Nov. 16, 1943. L. B. EATON 2,334,256

METHOD OF AND APPARATUS FOR MAKING BAGS

Filed March 25, 1942 3 Sheets-Sheet 1

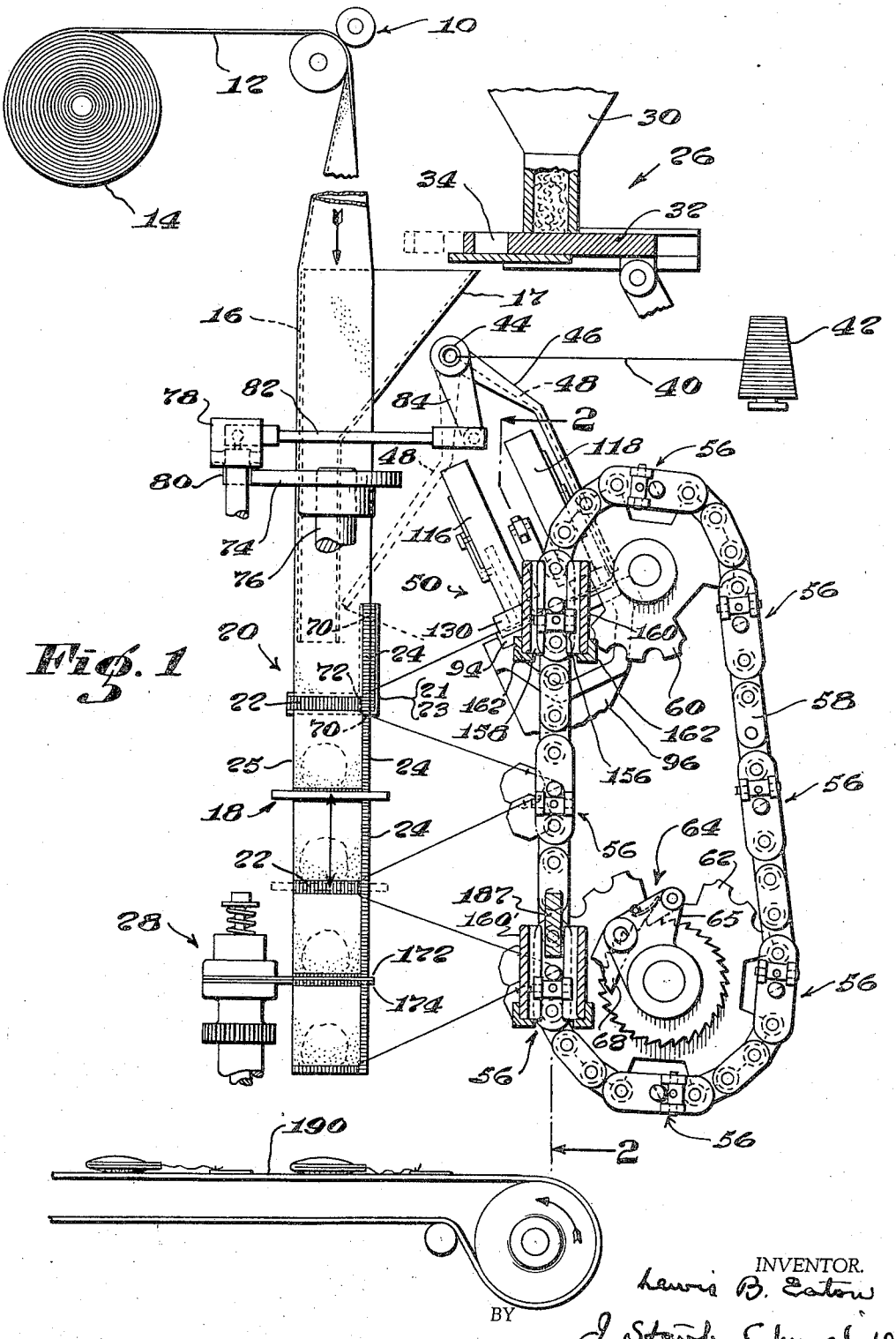

Fig. 1

