

No. 640,375.

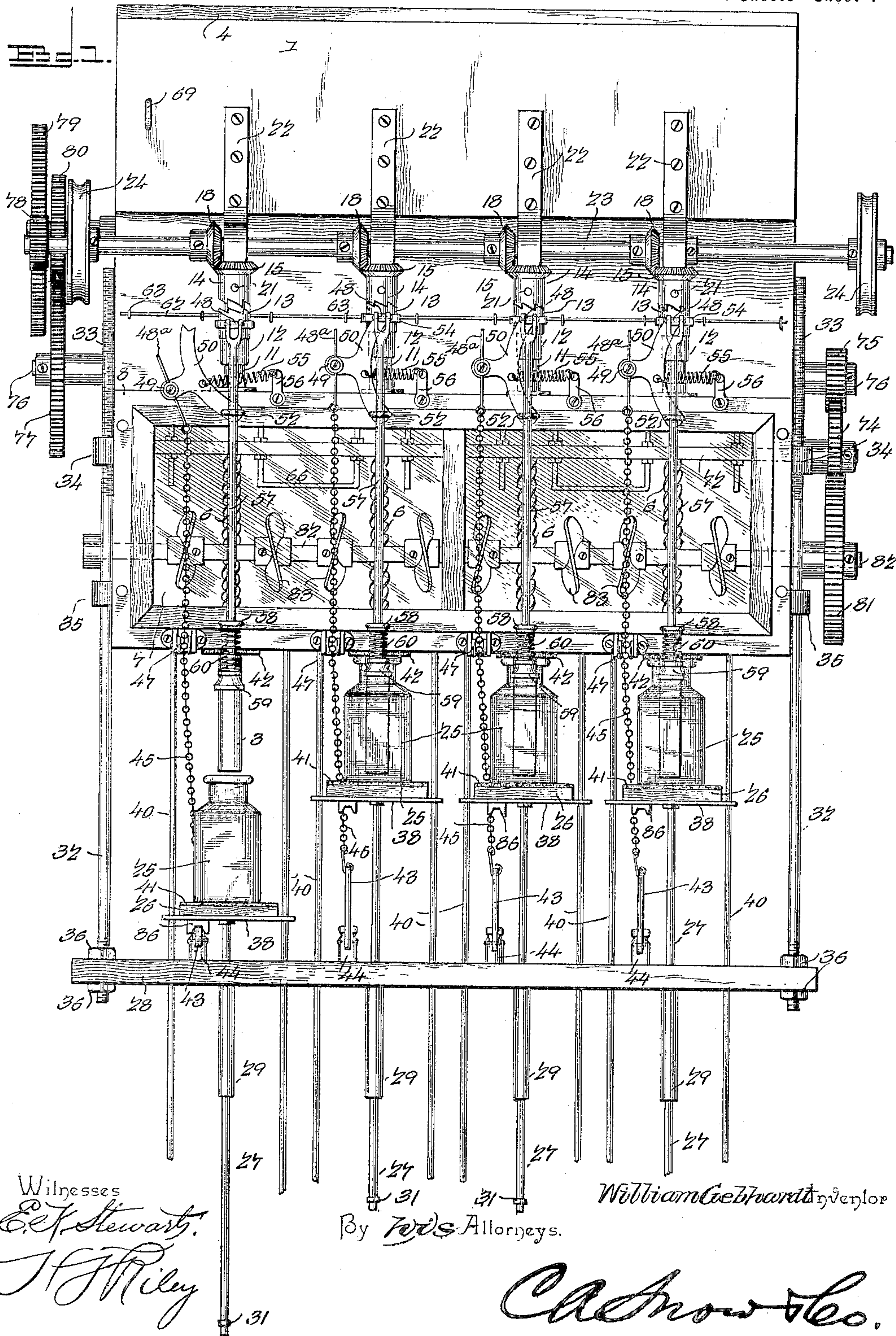
Patented Jan. 2, 1900.

W. GEBHARDT.
CAN FILLING MACHINE.

(Application filed June 17, 1899.)

(No Model.)

