

Oct. 27, 1953

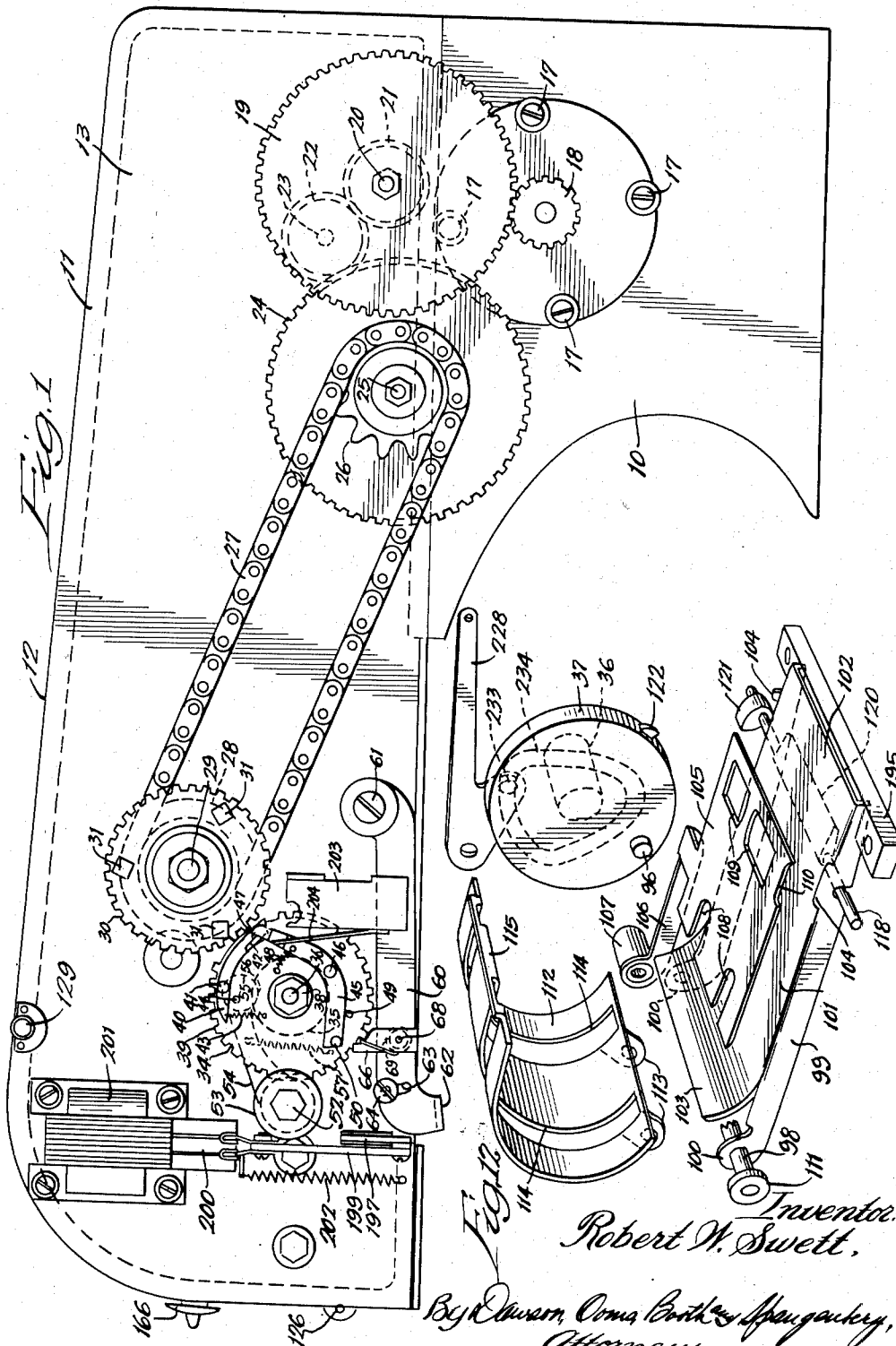
R. W. SWETT

2,656,944

MACHINE FOR IMPRINTING AND HEAT SEALING LABELS

Filed May 19, 1948

5 Sheets-Sheet 1



Inventor.
Robert W. Swett.

By *Clawson, Ooma Brothers & Spangenberg,*
Attorneys.

