United States Patent [19]

Hooley et al.

[11] **3,838,552**

[45] **Oct. 1, 1974**

[54] **PACKAGING MACHINE**

[76] Inventors: **Eldon R. Hooley,** 82718 N. Bear Creek Rd.; **Glen E. Beymer,** 83363 N. Enterprise, both of Creswell, Oreg. 97426

[22] Filed: **Jan. 2, 1973**

[21] Appl. No.: **320,308**

[52] **U.S. Cl.** **53/182**

[51] **Int. Cl.**..... **B65b 9/12,** B65b 51/28, B65b 61/08

[58] **Field of Search** 53/28, 29, 177, 180, 182, 53/183

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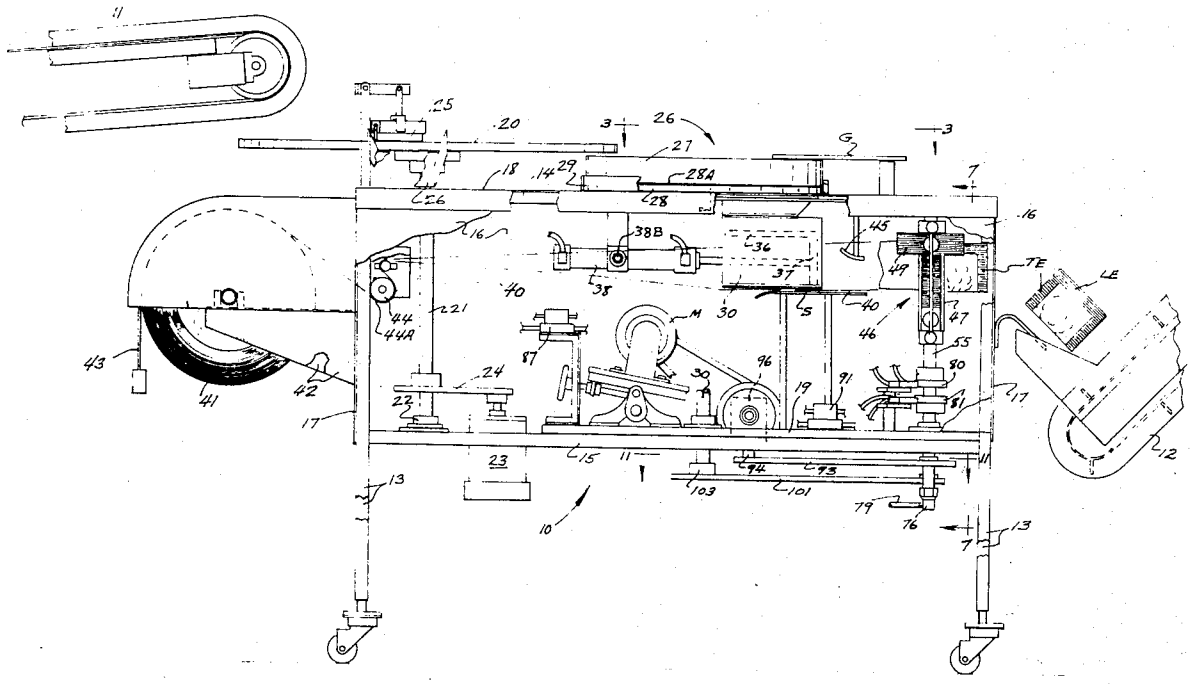
Primary Examiner—Robert L. Spruill

Attorney, Agent, or Firm—James D. Givnan, Jr.

[57] **ABSTRACT**

The machine comprises a framework rotatably supporting a receptacle for pre-loading of the articles or groups of articles to be enclosed within a bag. The receptacle sequentially discharges the articles downwardly into a chute for deposit on a drop door. Intermittent operation of the drop door releases the articles into the path of a reciprocative shoe which is disposed within a moving U-shaped run of bag stock to advance the articles along said bag stock. Roll means receive the bag stock and act along opposed longitudinal edges thereof with lands on the roll means biasing the stock at intervals sealing same at spaced transverse areas. Blade means carried by said roll means is extensible to sever the bag stock along sealed areas thereof.

