L. FISCHER.

MACHINE FOR INTRODUCING CHARGES OF MATERIAL INTO RECEPTACLES.

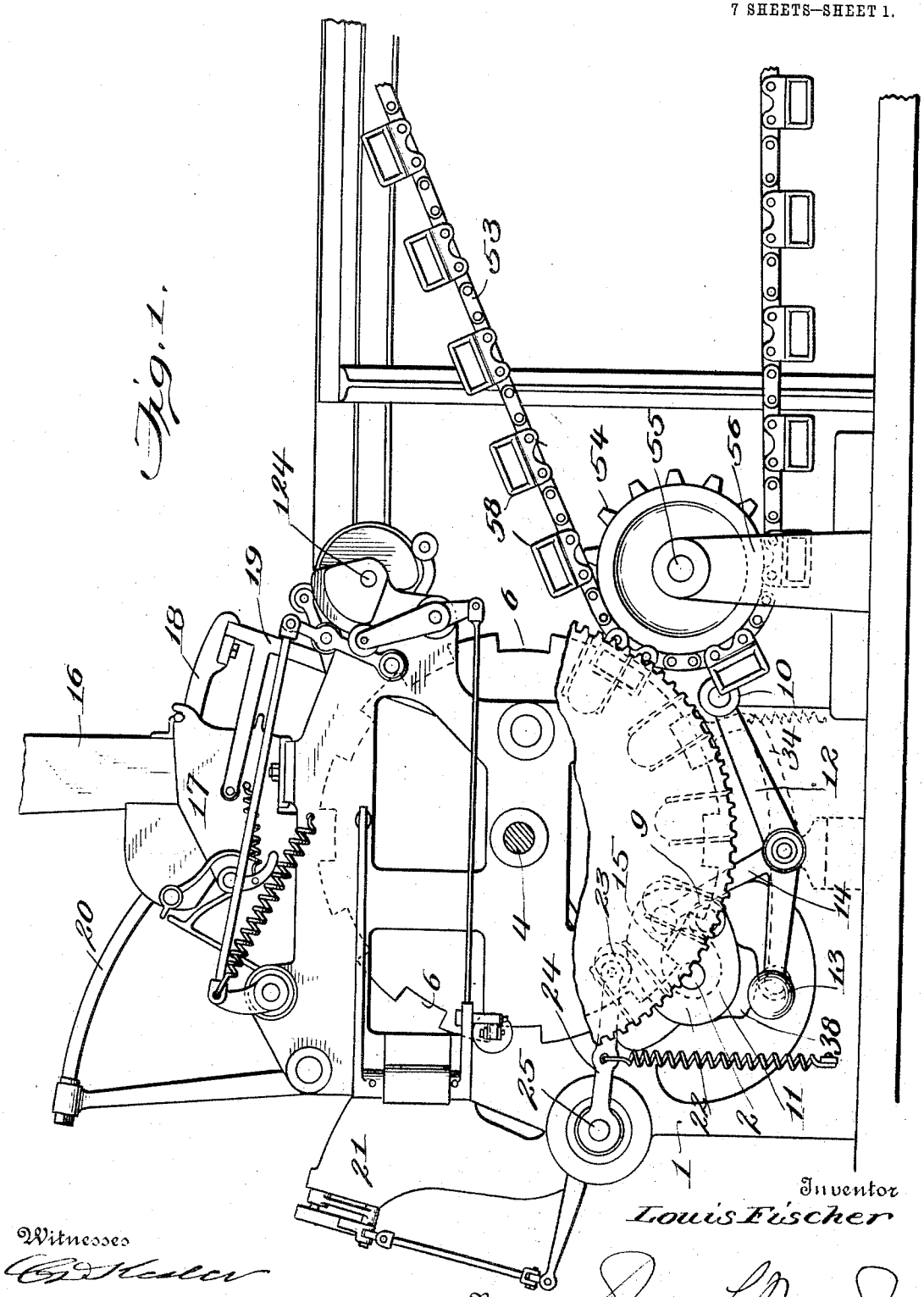
APPLICATION FILED MAY 15, 1912.

1,078,492.

Patented Nov. 11, 1913.

7 SHEETS—SHEET 1.

Fig. 1.



Witnesses

C. A. Bateman

Inventor

Louis Fischer

By James L. Norris

Attorney

L. FISCHER.

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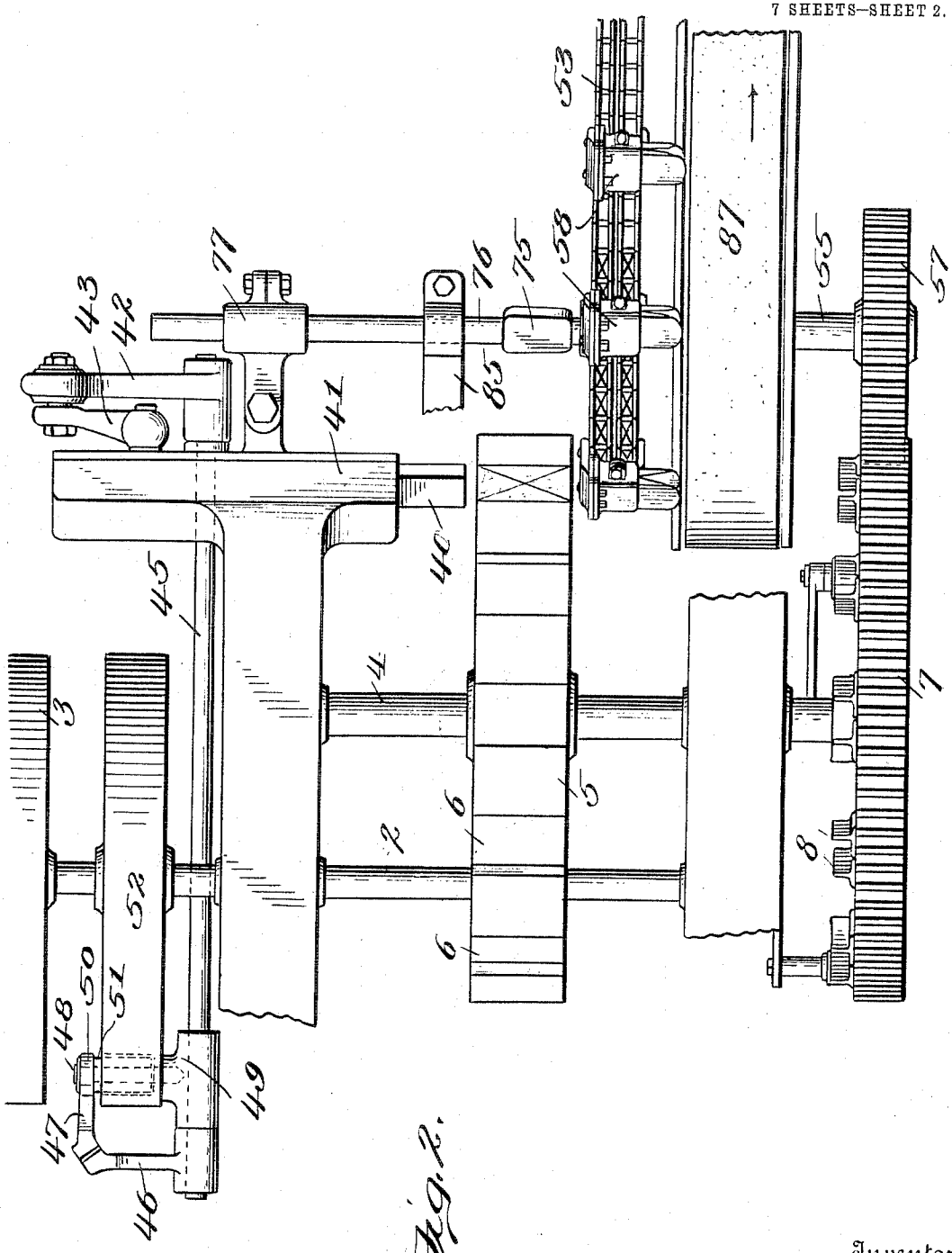


Fig. 2.

