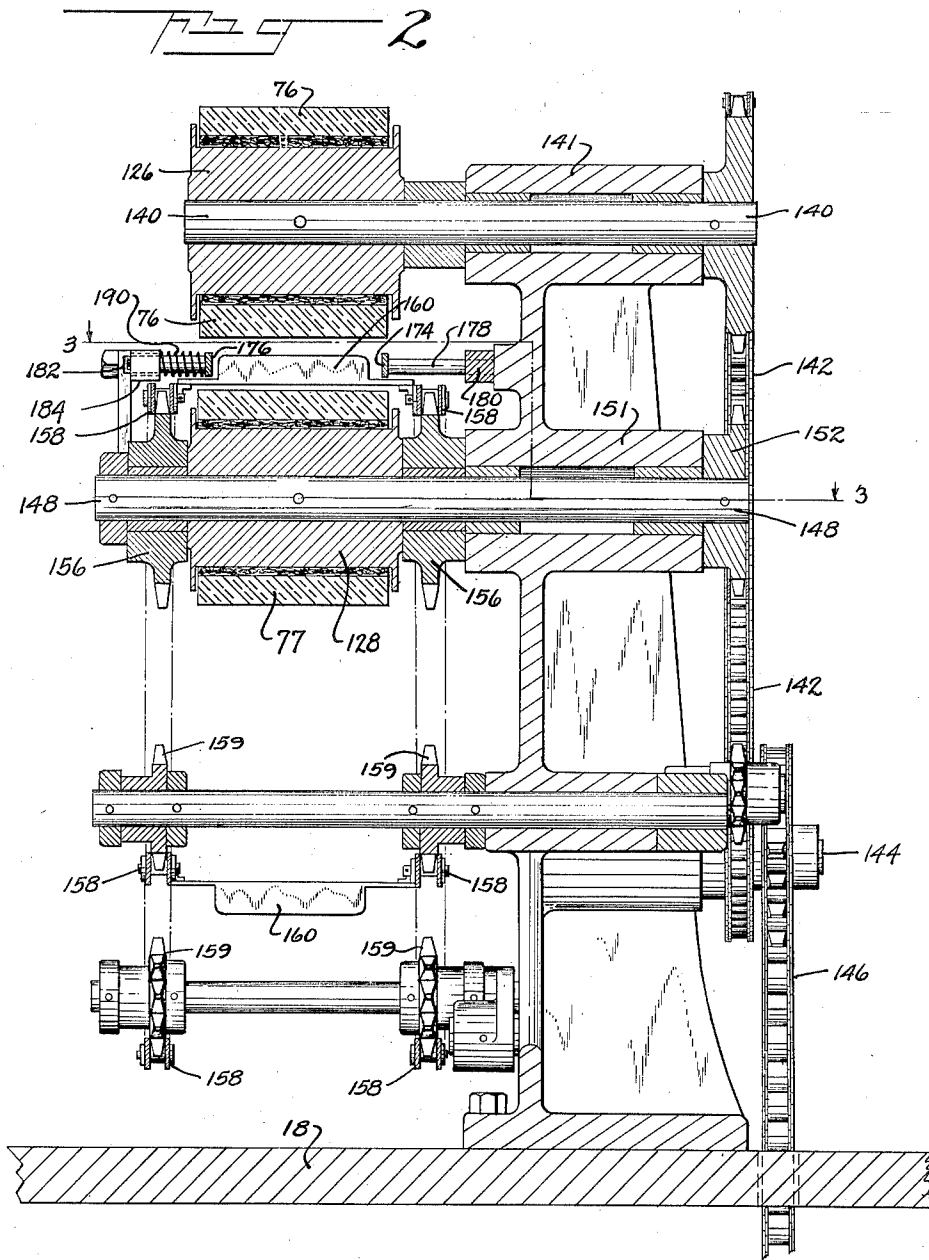
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1,719,404

SEALING MACHINE

Filed Dec. 9, 1925.