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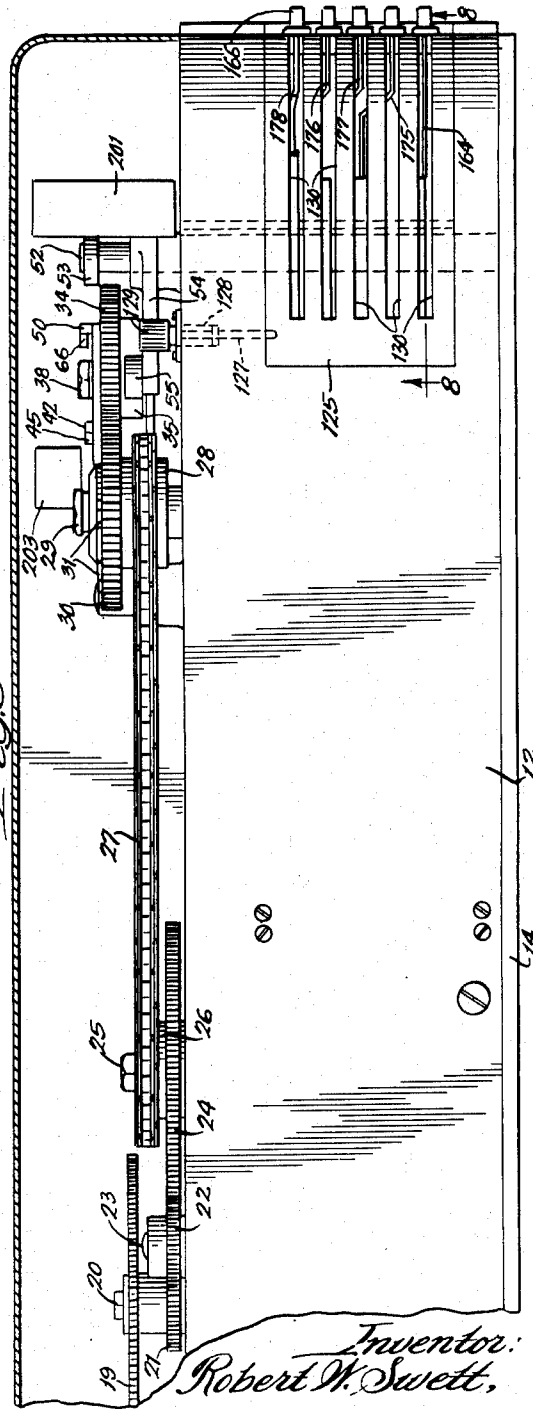
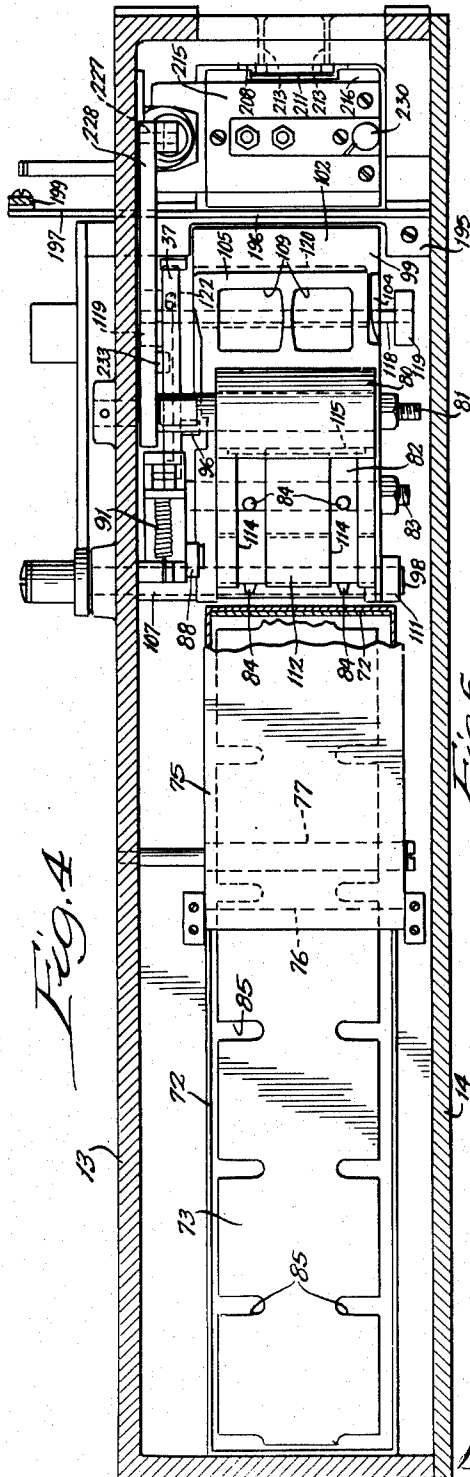
R. W. SWETT

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5 Sheets-Sheet 3



Inventor:
Robert W. Swett,
By Dawson, Orms, Brithen, Spangenberg,
Attorneys.

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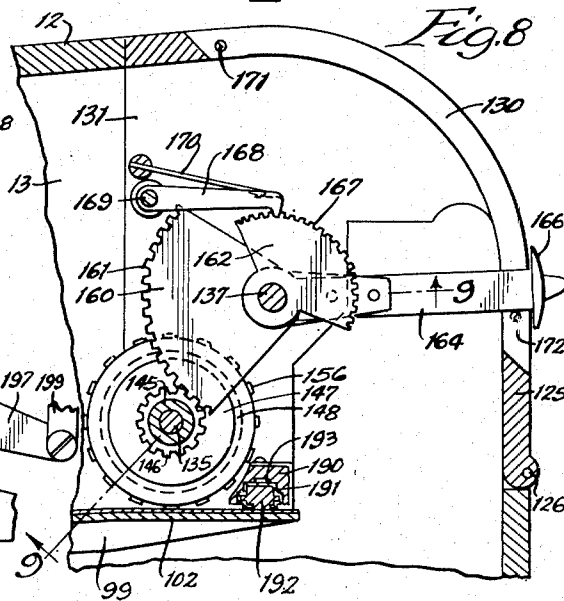
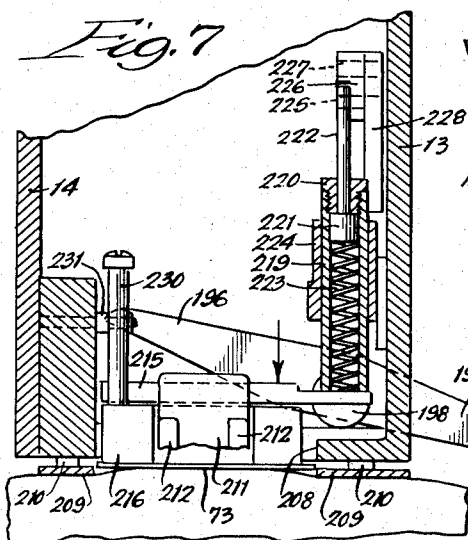
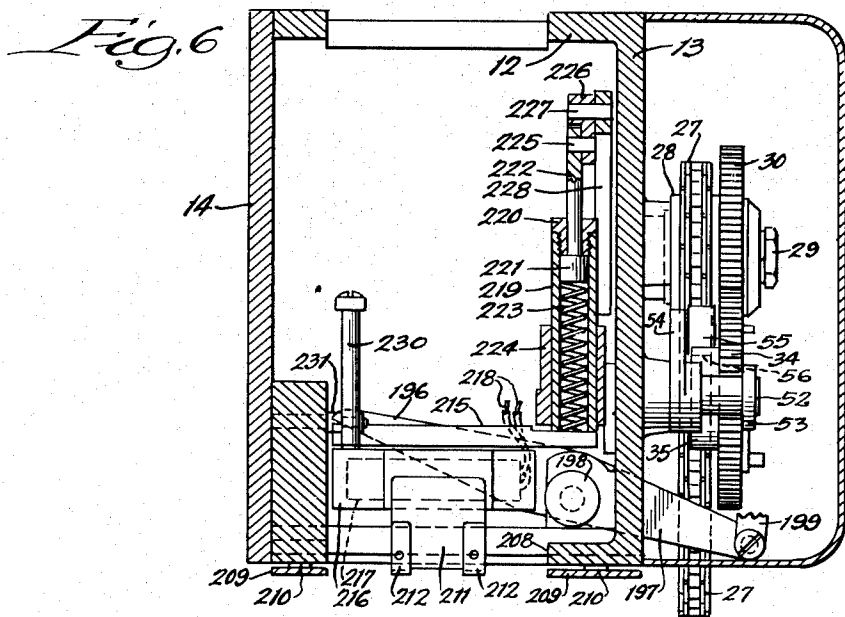
R. W. SWETT

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MACHINE FOR IMPRINTING AND HEAT SEALING LABELS

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5 Sheets-Sheet 4



Inventor:
Robert W. Swett,

By Dawson, Connors, Smith and Spangenberg,
Attorneys.