Witnesses

C. A. Hansen

C. A. Bateman

Inventor

Louis Fischer

By Dennis & Morris

Attorney

L. FISCHER.

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Fig. 3.

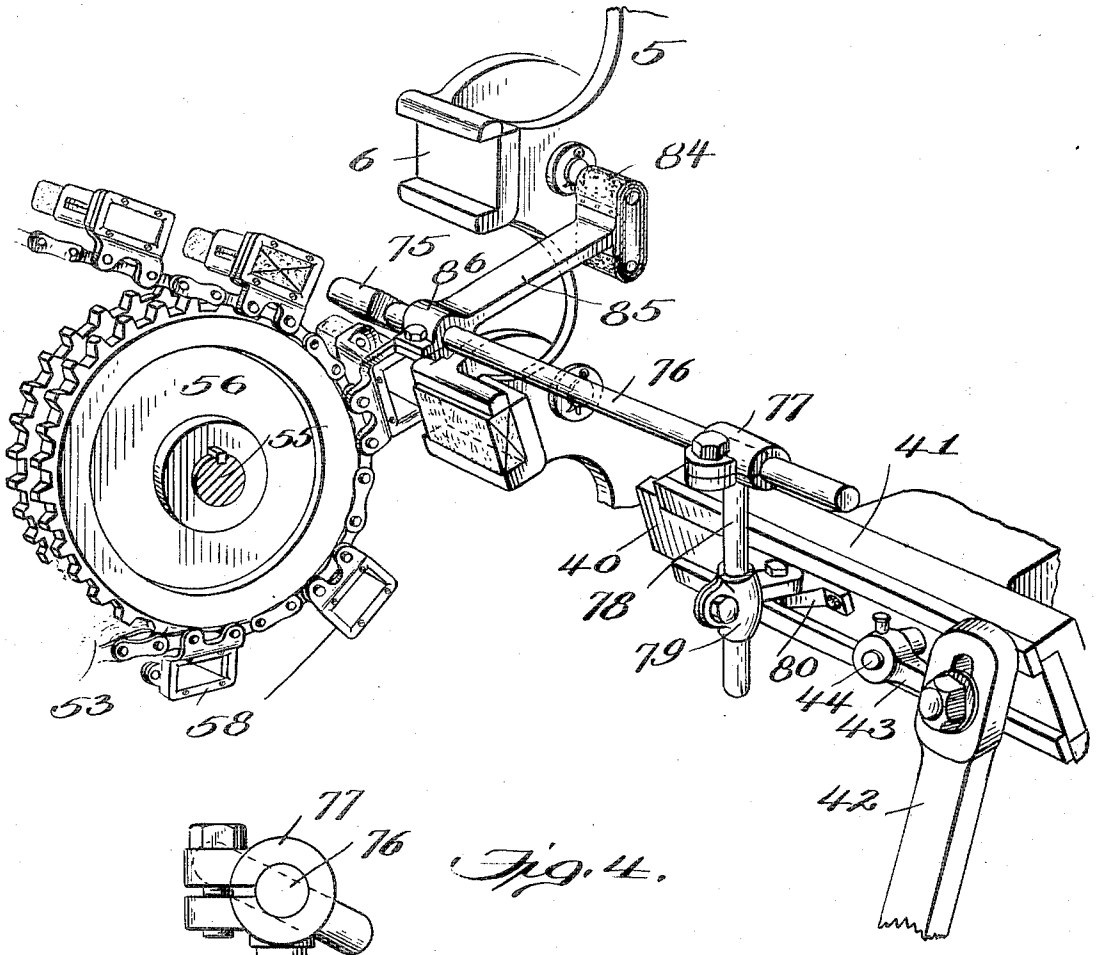
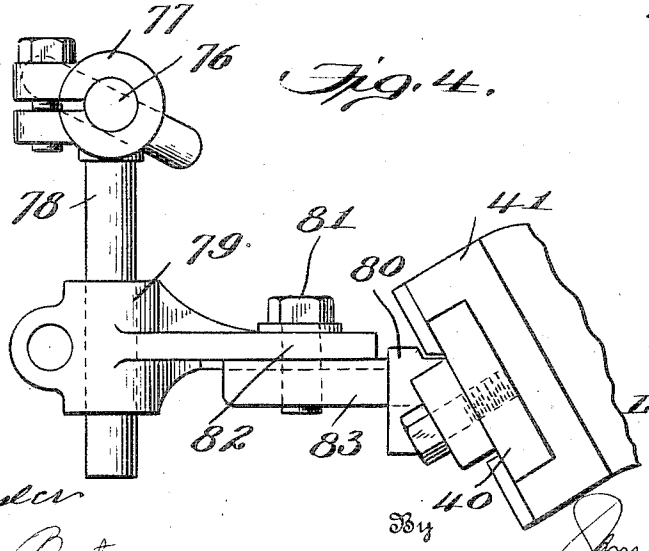


Fig. 4.



Witnesses

C. A. Peterman

Inventor

Louis Fischer

By James A. Norris

Attorney

L. FISCHER.

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7 SHEETS—SHEET 4.

Fig. 5.

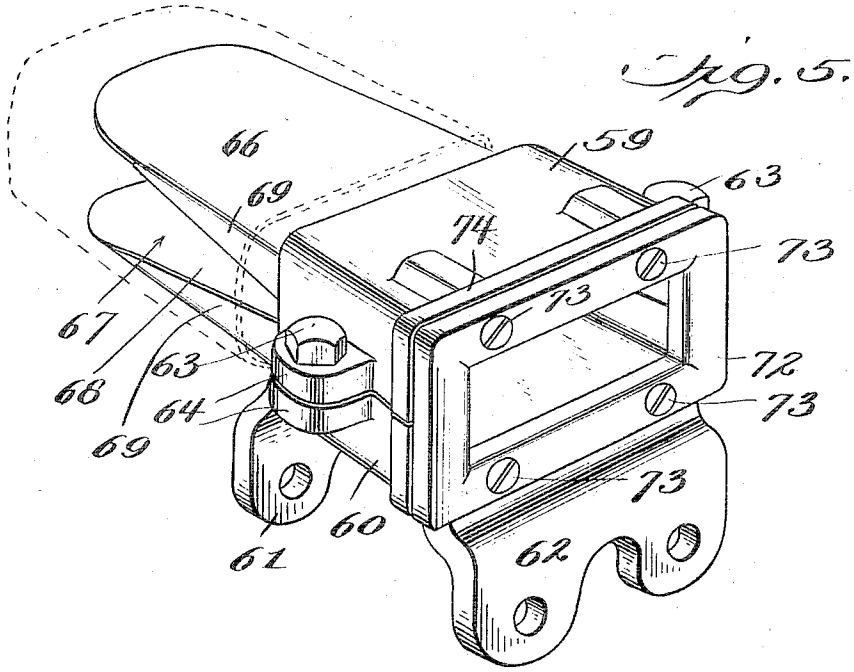


Fig. 6.