4 Sheets—Sheet 1



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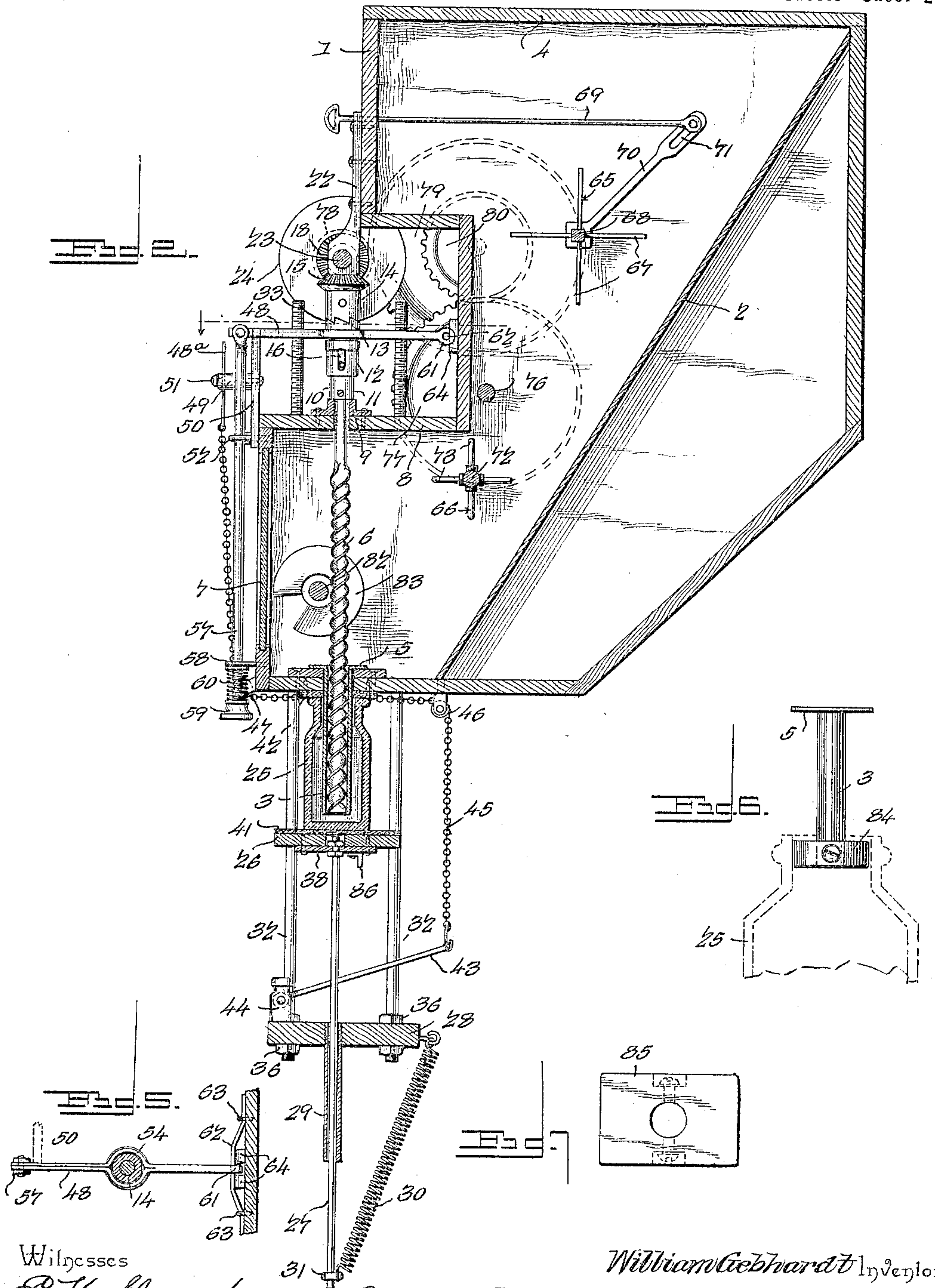
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(No Model.)