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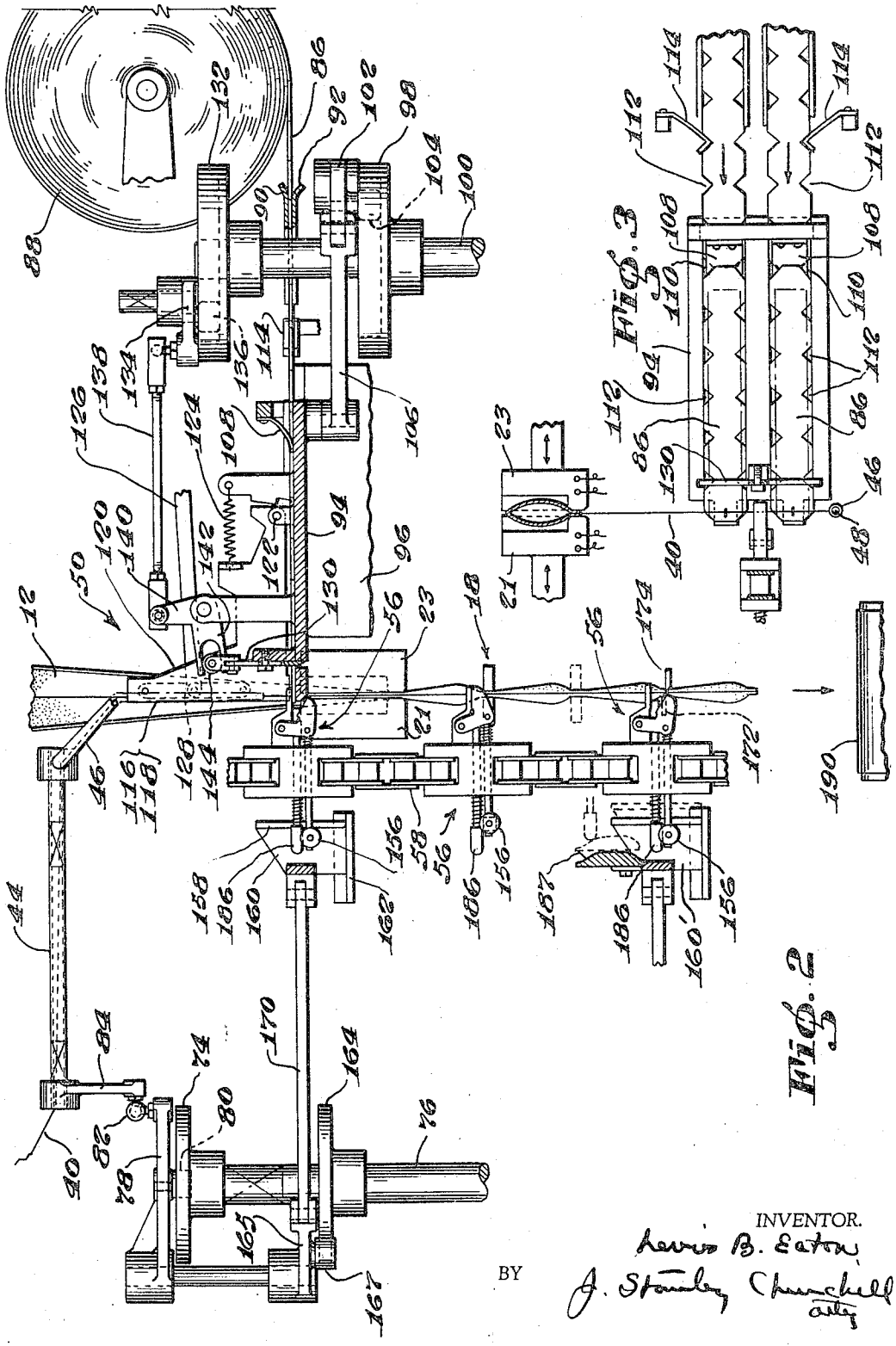

FIG. 2

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METHOD OF AND APPARATUS FOR MAKING BAGS