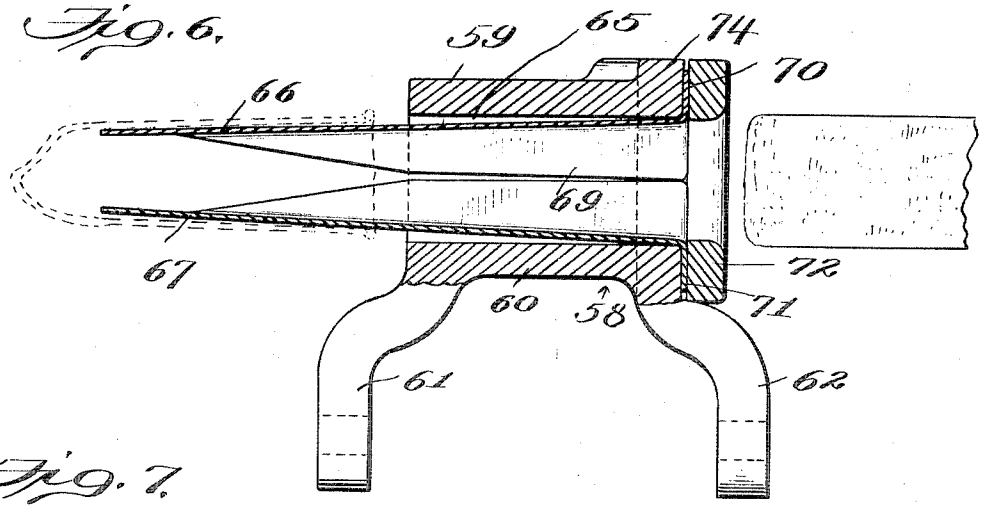
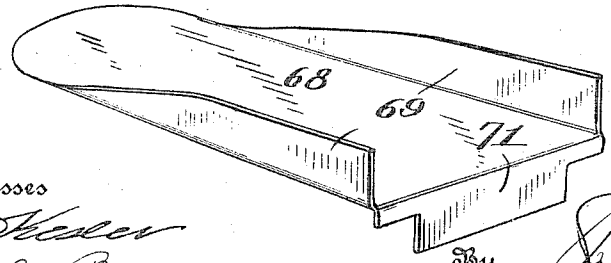


Fig. 7.



Witnesses

C. A. Bateman

Inventor

Louis Fischer

By James L. Norris

Attorney

L. FISCHER.

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7 SHEETS—SHEET 5.

Fig. 8.

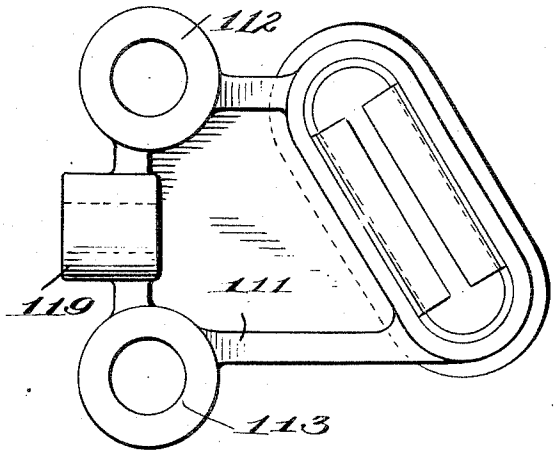


Fig. 9.

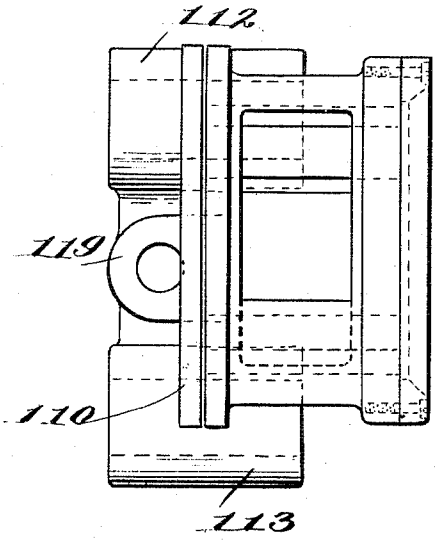


Fig. 10.

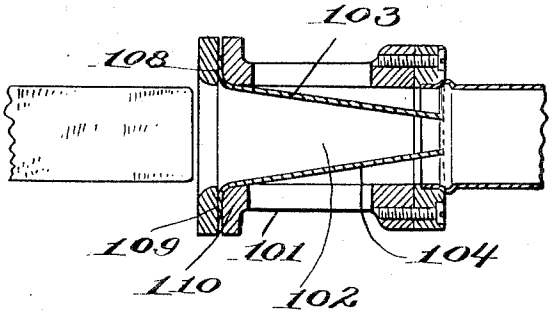
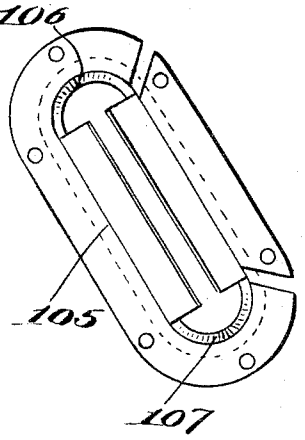


Fig. 11.



Inventor

Louis Fischer

Witnesses

C. A. Bateman.

By James L. Norris & Co.

Attorney

L. FISCHER.

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7 SHEETS—SHEET 6.