4 Sheets—Sheet 2.



Witnesses
E. F. Stewart
H. F. Riley

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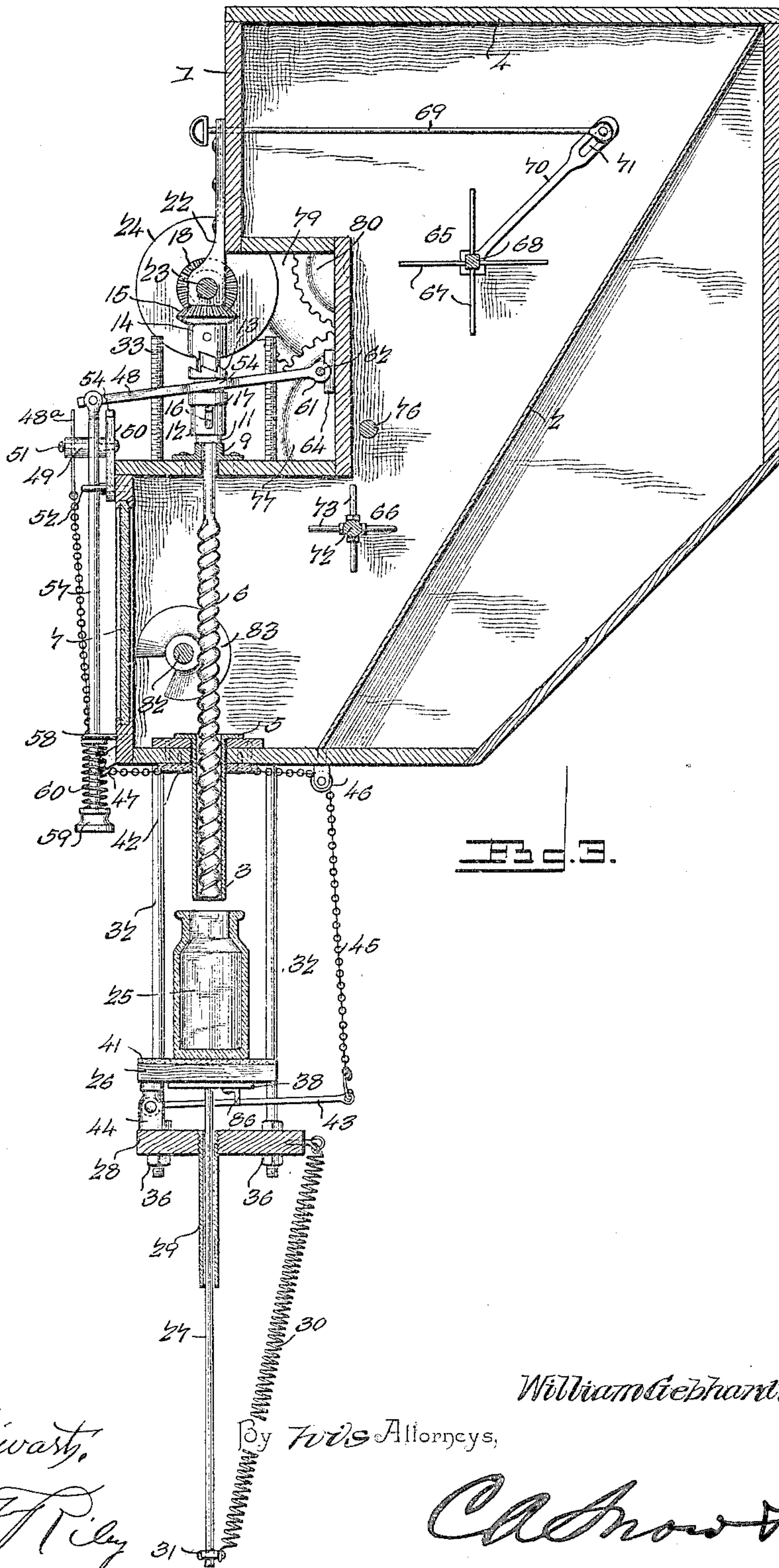
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4 Sheets—Sheet 3.



Witnesses
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No. 640,375.

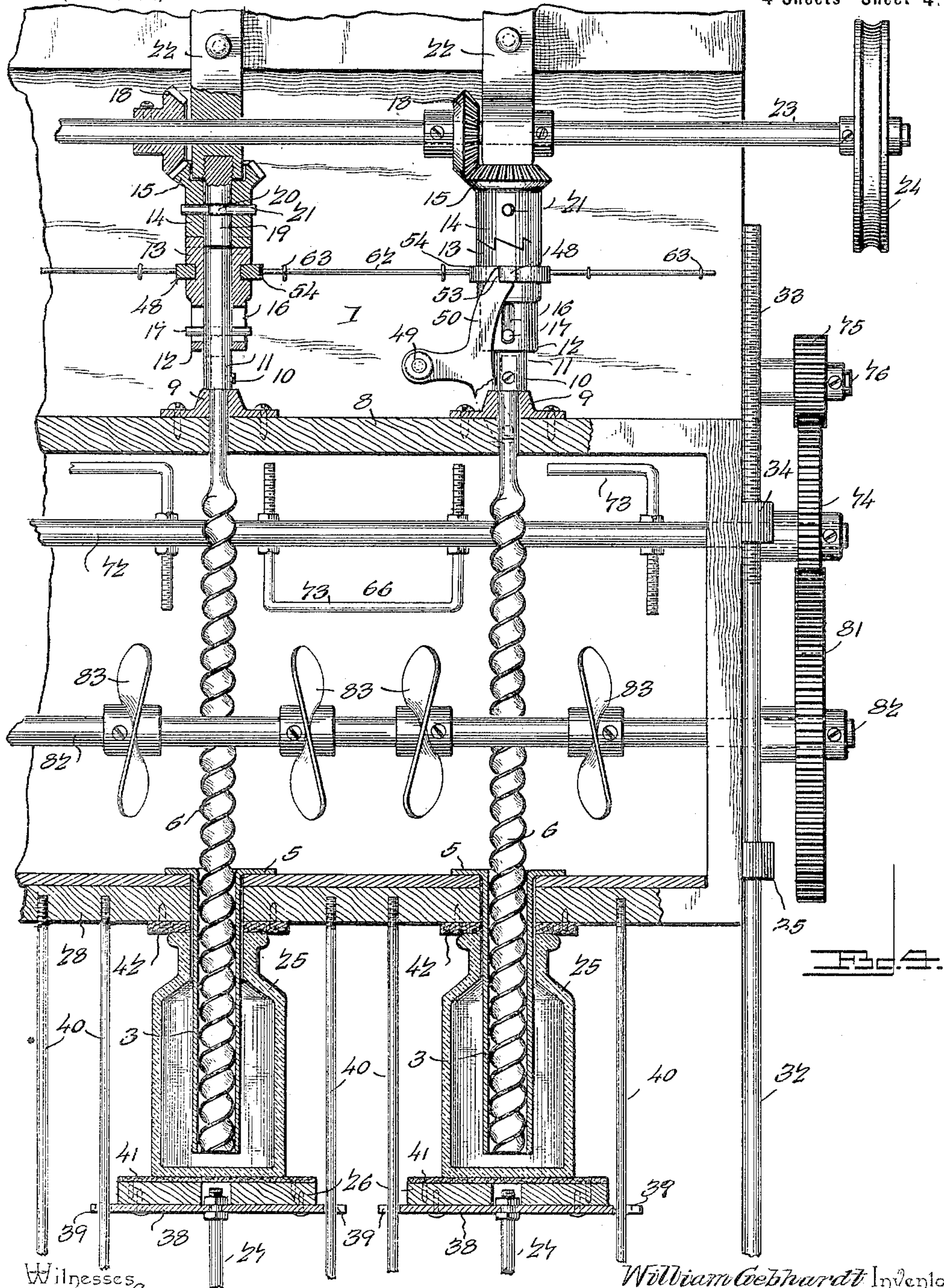
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4 Sheets—Sheet 4.