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Fig. 4

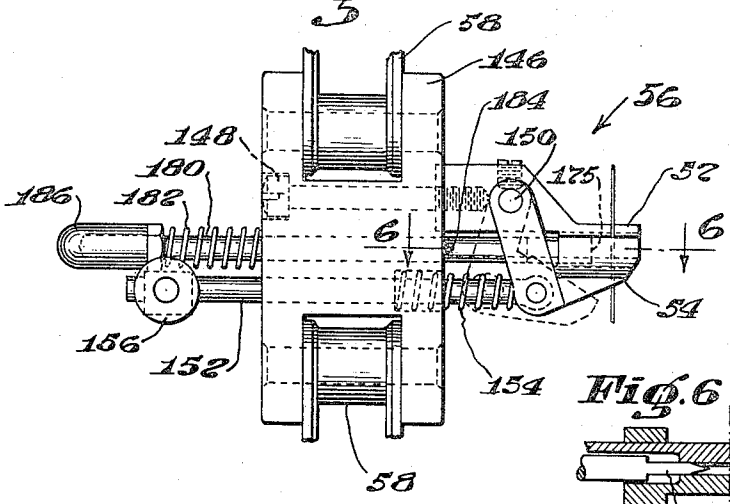


Fig. 5

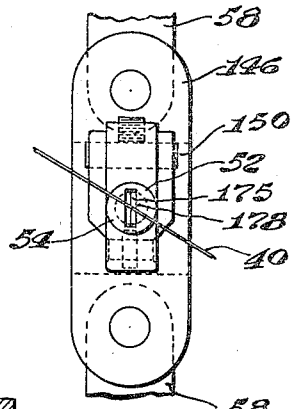


Fig. 6

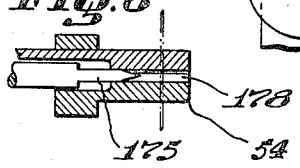


Fig. 7

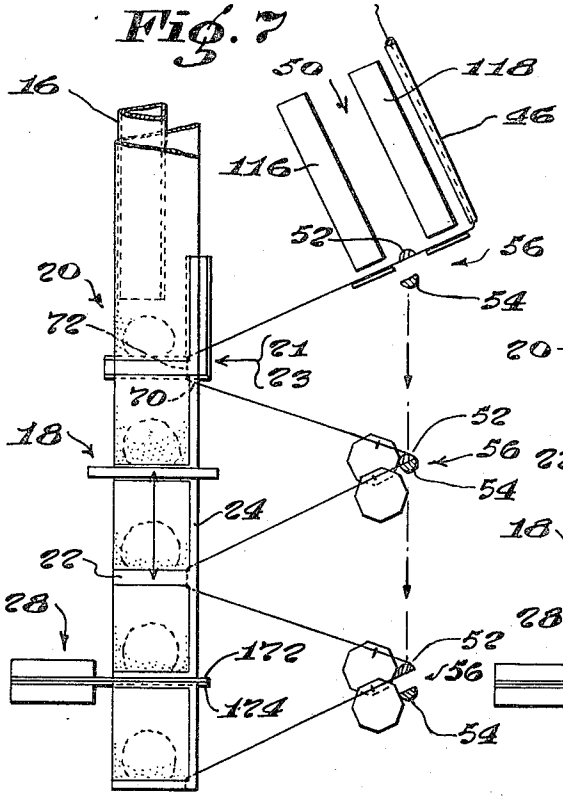
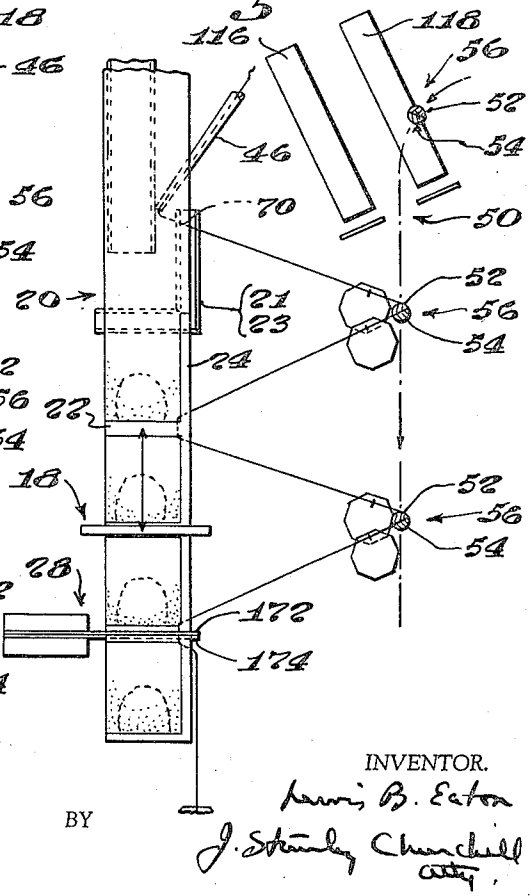


Fig. 8



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Patented Nov. 16, 1943

2,334,256

UNITED STATES PATENT OFFICE

2,334,256

METHOD OF AND APPARATUS FOR MAKING BAGS

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Application March 25, 1942, Serial No. 436,033

10 Claims. (Cl. 93—3)

This invention relates to a method of and to apparatus for making bags, and particularly tea bags.

One object of the invention is to provide a novel and improved construction of bag making machine for forming, filling and closing containers of the envelope type, and, in which provision is made for incorporating a handle comprising a string and a tag in each bag during the manufacture thereof in a novel, economical and superior manner.

A further object of the invention is to provide a novel and improved method of producing individual filled and closed bags of the envelope type wherein a handle comprising a string and a tag may be attached to each bag during the process of a manufacture thereof in an efficient, economical, rapid, and practical manner.

With these general objects in view and such others as may hereinafter appear, the invention consists in the bag making machine and in the method, and in the various structures, arrangements, and combinations of parts hereinafter described and particularly defined in the claims at the end of this specification.

In the drawings illustrating the preferred embodiment of the invention, Fig. 1 is a somewhat diagrammatic view in side elevation of a tea bagging machine embodying the present invention, some of the parts being shown in cross-section; Fig. 2 is a view in front elevation and partly in cross-section as viewed from the line 2—2 of Fig. 1; Fig. 3 is a plan view detail of the tag feeding and attaching mechanism shown in Fig. 1; Figs. 4 and 5 are enlarged detail views in side and front elevations respectively of a string clamping and supporting unit to be referred to; Fig. 6 is a cross-sectional detail taken on the line 6—6 of Fig. 4 illustrating the string severing blade; and Figs. 7 and 8 are diagrammatic views showing the parts in different positions of operation and illustrating the present method of attaching a handle comprising a string and tag to each bag during the manufacture thereof.