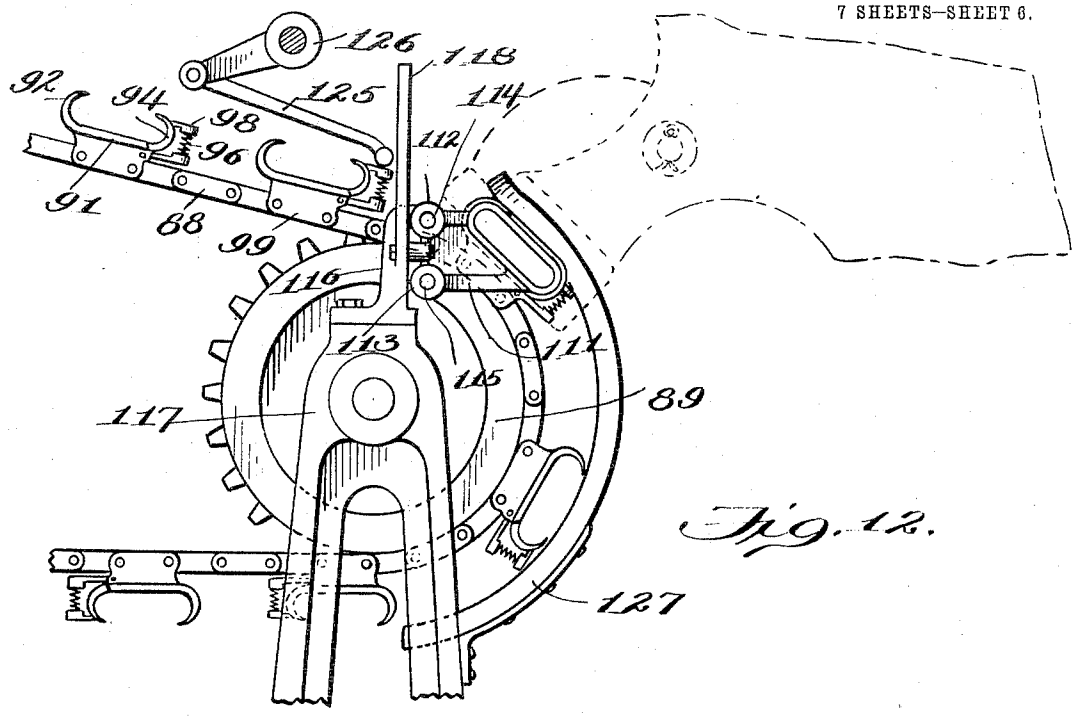


Fig. 12.

Fig. 14.

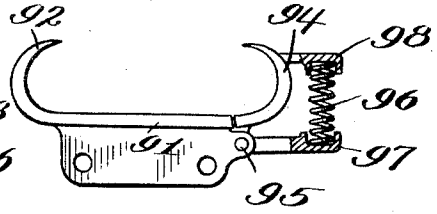
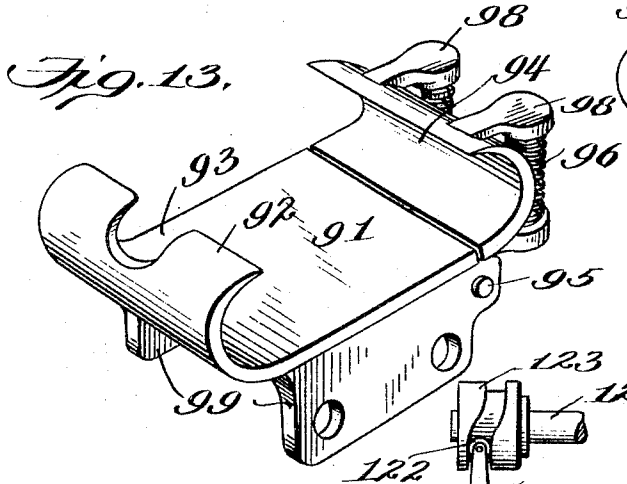


Fig. 13.



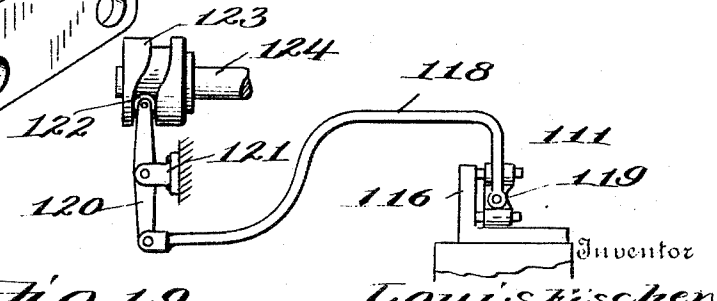


Fig. 19

Inventor
Louis Fischer

Witnesses
C. A. Bateman

By James L. Norris
Attorney

L. FISCHER.

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APPLICATION FILED MAY 15, 1912.

1,078,492.

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7 SHEETS—SHEET 7.

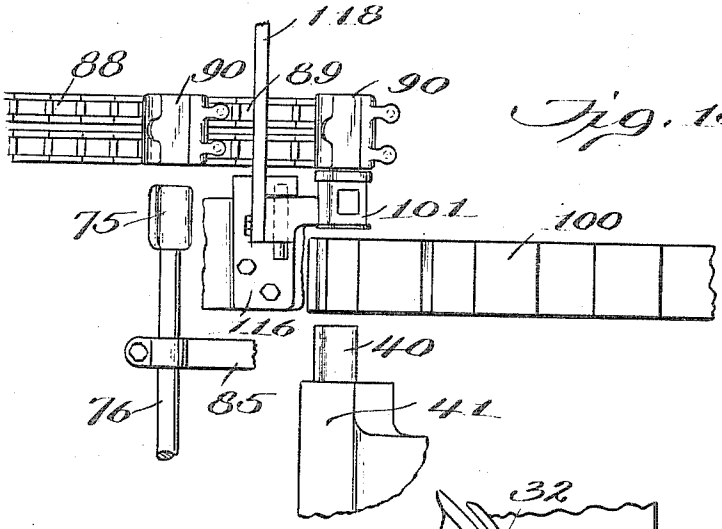


Fig. 15.

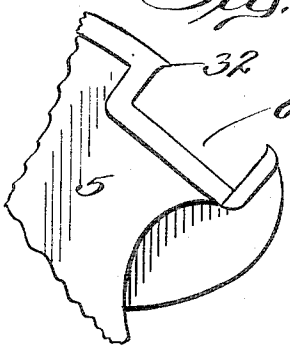


Fig. 18.

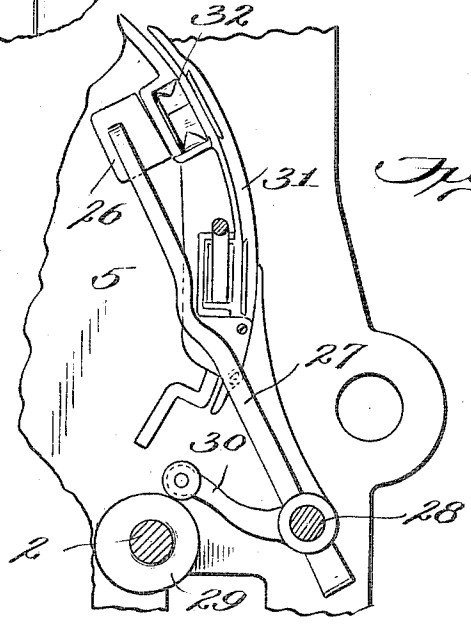
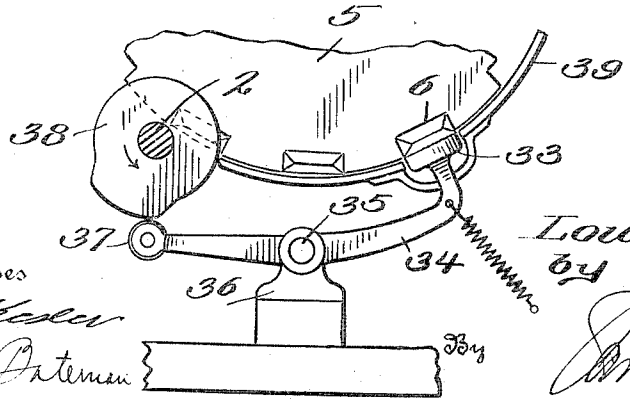


Fig. 16.