Witnesses

E. K. Stewart

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UNITED STATES PATENT OFFICE.

WILLIAM GEBHARDT, OF SAN ANTONIO, TEXAS, ASSIGNOR OF ONE-HALF
TO ALBERT KRONKOSKY, OF SAME PLACE.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 640,375, dated January 2, 1900.

Application filed June 17, 1899. Serial No. 720,952. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GEBHARDT, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Machine for Filling Bottles and Analogous Receptacles, of which the following is a specification.

The invention relates to improvements in machines for filling bottles and analogous receptacles.

The object of the present invention is to improve the construction of machines for filling bottles and analogous receptacles and to provide a simple and comparatively inexpensive one designed for filling bottles and other receptacles with powdered spices and capable of automatically feeding powdered material to the receptacles and of packing it in the same, and of automatically cutting off the feed when a bottle or other receptacle is filled.

A further object of the invention is to provide a machine of this character capable of operating on a series of bottles or other receptacles and adapted to be readily adjusted to accommodate receptacles of different sizes.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is an elevation of a bottle-filling machine constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same, showing the parts arranged for filling a bottle. Fig. 3 is a similar view showing the feed mechanism out of gear and illustrating the manner of introducing a bottle into the machine. Fig. 4 is an enlarged sectional view illustrating the construction of the feeding devices. Fig. 5 is a detail view illustrating the construction of one of the clutch-levers. Figs. 6 and 7 are detail views illustrating the manner of adjusting the feed-tubes to suit different kinds and sizes of receptacles.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a casing forming a hopper and provided with an inclined partition or wall 2,

arranged at the back of the casing and forming a chute to conduct the material to a series of vertical discharge or filling tubes 3, arranged at the bottom of the casing or hopper and depending therefrom and adapted to project into bottles or other receptacles to be filled, as clearly illustrated in Fig. 1 of the accompanying drawings. The hopper or casing is provided at the top with a lid or cover 4, and the powdered spices or other material may be introduced into the casing at the top; but any other suitable means for supplying the material may be provided. The depending tubes are preferably provided at their upper ends with annular flanges 5, arranged within the hopper or casing and supporting the tubes which receive the lower portions of vertically-disposed screw conveyers 6, adapted to force the material into the receptacles and to pack it therein. The casing or hopper is provided at the lower portion of its front with transparent panels 7, mounted in suitable frames and adapted to enable the operator to see the feed mechanism without opening the casing or hopper. The front of the casing or hopper is inwardly offset at the center to provide a horizontal support 8, which is provided with suitable bearings 9 for the upper portions of the screw conveyers 6.