6 Sheets-Sheet 2



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1,719,404

SEALING MACHINE

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6 Sheets-Sheet 3

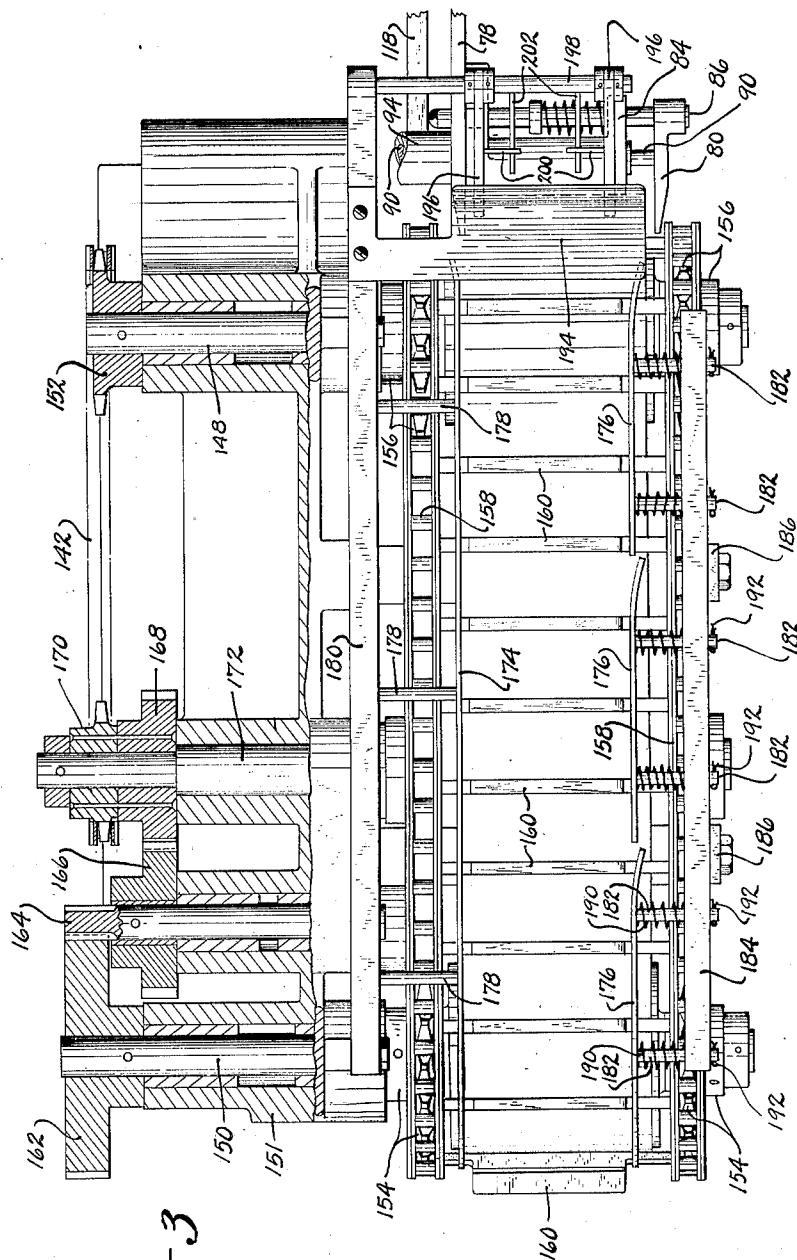


Fig. 3

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July 2, 1929.

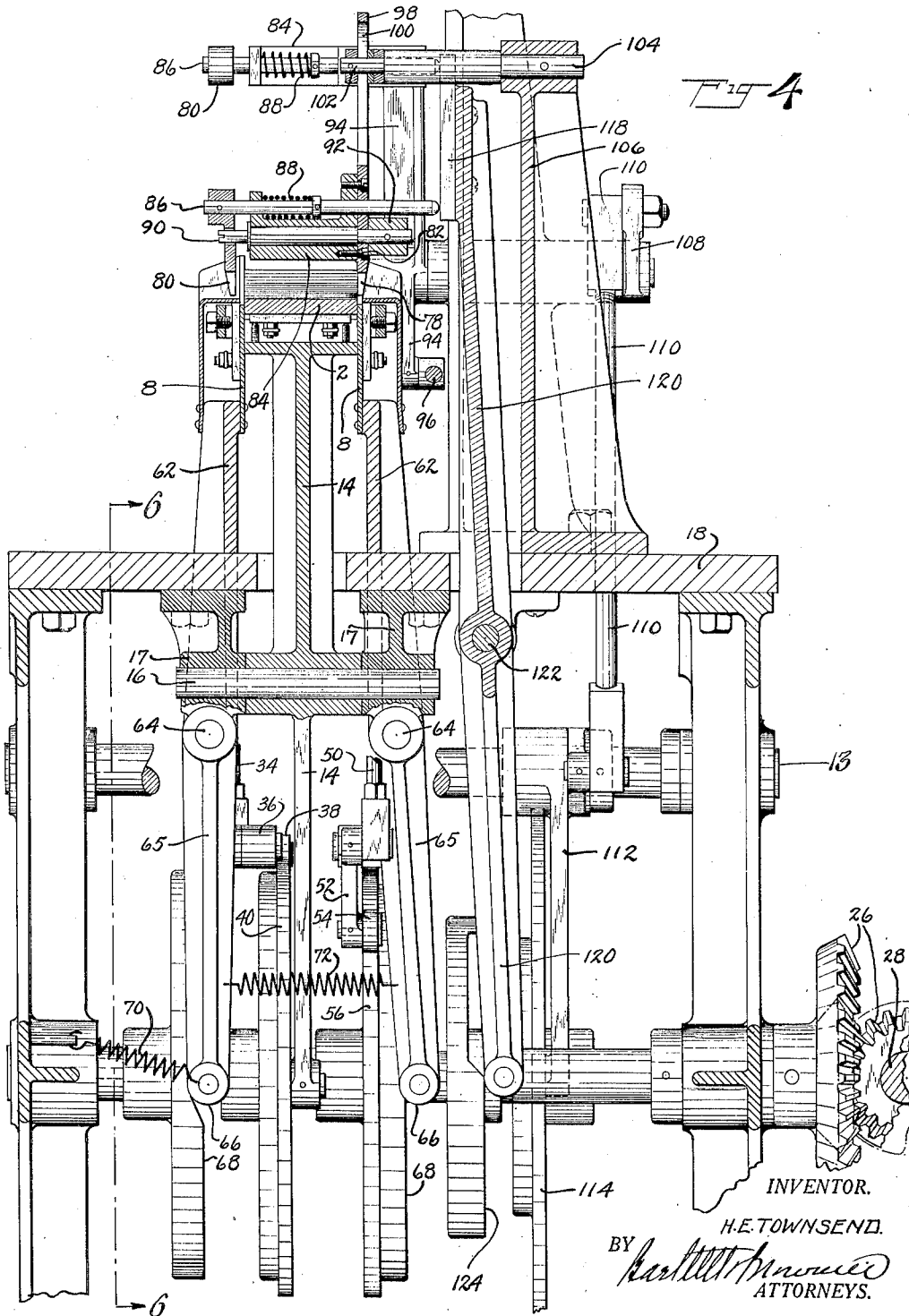
H. E. TOWNSEND

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SEALING MACHINE

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6 Sheets-Sheet 4



July 2, 1929.