In general the present invention contemplates a method of and apparatus for making individual bags, such as tea bags, from an elongated web or strip of bag forming material, and in which provision is made for incorporating a handle comprising a string and a tag to each bag during the production thereof.

In the illustrated embodiment of the invention, provision is made for folding the web longitudinally and for intermittently advancing the web a predetermined distance each cycle of operation of the machine into operative position to the heat sealing mechanism. The heat sealing mechanism preferably comprises a pair of cooperating L-shaped members arranged to seal the web along a transverse zone and along an adjacent longitudinal zone to form a bag section unsealed along one transverse zone through which the tea or other commodity may be introduced. Thereafter the web or strip is again advanced a distance of one bag section whereupon a succeeding sealing operation is arranged to seal the open transverse side of the first bag section and to partially form a second bag, thus forming a series of connected bag sections in strip form during successive sealing operations.

In accordance with the present invention, provision is made for attaching a handle comprising a string and a tag to each bag during the process of manufacturing the bags, as above described, by mechanism including means for inserting a portion of a continuous length of string between the open edge of the elongated web and in operative position to be engaged by the sealing members to seal the inserted string portion between the sides of the web during the sealing operation. Mechanism is also provided for attaching tags to the lengths of string extending from such sealed portions of the web.

In accordance with the present method, the string is inserted between the open edge of the strip to be sealed therein in a manner such that one inserting operation provides a length of string extending from adjacent corners of a pair of connected bag sections. In practice, the continuous length of string is inserted into the open edge of the web at a point adjacent alternate transverse sealed portions or zones of the web, and, the strand or loop of string extending from one sealed portion to the next is provided with two tags so that upon subsequent severance of a bag section from the strip, and severance of the strand of string between the two tags attached thereto, each bag is provided with its individual string and tag. An important advantage of the herein described method, in addition to the expedience effected in providing two connected bag sections with strings and tags in one operation, resides in the fact that the inserting mechanism is enabled to operate at one half the rate of speed of the relatively rapidly moving and intermittently operated strip feeding and bag sealing mechanisms, thus allowing ample time for extending the strand from one sealed portion, attaching the tags thereto, and again inserting the continuous length of string into the open edge

of the web without reducing the normal rate of speed of the bag making machine.

Since the present invention resides more particularly in the string and tag attaching mechanisms as incorporated in a bag forming, filling and sealing machine of the intermittently operated type for producing envelope type bags in strip form, the bag forming, filling, and sealing mechanisms may comprise any usual or preferred mechanisms now provided on existing bag making machines, and, such mechanisms have been herein illustrated and are hereinafter described with sufficient particularity to enable the present invention to be understood.

Referring now to the drawings, in general, the present bag forming and filling machine is provided with web withdrawing mechanism, indicated generally at 10, arranged to withdraw a predetermined length of web or bag forming material 12 from a supply roll 14 thereof. The bag forming material 12, preferably comprising a porous fibrous material containing a thermoplastic, pressure responsive, binding material, is then advanced past bag forming means which may comprise an elongated hollow member or filling tube 16, V-shaped in cross section, over which the web is drawn to fold the web longitudinally along a medial line and to bring together the two halves of the web preparatory to forming a strip of connected bags. As herein shown the bag forming web may be drawn over the member 16 by gripping and advancing mechanism, indicated generally at 18, and which is operative to advance the strip one bag length each cycle of operation of the machine and to present the strip in operative relation to bag sealing mechanism 20.

The bag sealing mechanism may comprise a pair of cooperating horizontally reciprocal L-shaped sealing members 21, 23 one or both of which may be heated and which are arranged to simultaneously seal the strip along a transverse zone 22 and an adjacent longitudinal zone 24 during each sealing operation to form a succession of connected bag sections, closed on one side by the folded edge 25, and heat sealed along successive zones 22, 24. Upon sealing a bag section along the transverse and longitudinal zones as above described, provision is made for introducing a predetermined amount of the commodity, such as tea, through the open edge of the web and between the fold of a partially formed bag section. The bag filling mechanism, indicated generally at 26, is operative to deposite successive charges of the commodity into successive bag sections in timed relation to the operation of the strip advancing and heat sealing mechanism.

As herein shown, the filling mechanism includes the hollow forming and filling tube 16, having one end extending into a bag section, a feed hopper 30 provided with a reciprocating plate 32 having an opening 34 which, in operation is arranged to be moved into a position to present the opening 34 into alignment with the lower end of the feed hopper 30 to receive a charge of tea and to be thereafter moved to present the opening over the funnel portion 17 of the tube 16 into which the measured quantity of tea falls by gravity.

In the operation of the machine, the open top of a bag which has been provided with a charge of the commodity during one cycle of operation, is closed during a succeeding sealing operation. Thereupon, the strip is intermittently advanced to bag severing mechanism, indicated generally at 28, which operates to sever the strip through successive transverse sealed portions to form individual filled and sealed bags.