The screw conveyers, which extend through the lower front portion of the casing or hopper, as clearly illustrated in Figs. 2 and 3 of the accompanying drawings, are provided at their upper ends with rounded portions or journals, and their upper terminals are secured by set-screws 10 or other suitable fastening devices in sockets of short shafts or extensions 11, which rest upon the bearings 9, whereby the screw conveyers are supported within the casing or hopper. The short shafts or extensions 11 of the vertical screw conveyers carry lower sections 12 of clutches 13, and the upper sections 14 of the clutches consist of sleeves or hub extensions of horizontal bevel-pinions 15. The lower sections 13 of the clutches are vertically movable and are provided with vertical slots 16, through which pass pins or keys 17, whereby the lower sections of the clutches are secured to the short shafts or extensions 11 and are adapted to rotate the screw conveyers for forcing the

material downward through the filling or discharge tube into the bottles or other receptacles. The bevel-pinions 15, which mesh with vertically-disposed bevel-pinions 18, are
 5 mounted upon journals 19, which are provided with annular grooves 20, receiving pins 21, passing through the sleeve or hub extension of the horizontal pinions and located at one side of the center of the journals. The
 10 journals 19, which are vertical, depend from brackets 22 and have their upper ends threaded in sockets of the same, and the said brackets 22, which may be constructed of any suitable material, form bearings or hangers for a
 15 horizontal shaft, which extends transversely of the hopper, as clearly illustrated in Fig. 1 of the accompanying drawings, and which is adapted to operate a series of screw conveyers. The transverse shaft 23, which extends
 20 beyond the sides of the hopper or casing, carries pulleys 24, designed to be connected by belts with any suitable motive power; but any other form of gearing may be employed for driving the horizontal shaft 23.

25 The bottles 25 or other receptacles to be filled are placed upon yieldingly-mounted vertically-movable supports 26, which are gradually depressed and moved away from the hopper or casing as the bottles are filled, and
 30 the means employed for supporting the bottles yieldingly against the conveyers cause the material to be packed in the receptacle. Each support 26, which is rectangular, is disposed horizontally and is secured to the upper
 35 end of a vertically-movable rod 27, passing through an opening of a horizontal platform 28 and arranged within a vertical guide 29, which consists of a tube depending from the lower face of the platform 28. The lower end
 40 of the vertically-movable rod 27 is connected with the rear of the platform 28 by a coiled spring 30, having its lower end secured to the rod by means of an adjustable collar 31, and by moving the collar on the rod the tension
 45 of the spring may be regulated, and springs of different sizes and of varying strength may be employed to suit the material operated on and to pack the same to the desired degree.

50 The horizontal platform, which extends entirely across the machine, is adjustably supported for the purpose hereinafter described by means of vertical rods 32, arranged at its ends and having threaded upper portions 33, which engage suitable threaded openings of
 55 arms or projections 34, extending laterally from opposite sides of the casing, which is also provided with guides 35, located below the arms or projections 34. The lower ends of the rods are threaded and provided with
 60 nuts 36, arranged in pairs and located at the upper and lower faces of the platform and adapted to clamp the same. When the nuts 36 are unscrewed to free the vertical rods 32, the latter may be readily rotated to raise and
 65 lower the platform, whereby the machine may be quickly adjusted to adapt it for filling bottles or receptacles of different sizes.

Each of the horizontal supports 26 is provided at its lower face with a plate 38, extending from opposite sides of the supports 70 and having its projecting portions provided with recesses or openings 39 to receive a pair of vertical guide-rods 40, and the latter, which are fixed at their upper ends to the bottom of the casing, extend through perforations of the
 75 platform and do not affect the vertical adjustment of the latter. The upper ends of the rods 27 are secured to the plates 38 at the centers thereof and extend into recesses or openings of the horizontal supports, as clearly
 80 illustrated in Fig. 4 of the accompanying drawings, the said upper ends of the rods being preferably provided with nuts, but any other suitable fastening devices may be employed. The upper faces of the supports are
 85 provided with an elastic covering 41, of rubber or other suitable material, to receive the bottom of the bottle, and the bottom of the casing or hopper is provided with similar cushions 42 for engaging the mouths of the receptacles. 90

The bottles or receptacles are placed upon the supports when the same are depressed, as illustrated in Fig. 3 of the accompanying drawings, and after a bottle has been centered on its support the latter is carried up- 95 ward into engagement with the corresponding cushion 42 by the coiled spring 30. The rotation of the screw conveyers carries the material through the filling or discharge tubes into the receptacles, and as a bottle is filled 100 it is forced downward against the action of the spring 30, which produces the necessary pressure for packing the material, and as the bottle is completely filled the lower section of the clutch of the screw conveyer is thrown 105 out of engagement with the upper section and the feed is automatically stopped by the means hereinafter described.

The automatic stopping of the feed is effected by means of a shifting lever 43, ful- 110 crumed at its front end on a suitable support 44 at the front of the platform 28 and connected at its rear end to the lower terminal of the chain 45, which passes over guide-pul- 115 leys 46 and 47, and has its upper end connected with a clutch-lever 48 by the means hereinafter described, whereby when the shifting lever is moved downward the clutch-lever will be simultaneously operated to throw 120 the conveyer out of gear. The guide-pulley 46, which is located beneath and supported by the hopper or casing, is arranged in rear of the conveyer, and the guide-pulley 47 is arranged at the front of the hopper or cas- 125 ing, the chain extending forward from the guide-pulley 46 to the guide-pulley 47 and then upward at the front of the hopper or casing. The upper terminal of the chain or other flexible connection employed is attached to an adjustable rod 48^a, which is mounted 130 on a stud 49 and which is adapted to be moved longitudinally to raise and lower the shifting lever 43, whereby the latter may be readily positioned to be properly operated by a bot-