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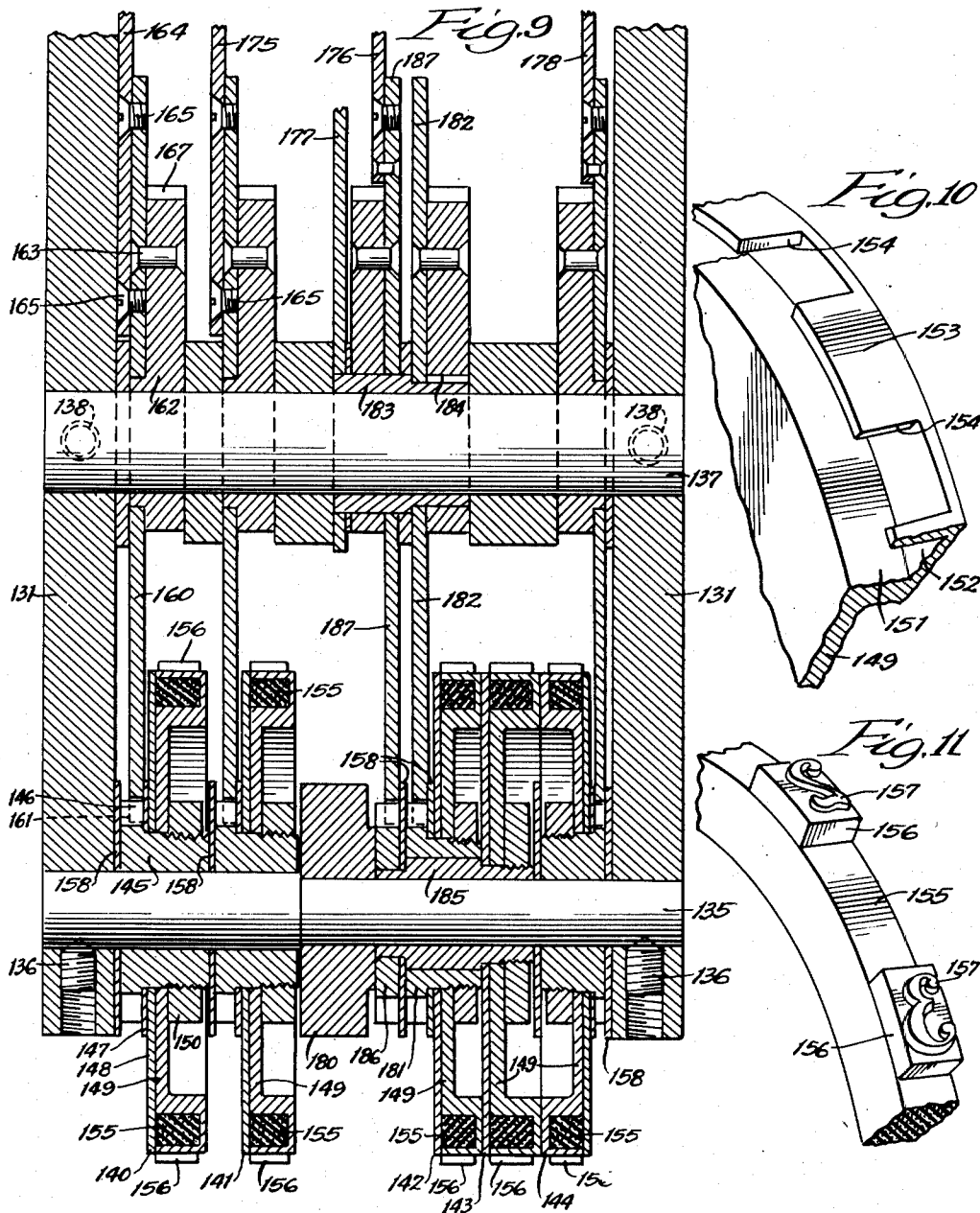
R. W. SWETT

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MACHINE FOR IMPRINTING AND HEAT SEALING LABELS

Filed May 19, 1948

5 Sheets-Sheet 5



Inventor:
Robert W. Swett.

By Dawson, Conn. Barth & Spangenberg,
Attorneys.

UNITED STATES PATENT OFFICE

2,656,944

MACHINE FOR IMPRINTING AND HEAT SEALING LABELS

Robert W. Swett, Flossmoor, Ill., assignor to American Tag Company

Application May 19, 1948, Serial No. 27,995

20 Claims. (Cl. 216—2)

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This invention is directed to a machine for selectively imprinting and heat sealing labels to objects and which has particular utility in applying labels with selected identifying data imprinted thereon to wrapped food products and the like.

In food stores, warehouses and the like it is presently customary manually to apply identifying data to labels such as the name of a food product, the date, the price, the weight and so forth and then manually apply such labels to the appropriately wrapped food products. Such a manual procedure is time consuming, tedious, exacting and expensive. By the use of the machine of this invention, imprinted labels with the desired data may be readily and accurately applied to wrapped objects in considerably less time, with less effort and with great saving in expense. It has been found that in some instances the time element has been decreased by 600 percent by the use of the machine of this invention and that alone affords a great saving in expense. The number of labels wasted and misapplied in the manual procedure has been decreased to substantially zero by the use of the machine of this invention, also, affording a great saving in expense.

The principal object of this invention is to provide a machine for selectively imprinting and sealing labels to objects wherein the printing mechanism thereof may be rapidly adjusted or rearranged to imprint desired information on the label and wherein the imprinted label is immediately sealed to the object. In this way the desired identifying data may be readily placed on objects for identifying the same even though each may vary from the other.

More specifically, the object of this invention is to provide a machine for selectively imprinting and heat sealing labels to objects wherein a strip of labels preferably in fan fold form are conveniently inserted in the machine, wherein the strip of labels is intermittently advanced through the machine by a simple feeding mechanism, wherein only the end label of the strip is selectively imprinted with the desired data by a simple and readily adjustable printing mechanism, wherein the imprinted end label is severed by a simple cut-off mechanism, wherein the severed imprinted label is readily applied to the object to be labeled by a simple heat sealing mechanism, wherein the various mechanisms of the machine are power operated in timed relation through an operating cycle by a simple power operated mechanism, and wherein the machine is operated through an operating cycle under

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the control of a trigger mechanism when an object to be labeled is placed against the machine.

Other objects of this invention reside in the details of construction of the feeding, printing, cut-off, heat sealing, power operated and trigger mechanisms of the machine and the cooperative relationship therebetween.