In accordance with the present invention provision is made for incorporating a handle comprising a string and tag to each bag during the formation of the bags in strip form, as above described. As herein shown, and in accordance with the present method, a continuous length of string 40 is unwound from a roll 42 thereof and led through a hollow shaft 44, upon which an inserting member or arm 46 is mounted, and thence through an opening 48 extending through the inserting member 46. As illustrated in Figs. 1 and 2, provision is made for rocking the inserting member 46 into the position shown in dotted lines in Fig. 1 to present a portion of the strand of string leading therefrom, between the sides of the web or strip and in operative position to be engaged by upper ends of the vertical legs of the L-shaped sealing members 21, 23, which correspond to the portion of the web which the transverse or horizontal legs of the L-shaped sealing members will engage upon a subsequent sealing operation after the web has been advanced a distance of one bag length. After the string portion has been sealed in and the strip has been moved one bag length as described, the member 46 is rocked to the full line position illustrated in Fig. 1 to present the length of string leading from the sealed portion into operative position to tagging mechanism indicated generally at 50, adapted to attach a pair of spaced apart tags to the strand thus supported. At this time, the string is arranged to be grasped at a point in the stretch of string between the spaced tags by a pair of clamping jaws 52, 54 forming one of a plurality of such clamping units, 56, carried by and movable with an intermittently operated chain 58. As herein shown, the chain 58 is arranged to run over sprockets 60, 62 which are suitably formed to accommodate the links of the chain between the several clamping units 56. The chain 58 is arranged to be intermittently operated in timed relation to the movement of the web feeding mechanism 18 through connections including a pawl and ratchet drive 64, the pawl carrier 65 being rocked by a link 68 through connections to a cam, not shown.

It will be observed that the first sealing operation to partially form a bag section merely seals the portion 70 of the inserted string into the longitudinal edge of the strip. During subsequent movement of the strip, the unsealed portion of the inserted string follows along the inner vertical edge 72 of the seal formed by the portion of the L extending beyond the sealed string and then assumes an angular position while being extended to the tagging mechanism as shown in Fig. 1. At this time, a second sealing operation which provides the transverse and longitudinal seams for closing one bag section and partially forming a second bag section, also operates to seal the remainder of the inserted portion of the string into the web. Since the sealed in string portion occurs at the transverse seal connecting a pair of bag sections and extends angularly therefrom through adjacent longitudinal seams, the lengths of string extending from adjacent corners of the bag sections provide individual strings for each bag upon subsequent severance as will be described.

From the description thus far it will be seen that the inserted string has been completely sealed into the strip adjacent a transverse sealed portion and that the strand of string leading therefrom

has been provided with a pair of tags and the string has been grasped by a clamping unit 56 at a point between the attached tags. The strip is now moved a second bag length and simultaneously therewith, the clamping unit 56 is moved one bag length along with the strip. Thereupon, the inserting member 46 is again rocked into operative position to present the string into position to be again sealed into the web at a point two bag lengths distant from the previous sealed in portion, the different positions of the parts and the sequence of operation being more clearly indicated in Figs. 6 and 7. Thus, it will be observed that the strip is moved two bag lengths for each inserting movement of the member 46 to provide two lengths of string each extending respectively from adjacent corners of a pair of connected bag sections.

As illustrated in Figs. 1 and 2, the inserting member 46 is arranged to be rocked to present the continuous length of string into predetermined position with relation to the sealing and tagging mechanisms by a cam 74, mounted on a vertical cam shaft 76, and through connections including a cam lever 78 provided with a cam roll 80, a link 82 and a lever 84 fast on the hollow shaft 44 upon which the inserting member 46 is mounted. A suitable spring, not shown, may be provided to retain the cam roll 80 in cooperating engagement with its cam 74. The cam 74 is designed to operate the inserting member 46 in timed relation to the operation of the strip advancing, sealing, and tagging mechanisms to perform the operations as above described.

It will be observed that the feeding of the string is effected by movement of the inserting member 46 and the clamping units 56. During the backward or retracting movement of the member 46, the string is held in the sealed portion of the web so that upon movement of the web one bag length and retracting of the inserting member, the string is unwound from the roll 42. Thereafter, the string is engaged by the clamping unit 56 and upon downward movement of the latter and forward or inserting movement of the member 46, the string is again unwound from the roll 42, the string passing through the hollow shaft 44 and opening 48 in the member 46 as above described. Suitable frictional means not shown may be provided on the roll 42 to maintain the string relatively taut and to prevent an overdraft of the string from the roll during the unwinding movement.