Fig. 17.



Witnesses

C. A. Bateman

Inventor

Louis Fischer

By

Attorney

UNITED STATES PATENT OFFICE.

LOUIS FISCHER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO RICHARD H. WRIGHT, OF DURHAM, NORTH CAROLINA.

MACHINE FOR INTRODUCING CHARGES OF MATERIAL INTO RECEPTACLES.

1,078,492. Specification of Letters Patent. Patented Nov. 11, 1913.

Application filed May 15, 1912. Serial No. 697,589.

To all whom it may concern:

Be it known that I, LOUIS FISCHER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Machines for Introducing Charges of Material into Receptacles, of which the following is a specification.

My present invention relates to improvements in packeting machines, and it has for its object primarily to provide a machine for introducing charges or packets of material, tobacco for example, into receptacles, particularly bags or cans, whereby the difficulties and expense incident to such operation when performed manually such as heretofore, are avoided, the receptacle, whether a bag or can, being, according to the present invention, positioned in coöperative relation with a mouth-piece or holder through which the charge or packet is passed, the mouth-piece or holder embodying yieldable or resilient members which are normally collapsed or in converging relation and are expanded by the charge or packet when the latter is forced by or through them, such members then operating to insure proper entrance of the charge or packet into the receptacle and also insuring the maintenance of the proper coöperative relation between the receptacle and the mouth-piece or holder during insertion of the charge or packet whereby certainty and rapidity in the operation of the machine are attained.

Further objects of the present invention are to provide means for producing a final compression on the charge or packet immediately prior to the introduction of the same into the receptacle, to provide means for preventing the accumulation of the material being handled in the molds of the packeting mechanism, and to provide each mold of the packeting mechanism with an overlying lip to prevent displacement of the packet from the mold when the final fold of its wrapper is made.

To these and other ends, the invention consists in certain improvements, and combinations and arrangements of parts, all as will be hereinafter more fully described, the novel features being pointed out particularly in the claims at the end of the specification.

In the accompanying drawings:—Figure 1 is a general view of a packeting machine combined with means constructed in accordance with the present invention for inserting charges or packets into receptacles; Fig. 2 is a diagrammatic view in plan showing the operative connections between the packeting mechanism and the mechanism for inserting the charges or packets into the receptacles; Fig. 3 is a perspective view of the charge or packet-inserting mechanism; Fig. 4 is an end elevation of the ejector slide forming part of the charge or packet-inserting mechanism; Fig. 5 is a perspective view of a mouth-piece or holder particularly adapted for use in inserting charges or packets into bags; Fig. 6 represents a longitudinal section through the mouth-piece or holder shown in Fig. 5 and indicating diagrammatically the manner in which the bag is applied and the packet or charge is inserted; Fig. 7 is a perspective view of one of the yieldable or resilient members of the mouth-piece or holder; Figs. 8–11 inclusive are detail views of a modified form of mouth-piece or holder which may be used advantageously in those cases where the charges or packets of material are introduced into cans or similar receptacles; Fig. 12 shows a portion of a mold wheel, a carrier equipped with devices for bringing the cans or receptacles into charge-receiving position, and the mouth-piece or holder through which the charge or packet is passed while the can is in coöperative relation therewith; Figs. 13 and 14 are detail views of one of the can-feeding devices; Fig. 15 represents a top plan view of the parts shown in Fig. 12; Fig. 16 shows diagrammatically the devices for producing the final end folds of the wrapper; Fig. 17 is a diagrammatic view of the device for producing a final compression on the packet or charge immediately before the latter is introduced into the receptacle; Fig. 18 is an enlarged view of one of the molds of the mold wheel showing the overlying lip to prevent dislodgment of the packet when the final end fold is being made; Fig. 19 is a diagrammatic view showing means for moving the mouth-piece to and from operative position with respect to each can or receptacle.

Similar parts are designated by the same reference characters in the several views.

The present invention is applicable generally to the handling of materials having

different characteristics and it is also capable of being used in connection with packeting or filling machines of various types. In the present instance, I have shown and shall describe the preferred embodiments of the invention applied to and combined with a packeting machine of a particular type, but it will be understood that the invention is not restricted to such use and also that modifications or changes may be made in the construction and arrangement of the parts in order that the invention may be applied to the best advantage according to each particular case.

In the accompanying drawings, the present invention is shown in connection with a packeting machine of the type fully disclosed in U. S. Patent No. 586,076 dated July 6, 1897, the packeting machine being illustrated only in a general way in the present instance, as the construction and operation thereof can be fully understood from said patent. The packeting machine serves to form the material, tobacco for example, into charges, to pack or compress the charges into suitable form and size, and to apply wrappers to the packets, the wrapped packets according to the present embodiment of my invention being automatically delivered to and introduced into the receptacles. The packeting machine may for present purposes be described as consisting generally of a main frame 1 which supports the main continuously revolving shaft 2 which may receive motion from a pulley 3, and the main frame also supports a shaft 4 on which a mold wheel 5 is fixed, the mold wheel being formed with a suitable number of appropriately spaced recesses or molds 6 conforming in size and dimensions to those of the packets to be handled. The main shaft 2 as stated revolves continuously while the mold wheel 5 is rotated at intervals to bring the molds in the mold wheel successively into the different operative positions, this step-by-step movement of the mold wheel being effected, for example, by a Geneva movement composed of a gear wheel 7 fixed to the mold wheel shaft 4 and having a suitable number of radially arranged recesses or guides 8 in which rollers or projections 9 and 10 operate, the roller or projection 9 being carried by a disk 11 which disk is fixed to the continuously revolving shaft 2 so that each revolution of the main shaft 2 will cause this projection to leave one notch or guide 8 to enter the next notch or guide and to thereby turn the mold wheel shaft one step. The roller or projection 10 serves to lock the mold wheel shaft successively in the different operative positions, it moving into an alined recess or guide after each advancing movement of the mold has been completed. This roller or projection in the present instance is mounted on a rocking arm or lever 12, the opposite end thereof being provided with a counterweight 13 which normally tends to move the roller or projection 10 into locking position, and another arm 14 on the rocking lever 12 cooperates with a cam 15 on the continuously revolving shaft 2 whereby the projection 10 is intermittently unlocked prior to each advancing movement of the mold wheel.