Further objects of this invention will become apparent to those skilled in the art upon reference to the accompanying specification, claims and drawing in which:

Figure 1 is a side elevational view of the machine of this invention with the cover removed;

Figure 2 is a side elevational view of the other side of the machine with the side plate removed;

Figure 3 is a front end elevational view of the machine with the cover shown in section and taken along the line 3—3 of Fig. 2;

Figure 4 is a horizontal sectional view taken substantially along the line 4—4 of Fig. 2;

Figure 5 is a top plan view of the machine with the cover shown in section;

Figure 6 is a vertical sectional view taken substantially along the line 6—6 of Fig. 2;

Figure 7 is a partial sectional view similar to Fig. 6 with the heat sealing plunger being lowered;

Figure 8 is a partial vertical sectional view taken substantially along the line 8—8 of Fig. 5;

Figure 9 is an enlarged sectional view taken substantially along the line 9—9 of Fig. 8;

Figure 10 is a partial perspective view of a portion of the print wheel;

Figure 11 is a partial perspective view of the porous ink storing material utilized in the printing wheel;

Figure 12 is an exploded perspective view of a portion of the machine illustrated in Fig. 2.

The machine of this invention for imprinting and heat sealing labels includes a substantially hollow base 10 carrying a hollow housing 11 having a top wall 12, a side wall 13 and a removable side wall 14.

Located within the hollow base member 10 is a motor 16 held in place by screws 17. The base portion may be suitably vented to prevent overheating of the motor. The motor shaft extends through the base 10 and is externally provided with a pinion 18 meshing with a gear 19 journaled at 20 to the side wall 13 of the housing 11. A pinion 21 connected to the gear 19 operates through an idler gear 22 journaled at 23 to drive a gear 24 journaled at 25 to the housing 11. The gear 24 carries a sprocket wheel 26 which is connected by a chain 27 to the sprocket wheel 28

journalled at 23 to the housing 11. Connected to the sprocket wheel 23 is a gear 30 provided with a plurality of abutments 31. Thus, as the motor 16 is operated, the gear 30 and the abutments 31 carried thereby are continuously rotated at the desired speed. A mutilated gear 34 provided with a hub 35 is secured by a nut 38 to a shaft 36 which is journaled in the side wall 13 of the housing. The inner end of the shaft 36 carries a disc 37 so that as the mutilated gear 34 is rotated the disc 37 is rotated therewith.

The gear 34 is peripherally provided with a plurality of teeth, but however is so mutilated that five adjacent teeth are omitted. Thus, when the gear 34 is in the position shown in Fig. 1 there is no engagement with the power driven gear 30 so that the gear 34 remains stationary.

A pawl 40 is pivoted at 41 to the side of the mutilated gear 34 and is provided with a latching surface 42. The spring 43 normally urges the outer end of the pawl 40 into the path of movement of the abutments 31, and the extent of such outward movement of the pawl is limited by a pin 44 carried by the mutilated gear. A latch 45 is pivoted at 46 to the side of the mutilated gear 34 and the outer end thereof is provided with a latching surface 47 engaging the latching surface 42 of the pawl. These latching surfaces operate to retain normally the pawl 40 in the position shown in Fig. 1. The latch 45 is urged into latching position by a spring 48 and the amount of movement of the latch is limited by a pin 49 carried by the mutilated gear. The opposite end of the latch 45 is provided with a laterally extending pin 50 for the purpose of releasing the latch to allow the pawl 40 to be extended outwardly into the path of the movement of the abutments 31.

A pin 52 carried by the side wall 13 of the housing carries a roller 53 in alignment with the pawl 40 for the purpose of relatching the pawl. The pin 52 also carries an arm 54 which in turn is provided with a roller 55 engageable in a notch 56 in the hub 35 of the mutilated gear, the roller 55 being pressed against the hub 35 by means of a spring 57. The roller 55 cooperating with the notch 56 resiliently retains the mutilated gear 34 in the position shown in Fig. 1 out of mesh with the power driven gear 30.

A trigger mechanism 60 is pivoted to the housing by a pin 61 carried by the side plate 12. It has a transverse portion 62 extending underneath the machine to be engaged by an object when it is desired to heat seal a label thereon. The extent of movement of the trigger mechanism 60 is limited by a slot 63 and cooperating pin 64 on one side of the machine. The trigger is also guided on the other side of the machine by a pin 65. A trip lever 66 is pivotally secured at 68 to the trigger 60 and is urged in a counter-clockwise direction to the position shown by a spring 69.

When the trigger mechanism is pressed upwardly the trip lever 66 engages the pin 50 of the latch 45 to release the latching surfaces 42 and 47 whereupon the pawl 40 swings outwardly into the path of movement of the abutments 31. One of the abutments 31 then engages the end of the pawl 40 to cause rotation of the mutilated gear 34 and after a slight rotation the gear teeth of the gears 30 and 34 mesh to cause continued rotation of the mutilated gear. As the mutilated gear 34 is thus rotated, the pawl 40 is returned to its original position by the roller 53 and is latched in position by engagement of the

latching surfaces 42 and 47. The gear continues to rotate until the gear teeth disengage whereupon rotation of the mutilated gear 34 is interrupted, and the mutilated gear is centered in the correct position by the action of the spring pressed roller 55 cooperating with the notch 56 in the hub 35. In this way rotation of the mutilated gear 34 through 360° is provided under the control of the trigger mechanism. If the trigger mechanism should be held up for a period of time greater than that required for a single rotation of the mutilated gear 34, the pin 43 below the latch 45 causes the trip lever 66 to pivot about its pivot 68 so that the latch is not tripped and more than one rotation of the mutilated gear 34 is prevented. In order to repeat the cycle of operation it is necessary for the trip mechanism 60 to be lowered and again raised. Thus, when the trip mechanism 60 is raised the mutilated gear 34 is driven through one complete revolution and is then stopped and it cannot again be driven through another complete revolution until the trigger mechanism 60 is again operated. One complete revolution of the mutilated gear 34 causes one complete revolution of the disc 37 within the housing. The mutilated gear 34 and the connected disc 37 form a power operated mechanism for operating the feeding mechanism, the printing mechanism, the cut-off mechanism and the heat sealing mechanism in timed relation. This power driven mechanism is under the control of the trigger mechanism.

The housing 11 as shown in Figs. 2 and 4 is internally provided with a storage compartment 72 for a strip of labels 73, the label strip preferably being in fan fold form. The storage compartment 72 is provided with a feeding surface 74 over which the label strip is fed. A tension lever 75 is pivoted to the housing at 76 and due to its weight frictionally grips the label strip between its end and the feeding surface 74. This tension lever 75 therefore provides for even feeding of the label strip from the storage compartment 72. Located above the storage compartment 72 is a pin 77 over which the label strip is advanced. The purpose of the pin 77 is to lift the label strip substantially vertically from the fan fold pack so that the feeding notches 85 in the label strip do not interfere with each other as the labels are being fed. The labels in the label strip 73 are preferably formed of paper which is provided with a suitable thermoplastic heat seal coating.