Referring now to Figs. 2 and 3, the tag attaching mechanism 50 includes provision for feeding two strips of tags forwardly to present the endmost tags into operative position to the strand of string to which they are to be attached, for severing the endmost tags, and for stapling the tags to the string. As herein shown, the strips 86 of tags are unwound from rolls 88 thereof and led through suitable guides 90, 92 and onto a reciprocative supporting and feeding plate 94. The plate 94 is arranged to slide horizontally in a grooved supporting member 96 through connections including a closed cam 98, mounted on a vertical shaft 100, a lever 102 provided with cam roll 104, and a link 106 pivotally connected to the underside of the feeding plate 94. As best shown in Fig. 3, the strips are fed forwardly with the plate 94 by the provision of flat spring members 108 by the plate and provided with points 110 arranged to engage the notched portions 112 along the edges of the connected tags. In operation, during the retracting movement of the plate, the spring members 108 may ride over the notches and come to rest in a succeeding pair of notches to be fed forwardly during a succeeding forward movement of the plate. In order to retain the strips in their forward position and to prevent retracting movement with the plate, a pair of stationary spring members 114 are provided which engage successive notches 112 in the tags as they are fed forwardly as clearly shown in Fig. 3.

The forward movement of the slide plate 94 presents the endmost tags in operative position with the relation to the strand of string being supported between the sealed portion of the web and the end of the retracted inserting member 46, as shown in Figs. 3 and 7. At this time the stapling heads 116, 118 which may comprise any usual and preferred form of stapling mechanism, may be operated to attach the tags to the string thus supported. As herein shown, the dual stapling heads are carried by the plate 94 and supported in a bracket 120 pivotally mounted at 122. In operation, the bracket 120 is rocked upwardly by a spring 124 during the inoperative period of the stapling mechanism so as to provide clearance for the member 46 to be rocked to present the strand of string over the tags. Thereafter, the dual stapling unit is rocked downwardly by a cam operated connection 126, continued movement of which operates the stapling mechanism through the linkage 128 in a well known manner. Simultaneously with the stapling operation, the tag severing mechanism, comprising a vertically reciprocated blade 130, is operated to sever the endmost tags from the strip. As illustrated in Fig. 2, the blade is reciprocated by a closed cam 132, fast on the cam shaft 100, through connections including a cam lever 134, roller 136, link 138 and bell crank 140. One arm 142 of the bell crank is slotted as shown to receive a roller 144 supported in the upper end of the shear blade 130 so that in operation, rocking movement of the bell crank will effect vertical reciprocation of the blade 130.

From the description thus far it will be observed that the strand of string extending from the web and supported by the member 46 in its retracted position, is provided with a pair of tags spaced a short distance apart. At this time the jaws 52, 54 of an adjacent clamping unit 56, are arranged to close upon and grip the string at a point between the two tags. As best shown in Fig. 5, the string engaging faces of the jaws are cut at an angle to conform to the angular position of the string presented thereto. As illustrated in detail in Fig. 4, the upper jaw 52 is attached to the link 146 of the clamping unit by a bolt 148 so that the jaw 52 is relatively stationary while the lower jaw 54 is pivotally mounted at 150 in the upper jaw. A rod 152 slidably mounted in the link 146 is provided with a coil spring 154 which bears against the jaw 54 to normally hold it in its closed position. The other end of the rod 152 is provided with a pair of rollers 156 which are arranged to cooperate with vertical cam faces 158 provided in a horizontally reciprocal bracket 160 slidably mounted in guideways 162. In operation, the bracket 160 is in its forward position when the clamping unit is moved into operative position to the string so that the rolls 156 do not engage the cam faces 158 at this time, the jaws remaining in their closed position. Thereupon, the bracket 160 is retracted, the cam faces engage the rolls 156 and operate to pull the lower jaw open to receive the

string. The bracket 160 is then moved forward to permit the lower jaw to yieldingly close upon the string as above described. The bracket 160 is arranged to be reciprocated in timed relation to the sequence of operations above described by a cam 164, fast on the cam shaft 76, and through connections including a cam lever 165, roller 167 and link 170, a suitable spring, not shown, operating to hold the roller 167 in cooperative engagement with its cam.

In the operation of the machine, after the tags have been attached to the strand and the string gripped by the jaws as above described, the tag feeding and supporting plate 94 is retracted thus leaving the tags suspended from the strand as shown in Figs. 7 and 8. The clamping units are then intermittently advanced with the strip of connected bag sections, as previously described, to present the endmost bag section into operative relation to the severing mechanism 28 where the endmost bag section is severed through the center of the transverse sealed portion 22 by the shear blades 172, 174. At this time provision is made for severing the strand between the tags and held by the clamping jaws 152, 154 so as to provide each bag with its individual string and tag. As illustrated in Figs. 4, 5 and 6, a blade member 175 is arranged to be reciprocated in a slot 178 provided in the clamping jaws to perform the string severing operation. The cutting blade 175 is formed on the end of a rod 180 slidingly mounted in the link 146, a coil spring 182 being arranged to normally hold the blade out in its inoperative position. The outward movement may be limited by a pin 184 extending from the rod 180 and engageable with the link 146. The outer end of the rod is provided with a rounded cam engaging surface 186, and, as illustrated in Fig. 2, the end 186 is arranged to engage a cam surface 187 carried by a bracket 160', which, similar to the above described bracket 160, is arranged to be horizontally reciprocated from the full to the dotted line position illustrated in Fig. 2. Thus, during the movement of the clamping unit, the bracket 160' is disposed in its forward or dotted line position to present the cam surface 187 in the path of the end 186 to effect movement of the blade and severance of the string. Thereafter, the bracket 160' is retracted to effect opening of the jaws, in the manner above described, to release the severed end of the string whereupon the severed bag section with its individual string and tag is permitted to drop by gravity onto a delivery belt 190.