5 tle or other receptacle as it is filled, so that
 as soon as a receptacle has received the de-
 sired quantity of material the shifting mech-
 anism will be operated and the feed mechan-
 10 ism thrown out of gear. The stud 49 is pro-
 vided with a transverse perforation for the
 passage of the rod 48^a, and its inner end is
 pivotally mounted on a bell-crank lever 50,
 the rod being secured in the transverse per-
 15 foration by a clamping-screw 51, mounted in
 a threaded socket of the outer end of the
 stud and arranged to engage the said rod 48^a.
 The stud is swiveled or pivoted to the bell-
 crank lever in order that it may turn freely
 20 when the lever is oscillated, so that it will
 preserve its position in alinement with the
 adjacent portion of the chain. The bell-crank
 lever 50, which is fulcrumed at its lower end
 at the front of the casing by an eyebolt 52 or
 25 other suitable fastening device, consists of a
 curved bar provided between its ends with an
 outwardly-extended arm arranged substan-
 tially at right angles to the curved body por-
 tion of the lever and supporting the pivoted
 30 stud. The upper end of the bell-crank lever is
 notched or recessed to form a seat 53, which
 is adapted to receive the outer portion of the
 clutch-lever 48, whereby the lower section of
 the clutch is maintained in engagement with
 35 the upper section. The clutch-lever 48, which
 is fulcrumed at its inner end, has its outer
 half or portion split, as clearly illustrated in
 Fig. 5 of the accompanying drawings, and
 its central portion is spread or offset to form
 40 a band or ring 54 to embrace the lower sec-
 tion of the clutch, which is provided with an
 annular groove for the reception of the clutch-
 lever. The bell-crank lever is held in en-
 gagement with the outer portion of the clutch-
 45 lever by a coiled spring 55, secured at one
 end to the lever, near the center thereof, and
 having its other end attached to a suitable
 support 56. When the shifting lever is op-
 erated by the downward movement of a re-
 50 ceptacle and the yielding support for the
 same, the bell-crank lever is swung from be-
 neath the outer portion of the clutch-lever,
 which is pulled downward by a spring-actu-
 ated operating-rod 57. The operating-rod 57,
 55 which is vertical, passes through the eyebolt
 52 and through a guide 58, preferably con-
 sisting of an eyebolt and located near the bot-
 tom of the hopper or casing. The lower end
 of the rod 57 is provided with a head 59, and
 60 a coiled spring 60, which is disposed on the
 rod 57, is interposed between the head 59 and
 the lower guide 58 and is adapted to move
 the rod downward when the support of the
 clutch-lever is withdrawn. The operator, af-
 65 ter a conveyer has been thrown out of gear,
 removes the full bottle or receptacle and then
 depresses the yielding support sufficiently to
 introduce an empty bottle or receptacle in
 the machine, and as the empty bottle is car-
 ried upward the operator lifts the rod 57 and
 permits the spring 55 to carry the bell-crank
 lever to meet the clutch-lever.

The upper end of the rod 57 is forked or
 bifurcated to receive the outer end of the
 clutch-lever, and the inner ends of the clutch- 70
 levers are provided with eyes or openings 61
 and are fulcrumed on a wire or rod 62, ex-
 tending across the hopper or casing and sup-
 ported at intervals by suitable eyes 63, con-
 75 sisting of staples or other suitable fastening
 devices, and the said wire or rod is offset from
 the hopper or casing at the inner end of each
 clutch-lever by a pair of blocks 64, located at
 80 opposite sides of the clutch-lever and inter-
 posed between the wire or rod and the hopper
 or casing. Instead of mounting the clutch-
 levers in this manner any other suitable form
 of pivot may be employed.