A free running guide roller 80 is rotatably carried by a shaft 81 secured to the housing and the label strip courses the guide roller 80 during its advancing movement. The label strip 73 is advanced by a feed roller 82 journaled on a shaft 83 carried by the housing. The feed roller 82 is provided with peripheral feed pins 84 for engaging in the notches 85 of the label strip. Thus, as the feed roller 82 is rotated the pins 84 operate to advance the label strip.

One side of the feed roller 82 is provided with a plurality of radial grooves 86 which are flared at their ends 87. The flared ends 87 are adapted to receive a roller 88 carried by an arm 89 pivoted to the housing at 90. A spring 91 connected to the arm 89 causes the roller 88 to enter the flared ends 87 of the radial grooves 86 for the purpose of centering the feed roller 82 as it is intermittently advanced. The feed roller is provided with an adjustment mechanism including grooves 93 and screws 94 whereby the periphery

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of the feed roller may be adjusted with respect to the side walls thereof for the purpose of adjusting the positions of the feed pins 84 with respect to the radial grooves 86. In this way the position of the label strip as it is intermittently advanced may be accurately pre-determined.

The feed roller 82 is intermittently advanced $\frac{1}{4}$ of a revolution by a pin 96 carried by the disc 37. As the disc 37 is rotated in a clockwise direction through one revolution, the pin 96 enters one of the radial grooves 86 and rotates the feed roller 82 through 90°, the ultimate position of the feed roller being pre-determined by the action of the roller 83 in the flared ends 87 of the radial grooves. In this way the disc 37 operates in the nature of a Geneva motion to impart intermittent rotation to the feed roller.

A shaft 98 is also carried by the housing 11 adjacent the feed roller 82 and this shaft carries a platen 99 by means of rearwardly extending ears 100. The platen 99 is provided with a guide surface 101 and a printing surface 102 which is angularly displaced with respect to the guide surface. The angular displacement is for the purpose of presenting in a level fashion the labels to the printing mechanism. The rear end of the platen 99 is curved upwardly at 103 for assisting in the guidance of the label strip. The platen is also provided with upstanding arms 104 for guiding the label strip as it passes over the platen.

A guiding plate 105 is located above the platen 99 for holding the advancing label strip in engagement with the guide surface 101 of the platen. In this connection the guide plate 105 is provided with an extension 106 which is journaled at 107 on the shaft 98. The guide plate 105 is provided with a pair of notches 108 to permit the passage of the feeding pins 84 and is also provided with a pair of openings 109 through which a portion of the printing mechanism may imprint the labels. The guide plate 105 is also provided with a recess 110 for accommodating one of the upstanding arms 104 of the platen 99. The guide plate 105 cooperates with the platen 99 to provide a positive mechanism for controlling the advance of the label strip from the feeding roller 82 to the printing and cut-off mechanisms. The platen and guide plate may be maintained on the shaft 98 by a suitable collar 111.

In order to retain the label strip 73 in engagement with the feed roller 82 a curved guide strip 112 provided with arms 113 is also carried by the shaft 98. This feed strip is provided with openings 114 for accommodating the feed pins 84 and the various parts of the strip are bridged by a bridge portion 115. The curved portion 103 of the platen 99 forms an extension of the guide strip 112.

A shaft 113 is journaled at 119 underneath the platen 99 and is provided with a cam surface 120 for engaging the bottom of the platen 99 for raising the same about the shaft 98. The shaft 113 also carries a cam 121 which is adapted to be engaged by a projection 122 on the periphery of the disc 37. Thus, when the disc 37 is rotated the projection 122 engages the cam 121 rotating the shaft 113 to cause the cam 120 to raise the platen 99 to cause imprinting of the label thereon. A spring 123 urges the platen 99 downwardly into engagement with the cam 120.

The printing mechanism for imprinting the labels is carried by a sub-frame 125 fitting in the forward end of the housing and pivoted to the housing by a shaft 126. A pin 127 (Fig. 5) ex-

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tends through the housing to engage a hole in the sub-frame 125 and is urged into engagement with the sub-frame 125 by a spring 128. A knob 129 carried by the pin 127 may be utilized for retracting the pin 127 to permit pivoting of the sub-frame 125 out of the housing 11. The sub-frame 125 is provided with a plurality of slots 130 through which extend adjusting levers. The sub-frame is also provided with a pair of spaced internally extending flanges 131 for supporting the printing mechanism.

A pair of shafts 135 and 137 are carried between the flanges 131 and are held in place by set screws 136 and 138. These two shafts carry the adjustable printing mechanism.

As illustrated, the printing mechanism includes five print wheels 140, 141, 142, 143 and 144, respectively, and the construction of each of these print wheels is substantially the same. For example, the print wheel 140 includes a hub 145 rotatably mounted on the shaft 135, the hub being provided with a shoulder and screw threads, and the shoulder in turn being provided with gear teeth 146. Located on the hub 145 is a spacing washer 147, a disc 148, a second disc 149 and a clamping nut 150. The second disc 149 is flared outwardly at 151 and 152 and inwardly at 153 to provide an annular recess therein. The periphery 153 of the disc 149 is provided with a plurality of circumferentially spaced openings 154. A strip of porous ink storing material 155 is located within the annular recess and is provided with a plurality of porous protrusions extending through the spaced openings 154 in the periphery of the disc and these protrusions are provided with printing characters 157. The disc 148 clamped to the disc 149 operates to retain the strip of porous ink storing material within the annular recess. The spaced openings 154 in the periphery of the printing wheel operate to locate accurately the porous protrusions and to limit the amount of porous material exposed to the atmosphere. The porous material is such that it absorbs and stores a large quantity of ink and it is found that many thousands of imprinting operations may be readily obtained thus, eliminating the necessity of inking pads, ink ribbons, etc. In order to permit free rotation of the print wheels on the shaft 135 suitable spacing washers 158 are provided.

A gear sector 160 is provided with teeth 161 meshing with the gear teeth of the hub 145 for the purpose of rotating the latter. The gear sector 160 is secured to a hub 162 by rivets 163 and a handle 164 in turn is secured to the gear sector 160 by screws 165. The hub 162 rotatably mounted on the shaft 137 is provided with teeth 167 which are engaged by a detent 168 pivoted at 169 and urged into engagement with the teeth by a spring 170. The handle 164 extends outwardly through one of the slots 130 in the sub-frame and is externally provided with a knob 166. The handle 164 may be manually manipulated by the knob 166 and in so manipulating the same, the print wheel through the meshing teeth 146 and 161 is adjusted to the desired position. The detent 168 and associated teeth 167 operate to position the handle 164 and hence the print wheel in accurately predetermined positions. The extent of movement of the handle 164 may be limited by stop pins 171 and 172 extending through the slots 130.