13 Claims, 16 Drawing Figures



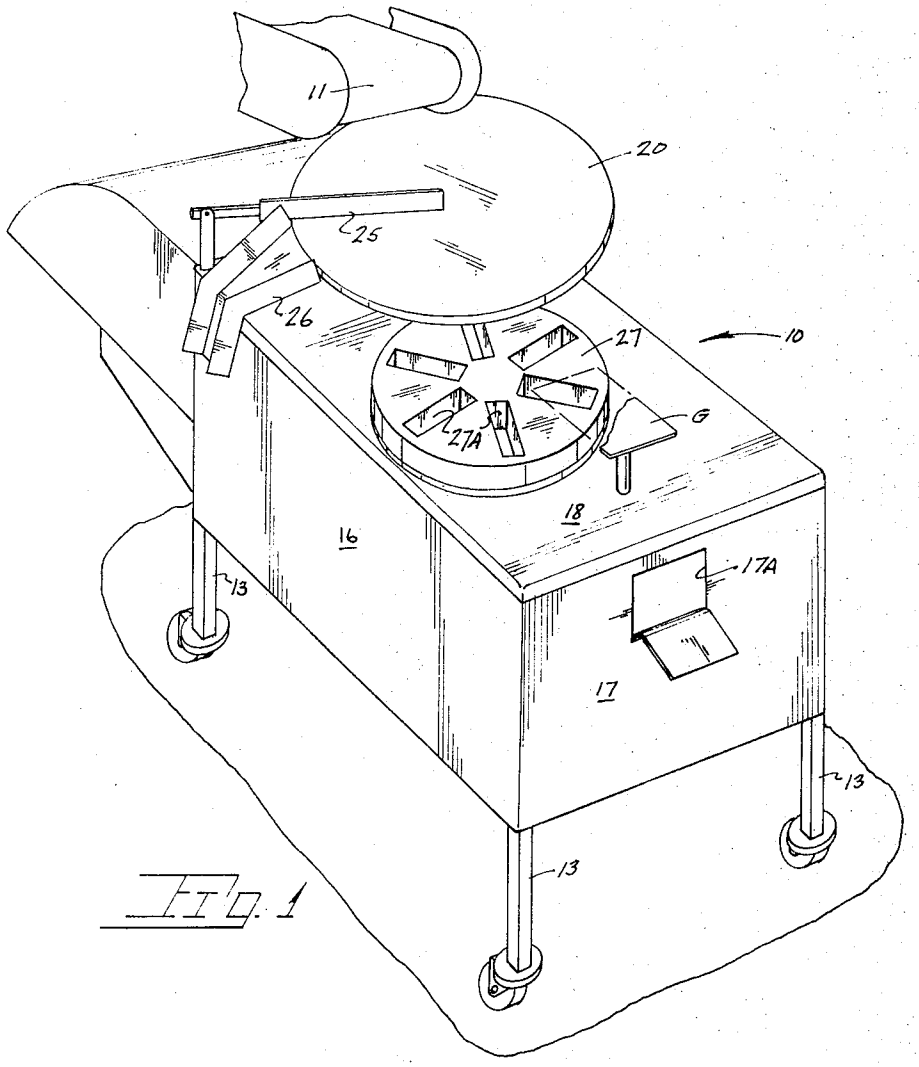


Fig. 1

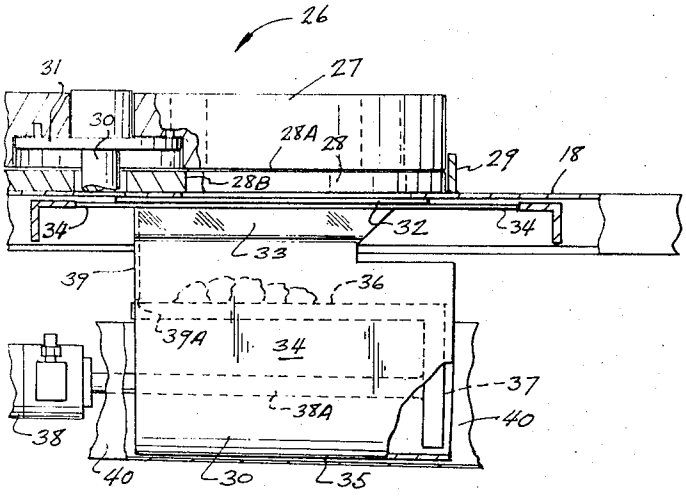


Fig. 5

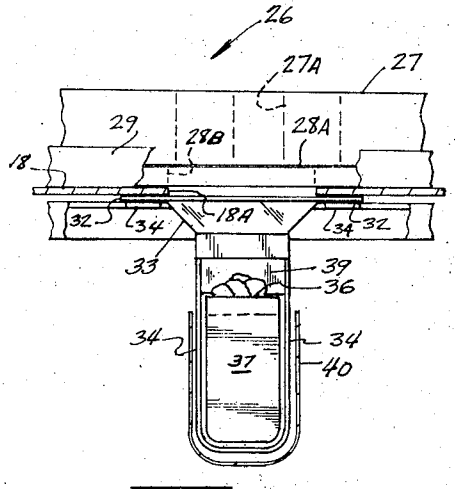
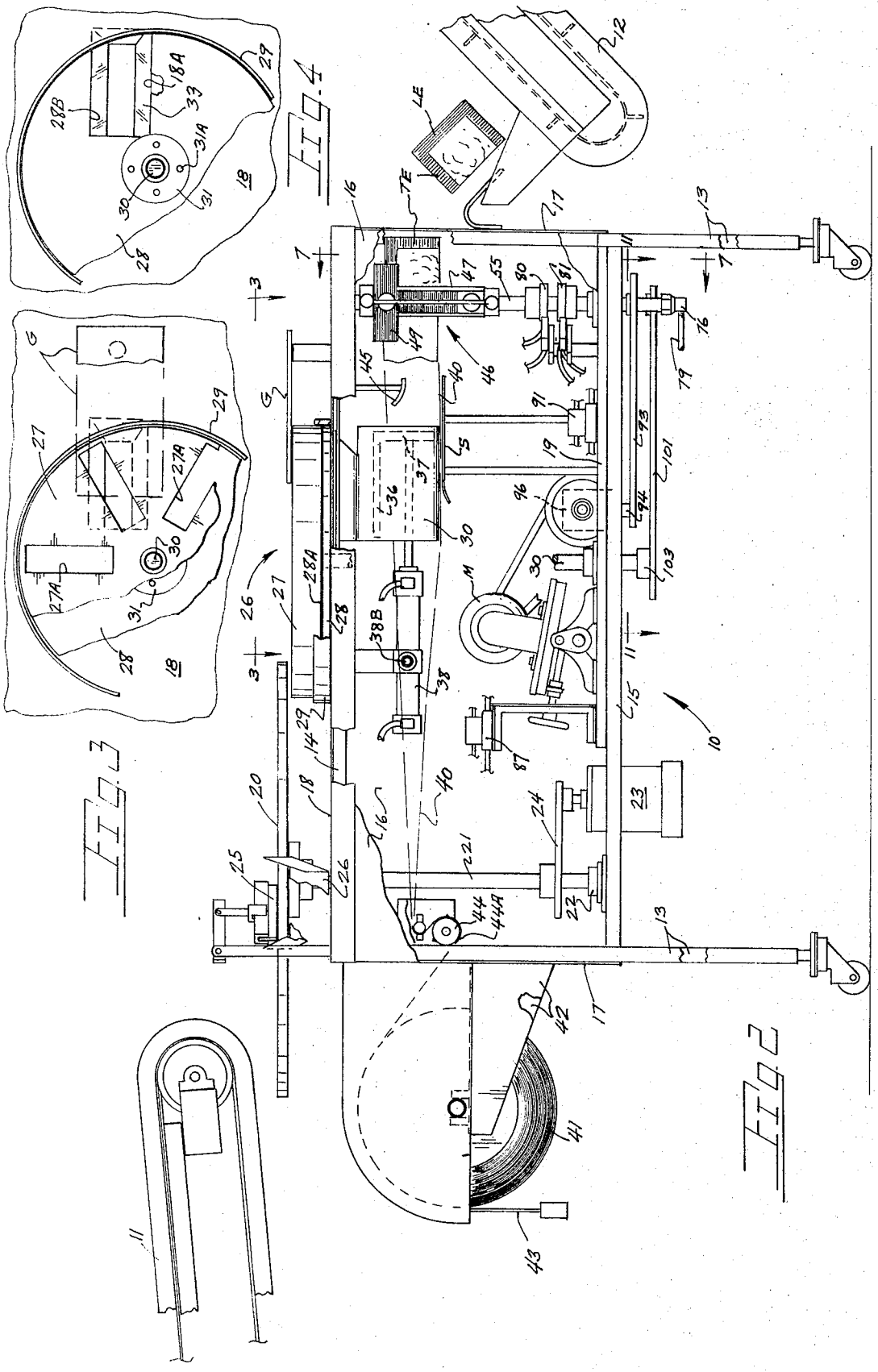