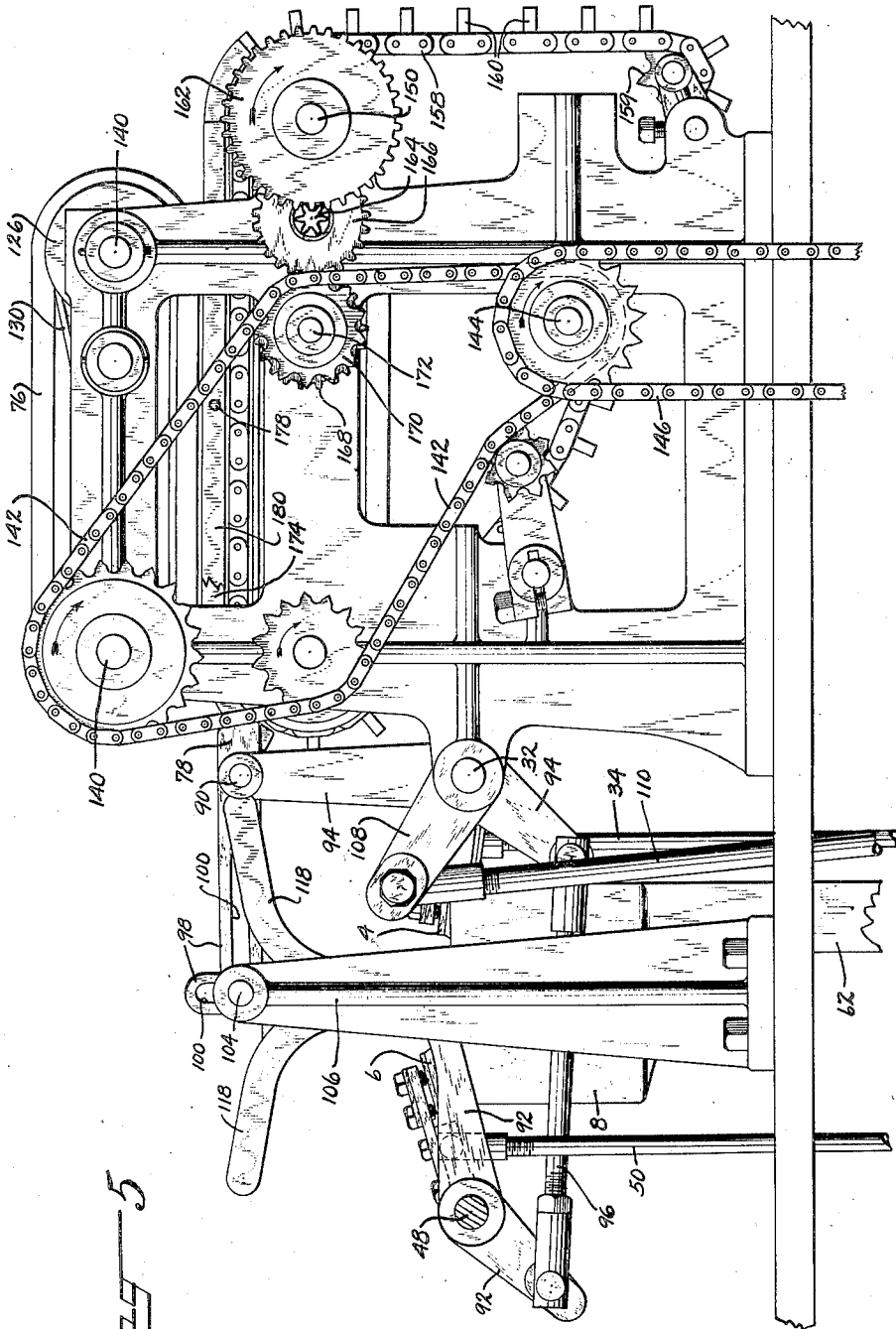
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1,719,404

SEALING MACHINE

Filed Dec. 9, 1925

6 Sheets-Sheet 5



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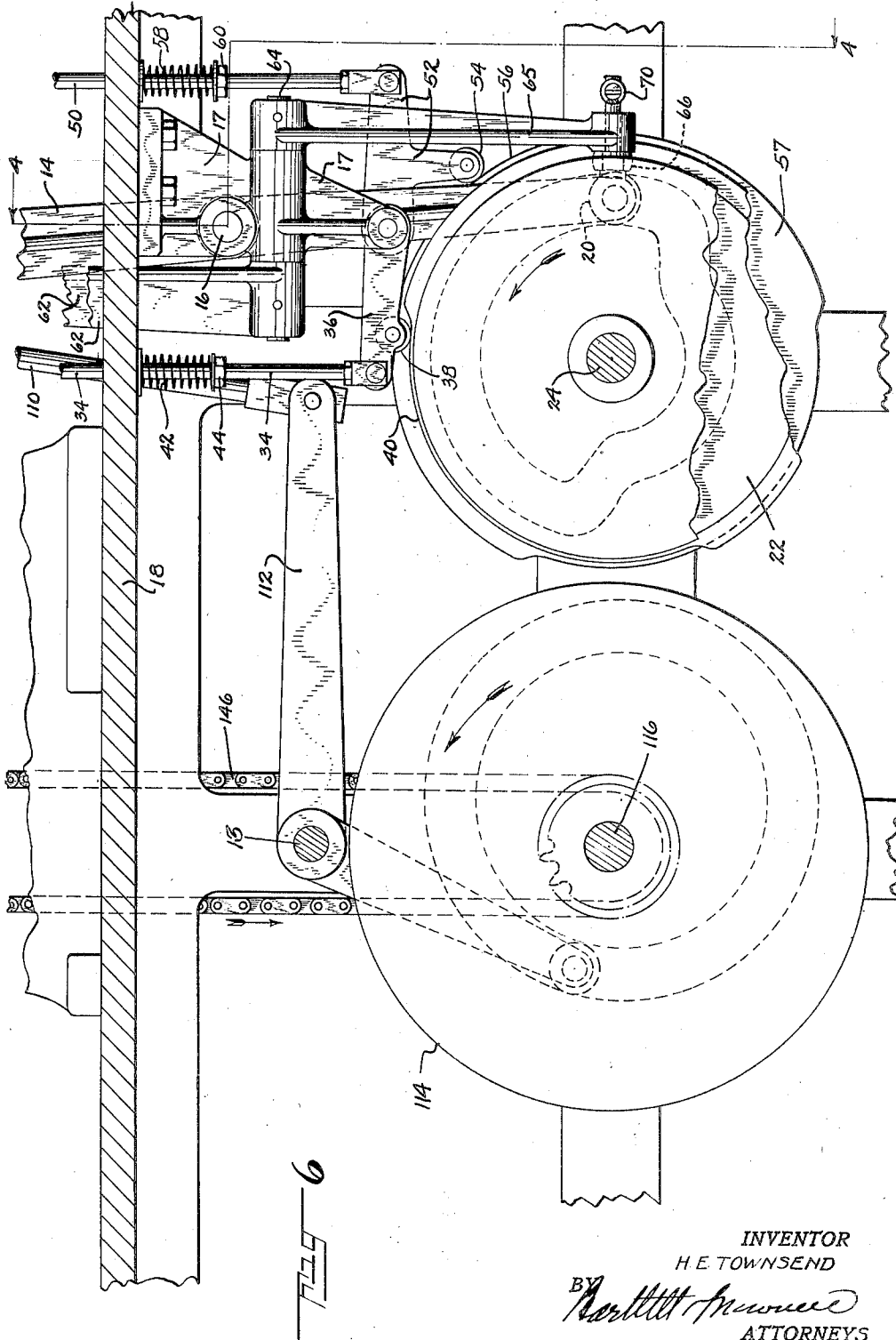
H. E. TOWNSEND