The adjusting mechanism including the handle 164 are substantially repeated for each print wheel and the handles for these adjusting mech-

anisms are designated at 175, 176, 177 and 178 respectively.

The print wheels 141 and 144 and the mechanisms between their associated handles 175 and 178 are the same as those of the print wheel 140 while the print wheels 142 and 143 and the mechanisms between them and their associated handles 176 and 177 are substantially the same. In this latter connection the print wheel 142 is carried by a hub 181 which is journaled on a hub 185. The hub 181 is driven by the gear sector 182 which is keyed to a hub 183 by a key 184. The operating lever 177 is staked to the hub 183. The print wheel 143 is carried by a hub 185 which has a gear 186 staked thereto. The gear 186 meshes with a gear sector 187 which in turn carries the adjusting lever 176. Thus, the relationship between the print wheels 142 and 143 and their associated handles 177 and 176 remains the same even though the operative connections therebetween are reversed.

There is thus provided a fully adjustable print wheel mechanism including five print wheels, as illustrated, and five correspondingly located adjusting levers whereby the print wheels may be individually adjusted to cause desired printing characters to be printed upon the label. When a label is advanced underneath the print wheels, it is raised into engagement with the print wheels by the platen, the print characters of the print wheels printing the label through the openings 109 in the guide plate.

Adjacent the print wheels there is located an elongated receptacle 190 open at the bottom and provided with grooves in the opposite sides thereof. A removable printing slug 191 is adapted to be slid into the receptacle from the side of the machine and this printing slug includes a metallic channel having internal grooves in the opposite sides thereof and corresponding external ridges receivable in the grooves of the receptacle. A strip of porous ink-storing material 192 is received within the channel and is provided with tongues for engaging in the internal grooves of the channel whereby the strip of porous material 192 is retained within the channel. The strip of porous material is provided with porous protrusions extending through the bottom opening of the channel and the receptacle and provided with printing characters at the extremities thereof. A leaf spring 193 in the receptacle resiliently retains the channel in place therein. Printing slugs having different printing characters thereon may be readily substituted in the receptacle. When the label carried by the platen is raised the printing slug in addition to the print wheels imprints the label, the printing slug imprinting the label extending beyond the end of the guide plate 105.

The cut-off mechanism includes an anvil 195 located at the end of the platen 99 and a knife 196 cooperates with the anvil 195 for severing the end label from the strip. The knife 196 is provided with an extension 197 and is pivoted to the housing at 198. A link 199 connects the end of the extension 197 to an armature 200 of a solenoid 201. A spring 202 maintains the knife 196 retracted and when the solenoid 201 is energized the knife 196 is advanced against the action of the spring. The solenoid 201 is electrically connected to an electric switch 203 having an operating lever 204. The lever 204 is engaged by the pin 49 on the mutilated gear 34 so that when the mutilated gear 34 is rotated the lever 204 is operated to close momentarily the electric switch

203 for momentarily energizing the solenoid 201. This provides a rapid operation of the knife 196 to sever quickly the end label from the label strip. The armature 200 of the solenoid may be provided with a buffer spring 205.

The outer bottom edge of the housing is provided with an opening 208 corresponding generally to the size of the severed label and a face plate 209 having a similar opening which is secured to and spaced from the housing by spacers 210. The housing is, also, provided with a guide 211 held in place by spring clamps 212 and screws 213 for centering the labels in the opening 208.

A bracket 215 carrying a heated plunger 216 is vertically, movably mounted in the housing above the opening 209. The plunger 216 includes a heating element 217 and a conventional thermostat electrically connected by wires 218 to a source of electric energy. In this way the plunger 216 is maintained at a relatively constant heat-sealing temperature. The bracket carrying the plunger is in turn carried by a sleeve 219 provided with a cap 220. A head 221 carried by a rod 222 is received in the sleeve 219. A spring 223 in the sleeve 219 normally holds the head 221 in engagement with the cap 220. The spring and head provide a one way strain release connection between the sleeve 219 and the rod 222. The sleeve 219 is guided for vertically reciprocating movement in a bearing 224 carried by the housing. The upper end of the rod 222 is connected by a pin 225 to a link 226 which in turn is connected by a pin 227 to a lever 228 pivoted on the shaft 81. The bracket 215 also carries a guide 230 cooperating with rollers 231 carried by the housing so that the bracket 215 is guided in its movement at both ends.

The heated plunger 216 is, therefore, reciprocated upwardly and downwardly through the opening 209 when the lever 228 is oscillated. Downward movement of the heated plunger 216 engages the severed label carried by the face plate 209, heats the label and heat seals it to an object placed against the face plate 209 as illustrated in Fig. 7.

The lever 228 for operating the heat sealing plunger is provided with a pin 233 fitting in a box cam 234 formed in the side of the disc 37 so that as the disc 37 is rotated through one revolution, the heated plunger is advanced and retracted. The strain release connection prevents danger to the heat sealing mechanism in the event that complete advancing movement of the plunger is prevented.

The operation of the imprinting and heat sealing machine is as follows:

A strip of labels is placed in the storage compartment and is inserted over the feeding mechanism and between the printing mechanism and platen. The printing mechanism is adjusted to provide for the desired imprinting and the circuit to the heat sealing mechanism is completed for heating the plunger up to heat sealing temperature. The electric motor for driving the machine is placed in operation. The object to be labelled is placed against the face plate and the trigger mechanism is thereby operated to provide rotation of the mutilated gear 34 and disc 37 through one revolution. During the first part of this revolution, the projection 122 on the disc 37 first operates the platen 99 to cause imprinting only of the end label. The pin 95 on the disc 37 then enters a radial groove 86 in the feed roller to advance the strip of labels the distance of one label whereupon the imprinted end

label is moved into the opening beneath the heated plunger. The pin 49 on the mutilated gear 34 then operates the switch 203 which in turn energizes the solenoid 201 for operating the cut-off mechanism to sever the imprinted end label. The box cam 234 then operates the heated plunger to move the same downwardly to heat the severed imprinted label and force it through the opening in the face plate onto the object resting against the face plate. In this way the severed imprinted label is heat sealed to the object. The plunger is then retracted and the parts are in the position for another cycle of operation.

While for purposes of illustration one form of this invention has been disclosed, other forms thereof may become apparent to those skilled in the art upon reference to this disclosure, and therefore, this invention is to be limited only by the scope of the appended claims.