Fig. 6


FIG. 4
FIG. 3
FIG. 2

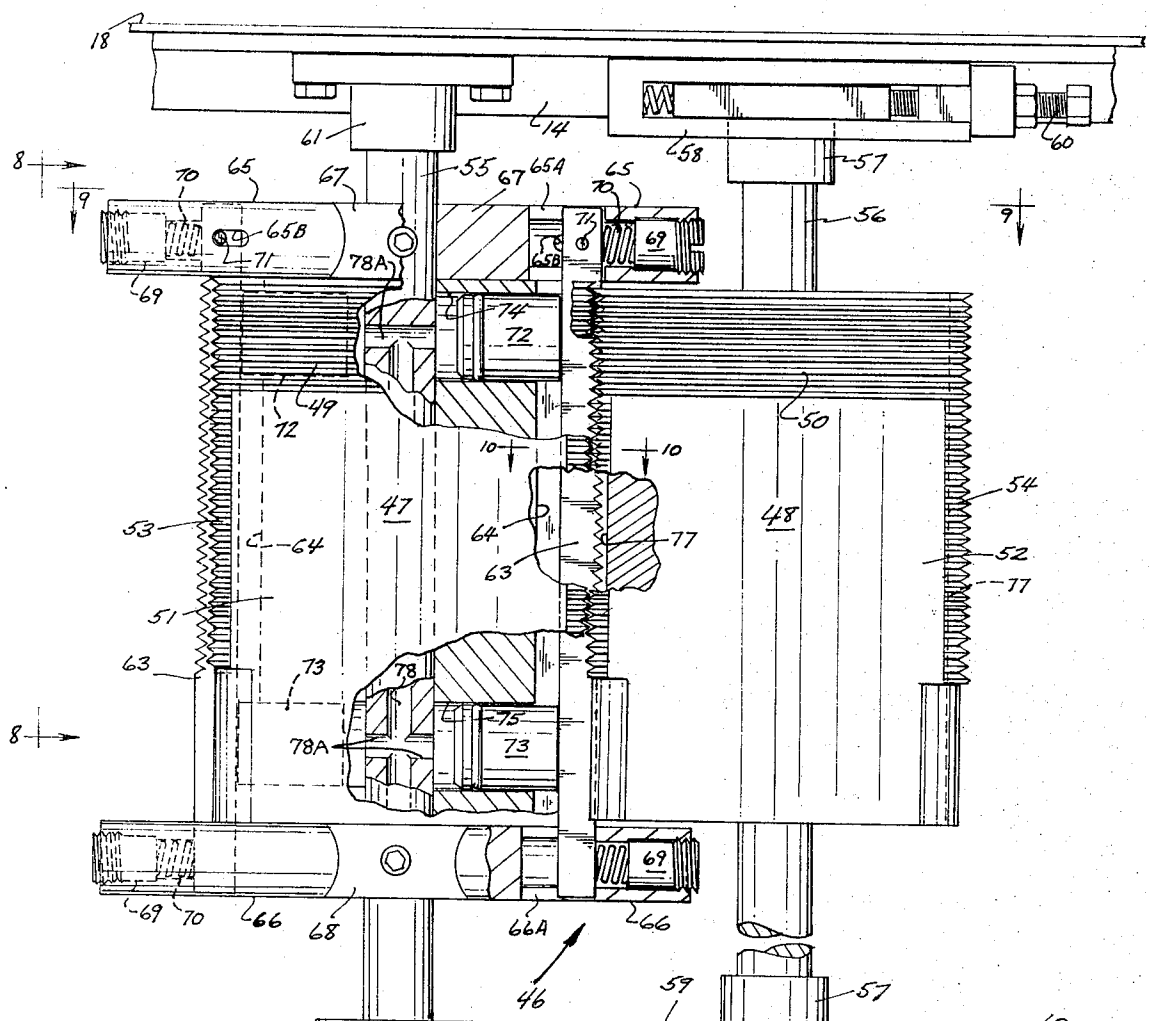

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Fig. 7

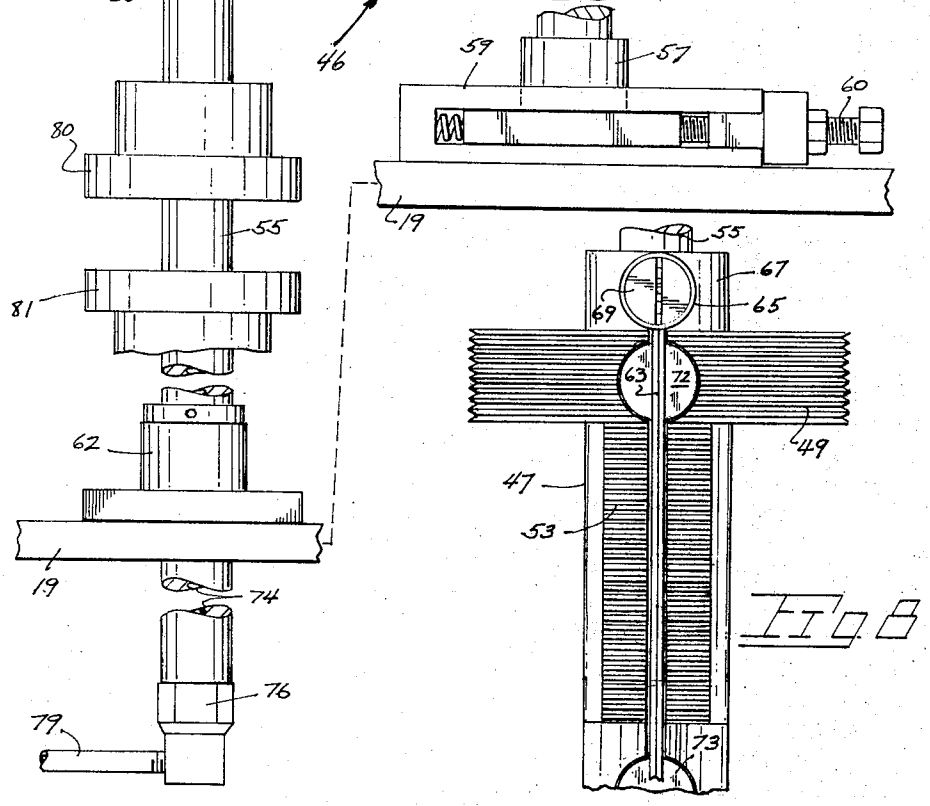

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Fig. 8

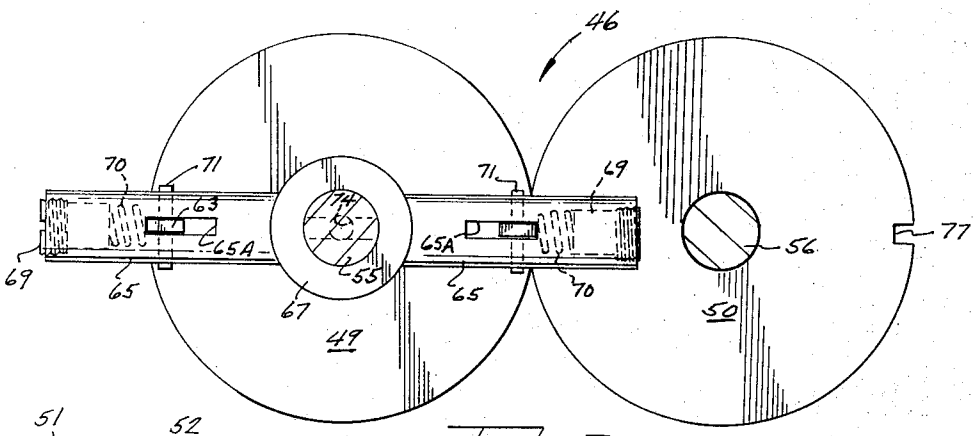


Fig. 9

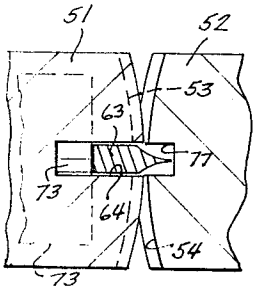


Fig. 10

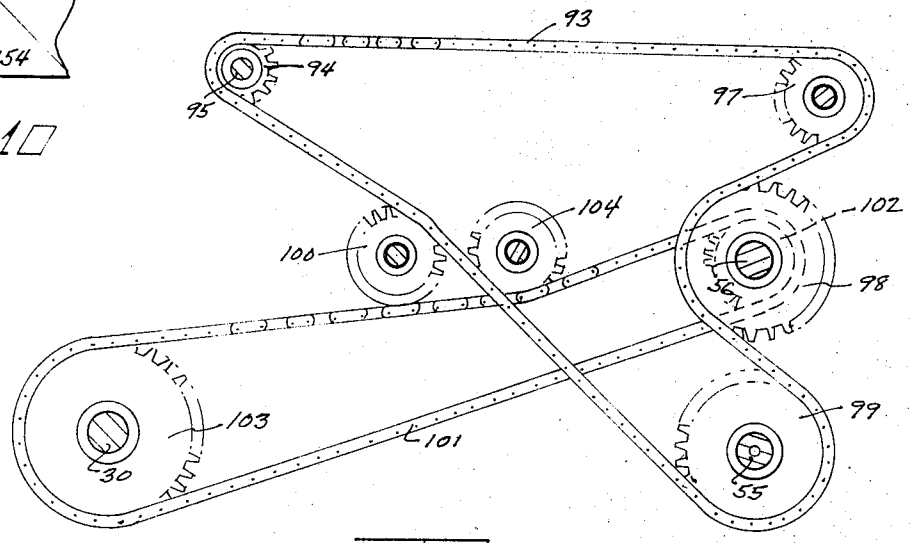


Fig. 11

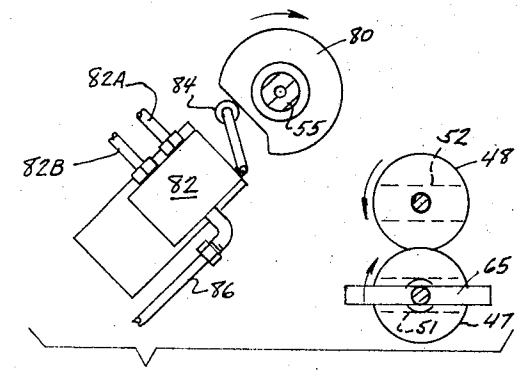


FIG. 12

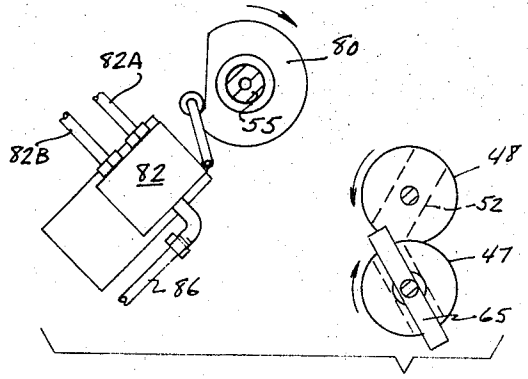


FIG. 13

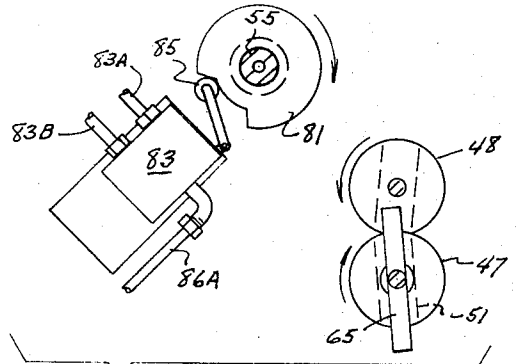


FIG. 14

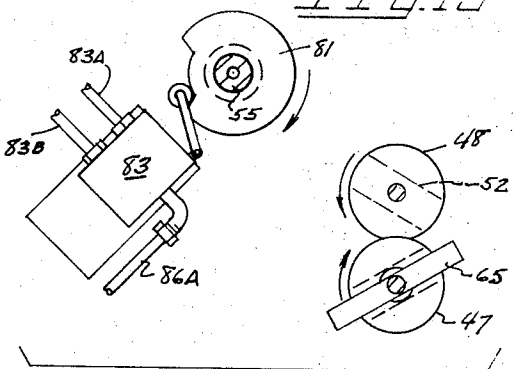


FIG. 15

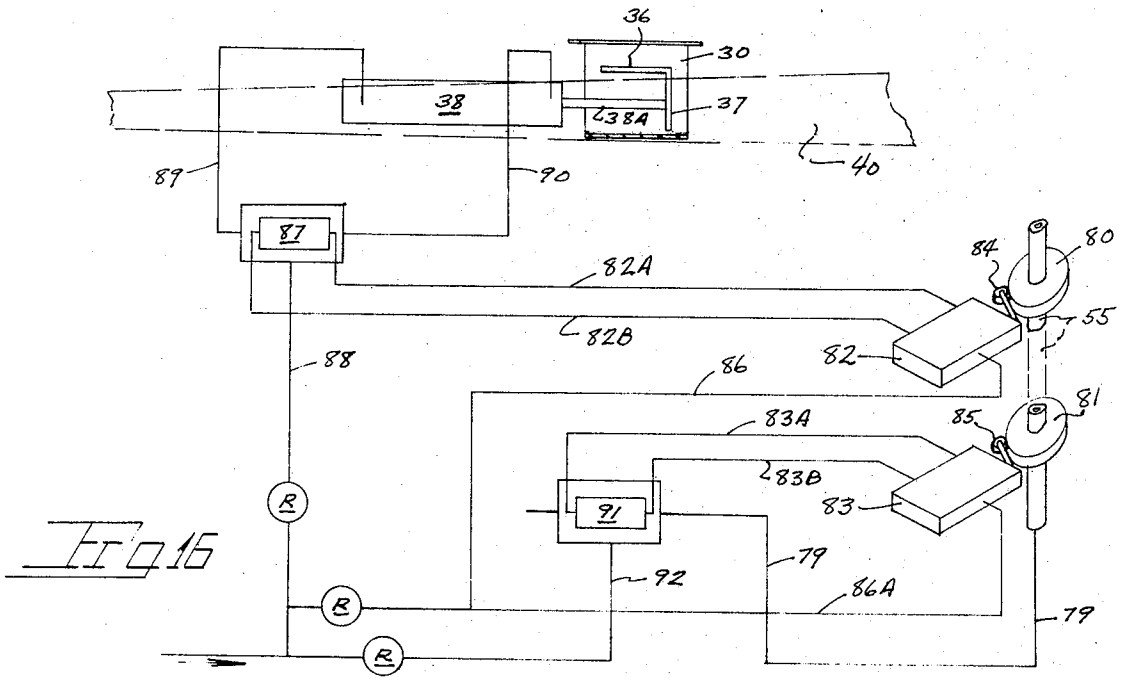


FIG. 16

PACKAGING MACHINE

BACKGROUND OF THE INVENTION

The invention relates generally to a machine for packaging of articles within bags formed by the machine from continuous strip material which may be of the type having a latex coating making opposing bag surfaces sealable by pressure. Articles to be bagged are sorted into receptacles with automatic loading means positioning articles within a partially formed bag. Roll means continuously seals a longitudinal edge of the bags formed while additionally engaging the bag material at intervals to transversely seal same.

The prior art, to the extent known, includes a number of machines for the forming of bags from continuous material, most commonly a thermoplastic film, with heated machine components sealing and severing the bag. The prior art machines include complex subassemblies for the intermittent advancement of the bag material and the actuation of heated sealing and severing means against the bag sides. The articles packaged by such machines are most commonly of unitary nature, inserted directly by hand or turret carried dispensing apparatus into opposing halves of the bag material. No provision is made for sorting of parts to be packaged into desired quantitites nor for delivery of same lengthwise along bag stock to a bag being formed.

SUMMARY OF THE INVENTION

The instant machine includes a compartmented moving receptacle into which articles or an assortment of articles to be enclosed within a bag may be placed. In the latter instance where an assortment of articles are to be packaged within a single bag, each receptacle may serve to receive a sspecfic combination of items to be bagged which may be selected and pre-loaded by machine attendants in a fast, convenient manner as opposed to direct insertion within a bag.

The compartments of the moving receptacle sequentially discharge the articles or article therein downwarly whereupon the same are positioned by automatic bag loading means into a partially formed bag. Coordinated operation of the receptacles and said loader means assures the individual bagging of the article of aggregation of articles discharged from a single receptacle. The bag loading g means also serves to bunch the articles into a compact arrangement permitting bagging with a closely confining bag.