The material within the hopper or casing
 is positively fed to the conveyers by upper 85
 and lower agitators or stirrers 65 and 66, ar-
 ranged as clearly illustrated in Figs. 2 and 3
 of the accompanying drawings, and the up-
 per stirrer or agitator consists of radial arms
 67, mounted on a transverse shaft 68, which 90
 is journaled in suitable bearings of the sides
 of the hopper or casing. The upper stirrer
 is operated by a reciprocating rod 69, extend-
 ing through the front of the casing and pro-
 vided at its front end with a suitable grip or 95
 handle and having its rear end pivotally con-
 nected with an arm 70 of the shaft 68. The
 arm 70, which is fixed to the shaft 68, ex-
 tends upward and rearward, as shown, and
 it is provided at its upper end with a slot 71, 100
 receiving the pivot of the rod 69, which is
 adapted to be drawn outward and inward to
 oscillate the arm, and thereby operate the up-
 per stirrer or agitator. The lower stirrer or
 105 agitator consists of a transverse shaft 72 and
 reversely-arranged substantially rectangular
 loops or open arms 73, having their sides
 passed through perforations of the shaft 72
 and adjustably secured to the same by nuts
 engaging the shaft at opposite sides thereof. 110
 The shaft 72, which is operated by gearing,
 as hereinafter described, is continuously ro-
 tated, and the upper and lower stirrers or
 agitators will prevent lumpy or sticky mate-
 115 rial from accumulating in the space between
 the offset portion of the front of the casing
 and the inclined back partition and clogging
 such passage. The transverse shaft 72 ex-
 tends through and projects beyond one side
 of the casing or hopper and carries a pinion 120
 74, which meshes with a pinion 75 of a coun-
 ter-shaft 76, which extends through both sides
 of the hopper or casing and which is provided
 at the opposite side thereof with a gear-wheel
 77, connected by a train of gears with the 125
 transverse shaft 23. The transverse shaft
 23, which carries the vertical beveled gears
 18, is provided at one end with a pinion 78,
 meshing with the gear-wheel 79 of a stub-
 shaft, which also supports a pinion 80, which 130
 meshes with the said gear-wheel 77, and these
 wheels form the train of gear for communi-
 cating motion from the transverse shaft 23 to
 the counter-shaft 76. The lower stirrer or

agitator is continuously rotated, and its pinion 74 meshes with a gear-wheel 81 of a transverse shaft 82, journaled in suitable bearings of the hopper or casing and located adjacent to and in advance of the series of vertical screw conveyers and carrying spirally-arranged blades 83, disposed in pairs at opposite sides of the screw conveyers and adapted to force the material toward the same. Each spiral blade is mounted on a suitable hub which is fixed by a set-screw or other suitable means to the transverse shaft 82, and the spiral blades of each pair are reversely arranged. The terminals of each blade are separated, as clearly illustrated in Figs. 2 and 3 of the accompanying drawings, in order to enable the devices to catch the material and force it toward the screw conveyer, and the said spiral blades operate similar to a propeller-blade.

The depending discharge-tubes are designed to fit snugly within the necks of the bottles or other receptacles, sufficient clearance being provided to enable the bottles to be readily placed on the tubes, and the latter are adapted to be adjusted or arranged to fill larger receptacles by providing plates or collars 84 and 85, as clearly illustrated in Figs. 6 and 7 of the accompanying drawings. The plate or collar 84, which is circular, is secured to the lower end of the tube by a clamping-screw and is adapted to fit within the mouth of a large bottle, can, or analogous receptacle, and the other plate 85, which is rectangular, is similarly secured to the tube and is adapted for filling a box or the like. By varying the size of the plates or collars the tubes may be arranged for filling any ordinary receptacle.

Although four feeding devices are illustrated in the accompanying drawings, yet the number may be varied, and a sufficient number is designed to be provided to keep one person constantly employed in removing the filled receptacles and supplying empty ones, and as one receptacle is being removed the others will be filling.

The shifting levers 43 are engaged by depending arms 86, forked or bifurcated, as shown, and consisting of L-shaped brackets or plates secured to the under side of the yielding depressible supports 26.

The invention has the following advantages: The machine, which is simple and comparatively inexpensive in construction, is positive, reliable, and automatic in its operation, and it is adapted to operate simultaneously on a series of bottles or other receptacles, and it is capable of automatically shutting off the feed of the material as soon as a receptacle receives its proper charge. It is adapted to be readily adjusted to accommodate bottles and other receptacles of different sizes, and the tripping mechanism for throwing the clutch-sections out of engagement with each other may be readily adjusted to stop the feed at any desired point. The filling or discharge

tubes serve as guides for the bottle, and the springs which yieldingly support the bottles provide the necessary force for packing the material. The operating mechanism for resetting the clutches is arranged within convenient reach and is adapted to be readily operated as a bottle is placed into the machine in position to receive the material. The upper and lower stirrers or agitators prevent the material from becoming clogged in the upper portion of the hopper or casing, and the upper one is adapted to be operated by hand. The feed mechanism is in full view of the operator, and the spiral blades, which are located at opposite sides of the screw conveyers, are adapted to force the material toward the same, so that the feed of the machine is positive, continuous, and uniform. The depending discharge or filling tubes retain the bottles on the yielding supports and are adapted to receive collars or plates, whereby they may be adjusted or arranged for filling any character of receptacle. The springs for holding the bottles against the feeding mechanism may be varied in strength to suit the character of the material operated on and secure the necessary packing of the same.