1,719,404

SEALING MACHINE

Filed Dec. 9, 1925

6 Sheets-Sheet 6



INVENTOR
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Patented July 2, 1929.

1,719,404

UNITED STATES PATENT OFFICE.

HARRY E. TOWNSEND, OF BROOKLYN, NEW YORK.

SEALING MACHINE.

Application filed December 9, 1925. Serial No. 74,292.

My invention relates to machines for and methods of operating upon articles, and has special reference to machines for sealing packages of hard candies and similar articles that are wrapped in wax paper.

Packages of one type are provided with two wrappers, the inner of wax paper and the outer of tin-foil, the wax of the paper wrapper being belted to seal the package after the tin-foil wrapper has been applied. The two wrappers are preferably applied successively. With a package of this type, in order to insure the package shall be securely and tightly sealed, it is very important that a certain degree of heat to melt the wax shall be applied uniformly throughout the area of the wrappers, and after the wrappers have been subjected to this heating operation for a certain length of time, that the overlying portions of the wrappers shall be held under a certain degree of pressure during the cooling or setting of the wax.

An object of the present invention is to provide a machine which is particularly adapted for use in sealing packages of the type indicated.

Another object of the invention is to provide a method which is particularly adapted for use in sealing packages of this type.

Another object of the invention is to provide a sealing machine which is particularly adapted for use in connection with a wrapping machine for cylindrical articles, such as rolls of hard candies, whereby the articles are automatically transferred thereto from the wrapping machine.

Another object of the invention is to provide a sealing machine of the character indicated which is simple in construction and efficient in operation.

Another object of the invention is to provide novel and improved mechanism for handling articles such as cylindrical packages.

The several features of the invention, whereby the above-mentioned and other objects may be attained, will be clearly understood from the following description and accompanying drawings, in which:

Figure 1 is a longitudinal sectional view of the upper portion of a machine embodying features of the invention in their preferred form, a portion of a wrapping machine, in connection with which my improved machine is adapted to be used, is indicated by broken lines;

Fig. 2 is a vertical sectional view, on an enlarged scale, taken on the line 2—2 of Fig. 1;

Fig. 3 is a sectional plan view taken substantially on the line 3—3 of Fig. 2;

Fig. 4 is a sectional view taken substantially on the line 4—4 of Figs. 1 and 6.

Fig. 5 is a side elevation of the upper portion of the machine looking in the opposite direction to Fig. 1; and

Fig. 6 is a sectional view, taken on the line 6—6 of Fig. 4, of the lower portion of the machine.

The machine illustrated in the drawings is particularly adapted for use in sealing a cylindrical package 1 having at least one wrapper of waxed paper. The machine is provided with a heating device comprising a lower heating block 2, upper heating blocks 4 and 6, and end heating members or plates 8. The top surface of the lower heating block is substantially flat and is provided with two semi-cylindrical recesses 10 that extend transversely thereof and are spaced apart. The under surfaces of the upper blocks 4 and 6 are flat, and each is provided with a semi-cylindrical recess 12 of the same diameter as the recesses 10, and extends transversely thereof.

The lower heating block 2 is adapted to be moved to position the recesses therein alternately at a given station. When a recess in the lower block is thus positioned at said station, a package previously placed therein is adapted to be removed therefrom and another substituted. Upon the next movement of the lower heating block the package deposited in the recess is carried beneath one of the upper heating blocks, whereupon that upper block is swung downwardly to cause its recess to register with the adjacent recess in the lower block, the recesses being of suitable size so that when the two blocks are thus brought together the cylindrical surface of the package is closely and completely enclosed thereby. While one package is being heated, another package is being placed in the other recess in the lower block, and at the completion of the heating of the first package, the upper heating block therefor is raised, and the lower block is shifted to position the new package beneath the other upper heating block, and the package that has been heated is returned to said station where it is removed and another substituted.