The automatic bag loading means is disposed longitudinally within a trough formed by a continuously moving run of U-shaped bag stock. The formation of the bags is a continuous operation with the bag stock being drawn from a roll and entrained below a chute comprising part of the bag loading means. A shoe of said loading means propels the article or bunched article assortment into the bag while same is being formed prior to formation of a longitudinal seal and a second transverse seal. A first formed transverse seal is at least partially completed prior to bag loading. Known bag loading apparatuses involve costly, highly complex equipment momentarily supporting bags, closed on three sides, for filling by overhead means.

The present machine forms, loads, seals and severs bags at a very fast rate greatly exceeding bagging machine where a machine attendant manually deposits material directly into the partially formed bag. The earlier mentioned overhead filling means is typically for the bagging or granular material of fluids and is not suited to packaging solid random sized articles.

The continuous bag stock is formed in generally U-shaped and then directed between driven roll means which, in sequence, forms a first transversely sealed edge, a longitudinally sealed edge and a second transversely sealed edge. Circular portions of the roll means are in continuous rolling contact with the opposed longitudinal marginal edges of the strip to unreel the bag stock and to close same while lands on the rolls bias the folded bag stock at intervals to provide transverse, longitudinally spaced seals. The rolls exert a pressure on the above-mentioned longitudinal and transverse bag areas to form corresponding seals without heated components found throughout the prior art machines. The stock from which the bags are formed is treated with an adhesive such as a latex coating during manufacture which coating when subjected to pressure, securely joins the opposed coated surfaces. To enhance positive engagement between the rolls and the bag stock the rolls are provided with an irregullar surface.

The machine includes blade means for severing the stock transversely along transverse sealed areas of the bags formed. Blades are housed within a roll member and are momentarily extended in a radial direction for cutting of the continuous bag stock strip. The cut made passes through both the transverse and longitudinally extending seals. A companion roll, opposite the blade carrying roll, is slotted to receive the blade edges after its passage through the bag stock. Importantly the stock is securely held during cutting against relative movement with the moving roll members. The foregoing roll arrangement dispenses with the need for complex indexing components found in prior art momentarily stopping the stock for sealing and cutting operations. Additionally dispensed with are complex drive means intermittently actuating cutters and sealing means in a reciprocating manner.