I claim:

1. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object.

2. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, and a trigger mechanism adjacent the heat sealing mechanism for operating the power operated mechanism through the operating cycle when the object is placed adjacent the heat sealing mechanism.

3. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the

cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving gear, a mutilated gear normally disengaged from the power driven driving gear but adapted to be rotated into mesh therewith to be driven thereby, an abutment on the power driven driving gear, a pawl carried by the mutilated gear and biased into the path of the abutment, a latch carried by the mutilated gear for holding the pawl retracted from the path of the abutments, a trigger for operating the latch to release the pawl for engagement by the abutment to rotate the mutilated gear into mesh with the power driven driving gear, a member for retracting and relatching the pawl after meshing of the gears to terminate rotation of the mutilated gear at the end of one cycle and connections between the mutilated gear and the printing, feeding, cut-off and heat sealing mechanisms for operating the same in timed relation.

4. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving gear, a mutilated gear normally disengaged from the power driven driving gear but adapted to be rotated into mesh therewith to be driven thereby, an abutment on the power driven driving gear, a pawl carried by the mutilated gear and biased into the path of the abutment, a latch carried by the mutilated gear for holding the pawl retracted from the path of the abutments, a trigger for operating the latch to release the pawl for engagement by the abutment to rotate the mutilated gear into mesh with the power driven driving gear, a member for retracting and relatching the pawl after meshing of the gears to terminate rotation of the mutilated gear at the end of one cycle, connections between the mutilated gear and the printing, feeding, cut-off and heat sealing mechanisms for operating the same in timed relation, and a device adjacent the heat sealing mechanism to be engaged by the object for operating the trigger when the object is placed adjacent the heat sealing mechanism.

5. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip

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of labels, feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving member, a driven member, a clutch between the driving member and the driven member for operating the latter through one cycle and connections between the driven member and the printing, feeding, cut-off and heat sealing mechanisms for operating the same in timed relation.

6. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanism in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving member, a driven member, a clutch between the driving member and the driven member for operating the latter through one cycle and connections between the driven member and the printing, feeding, cut-off and heat sealing mechanisms for operating the same in timed relation, and a trigger mechanism adjacent the heat sealing mechanism to be engaged by the object for engaging the clutch when the object is placed adjacent the heat sealing mechanism.

7. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanism in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a member

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driven through a cycle, a connection between the driven member and the printing mechanism for imprinting only the end label during the first portion of the cycle, a connection between the driven member and the feeding mechanism for advancing the strip of labels and the imprinted end label during the next portion of the cycle, a connection between the driven member and the cut-off mechanism for severing the advanced imprinted end label during the next portion of the cycle and a connection between the driven member and the heat sealing mechanism for heat sealing the imprinted severed label to the object.

8. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving member, a driven member, a clutch between the driving member and the driven member for operating the latter through one cycle, a connection between the driven member and the printing mechanism for imprinting only the end label during the first portion of the cycle, a connection between the driven member and the feeding mechanism for advancing the strip of labels and the imprinted end label during the next portion of the cycle, a connection between the driven member and the cut-off mechanism for severing the advanced imprinted end label during the next portion of the cycle and a connection between the driven member and the heat sealing mechanism for heat sealing the imprinted severed label to the object.

9. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving member, a driven member, a clutch between the driving member and the driven member for operating the latter through one cy-

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cle, a connection between the driven member and the printing mechanism for imprinting only the end label during the first portion of the cycle, a connection between the driven member and the feeding mechanism for advancing the strip of labels and the imprinted end label during the next portion of the cycle, a connection between the driven member and the cut-off mechanism for severing the advanced imprinted end label during the next portion of the cycle, a connection between the driven member and the heat sealing mechanism for heat sealing the imprinted severed label to the object, and a trigger mechanism adjacent the heat sealing mechanism to be engaged by the object for engaging the clutch when the object is placed adjacent the heat sealing mechanism.

10. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving gear, a mutilated gear normally disengaged from the power driven driving gear but adapted to be rotated into mesh therewith to be driven thereby, an abutment on the power driven driving gear, a pawl carried by the mutilated gear and biased into the path of the abutment, a latch carried by the mutilated gear for holding the pawl retracted from the path of the abutment, a trigger for operating the latch to release the pawl for engagement by the abutment to rotate the mutilated gear into mesh with the power driven driving gear, a member for retracting and relatching the pawl after meshing of the gears to terminate rotation of the mutilated gear at the end of one cycle, a connection between the driven member and the printing mechanism for imprinting only the end label during the first portion of the cycle, a connection between the driven member and the feeding mechanism for advancing the strip of labels and the imprinted end label during the next portion of the cycle, a connection between the mutilated gear and the cut-off mechanism for severing the advanced imprinted end label during the next portion of the cycle, and a connection between the mutilated gear and the heat sealing mechanism for heat sealing the imprinted severed label to the object.

11. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of

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labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object, said power operated mechanism including a power driven driving gear, a mutilated gear normally disengaged from the power driven driving gear but adapted to be rotated into mesh therewith to be driven thereby, an abutment on the power driven driving gear, a pawl carried by the mutilated gear and biased into the path of the abutment, a latch carried by the mutilated gear for holding the pawl retracted from the path of the abutment, a trigger for operating the latch to release the pawl for engagement by the abutment to rotate the mutilated gear into mesh with the power driven driving gear, a member for retracting and relatching the pawl after meshing of the gears to terminate rotation of the mutilated gear at the end of one cycle, a connection between the driven member and the printing mechanism for imprinting only the end label during the first portion of the cycle, a connection between the driven member and the feeding mechanism for advancing the strip of labels and the imprinted end label during the next portion of the cycle, a connection between the mutilated gear and the cut-off mechanism for severing the advanced imprinted end label during the next portion of the cycle, a connection between the mutilated gear and the heat sealing mechanism for heat sealing the imprinted severed label to the object, and a device adjacent the heat sealing mechanism to be engaged by the object for operating the trigger when the object is placed adjacent the heat sealing mechanism.

12. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels and including a knife, a solenoid for operating the knife and a switch for controlling the solenoid, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object.

13. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels and including adjustable printing type and a platen movable toward and away from the printing type, a feeding mechanism for advancing the strip of labels one at a time through the printing mechanism, a cut-off mechanism adjacent the

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printing mechanism for severing the imprinted end label from the end of the strip of labels, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto, and power operated mechanism for intermittently operating the printing, feeding, cut-off and heat sealing mechanisms in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object.