The end heating blocks or plates 8 are of suitable size and shape to extend over the ends of the lower heating block in both positions thereof, and when either one of the upper heating blocks is brought down upon the lower block, as above described, the end heating plates are moved inwardly so as to close the ends of the receptacle formed by the lower heating block and its cooperating upper block, and thus form a closed heating chamber for the package. The several heating blocks may be heated by electricity in any suitable manner.

The lower heating block 2 is mounted upon the upper end of a rocker arm 14 (Figs. 1, 4 and 6) which is pivotally mounted on a pin 16 between brackets 17 depending from a base plate 18 that supports the upper portion of the machine. The lower end of the rocker arm 14 carries a cam roll 20 that engages a cam groove (Fig. 6) in a cam disk 22 carried by a shaft 24 which is journaled in the machine frame, and is driven through bevel gears 26 (Fig. 4) secured on the shaft and a main drive shaft 28, respectively.

The upper heating block 4 is mounted on the end of an arm 30 pivotally mounted on a shaft 32 hereinafter described. The arm 30 is adapted to be turned on the shaft 32 to raise and lower the upper heating block into and out of cooperating engagement with the lower heating block when the latter is in one position, by means of a link or rod 34, having one end pivotally connected with the arm and its other end pivotally connected with a lever 36 (Figs. 4 and 6) which is pivoted on one of the depending brackets 17 and carries a cam roll 38 that is adapted to be engaged by a cam surface 40 on the cam disk 22, the cam roll being held in engagement with the cam by means of a spring 42 coiled about the rod 34 and interposed between the under side of the base plate 8 and a nut 44 secured on the rod.

The upper heating block 6 is similarly supported on an arm 46 which is pivotally mounted on a stud shaft 48. The arm 46 is adapted to be turned to raise and lower the heating block into and out of operative engagement with the lower heating block 2 by means of a link or rod 50 having one end pivotally connected with the arm and its lower end pivotally connected with a lever 52 which is pivotally mounted upon one of the depending brackets 17 and carries a cam roll 54 that is adapted to be engaged by a cam surface 56 on a cam disk 57 carried by the shaft 24. The cam roll 54 is held toward its cam surface by means of a spring 58 coiled about the rod 50 and interposed between the base plate 18 and a nut 60 secured on the rod.

The end heating plates 8 are mounted upon the upper ends of rocker arms 62 which have their lower ends secured on one end

of shafts 64 extending through bearings in the depending brackets 17, respectively. Arms 65 are secured on the other ends of the shafts 64 and are provided with cam rolls 66 that engage cam surfaces 68, respectively, on cam disks carried by the shaft 24, the cam roll of the outer arm 65 being held in engagement with its cam surface by a coiled spring 70, having one end connected with the lower end of the arm and its other end secured to the machine frame, and the cam roll of the other arm 65 is held toward its cam surface by means of a coiled spring 72 having its ends connected with the two arms 65.

The illustrated machine is particularly adapted for use in connection with a machine for wrapping rolls of hard candies or other cylindrical articles, the frame of such a machine being indicated by broken lines at 74, and the wrapping rolls being indicated at 75, a package 1 being shown positioned between the wrapping rolls.

In the illustrated construction means is provided for transferring the package from the wrapping rolls of the wrapping machine to the lower heating block 2, and similar means is provided for transferring the package after it has been subjected to the heating operation, to cooling or drying devices, comprising upper and lower belts 76 and 77, hereinafter described. Each of said transfer means comprises gripping jaws 78 and 80 (Figs. 1, 3 and 4). The jaw 78 is secured by screws 82 directly to a carrier block 84, and the jaw 80 is secured on one end of a pin 86, which extends through ears on the block, and is pressed in a direction to close the jaws by means of a spring 88 coiled about the pin and interposed between a collar secured on the pin and one of the ears on the carrier block. The carrier block of each transfer means is pivotally mounted on a pin 90. This pin is provided with a reduced extension on one end which extends through an aperture in the associated movable jaw 80 to hold the jaw from turning movement with relation to the carrier block.

The pivot pins 90 for the carrier block 84 associated with the means for transferring the package from the wrapping rolls of the wrapping machine to the heating devices, is secured in the free end of an arm of a lever 92 which is pivotally mounted on the fixed shaft 48. The pivot pin 90 for the carrier block 84 associated with the other transfer means is secured in the free end of an arm of a lever 94 which is secured on the rock shaft 32. The other arms of these two levers 92 and 94 are connected by a link 96 so as to cause them to move together upon movement of the rock shaft 32.

The stationary jaw 78 of each of the gripping devices is provided with an extension 98 having a slot 100 extending longitudi-

nally thereof. The extensions 98 cross each other and a pin 102 extends through the slots in both of them and is secured in a socket in a supporting stud 104 secured in the upper end of an upright bracket 106 supported on the base plate 18. With this construction, during the actuation of the carrier lever 92 to move the gripping jaws that operate between the wrapping rolls of the wrapping machine and the heating device, the pin and slot connection 102, 100 acts to turn the jaws into a vertical position as they approach the heating device, and into a horizontal position as they approach the wrapping rolls. In a like manner the other gripping jaws are turned into a vertical position as they approach the heating device and into a horizontal position as they approach the cooling and drying belts 76 and 77.

The rock shaft 32 is actuated to actuate the jaw carrying levers 92 and 94 through an arm 108 secured on the rock shaft and connected by a link or rod 110 with a cam lever 112 pivoted on a T-rod or shaft 113 extending between the lower side frames of the machine, and carrying a cam roll that engages a cam groove in a cam 114 (Fig. 6) which is driven through suitable gearing, not shown from the main drive shaft 28.