An important aspect of the present invention is to provide a bagging machines of a compact nature for bagging assorted articles such as poultry giblets. The machine is of relatively uncomplicated design with commensurate lower initial cost that prior bagging machines. The size of the machine permits it to be a readily incorporated into existing processing lines. One or two workers selecting the assortment of giblets to be packaged and pre-loading same into a compartmented receptacle can significantly out produce a battery of workers.

A further object of the present invention is to provide a moving receptacle compartmented for the reception of articles whether they be singular of groups of articles of the same or differing type. In the processing of poultry, for example, it is is an accepted practice to package poultry giblets for inclusion in the poultry package as marketed. A variety of giblets are continuously delivered to a turntable of the present machine from which machine attendants select the type and quantity of parts to be packaged within a bag. The pre-loading of the giblets selected into a single, highly accessible compartment, may be done in a rapid manner with subsequent transfer of the giblets to the bag, sealing of the bag and severing of the bag all being done automatically by machine operation.

Another important objective of the instant machine in the provision of bag loading means which receives

the article, or group thereof, discharged from the compartmented receptacle and repositions same horizontally into a bag during bag formation. Heretofore it has been the practice to form at least three sides of a bag with the bagged article being manually inserted within the partially completed bag. The present machine loads each bag by advancement of the articles to be bagged in the direction of travel of the bag stock. A cylinder and a loading shoe actuated thereby are located in a novel manner within the partially folded run of paper. Intermittent operation of said cylinder positions the articles in a closely bunched manner whereupon the remaining two sides of the bag are completed. Bag loading and operation of the machines rolls are such as to effect the novel formation of a bag about the articles being bagged in distinction to machines loading open ended bags.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

FIG. **1** is a perspective view of the packaging machine embodying the present invention,

FIG. **2** is a side elevational view of the machine shown in FIG. **1** with wall fragments broken away for purposes of illustration,

FIG. **3** is a plan view of a compartmented receptacle of the machine taken approximately along line **3—3** of FIG. **2**,

FIG. **4** is a view similar to FIG. **3** with the receptacle in phantom lines to disclose underlying features,