The operations of handling the string, attaching the tag and attaching the string to the bag may be summarized as follows: Assuming that the parts are in the position, diagrammatically illustrated in Fig. 7, with the string inserted at a transverse portion and extended into operative position with relation to the tagging mechanism 50 and to a string clamping unit 56, the tagging mechanism is now operated to attach a pair of tags to the extended strand of string and the clamping jaws 52, 54 are closed upon the string whereupon the tagging mechanism is retracted and the strip together with the clamping unit 56 is advanced a distance of one bag length, to present the parts in the position illustrated in Fig. 8. In this position, the string inserting member 46 is moved to move a portion of the string into the open edge of the strip to be sealed. Thereupon the strip and the clamping units 56 are advanced another bag length to again present the parts in the position shown in Fig. 7, the member 46 being rocked to present the new strand of string extending from the sealed in portion, into operative position to be provided with a pair of tags.

It will be observed that the distance between clamping units 56 is equal to the length of two bag sections and that during successive operations of the apparatus as above described, a plurality of loops is formed each provided with a pair of tags and extended from a sealed in portion to a clamping unit and then to a second sealed in portion located a distance of two bag lengths from the first sealed in portion. It will also be observed that the sealed in portions occur at a point adjacent alternate transverse sealed portions of the strip so that upon severance of the bag sections from the strip at the transverse sealed portions and severance of the strand between adjacent tags, an individual string and tag is provided for each bag. Thus, a single inserting operation provides a handle comprising a string and tag for each of a pair of adjacent bags thereby enabling the strip advancing and sealing operations to be performed at their normal, relatively rapid rate of speed.

While the preferred embodiment of the invention has been herein illustrated and described, it will be understood that the invention may be embodied in other forms within the scope of the following claims.

Having thus described the invention, what is claimed is:

1. In a method of producing bags each provided with a handle comprising a string and tag, the steps comprising folding a web of bag forming material longitudinally to form a strip open at one edge, sealing the strip along spaced transverse zones and along the open edge to form a series of connected bag sections, depositing charges of the commodity into successive bag sections, introducing portions of a length of string into the open edge of the strip adjacent alternate of said transverse zones immediately prior to the sealing operation, then sealing the open edge to seal such string portions into the strip and to form successive strands extending between said alternate transverse sealed zones, attaching a pair of tags to each strand, severing the bag sections through said transverse zones and severing the strand between said tags to form individual bags each provided with a string and tag.

2. In a method of producing individual filled and closed bags each having a handle comprising a string and tag, the steps comprising folding a web of bag forming material longitudinally, sealing opposed portions of the web to form a series of connected bag sections, filling the bag sections with a commodity, introducing portions of a length of string at spaced intervals along and between unsealed portions of the strip prior to the sealing operation, then sealing the strip to seal such string portions into the strip, said string portions being inserted at a point in the strip to provide lengths of string extending from adjacent corners of successive pairs of bag sections, continuations of said lengths forming strands between successive sealed portions, attaching a pair of tags to each strand, and severing the strip to form individual bag sections and severing the strands between said tags.

3. In a method of making bags each having a handle comprising a string and a tag, the steps comprising folding a web of bag forming material longitudinally to form a web open at one edge, introducing portions of a length of string into the open edge of the strip at intervals corre-

sponding to two bag sections, sealing the strip transversely and longitudinally to form a series of connected bag sections and to seal said string portions therein, depositing a commodity into successive bag sections prior to completion of the sealing operation, said string portions being sealed at a point in the strip to provide lengths of string extending from adjacent corners of successive pairs of bag sections, continuations of said lengths forming strands between said sealed in portions, attaching a pair of tags to each strand, severing the strip to form individual bag sections and severing the strands between said tags.

4. In a method of making bags of the envelope type each having a handle comprising a string and tag, the steps comprising folding a web of bag forming material longitudinally to form a strip open at one edge, sealing the web throughout two zones, one zone extending transversely of the web and the other zone extending longitudinally of the web adjacent the open edge to partially form a bag section, depositing a charge of a commodity into the bag section, introducing a portion of a length of string between the open edge prior to the sealing operation whereby to seal the string portion therein, advancing the strip one bag length and again sealing the strip to close the first bag section and to partially form a second bag section while extending the inserted string portion to form a strand, attaching a pair of tags to the strand, advancing the strip a second bag length, introducing a portion of the extended strand into the open edge of the web and performing another sealing operation, said inserted portions occurring adjacent alternate of said transverse sealed zones and providing strands extending from adjacent corners of alternate pairs of bags, and thereafter severing the bag sections through said transverse zones and severing the strands between said tags to form individual bags each provided with its individual string and tag.