When the two sets of gripping jaws have reached the positions in which they are shown in Fig. 1, they are opened simultaneously, the jaws carried by the lever 92 to release the package held thereby in the recess in the lower heating block 2, and the other jaws to release the package carried thereby to the lower belt 77 of the cooling and drying device. This is accomplished by means of an abutment plate 118 which at the proper time engages the ends of the pins 86 on which the movable jaws 80 are mounted, to open the jaws against the tension of the coiled springs 88. This abutment member 118 is so shaped that the ends of the jaw carrying pins 86 ride thereon so as to continue to maintain the jaws open from the time the two sets of jaws leave the position shown in Fig. 1, until the jaws carried by the lever 92 have reached a position to permit them to grip the ends of the package held between the wrapping rolls of the wrapping machine, and until the jaws carried by the lever 94 have reached a position to permit them to grip the ends of the package in the recess of the heating block 2. When the two sets of jaws have reached these positions, the abutment plate 118 is retracted to permit the jaws to close on the ends of the packages, the abutment plates remaining retracted until the two sets of jaws have carried the packages to the positions shown in Fig. 1.

The abutment plate 118 is secured on the upper end of a rocker arm 120 pivotally mounted at 122 (Fig. 4) on the machine

frame, and its lower end carries a cam roll that engages a cam 124 carried by the shaft 24.

The belts 76 and 77 of the cooling or drying device are made of rubber or other resilient material. The upper belt 76 passes over horizontal pulleys 126, and the lower belt over horizontal pulleys 128. Between the belt 76 and its pulleys, and the belt 77 and its pulleys, are leather belts 130 and 132, respectively, the leather belts directly engaging the pulleys. The adjacent stretches of the two belts 76 and 77 and the leather belts ride on supporting plates 134 and 136, respectively, that are suitably secured on brackets projecting from the machine frame, the plates directly engaging the leather belts. The leather belts are for the purpose of relieving the stretching strain that would otherwise be placed on the rubber belts while they are being driven. In order to maintain the leather belts tight and prevent any sagging of their adjacent stretches, suitable tensioning devices comprising spring pressed rolls 138 engage the outer surfaces of the outer stretches of the leather belts. The pulleys 126 for the upper belt (Figs. 1, 3 and 5) are secured on shafts 140, each having one end portion extending through and journaled in suitable supporting bearings 141 on the machine frame. The rear shaft 140 is driven to drive the upper belt 76 by means of a sprocket chain 142 that passes over a sprocket wheel on said shaft and a sprocket wheel on a shaft 144 that is driven by a chain 146 which passes over a sprocket wheel on the latter shaft, and a sprocket wheel on the drive shaft 116 (Fig. 6).

The rear pulley 128 of the lower belt 77 is secured on a shaft 148 and the other pulley of said belt is mounted to turn on a shaft 150 (Fig. 3). The shafts 148 and 150 have one end portion journaled in suitable supporting bearings 151 in the machine frame. The shaft 148 is driven to drive the lower belt 77 by means of a sprocket wheel 152 secured on the outer end of the shaft and operatively engaging the sprocket chain 142, the two belts 76 and 77 being both driven in a counter-clockwise direction and the lower belt being driven at a slightly greater speed than the upper belt.

Sprocket wheels 154 (Fig. 3) are secured on the pulley shaft 150 adjacent the ends of the forward pulley 128 which, as above described, is loosely mounted on the shaft; and sprocket wheels 156 are loosely mounted on the pulley carrying shaft 148 adjacent the ends of the rear pulley 128. A sprocket chain 158 passes over the sprocket wheels 154 and 156 adjacent corresponding ends of the belt pulleys 128, the lower portions of the two chains 158 being guided by idlers 159. A series of outwardly projecting blades 160 that

are spaced equal distances apart, have their ends secured to the links of the two chains 158, and are so arranged as to clear the upper stretch of the lower belt 77 as they pass over it, the blades extending across the said stretch of said belt. The sprocket chains 158 are driven in the same direction as the lower belt 77 and at a rate of speed corresponding substantially to the difference in the speeds of the upper and lower belts. The sprocket chains 158 are thus driven by a gear 162 secured on the pulley shaft 150 which engages a pinion formed on the end of a counter-shaft 164 that carries a gear 166 that engages a gear 168 secured to a sprocket wheel 170 which engages the sprocket chain 142, the gear 168 and sprocket wheel 170 being loosely mounted on a shaft 172.

Presser plates or strips 174 and 176 (Figs. 1, 2 and 3) which engage the ends of the packages as they pass between the belts 76 and 77 extend longitudinally between the belts and their end portions are curved downwardly so as to follow the curvature of the lower belt 77 as it passes over its pulleys. The presser strip 174 is secured on the ends of pins or studs 178 projecting from a supporting bar 180 which is secured to the machine frame. The presser plate or strip 176 is divided transversely into a plurality of sections that are secured on the ends of plunger pins 182 mounted to slide through apertures in a bar 184 which is secured on upright bracket pieces 186, which in turn are secured to brackets 188 extending between the stretches of the lower belt and are secured to the machine frame, the brackets 188 also serving to support the supporting plate 136 over which the upper stretch of the lower belt passes. The several sections of the presser strip 176 are pressed toward the fixed presser strip 174 by means of springs 190 coiled about the sliding pins 182 and interposed between said sections and the bar 184, the inward movement of the strip sections being limited by cotter pins 192 which extend through the outer ends of the sliding pins 182 and abut against the side of the bar 184.

The guard plate 194 extends over the rear ends of the presser strips 174 and 176 and has one end secured to the supporting bar 180, the packages passing beneath this guard plate as they pass into the space between the stretches of the two belts.

Stripping devices comprising latch members 196 (Figs. 1 and 3) have their rear ends pivotally mounted on a pin 198 that projects from the supporting bar 180, the downward movement of the forward ends of the latch members by gravity being limited by laterally projecting pins 200 on the members engaging stop pins 202 projecting from the pivot pin 198. The forward ends of the latch members 196 are each provided with a

depending tooth 204, the tooth being inclined forwardly and upwardly to the upper edges of the latch members.