The material to be handled is fed to the packeting mechanism by a chute 16 which leads to a compression chamber 17, and a sector-shaped pusher 18 supported by the frame 19 operates as shown and described in said patent to control the flow of material from the chute into the compression chamber 17 and to position each charge in front of a packer 20, each mold in the mold wheel being successively positioned in the path of the packer whereby the latter forces the compressed charge of material into the mold. Wrappers, however, are fed to the mold immediately prior to the introduction of the charge therein, and during the step-by-step movement of the mold wheel the wrapper is progressively folded, 21 designating the swinging frame which carries the end folders for the wrappers and this frame is moved to and from operative position by a cam 22 on the continuously revolving shaft 2 which acts on the roller 23 carried by an arm 24, the latter being fixed to the shaft 25 which bears the end folder frame 21. The final fold of the end portions of the wrapper is made by blades 26 one arranged at each side of the mold wheel, these blades being operated by a frame 27 mounted on a rock shaft 28 and the blades are actuated at appropriately timed intervals by a cam 29 which coöperates with a roller or projection borne by an operating arm 30, the blades 26 in making the final end fold moving outwardly or toward the open side of the mold. A segmental guard 31 lies in close proximity to the periphery of the mold wheel and serves to hold the longitudinal edges of the wrapper in folded condition. These parts are shown in Fig. 16 of the drawing.

In order to prevent displacement of the packet, due to the outward or substantially radial thrust exerted thereon by the end folding blades 26, I provide one of the longitudinal edges or corners of the mold adjacent to the open side thereof with an overlying lip 32 which projects across the open side of the mold sufficiently to retain the packet in the mold notwithstanding the thrust exerted thereon by the end folding blades.

In order to insure uniformity in the sizes and shapes of the packets and to facilitate the introduction of the packets into the receptacles, I have provided a presser which

produces a final compression on the packet immediately before the packet is introduced into the receptacle. This presser is shown in Fig. 17 and consists of a head 33 which conforms substantially in size and shape to the dimensions of the mold and it is carried by a lever 34 which is fulcrumed at 35 on a bracket 36 which latter is fixed to a stationary part of the machine and the opposite end of the lever 34 bears a roller or projection 37 which coöperates with a cam 38, this cam being fixed to the continuously revolving shaft 2 whereby during each interval elapsing between the advancing movements of the mold wheel, the head 33 will be pressed inwardly against the packet resting in the respective mold which then registers with the head, the next step in the movement of the mold wheel bringing this package into position to be ejected from the mold wheel. A segmental guard 39 is arranged concentrically with the periphery of the mold wheel and at opposite sides of the pressing head 33, this guard serving to prevent unfolding of the wrapper.

The packeting machine as briefly referred to above and which is fully shown and described in said prior patent serves to form and supply wrapped charges or packets to the mechanism which I have provided for introducing such charges or packets into appropriate receptacles. The charges or packets are successively removed or ejected from the molds in the mold wheel by an ejector slide 40 which reciprocates in a guide 41, the latter being suitably fixed to a stationary part of the machine frame in such a position that the ejector slide is in alinement with each mold in the mold wheel as such mold is brought to the ejecting point. Preferably, the ejector slide corresponds in size and shape to that of the mold as shown. Different means may be provided for operating the ejector slide 40 at appropriate intervals, it being understood that the ejector slide operates between the movements of the mold wheel or while the latter is in a state of rest. In the present instance, a swinging arm 42 serves to operate the ejector slide, this arm being operatively connected to the ejector slide by a link 43 which coöperates with a pin 44 on the slide and the swinging arm is fixed to a rock shaft 45 which is mounted in suitable bearings at one side of the machine frame, and this rock shaft is actuated at appropriate intervals by a gear segment 46 which is fixed to one end of the rock shaft and coöperates with a gear segment 47, the latter being fulcrumed on a pin 48 which is fixed in a bearing 49 and the gear segment also carries an arm 50 which is provided with a roller or projection 51, the latter coöperating with a groove in the adjacent face of the cam 52, this cam being fixed to turn continuously with the main shaft 2. The packets after being so ejected from the mold wheel are introduced into the receptacles by mechanism which I have provided and which will be described in the preferred embodiments.

That form of the invention shown in Figs. 1–7 inclusive is particularly adapted for use in those cases where the charges or packets are introduced into bags or similar receptacles, a traveling conveyer 53 being provided which is preferably in the form of a sprocket chain as shown, and this conveyer coöperates with a sprocket wheel 54, the latter being arranged at that side of the mold wheel toward which the packets are ejected as shown in Fig. 2, and it is fixed to a supporting and operating shaft 55, the latter being journaled in appropriate bearings 56 and is provided with a driving gear 57 which coöperates with the driving gear 7 fixed to the mold wheel shaft 4 with the result that the conveyer operates intermittently and synchronously with the step-by-step rotation of the mold wheel. This conveyer serves to bring the receptacles successively into position to receive the packets or charges as they are ejected from the mold wheel, the receptacle carriers or holders being attached at appropriate intervals to the conveyer. It is to be understood, of course, that this conveyer is of a sufficient length to enable the receptacles to be readily applied to the holders thereon, this operation being performed for example by hand. As shown in Figs. 1 and 2, the conveyer carries a plurality of uniformly spaced receptacle holders 58 and upon reference to Figs. 5–7 inclusive, it will be observed that each of these holders comprises in the preferred embodiment of the invention a hollow body which is split or composed of complemental sections 59 and 60, one of the sections, the section 60 in the present instance, being formed with suitable lugs 61 and 62 which straddle and are riveted or otherwise secured to the conveyer chain, and the sections are clamped together by bolts 63 at the opposite sides thereof which extend through lugs 64 formed on the sections. The hollow body composed of the assembled sections has a passage or opening 65 extending therethrough, and the walls of this opening are preferably parallel and the cross-section of the opening corresponds substantially to the shape of the charge or packet to be handled. A pair of yieldable or resilient members 66 and 67 are provided which serve to produce such a connection between the receptacle and the holder as to insure the proper introduction of the charge or packet into the receptacle. In the construction shown in Figs. 5–7 inclusive, these members are composed of sheet metal of a resilient nature, each member having a flat portion 68 and inwardly turned flanges 69, the latter serving

to guide the packet or charge in an edgewise direction. That end of each member which receives the receptacle is preferably rounded as shown in Figs. 5 and 7, in those cases where bags or similar receptacles are to be handled, the rounded form facilitating the application of the bags or receptacles which are fitted over the projecting ends of the members. The opposite ends of the members are secured to the hollow body composed of the sections 59 and 60 in such a manner as to afford a relative yielding or resilient action of the members, the members being normally collapsed or converging toward one another at the receptacle-engaging ends thereof, thus enabling the receptacle to be applied easily, and when the charge or packet is pushed through the space formed between these members, the members are spread apart or expanded to accommodate the charge or packet, and in so expanding or spreading, such members produce a binding effect on the receptacle which will effectively prevent dislodgment thereof and will insure the introduction of the charge or packet to the extreme bottom of the receptacle. In the present instance, the ends of the members 66 and 67 are bent laterally as at 70 and 71, and these laterally bent ends of the members are rigidly secured in fixed relation to the body of the holder by a clamping ring or head 72 which has a flared charge-receiving mouth and is secured in position by suitable means, such for example as the screws 73, which extend through a flange 74 formed on the body of the holder.