5. In a bag making machine of the type adapted to form individual filled and closed bags from a web of bag forming material, in combination, means for sealing opposed portions of the web at spaced transverse areas and along a longitudinal edge to form a series of connected bag sections, means for filling said bag sections during formation thereof, and means for associating a handle comprising a string and tag for each bag comprising means for introducing portions of a length of string between the opposed portions of the bag material prior to the sealing operation to seal the string portions therebetween, said string portions being inserted at a point adjacent alternate transverse sealed areas to form strands extending therebetween, means for attaching a pair of tags to said strands, means for severing the strip through successive transverse sealed portions, and means for severing each strand between the pair of tags.

6. In a bag making machine of the character described, in combination, means for supporting a longitudinally folded strip of bag forming material, bag sealing means for forming a series of connected bag sections in the web, means for filling said bag sections during formation thereof, and means for providing each bag with a handle comprising a string and tag during the formation of the bag comprising string inserting means operative to insert portions of a length of string between opposed portions of the web prior to the sealing operations to seal such portions therein at spaced intervals in the web corresponding to two bag sections, the lengths of string extending from said inserted portions passing through adjacent corners of a pair of connected bag sections and forming strands leading from one sealed in portion to the next, means for attaching a pair of tags to each strand, means for severing the strip to form individual bag sections, and means for severing said strands between the tags.

7. In a machine of the character described, in combination, means for sealing opposed portions of a longitudinally folded web to form a series of connected bag sections, means for filling said bag sections during formation thereof, means for introducing portions of a length of string between opposed portions of the web prior to the sealing operation to seal such portions therein at spaced intervals corresponding to two bag sections in the web, means for extending the string between inserting operations to form elongated strands, the lengths of string leading from each inserted portion passing through adjacent corners of a pair of connected bag sections, means for attaching a pair of tags to each strand, means for severing the strip to form individual bag sections, and means for severing said strands between said pair of tags to form individual handles for each bag.

8. In a machine of the character described, in combination, means for forming a web of bag making material into the form of a strip closed at one edge and open at the opposite edge, means for sealing opposed portions of the strip throughout two zones simultaneously, one zone extending transversely of the web and the other zone extending longitudinally along the open edge to form a bag section open at one side, means for filling said bag sections during formation thereof, means for advancing the web one bag length to present the strip in operative position for a second sealing operation to close the first bag section and to partially form a second bag section, successive sealing operations forming a series of connected bag sections, means for inserting portions of a length of string into the open edge of the web at points adjacent alternate transverse sealed zones prior to every second sealing operation to seal the inserted portions therein, means for extending the string between inserting operations to form elongated strands, the lengths of string leading from alternate transverse sealed zones passing through adjacent corners of a pair of connected bag sections, means for attaching a pair of tags to each strand, means for severing the strip through successive transverse sealed zones to form individual bag sections, and means for severing said strands between each pair of tags to form individual handles for each bag.

9. In a machine of the character described, in combination, means for intermittently moving a longitudinally folded web of bag forming material having an open edge, sealing mechanism for sealing opposed portions of the web to form a series of connected bag sections, a string supporting and guiding member, tagging mechanism operative to attach a pair of tags to the string presented thereto, means for operating said string supporting member to present the string alternately first into operative position with relation to the sealing mechanism to seal a portion thereof into the open edge of the web and then into operative position with relation to the tagging mechanism, said sealed in portions occurring at spaced intervals in the web corresponding to two bag

lengths, the lengths of string extending from said inserted portions passing through adjacent corners of a pair of connected bag sections, means for severing the strip to form individual bag sections, and means for severing the string between said tags to form individual strings and tags for each bag.

10. In a machine of the character described, in combination, means for intermittently moving a longitudinally folded web of bag forming material a distance of one bag length each cycle of operation, sealing mechanism for sealing opposed portions of the web to form a series of connected bag sections, a string supporting and guiding member, tagging mechanism operative to attach a pair of tags to the string presented thereto, means for operating said string supporting member to present the string alternately, first into operative position with relation to the sealing mechanism to seal a portion thereof into the open edge of the web and then extended into operative position to the tagging mechanism, intermittently movable clamping means operative to grasp the string to retain it in its extended position during subsequent movement of the web and the string guiding member, said sealed in portions occurring at spaced intervals corresponding to two bag lengths, the lengths of string extending from said inserted portions passing through adjacent corners of a pair of connected bag sections, means for severing the strip to form individual bag sections, and means for severing the strip between said tags to form an individual string and tag for each bag.

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