With the construction of the cooling and drying device, as above described, the gripping jaws are successively transferring the package from the heating block 2, carries each package beneath the forward ends of the latching or stripping members 196 and into the space between the two blades 160 that are passing upwardly over the rear belt carrying pulley 128, and beneath the guard plate 194. During the retraction of the gripping jaws after they release the ends of the package, in case the ends of the package should tend to stick to the jaws, the package abuts against the inclined forward ends of the stripping or latching members 196, and these members thus serve to strip the package from the jaws. As the package is being carried upwardly by the lower belt 77 and between the ends of the presser plates or strips 174 and 176, the guard plate 194 prevents the package from working out from between the blades 160. The sprocket chain 158 that carries the blades 160 is driven in proper timed relation to the travel of the gripping jaws, to permit the jaws to deposit a package between each two adjacent blades.

As each package is carried beneath the guard plate 194 and between the adjacent stretches of the upper and lower belts 76 and 77 the lower stretch of the upper belt, which travels in the opposite direction to and at a slightly less speed than the lower belt, cooperates with the lower belt to rotate the package in a clockwise direction viewing Fig. 1, and to yieldingly apply pressure to the package. The packages are presented to the belts 76 and 77 in such a position that the overlapping outer longitudinal edges of their wrappers are directed in a counter-clockwise direction so that the belts tend to tighten the wrapper and ensures the thorough sealing of the overlapping portions of the wrapper, and in case the package has two wrappers, ensures the sealing of the two wrappers together. As the lower belt 77 is driven at a slightly greater speed than the upper belt, the package is thereby advanced between the belts and may be removed from the forward end of the lower belt. The blades 160, as hereinbefore described, travel at a rate of speed corresponding to the difference between the speeds of the two belts, and thus the blades are moved at the same speed as the packages are advanced between the belts, so that the blades do not materially bear on the sides of the packages.

As the packages are advanced between the belts the end presser plates 174 and 176 act to tightly press the end tucks of the wrappers against the ends of the content of the package, and thus ensures these tucks being flattened out and securely sealed together.

The two belts 76 and 77 are of sufficient length so that when the packages reach the forward ends of the lower belt where they may be removed, the melted wax has become thoroughly cooled or set. The completed packages may be removed from the lower belt either by hand or machine.

As will be evident to those skilled in the art, my invention permits various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. A machine for operating upon articles having, in combination, a heating member movable to position an article carried thereby at two stations alternately, a second heating member for cooperating with said first member to enclose the article when at one of said stations, and means for removing the article when at the other station and substituting another.

2. A machine of the class described having, in combination, a heating member movable to position two articles supported thereby alternately at a given station, heating members cooperating with said first member to enclose the articles, respectively, when they are positioned away from said station, and means acting automatically to remove each article from said first member when it is returned to said station and substitute another.

3. A sealing machine of the class described, having, in combination, a heating block having two recesses extending completely across the same for receiving the lower portions of the articles, respectively, a carrier for moving the block to position said recesses alternately at a given station, heating members each having a recess therein and adapted to be brought downwardly upon said heating block to cause its recess to register with one of said recesses in the block when the other recess is at said station, means for thus moving said heating members, and means comprising end heating members acting when one of said upper heating members is brought down upon the lower member to close the ends of the registering recesses in said members.

4. A machine for operating upon an article of substantially cylindrical form having, in combination, heating devices adapted to be relatively moved toward each other to completely enclose the article, and away from each other to permit removal of the article and substitution of another, means for thus actuating said devices, and means acting in timed relation thereto for removing the article and substituting another.

5. A machine for operating upon articles of substantially cylindrical form having, in combination, a carrier having two recesses therein for receiving the articles and movable to position said recesses alternately at

a given station, and devices for removing the article from each recess and substituting another when the recess is at said station.

6. A machine for operating upon articles having, in combination, a heating member having a recess therein and capable of being moved into two positions, means for depositing an article in said recess when said member is moved into one of said positions, a device for cooperating with said member to enclose the article when said member is moved to the other position, and means for removing the article from said recess when said member is returned to its first-mentioned position.

7. A machine for operating upon articles having, in combination, a heating member having two recesses and movable into two positions to alternately position said recesses at a given station, means for depositing an article in each recess when at said station, a heating device for cooperating with said member to enclose the article received in each recess when the recess is not at said station, and means for removing the article from said recess when returned to said station.

8. A machine of the class described having, in combination, a carrier comprising a heating member having two recesses for receiving the lower portions of the articles, means for actuating the carrier to position said recesses alternately at a given station, heating members for enclosing the upper portions of said articles when deposited in said recesses, respectively, each of said devices thus acting on one of the articles when the other article is at said station, and means for removing each article when it reaches said station and substituting another.

9. A machine for operating upon articles having, in combination, gripping jaws adapted to be closed and opened to engage and disengage the ends of an article, a carrier for the jaws having a projecting arm, a stationary support, a pin and slot connection between said support and said arm, a lever mounted to swing in an arc, and a pivotal connection between said lever and said carrier, and means for opening and closing said jaws in timed relation to the actuation of said lever.

10. A machine for operating upon articles of cylindrical form having, in combination, endless belts arranged one above the other with the adjacent stretches of the belts arranged substantially in parallel relation and adapted to receive an article between them with both belts engaging the cylindrical surface of the article, means for driving the belts to cause their adjacent stretches to travel in opposite directions and at different speeds to cause the article to move in one direction longitudinally of the belts, blades extending across one of the belts for receiving

ing the article between them, and means for supporting said blades and moving them in the same direction and at substantially the same speed as the article is moved by the
5 action of said belts.