FIG. **5** is a side elevational view of a bag loading means in its normal extended position,

FIF. **6** is a right hand end elevational view of FIG. **5**,

FIG. **7** is an elevational view of machine roll members taken along line **7—7** of FIG. **2** with same positioned at a blade actuated position,

FIG. **8** is an elevational view of a sectioned roll member taken along line **8—8** of FIG. **7**,

FIG. **9** is a plan view of the roll members taken downwardly along line **9—9** of FIG. **7**,

FIG. **10** is an enlarged sectional view of a blade fragment and lands of the roll members taken along line **10—10** of FIG. **7**,

FIG. **11** is a view of the roller chain drives for the machine taken downwardly along line **11—11** of FIG. **2**,

FIGS. **12** and **13** show schematically an air valve and actuating cam controlling an air cylinder with the corresponding positions of the roll members,

FIGS. **14** and **15** show schematically a second air valve and actuating cam with corresponding positions of the roll members, and

FIG. **16** is a schematic of the machine pneumatic system.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

With continuing reference to the foregoing drawings and particularly FIGS. **1** and **2** thereof, the reference numeral **10** indicates generally the present machine which may be associated with delivery conveyor means **11** for delivery of articles to be packaged and conveyor means **12** for off loading of the bagged articles.

A machine framework comprises a welded angle iron structure with legs **13** all being interconnected by upper and lower angle iron crossmembers **14** and **15** with the latter supporting a base **19.** Sheet metal sidewalls **16** and end walls **17** are all removably attached to the framework in any suitable manner such as by insertable pins not shown. A top wall **18** of sheet metal is in rested placement on crossmembers **14** and includes a flanged perimeter.

Articles to be packaged may be delivered by suitable means, such as conveyor **11;** onto a circular turntable **20** rotatably supported by a shaft **21** suitably journalled at its ends within framework supported bearings as at **22.** A motor **23** with an internal reduction drive drives turntable **20** at a slow speed via a sprocket-roller chain drive **24.** A wiper blade **25** is radially disposed on turntable **20** for diverting those articles not selected for packaging into a chute **26.** In a packaging operation where the articles are of an uniform quality the chute **26** is dispensed with.

Adjacent turntable **20** is a compartmented receptacle **27** comprising part of bag pre-loading means generally at **26.** Receptacle **27** defines a plurality of vertical walled recessed areas or compartments **27A** within each of which machine attendants place a quantity of selected articles to be enclosed within a single bag. Concentric with receptacle **27** is a retainer ring **29,** an underlying stationary plate **28** of like diameter the upper surface **28A** of which constitutes a bottom closure for each recessed areas **27A.** Compartmented receptacle **27** driven by a shaft **30** and flange **31** (FIG. **5**) with pins **31A** imparting rotational movement to the receptacle. A rectangular opening **28B** in stationary plate **28** permits sequential gravitional discharge of articles from each of recessed area **27A** as they successively pass thereover. The opening is somewhat wider than the receptacle areas **27A** to assure complete discharge of the articles. As best viewed in FIG. **6** an opening **18A** in the top wall of the machine permits article passage into the divergent upper end of a chute **30.**

As best viewed in FIGS. **5** and **6,** chute structure **30** is of formed sheet metal flanged at **32** for supported engagement with framework members **34.** Inclined chute walls at **33** terminate downwardly in walls **34** interconnected by a bottom wall **35.** A rear wall **39** partially closes a rearward end of the chute structure and is disposed so as to have its lower edge **39A** in wiping contact with a drop door **36.** Chute **30** formed from sheet metal, preferably stainless steel, may include different chute configurations. For example, the same may terminate downwardly in a semicircular shape with a shoe **37** being of corresponding shape.

Integral with drop door **36** is a right angularly disposed shoe **37,** both of which along with chute **30** comprise part of the bag loading means which further includes actuating means in the form of a pneumatic cylinder **38** and rod **38A.** Horizontal door **36** and shoe **37** are of a transverse dimension somewhat less than the corresponding transverse dimension of chute **30** with the reduced clearance permitting unobstructed reciprocal motion of the door and shoe. Passing below chute **30** and shaped thereby is a continuous run of bag stock **40.** Supporting the run of a bag stock **40** and spaced below chute **30** is a support S.

With reference to FIG. **2,** the cylinder **38** is trunnion mounted at **38B** to the machine framework, rearward of the cylinder center of gravity, resulting in shoe **37** at all times being in lightly resting contact along its lower edge with the bottom wall **35** of the chute. Preferably

cylinder **38**, in those machines packaging food products, is readily detachable to allow convenient cleaning.

Bag stock **40**, when the machine is used in the packaging of poultry giblets, is paper of a wet strength of thirty pounds supplied in strip form from a roll **41** rotatably supported by rearwardly projecting arms **42**. A weighted nylon straps **43** serves to impart on a drag roll **41**. The paper is entrained in a planar trip below a roll **44** which may include piercing elements **44A** if desired as in the case of packaging poultry products wherein the bag must be vented. Suitable latex coated paper stock for packaging of food products is manufactured by the Cryovac Division of W. R. Grace and Co.,. The paper surface is coated with latex to provide a paper which may be termed pressure sensitive in that upon being folded to oppositely dispose the latex coated surfaces such may be joined by the application of pressure as by passage of the paper through juxtaposed rolls as later described. The bag stock **40** may, of course, be varied in strength and material type to best suit the bagging operation at hand.

Cylinder **38** is activated at timed intervals by later described components to retract the door-shoe combination from its forward position shown in FIGS. **2** and **5**. Retraction thereof is of mementary with the rearward travel of same causing the downward discharge of those articles in place on the drop door **36** by wiping contact of the door surface with rear wall **39** of the chute. The return stroke of door-shoe combination **36–37** is instantaneous.

Forward extension of piston rod **38A** in a rapid manner results in shoe **37** bunching or condensing the articles to be packaged with momentum being imparted to said articles to cause same to be propelled forwardly in a forceful manner along the moving shaped run of bag stock. A deflector at **45** insures article retention within bag stock **40** during their forceful discharge from the chute area.

Roll means at **46** serves to form the bags from the continuous U-shaped bag stock by pressing of the strips opposing marginal edges together longitudinally therealong while additionally sealing the leading and trailing transverse edges of the bag. Said roll means comprises companion rolls **47, 48** each having a circular head portion **49, 50**. The head portions are preferably provided with horizontal serrations providing a grooved periphery in intermeshed relationship with the serrations contributing to positive roll-bag stock engagement. Each roll further includes a depending reduced portion below the roll heads, said reduced portions indicated at **51, 52**. The outer extremities of the reduced portions constitute lands, typically shown in FIG. **10**, each bearing grooved arcuate surfaces **53, 54**. their respective grooved head portions. The grooved surfaces **53, 54** rotate into simultaneous pressing contact with the paper at intervals to form transverse sealed edges TE completing a bag enclosure with head portions **49, 50** sealing the bags upper longitudinal edge LE parallel to the fold line of the stock.