A holder or mouth-piece as just described may also be used either with or without modification, in those cases where the charges are to be introduced into cans or similar substantially rigid receptacles, such cans being applied over the projecting ends of the relatively movable positioning and guiding members 66 and 67 and on which the can will be held while the packet or charge is being ejected from the mold wheel and pushed into the can.

In the present construction, the reciprocatory ejector slide 40 serves to remove the packet or charge from the appropriate mold in the mold wheel and to introduce it into the holder or mouth-piece, and after the mold wheel and conveyer have advanced a step, the next operation causes an ejector to push the charge between the relatively movable positioning and guiding members into the bottom of the receptacle and finally to push or remove the receptacle with its charge therein from the holder or mouth-piece. For this purpose, an ejector is provided in the present instance which has a head 75 which operates in alinement with each holder as the latter reaches ejecting position, this ejector head being carried by a rod 76 and preferably this ejector is operated from and synchronously with the ejector slide 40. For this purpose, a clamp 77 is provided which secures the rod 76 carrying the head 75 and enables the latter to be turned or adjusted so as to properly enter the holder, and the clamp 77 is secured to an upright stem 78, the latter being secured by a clamp 79, and this clamp is secured to the ejector slide by a bracket 80 which is fixed thereto. In the present instance, the clamp 79 carrying the stem 78 is so secured to the ejector slide that it may be adjusted laterally with respect thereto, a screw or bolt 81 extending through the slotted and overlapping ends 82 and 83 of the clamp 79 and bracket 80 respectively. With an arrangement such as that described, it will be understood that one charge or packet is transferred from the mold wheel to a holder positioned in alinement therewith, and simultaneously the packet or charge in the next holder in advance is pushed into the bottom of its receptacle and the charged receptacle is finally removed or discharged from its holder.

In order to avoid the accumulation of tobacco or other material in the molds in the mold wheel, a wiper is preferably used, this wiper shown in Fig. 3 comprising a head 84 which is provided with a covering of felt or other relatively soft or yieldable material which conforms substantially in shape to the mold in the mold wheel and reciprocates through the molds as they are successively positioned in alinement therewith. This wiper is carried by an arm 85 and the latter is rigidly secured by a clamp 86 or equivalent means to the ejector rod 76, the wiper, the ejector head 75 and the ejector slide 40 operating in unison and being driven by common operating means.

The filled or charged receptacles, after they are discharged or removed from the holders, may be received by any suitable means and conducted to any desired point, a traveling conveyer 87 being used in the present instance which operates at one side of the conveyer chain 53 and serves to conduct the filled receptacles to a table or other suitable point.

In some instances it may be preferable to employ the slightly modified arrangement as shown in Figs. 8–15 inclusive, especially where the charges or packets are to be introduced into metallic cans or other substantially rigid receptacles. In that arrangement, the conveyer chain 88 which passes over the sprocket wheel 89 corresponding to the sprocket wheel 54 in the previous arrangement supports a plurality of suitably spaced receptacle carriers 90 which may be of different constructions. In the present instance, each receptacle carrier comprises a body portion 91 having a relatively fixed flange or overlying lip 92 at one end, said

flange or lip being preferably formed with a finger opening 93, and a relatively movable flange or lip 94 is provided which is complemental to the flange or lip 92, the relatively movable flange or lip in the present instance being pivoted to the body 91 at 95 to enable relative separation or spreading of the flanges and thereby permitting a receptacle to be introduced between the flanges as indicated diagrammatically in Fig. 14. Springs 96 may be used to yieldingly retain the flanges in operative position and to frictionally hold the receptacle in place, these springs in the present instance being interposed between lugs 97 and 98 which project respectively from the body 91 and the relatively movable flange or lip 94. The body has lugs 99 which straddle the conveyer chain and are riveted or otherwise secured thereto. The mold wheel 100 corresponds to the mold wheel 5 in the previous construction and in fact the construction of the packeting apparatus may be the same as in the previous instance although a device is provided which receives the packet or charge from the mold wheel and embodies means for positioning the can or receptacle and for guiding the charge or packet while entering the receptacle, this device corresponding to the holder previously described. This device is shown in detail in Figs. 8–11 inclusive, it comprising a body 101 which is formed with an opening 102 which extends therethrough and serves for the passage of the charge or packet, a pair of relatively movable and yieldable members 103 and 104 being arranged in the opening 102 which members are spread apart or expanded as the charge or packet is forced longitudinally between them and, moreover, these relatively movable or yieldable members extend into the can or receptacle or overlap the same in a manner to form a continuous or smooth connection which will insure proper entrance of the charge without catching upon the mouth of the can or receptacle and without pushing the can or receptacle out of place. The body 101 has a mouth 105 to receive, center and position the can mouth, the ends of the mouth 105 being beveled and recessed as shown at 106 and 107 to cooperate with the ends of the can mouth and when the can is so positioned, the free ends of the members 103 and 104 overlap or project into the can as shown in Fig. 10. These members 103 and 104 are in the present instance composed of resilient material and they are secured to the body 101 in a manner which enables them to spread apart or expand when the package passes between them and to return to normal collapsed position after the passage of the package, the collapsed or convergent relation of the members 103 and 104 enabling the can mouth to be positioned over them with facility. In the present instance, the members 103 and 104 are provided with out-turned flanges or ends 108 and 109 which are firmly clamped in position by the flange 110 which has a flared charge-receiving mouth and is secured to the rear end of the body 101. In operating a machine embodying this form of the invention, the part 101 is moved toward the conveyer chain having the receptacle holders thereon preliminarily to each operation of the ejecting mechanism which may be the same as that described in the previous arrangement, and after a charge or packet has been transferred from the mold wheel to a can or receptacle, the part 101 is retracted or moved away from the conveyer chain, thereby disengaging it from the mouth of a can thereon and permitting the latter to advance during the next step or movement of the conveyer chain. Different means may be provided for accomplishing such movements of the parts, the body 101 in the present instance being formed on a bracket 111 which has bearings 112 and 113 which are adapted to slide on parallel guiding pins 114 and 115, the latter being supported rigidly by a stationary bracket 116 and the latter may be secured, for example, to one of the bearings 117 for the shaft of the sprocket wheel 89. The member 101 is reciprocated at appropriate intervals and during the periods of rest between the movements of the mold wheel and conveyer chain by any suitable means, that shown embodying a link 118 which is attached to the eye 119 of the bracket 111, and this link is connected to one end of a rocking lever 120, this lever being fulcrumed at an intermediate point on a stationary bracket 121 and the opposite end of the lever 120 carries a roller or projection 122 which cooperates with a cam 123, the latter revolving continuously and in the present instance is fixed to the cam shaft 124 which forms a part of the packeting machine. After a charge or packet has been transferred from the mold wheel and into the can, the charged or filled can is removed from its holder on the conveyer chain by the ejector head 75 which is employed for a similar purpose in the previous construction, and in order to facilitate the removal of the filled can from the holder, means may be provided for opening the relatively movable flange or lip 94 of the holder to release the grip thereof on the can, an arm 125 being shown in the present instance which is adapted to press on the lugs 98 of the movable flange or lip 94 immediately prior to the operation of the ejecting plunger, this arm 125 being depressed at appropriate intervals by a rock shaft 126. Also, in order to retain the lids of cans so constructed in open position, especially at the time the charge or packet is to be introduced therein, a curved guard 127 may be used which is supported adjacent to the

sprocket wheel 89 and concentrically therewith, the guard being in the path of the can lids and preventing closing thereof until after the filled can has been ejected.