11. A machine for operating upon articles of cylindrical form having, in combination, upper and lower belts having their adjacent stretches arranged in parallel relation and
10 adapted to engage the cylindrical surface of articles when placed between them, means for driving the belts in the same direction but the lower belt at a greater speed than the upper belt, means comprising gripping
15 jaws for depositing an article upon the rear portion of the upper stretch of the lower belt so as to cause it to be passed between the belts, and devices for stripping the articles from the jaws during the retracting move-
20 ment of the jaws.

12. A machine for operating upon articles of cylindrical form having, in combination, upper and lower belts having their adjacent stretches arranged in parallel relation and
25 adapted to engage the cylindrical surface of an article when placed between them, means for driving the belts in the same direction but the lower belt at a greater speed than the upper belt, means comprising gripping
30 jaws for depositing an article upon the rear portion of the upper stretch of the lower belt so as to cause it to be passed between the belts, and latching devices adapted to be lifted by the article as it is presented to said
35 lower belt and serving as abutments for the article during the retraction of the jaws to strip the article from the jaws.

13. A machine for operating upon articles of cylindrical form having, in combination,
40 two pulleys arranged substantially in a horizontal plane and spaced apart in parallel relation, a belt passing over the pulleys, a second belt of resilient material extending tightly over the first belt so as to be carried
45 thereby, and a device for tensioning the first mentioned belt independently of the second-mentioned belt.

14. A machine for operating upon a package of cylindrical form having an inner
50 wrapper of waxed paper and an outer wrapper of foil having, in combination, devices for applying heat to the cylindrical surface of the foil wrapper to melt the wax of the waxed paper wrapper, and means for sub-
55 jecting the cylindrical surface of the package to a rolling pressure for a predetermined interval of time while the wax is cooling.

15. A machine for operating upon a package of cylindrical form having an inner
60 wrapper of waxed paper and an outer wrapper of foil with the ends of the two wrappers tucked in over the ends of the package having, in combination, devices for applying heat to the cylindrical surface and
65 tucked in ends of the foil wrapper to melt

the wax of the waxed paper wrapper, and means for subjecting the cylindrical surface and the ends of the package to pressure for a predetermined interval of time while the wax is cooling.

16. The method of operating upon a pack-
70 age of cylindrical form having an inner wrapper of waxed paper and an outer wrapper of foil which comprises applying heat to the cylindrical surface of the foil wrapper
75 to melt the wax of the waxed paper wrapper, and thereafter subjecting the cylindrical surface of the package to a rolling pressure for a predetermined interval of time while the wax is cooling.

17. A machine for operating upon an article of cylindrical form having, in combination, devices for applying heat to the cylindrical surface and the ends of the article, and means for subjecting the cylind-
85 rical surface of the article to a rolling pressure and for applying pressure to the ends of the article for a predetermined interval of time while the surface of the article is cooling.

18. A machine for operating upon articles of cylindrical form having, in combination, endless belts having adjacent stretches there-
90 of arranged substantially in parallel relation for receiving a plurality of articles between them with both belts engaging the cylindrical surfaces of the articles, means for driving the belts to cause their adjacent stretches to travel in opposite directions at
95 different speeds to cause the articles to move in one direction longitudinally of the belts, and means for maintaining the articles in predetermined positions with relation to one another as they move through the space be-
100 tween the belts.

19. A machine for operating upon a cylindrical package of hard candies or similar articles, having an inner wrapper of
105 waxed paper and an outer wrapper of foil having, in combination, means for applying heat to the foil wrapper to melt the wax of the waxed paper wrapper, and means for subjecting the cylindrical surface of the package to a rolling pressure while the wax is cooling comprising two pressure applying
110 belts arranged to receive the article between them, means for driving the belts to cause their adjacent stretches to travel in opposite directions and at different speeds to cause the article to move in one direction
115 longitudinally of the belts, said belts being made of resilient material to permit them to conform to irregularities in the cylindrical surface of the package.

20. A machine for operating upon an article of cylindrical form having, in combination, devices for heating the cylindrical
125 surface of the article, endless belts adapted to receive the article between them with both belts engaging the cylindrical
130

surface of the article, means for driving the belts to cause their adjacent stretches to travel in opposite directions and at different speeds to cause the article to move in one direction longitudinally of the belts, means for transferring the article from said heating device and presenting it in a predetermined position to the belts, and means for maintaining control of the article during its travel between the belts to cause it to be delivered at a given station at a predetermined interval of time after it has left said predetermined position.

21. A machine for operating upon articles having, in combination, a heating member movable to position an article carried thereby at a plurality of stations successively, a second heating member for cooperating with said first member to enclose the article when at one of said stations, and means for removing the article when at one of the other stations and substituting another article therefor.

22. A machine for operating upon articles of cylindrical form having, in combination,

two pulleys spaced apart in parallel relation, a belt passing over the pulleys, a second belt of resilient material extending tightly over the first belt so as to be carried thereby, and a device engaging one of the stretches of the first-mentioned belt extending between said pulleys for tensioning said belt independently of the second-mentioned belt.

23. A machine for operating upon articles having, in combination, cooling means for an article, a heating device movable to position an article carried thereby at a plurality of stations successively and acting to enclose the article when at one of said stations, means for removing the article when at one of the other stations and transferring it to said cooling means, and means for presenting another article to said device when at the last mentioned station.

In testimony whereof, I have signed my name to this specification this 8th day of December, 1925.

HARRY E. TOWNSEND.

CERTIFICATE OF CORRECTION.

Patent No. 1,719,404.

Granted July 2, 1929, to

HARRY E. TOWNSEND.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, line 9, for the word "belted" read "melted"; page 4, line 71, for "are" read "for"; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 30th day of July, A. D. 1929.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.

CERTIFICATE OF CORRECTION.

Patent No. 1,719,404.

Granted July 2, 1929, to

HARRY E. TOWNSEND.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, line 9, for the word "belted" read "melted"; page 4, line 71, for "are" read "for"; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 30th day of July, A. D. 1929.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.