14. A machine for selectively imprinting labels and heat sealing the same to objects comprising, an adjustable printing mechanism for imprinting one at a time only the end label of a strip of labels and including adjustable printing type and a platen movable toward and away from the printing type, a feeding mechanism for advancing the strip of labels one at a time over the platen to be moved by the platen into printing engagement with the printing type and including a feed roll and guide for directing the strip of labels onto the platen, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label from the end of the strip of labels and including a knife, a solenoid for operating the knife and a switch for controlling the solenoid, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to an object placed adjacent thereto and including a heated plunger for engaging the severed imprinted label and forcing it against the object, and power operated mechanism for intermittently operating the platen of the printing mechanism, the feed roll of the feeding mechanism, the switch of the cut-off mechanism and the plunger of the heat sealing mechanism in timed relation through an operating cycle to imprint only the end label of the strip of labels, to advance the strip of labels and the imprinted end label, to sever the imprinted end label and to heat seal the severed imprinted label to the object.

15. A machine for heat sealing detached labels to objects comprising, a face plate having an opening substantially conforming to the detached label and adapted to pass an interposed detached label therethrough onto an object placed against the face plate, a heated movable plunger for engaging and passing the interposed detached label through the opening in the face plate and heat sealing the same to the object placed against the face plate, a power operated mechanism for moving the heated plunger, and a strain release connection between the power operated mechanism and the plunger.

16. A machine for heat sealing detached labels to objects comprising, a face plate having an opening substantially conforming to the detached label and adapted to pass an interposed detached label therethrough onto an object placed against the face plate, a heated movable plunger for engaging and passing the interposed detached label through the opening in the face plate and heat sealing the same to the object placed against the face plate, a power operated mechanism for moving the heated plunger, and a trigger mechanism adjacent the face plate to be engaged by the object placed thereagainst for controlling the operation of the power operated mechanism.

17. A machine for selectively imprinting labels and heat sealing the same to objects comprising,

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a feeding mechanism for intermittently advancing a strip of labels the distance of one label and including a rotary feed roll, a plurality of radially extending grooves in one side of the feed roll, a rotary member and a pin carried by the rotary disc for entering and withdrawing from each radial groove successively to provide intermittent rotation of the feed roll, an adjustable printing mechanism adjacent the feed mechanism for imprinting one at a time only the end label of the strip of labels advanced by the feeding mechanism and including a plurality of print wheels rotatably mounted on a common axis and each having peripherally arranged printing characters, adjusting means for the print wheels for adjustably positioning the same, a movable platen for carrying and guiding the end label of the advancing strip of labels adjacent the print wheels, a cam for moving the platen toward the print wheels for imprinting the end label carried thereby and a pin on said rotary member for operating the cam to cause the printing mechanism to operate in timed relation to the feeding mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label of the strip of labels and including a knife, a solenoid for operating the knife, a switch for controlling the solenoid and a pin on the rotary member for operating the switch to cause the cut-off mechanism to operate in timed relation to the feeding mechanism and printing mechanism, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to the object and including a face plate having an opening substantially conforming to the severed imprinted label, a heated movable plunger for passing the severed imprinted label through the opening in the face plate and heat sealing the same to the object placed against the face plate and a cam on said rotary member for moving the plunger to cause the heat sealing mechanism to operate in timed relation to the feeding mechanism, the printing mechanism and the cut-off mechanism.

18. A machine for selectively imprinting labels and heat sealing the same to objects comprising, a feeding mechanism for intermittently advancing a strip of labels the distance of one label and including a rotary feed roll, a plurality of radially extending grooves in one side of the feed roll, a rotary member and a pin carried by the rotary disc for entering and withdrawing from each radial groove successively to provide intermittent rotation of the feed roll, an adjustable printing mechanism adjacent the feed mechanism for imprinting one at a time only the end label of the strip of labels advanced by the feeding mechanism and including a plurality of print wheels rotatably mounted on a common axis and each having peripherally arranged printing characters, adjusting means for the print wheels for adjustably positioning the same, a movable platen for carrying and guiding the end label of the advancing strip of labels adjacent the print wheels, a cam for moving the platen toward the print wheels for imprinting the end label carried thereby and a pin on said rotary member for operating the cam to cause the printing mechanism to operate in timed relation to the feeding mechanism, a cut-off mechanism adjacent the printing mechanism for severing the imprinted end label of the strip of labels and including a knife, a solenoid for operating the knife, a switch for controlling the solenoid and a pin on the rotary member for operating the switch to cause

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the cut-off mechanism to operate in timed relation to the feeding mechanism and printing mechanism, a heat sealing mechanism adjacent the cut-off mechanism for heat sealing the severed imprinted label to the object and including a face plate having an opening substantially conforming to the severed imprinted label, a heated movable plunger for passing the severed imprinted label through the opening in the face plate and heat sealing the same to the object placed against the face plate, a cam on said rotary member for moving the plunger to cause the heat sealing mechanism to operate in timed relation to the feeding mechanism, the printing mechanism and the cut-off mechanism, a power operated mechanism and a trigger mechanism for coupling the power operated mechanism to the rotary member for an operating cycle including a trigger adjacent the face plate to be engaged by the object placed thereagainst for imprinting and heat sealing a label thereto.

19. A machine for feeding labels from a strip, selectively imprinting the labels and sealing the same to objects comprising a cut-off mechanism for severing a label from the end of the strip of labels, an adjustable printing mechanism for imprinting the labels one at a time, a sealing mechanism for sealing the imprinted and severed labels to an object placed adjacent thereto, a feeding mechanism for advancing the labels through the cut-off mechanism and the printing mechanism to the sealing mechanism, power operated mechanism for intermittently operating the cut-off, printing, sealing and feeding mechanisms in timed relation through an operating cycle to seal the label which was imprinted during that operating cycle to the object, and a trigger mechanism adjacent the heat sealing mechanism for operating the power operated mechanism through the operating cycle when the object is placed adjacent the heat sealing mechanism.

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20. A machine for feeding labels from a strip, selectively imprinting the labels and sealing the same to objects comprising, a cut-off mechanism for severing a label from the end of the strip of labels, an adjustable printing mechanism for imprinting the labels one at a time, a sealing mechanism for sealing the imprinted and severed labels to an object placed adjacent thereto, a feeding mechanism for advancing the labels through the cut-off mechanism and the printing mechanism to the sealing mechanism, power operated mechanism for intermittently operating the cut-off, printing, sealing and feeding mechanisms in timed relation through an operating cycle to seal the label which was imprinted during that operating cycle to the object, said power operated mechanism including a power driven driving member, a driven member, a clutch between the driving member and the driven member for operating the latter through one cycle and connections between the driven member and the printing, feeding, cut-off and heat sealing mechanisms for operating the same in timed relation.

ROBERT W. SWETT.

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