Cylinder **38** of the bag loading means cycles intermediate the formation of a bags leading and trailing transverse edges to advance the articles to be bagged into place rearward of a first formed transverse seal. The reduced portions **51, 52** of each roll **47, 48** permit passage of the articles therebetween by reason of said portions passing through parallel, spaced apart relationship coincident with bag passage.

Roll carrying shafts **55, 56** are journalled within pairs of bearings associated with upper and lower framework members **14** and **15**. A pair of bearings **57** are adjustably received within bearing mounts **58, 59** having screw means **60** permitting lateral adjustment of the axis of shaft **56** and hence the biased relationship of rolls **47, 48**. Shaft **55** is journalled within bearings **61, 62**.

In addition to sealing of the bags, roll means **46** serves to sever the completed bags from the continuous bag stock. Reciprocative blades **63** (FIGS. **7–10**) are housed within roll **47**, said blades being diametrically disposed within slots **64** extending vertically along head portion **49** and its associated lands **53**. The blades **63** are medially disposed along the grooved lands **53** with each blade extending vertically past the roll ends into sliding engagement with blade retainer arms **65, 66** immediately above and below roll **47**. Each retainer arm is secured to shaft **55** by a set screw extending through a central ring **67, 68**. Each arm has a tubular segment extending inwardly from its outer ends which receives a threaded insert **69** within which a blade return spring **70** is carried. The tubular segments of arms **65, 66** are slotted at **65A, 66A** to slidably receive the blade ends while arms **65** are additionally slotted at **65B** to receive crosspins **71** supporting each blade. Actuating each blade radially outwardly against springs **70** are pairs of upper and lower pistons **72, 73** working within horizontal bores **74, 75**. Pistons **72, 73** and springs **70** actuate the blades **63** in opposite directions during one cutting stroke. The upper bore **74** extends diametrically through the circular upper head portion of roll **47** while bores **75** are formed within the reduced portion of the roll. Each bore **74, 75** is in communication with a source of air pressure via a bored passageway **78** in shaft **55** and lateral bores **78A**. A pivotal air coupling **76** permits an airtight connection between shaft passageway **74** and an air supply line **79**.

Companion roll **48** is of like external configuration to roll **47** in that in addition to having grooved stock biasing surfaces it has a pair of diametrically disposed, lengthwise vertical slots **77** extending through its circular head **50** and medially along its reduced lower land portions **52**. Slot **77**, illustrated typically in FIG. **10**, receives the serrated edge of a blade **63** during the blade stroke in response to outward movement of pistons **72, 73**. Prior to and during the blade stroke the paper has been subjected to roll pressure to seal the opposing latex coated surfaces adjacent the cut. As best viewed in FIG. **10**, the bag stock is held in biased roll contact both forwardly and rearwardly of extended blade **63** to prevent following of the blade. Continuous counter rotation of each roll **47, 48** draws the paper therebetween and off supply roll **41** with circular head portions **49, 50** being in constant biasing contact with the upper marginal edge of stock **40**. The momentum imparted to the severed bags by the rolls results in bag discharge through an end wall opening **17A** (FIG. **1**) of the machine cabinet.

For actuation of cylinder **38** and blade actuating pistons **72, 73** cams at **80** and **81** are provided in place on roll shaft **55**. Mounted adjacent said cams for actuation thereby are air valves **82, 83** disposed in a stacked manner with each having a roller cam follower **84, 85**. For

purposes of timing air valve operation the latter may be positionably mounted relative to the axis of shaft **55.**

Air valve **82** is served by a regulated air supply line **86** with valve operation alternately communicating pressure to a pair of lines **82A, 82B** which terminate at a four way, double air pilot relay **87.** Said relay receives a regulated supply of air via conduit **88** which supply is alternatively directed to opposite ends of cylinder **38** via lines **89, 90** in accordance with the position of pilot relay **87.** Operation of cylinder **38** is as follows. From its normal rod extended position shown wherein drop plate **36** substantially occupies chute **30,** the cylinders piston is momentarily retracted by relay directed pressure through line **90** in response to valve **82** being actuated by cam **80.** The short dwell period of the cam shown in FIGS. **12** and **13** provides momentary retraction to the combined drop door and shoe **36–37.** Return of cam follower **84** ultimately causes relay **87** to reposition for extension of piston rod **38A** to its normal position. For ease of understanding, the approximate position of rolls **47, 48** during cam operation the same is shown schematically in FIGS. **12** and **13.**

Air valve **83** is served by a supply line **86A** with valve outlet lines **83A, 83B** terminating at a second four way, double air pilot relay **91.** A source of regulated pressure is provided relay **91** via a conduit **92** with a relay controlled pressure line **79** communicating pressure to the lower end of roll shaft **55** via coupling **76** for operation of blade pistons **72, 73.** The remaining port of relay **91** is vented and upon relay operation permits return of blades **63** by blade return springs **70.**

The operation of air valve **83** is shown in FIGS. **14** and **15** in conjunction with a schematic plan view of rolls **47, 48** on a highly reduced scale and showing relative roll positions during valve operation. With attention particularly to FIGS. **14** and **16** it will be seen that actuation of air valve **83** positions relay **91** to pressurize line **79.** Blades **63** are extended approximately five degrees prior to blade passage through a position normal to the bag stock **40.** With attention to FIG. **15** the return of valve **83** to its normal position shifts relay **91** to vent pressurized line **79** whereupon blade springs **70** return the roll carried blades. The clearance between blades **63** and slots **77** in the opposite roll is such as to permit each blade to rotate out of slot engagement.

With attention to FIG. **11** wherein a plan view of upper and lower roller chain drives are shown, the upper roller chain **93** is driven by motor M via a sprocket **94** carried by an output shaft **95** of a reduction drive unit at **96** in FIG. **2.** Chain **93** is entrained in its direction of travel past an idler sprocket **97** and in serpentive fashion through sprockets **98, 99** carried respectively by roll shafts **56** and **55** and past an idler sprocket **100.** Accordingly the counter rotating rolls **47, 48** are synchronized as is the actuation of pneumatic components by cams **80, 81** on shaft **55.**

A second or lower roller chain at **101** is entrained about a second sprocket **102** on shaft **56** which chain transmits rotary motion to shaft **30** via sprocket **103** for rotation of receptacle **27.** The sprockets at **102** and **103** constitute a reduction drive for table **27** to time the passage of a receptacle **27A** over chute **30** at intervals timed to the rotation of rolls **47, 48.**

The cam **80** operates air valve **82** for extension of the cylinder powered loading shoe subsequent to the deposit of the articles to be bagged on drop door **36.** Accordingly all of the articles within a single compartment of receptacle **27** are propelled forwardly by shoe **37** to the bag being formed by rolls **47, 48.** Timing of the forward movement of the shoe and the sealing of a bags leading transverse seal as depicted in FIG. **13** is such that said seal is substantially formed by the time the bunched articles have reached their limit of shoe initiated travel. For best sealing it is desirable that the sealing inner surfaces (latex coated) be kept free from contact with moisture as could occur in the packaging of poultry giblets.