The present invention provides means whereby charges or packets of material such, for example, as tobacco, can be introduced rapidly and with practically no waste, into receptacles of different kinds, thereby avoiding the expense and other objections incident to the employment of manual labor for such purpose, the receptacle being maintained in proper position to receive the charge or packet by members which members also operate to guide the charge or packet, while entering the receptacle, in such manner as to prevent catching of the charge or packet on the mouth or edges of the receptacle or pushing away the receptacle before it has received the charge, the latter being forced completely into the receptacle or into the bottom thereof, this feature being particularly advantageous in the handling of bags as it insures a filling-out and proper shaping of the bag.

I claim as my invention:—

1. A device for introducing charges or packets into receptacles comprising a body having a bore containing relatively movable members to enter and coöperate with the mouth of a receptacle, said members being normally collapsed and having rounded ends to enter the mouth of the receptacle and expansible against the walls of the bore of said body as abutments to permit passage of the charge or packet between them and into the receptacle.

2. A device for introducing charges or packets into receptacles embodying opposed relatively movable members having yieldable attached ends and rigid free ends adapted to project into the mouth of a receptacle and having marginal longitudinally extending flanges and means for pushing a charge or packet between said members and into a receptacle positioned to receive the same.

3. A device for introducing charges or packets into receptacles comprising a body, a pair of opposed members having yieldable ends fixed to said body and free ends adapted to form a space between them for the passage of the charge or packet and to project into the mouth of a receptacle, said members also having marginal longitudinally extending flanges, and means for pushing a charge or packet through the passage between said members and into the receptacle.

4. A device for introducing charges or packets into receptacles comprising a body, a pair of relatively movable convergently related members having resilient attaching ends fixed to said body and receptacle-receiving ends adapted to project into the mouth of a receptacle and having marginal longitudinally extending flanges which taper toward the receptacle-receiving end thereof, and means for causing the passage of a charge or packet between said members to expand the latter into gripping engagement with the receptacle.

5. A device for introducing charges or packets into receptacles comprising a pair of relatively movable convergently related members adapted to project into the mouth of a receptacle and having marginal inturned longitudinally extending flanges, and also means for limiting the relative expanding movement of said members, and means for causing the passage of a charge or packet between said members to expand the latter into gripping engagement with the receptacle and to form a guide to insure the correct entrance of the charge or packet into the receptacle.

6. A device for introducing charges or packets into receptacles comprising a body formed with a bore for the passage of a charge or packet therethrough, a pair of opposed members arranged in said bore and capable of being spread apart and against the walls of said bore as abutments, said members having normally convergent ends adapted to extend into the mouth of a receptacle and inturned longitudinally extending marginal flanges, and means for causing a charge or packet to pass between said members to expand the same into gripping engagement with the receptacles and to guide the charge or packet in entering the same.

7. A device for introducing charges or packets into receptacles comprising a body formed with a bore for the passage of a charge or packet, a pair of opposed members of yieldable material arranged in said bore, said members having out-turned flexible ends fixed at one end of the body and having substantially rigid free ends adapted to project into the mouth of a receptacle.

8. A device for introducing charges or packets into receptacles comprising a body formed with a chamber for the passage of a charge or packet, opposed members of resilient material arranged in said chamber and having out-turned edges at one end of said body, the opposite ends of said members being free and adapted to project into the mouth of a receptacle, and a clamping member attached to the body and securing the out-turned edges of said members rigidly thereto.

9. Apparatus for filling receptacles comprising, in combination, a hollow body adapted to receive the mouth of a receptacle at one end thereof, a plunger at the opposite end of said body and operative to push a charge or packet through the chamber thereof, and opposed channel-shaped mem-

bers arranged in the chamber of said body and having yieldable attaching ends fixed to said body, said members being operative to guide a charge or packet into the receptacle.

10. Apparatus for filling receptacles comprising, in combination, a hollow body adapted to receive the mouth of a receptacle at one end thereof, a plunger at the opposite end of said body and operative to push a charge or packet through the chamber thereof, and complemental channel-shaped members arranged in the chamber of said body and operative to guide a charge or packet into the receptacle and expansible to grip the receptacle and prevent displacement thereof during introduction of the charge or packet, the expansion of said members being limited by the interior walls of said hollow body.

11. Apparatus for filling receptacles comprising, in combination, a hollow body adapted to receive the mouth of a receptacle at one end thereof, a plunger at the opposite end of said body and operative to push a charge or packet through the chamber thereof, and complemental channel-shaped rigid convergent members arranged in the chamber of said body and having resilient attaching ends fixed to said body, said members being operative to guide a charge or packet into the receptacle.

12. A device for introducing charges or packets into receptacles comprising a body formed with a chamber for the passage of a charge or packet therethrough, and a pair of opposed members arranged within said chamber of the body and having projecting ends adapted to enter and expand within the mouth of a receptacle, the free ends of said members having inturned longitudinally extending stiffening flanges and said members having yieldable ends attached to said body.

13. A device for introducing charges or packets into receptacles embodying opposed normally convergent members adapted to enter a receptacle and expand therein to permit the passage of a charge or packet between them, said members having transversely curved edges adapted to enter the mouth of a receptacle, the free receptacle-receiving ends of said members being rigid and said members having resilient attached ends.

14. A device for introducing charges or packets into receptacles comprising a body having at one end a flared mouth to receive the charges and having at its opposite end resilient normally collapsed means forming a passage to guide a charge or packet in entering a receptacle and adapted to expand during the passage of such charge or packet in the mouth of a receptacle.

15. A machine of the character described embodying, in combination, charge-forming means, holders for positioning receptacles to receive charges therefrom, and ejector means embodying a member operative to remove a charge from the charge-forming means and introduce it into a receptacle, and a member operative simultaneously with the first-mentioned member to remove another receptacle with a charge therein from its holder.

16. A machine of the class described embodying, in combination, a mold wheel, a conveyer bearing a plurality of receptacle holders, means for operating the mold wheel and conveyer intermittently and in unison to successively present receptacles in register with the molds of the mold wheel, and means embodying a pair of ejectors operative during the periods between the movements of the mold wheel and conveyer for simultaneously transferring a charge from a mold on the mold wheel to a receptacle and removing a previously filled receptacle from its holder.

17. In a machine of the character described, the combination of a mold wheel adapted to form charges of material, a conveyer carrying holders for positioning receptacles to receive the charges from the mold wheel, and a mechanism embodying a pair of ejectors and a wiper operative in unison, one ejector operating to transfer a charge from the mold wheel to a receptacle positioned by one of said holders, the other ejector operating to remove a previously filled receptacle from its holder and the wiper operating to clean the mold from which a charge has been ejected.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LOUIS FISCHER.

Witnesses:
JACOB E. MILLER,
JOHN H. DAMES.