With continuing regard to the packaging of food products, it may be desirable for cleaning purposes to mount cylinder **38** in a detachable manner at its rearward end to a rearward extension of the chute. Accordingly both would be removable as an assembly for individual cleaning. The mounting would permit the shoe to retain its rested relationship on the lowermost portion or web of the chute **30** to assure shoe pickup all articles released by drop door **36.** Further, for the same objective, the chute **30** or modified form thereof may be slightly forwardly inclined or pitched.

While we have shown and described but one form of the invention it will be apparent to those skilled in the art that the invention may otherwise be embodied with such embodiments coming under the spirit and scope of the present invention as set forth in the appended claims.

Having thus described the invention what is desired to be secured under a Letters Patent is:

1. A machine for the bagging of articles within bags formed from continuous partially folded bag stock comprising,

a framework adapted to receive a continuous supply of bag stock,

rolls jointly acting on opposite sides of the partially folded bag stock, said rolls including,

cooperating head portions continuously sealing opposed longitudinal edges of the bag stock,

cooperating lands on the rolls transversely sealing the bag stock at intervals therealong,

blade means carried by one of said rolls and adapted for radial movement constituting a cutting stroke of the blade for transversely severing the bag stock along transversely sealed bag areas,

blade actuating means carried by said one roll and operative at recurrent intervals to actuate said blade means during a cutting stroke, and

bag loading means including a shoe acting at recurrent intervals on articles to be bagged to project same along a moving run of bag stock into proximity of the roll means for enclosure by the longitudinal and transverse seals, shoe actuating means operable in a forceful manner in recurring cycles to move the shoe in a rectilinear path.

2. The machine claimed in claim **1** additionally including a deflector having an inclined surface acting on the projected articles.

3. The machine claimed in claim **1** wherein said blade means is slidably housed within one of said rolls, said blade actuating means carried by said one roll includes piston elements responsive to recurrent fluid pressure for radial blade extension.

4. The machine claimed in claim **1** wherein said bag loading means includes a combination shoe and drop door in perpendicular relationship, said drop door momentarily supporting a quantity of articles to be

bagged, means in wiping contact with said drop door, said shoe actuating means intermittently actuating said shoe and drop door in a reciprocative manner resulting in wiping of the articles to be bagged from the door and subsequently advancing same in the direction of travel of the bag stock.

5. The machine claimed in claim **4** wherein said bag loading means additionally includes a chute for reception of the articles to be bagged, said drop door normally disposed within the chute and momentarily supporting the articles prior to their repositioning by the shoe.

6. The machine claimed in claim **5** wherein said shoe actuating means is a pneumatic cylinder swingably mounted to the framework within a run of partially folded bag stock, said shoe carried by the outer end of the cylinder piston rod and in rested contact with the chute interior to assure positive contact between the shoe and chute for thorough discharge of articles from the chute.

7. In combination, rolls jointly acting on partially folded bag stock having a pressure sensitive inner surface, said rolls each including circular head portions in rolling contact with the bag stock forming a longitudinal seal therealong, depending roll portions of reduced section having circumferentially spaced lands thereon for contact with the bag stock at intervals to sequentially form transverse seals, bag loading means including a pneumatic cylinder and a shoe operable intermediate the sequential formation of said transverse seals of a bag to forcefully project a group of articles being bagged towards a formed transverse seal and, blade means within one of said rolls and adapted for radial movement constituting a cutting stroke of the blade for transversely severing the bag stock along the transverse seals, blade actuating means carried by said one roll and operative at recurrent intervals to actuate said blade means during a cutting stroke.

8. The combination claimed in claim **7** additionally including a drop door associated with said shoe and momentarily supporting the group of articles to be bagged prior to their positioning by the shoe, means in wiping contact with said drop door to wipe the articles from the door immediately prior to shoe contact.

9. A machine for the bagging of worker selected articles within bags formed from continuous partially folded bag stock, said machine comprising,

a framework adapted to receive a continuous supply of bag stock,

a powered turntable on said framework for the reception of a varied assortment of articles for travel past workers located adjacent the machine,

bag pre-loading means including a rotating receptacle having upwardly opening compartments therein for receiving worker selected articles and sequentially discharging same in compartmental groups to be separately bagged,

bag loading means including a chute intermittently receiving said groups of articles from said rotating receptacle, a combination show and drop door in perpendicular relationship normally disposed within said chute, said drop door momentarily supporting a group of articles to be separately bagged, means in wiping contact with said drop door, pneumatic means intermittently actuating said shoe and drop door in a rectilinear manner to project the grouped articles along the moving bag stock, and

rolls jointly acting on the bag stock and including circular head portions for continuously sealing opposed longitudinal edges of the partially folded stock, roll portions of reduced section having circumferentially spaced lands thereon for contact with the bag stock at intervals to form transverse seals, blade means within one of said rolls and having a radial cutting stroke for transversely severing the bag stock along the transverse seals, blade actuating means carried by said one roll and operative at recurrent intervals to actuate said blade means during a cutting stroke.

10. The machine claimed in claim **9** additionally including a deflector having a forwardly inclined surface acting on the grouped articles to compact same immediately prior to their enclosure within a bag.

11. In a machine for the bagging of articles within bags formed from a continuous web of bag stock, said machine including cooperating rolls receiving a partially folded web of bag stock, therebetween, said rolls having circular head portions in opposed rolling contact with the bag stock and having roll portions of reduced section with circumferentially spaced lands thereon for contact with the bag stock at intervals to form transversely extending sealed areas on said web, means for advancing articles to be bagged along the partially folded web to the proximity of said rolls, the improvement comprising blade means disposed longitudinally along one of said rolls and adapted for radial movement through the transversely extending sealed areas during a cutting stroke for severing of the bag stock, blade actuating means including piston elements responsive to recurrent fluid pressure, a pair of roll carrying shafts, one of said shafts axially bored to provide an air passageway therealong in communication with laterally extending shaft bores, said one roll defining horizontally directed bores for said piston elements in communication with the bores in said bored shaft whereby pressurized air may be communicated to said horizontal bores for piston actuation.

12. The invention claimed in claim **11** additionally including cam means mounted on said one shaft, means actuated by said cam means for regulating a flow of air under pressure through said one shaft for actuation of said piston elements whereby blade actuation is synchronized to specific rotation positions of said one roll.

13. The invention claimed in claim **12** including additional means actuated by said cam means, said additional means regulating a flow of pressurized air to said article advancing means whereby operation of the last mentioned means is kept in synchronization with roll rotation.

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