I desire it to be understood that various changes in the form, arrangement, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is—

1. In a machine of the class described, the combination of a hopper or casing, feed mechanism, gearing for operating the feed mechanism, a clutch connecting the gearing and the feed mechanism, a clutch-lever 48, a lever 50 arranged to engage the clutch-lever to support one of the sections of the clutch and adapted to be swung out of such engagement, a spring for holding the lever 50 in position for supporting the clutch-lever 48, a movable support arranged to hold a receptacle to the feed mechanism, a shifting lever adjustably connected with the said lever 50 and arranged in the path of the movable support, and a spring-actuated operating-rod connected with the clutch-lever 48, and adapted to actuate the same, to throw the feed mechanism out of operation, said rod being also adapted to return the movable section of the clutch to its engaging position, substantially as described.

2. In a machine of the class described, the combination of a hopper or casing, feed mechanism, gearing for operating the feed mechanism, a clutch connecting the gearing with the feed mechanism, a clutch-lever connected with one of the sections of the clutch, a bell-crank lever having one of its arms supporting the clutch-lever, a movable support, a shifting lever arranged in the path of the support and connected with the bell-crank lever, and a spring-actuated operating-rod connected with the clutch-lever and adapted to move the same downward and capable of en-

abling the said clutch-lever to be raised, substantially as and for the purpose described.

3. In a machine of the class described, the combination of a hopper, a conveyer for forcing material from the hopper, and a pair of reversely-inclined spiral blades located at opposite sides of the conveyer and adapted to force the material toward the same, substantially as described.

10 4. In a machine of the class described, the combination of a hopper or casing having discharge or filling tubes, screw conveyers extending from the hopper or casing into the said tubes, a shaft arranged at right angles to the screw conveyers and located adjacent to the same, and spiral blades disposed in pairs on the said shaft and located at opposite sides of the screw conveyers, the blades of each pair being reversely arranged, substantially as described.

20 5. In a machine of the class described, the combination of a hopper or casing provided at its bottom with depending discharge or filling tubes, vertically-disposed screw conveyers extending from the hopper or casing into the said tubes, an inclined wall located in rear of the said conveyers, upper and lower agitators or mixers, and the spiral blades located at opposite sides of the screw conveyers, substantially as described.

30 6. In a machine of the class described, the combination of a hopper or casing, feed mechanism, gearing for operating the feed mechanism, a clutch connecting the gearing and the feed mechanism, a clutch-lever, a lever 50 arranged to engage the clutch-lever to support the clutch in its engaging position and adapted to be swung out of such engagement, a spring for holding the lever 50 in position for supporting the clutch, a movable support arranged to hold a receptacle to the feed mechanism, a shifting lever adjustably connected with the said lever 50 and arranged in the path of the movable support, and an operating-rod connected with the clutch-lever and adapted to actuate the same to throw the feed mechanism out of operation, said rod being also adapted to return the movable section of the clutch to its engaging position, substantially as described.

50 7. In a machine of the class described, the combination of a hopper, feed mechanism, gearing for operating the feed mechanism, a clutch-lever, a clutch, a lever 50 arranged to engage the clutch-lever to support the clutch in operative position and adapted to be swung out of such engagement, a movable support arranged to hold a receptacle to the feed mechanism, a shifting lever adjustably connected with the said lever 50 and arranged in the path of the movable support, and an operating-rod connected with the clutch-lever and adapted to actuate the same, to throw the feed mechanism out of operation, said rod being also adapted to return the clutch to its engaging position, substantially as described.

8. In a machine of the class described, the

combination of a hopper, feed mechanism, gearing for operating the feed mechanism, a clutch-lever, a clutch connecting the gearing and the feed mechanism and composed of two sections, one of the sections being movable, a lever arranged to engage the clutch-lever and adapted to be swung out of such engagement, a movable support arranged to hold a receptacle to the feed mechanism, a shifting lever connected with the said lever 50 and arranged in the path of the movable support, and an operating-rod connected with the clutch-lever and adapted to actuate the same to throw the feed mechanism out of operation, said rod being also adapted to return the movable section of the clutch to its engaging position, substantially as described.

9. In a machine of the class described, the combination of a hopper, feed mechanism, gearing for operating the feed mechanism, a clutch connecting the gearing with the feed mechanism, and composed of two sections, one of the sections being movable, a clutch-lever 48 connected with the movable section of the clutch, a lever 50 arranged to support the clutch-lever and adapted to be swung out of such engagement, a movable support, a shifting lever arranged in the path of the movable support and connected with the lever 50, and an operating-rod depending from the clutch-lever and adapted to actuate the same to throw the feed mechanism out of operation, said rod being also adapted to return the movable section of the clutch to its engaging position, substantially as described.

10. In a machine of the class described, the combination of a hopper, feed mechanism, gearing for operating the feed mechanism, a clutch connecting the gearing and the feed mechanism, a clutch-lever, a bell-crank lever having one of its arms supporting the clutch-lever and adapted to be swung out of such engagement, a spring for holding the lever 50 in position for supporting the clutch-section, a movable support arranged to hold a receptacle to the feed mechanism, a stud mounted on the said lever 50, a rod passing through an opening of the stud and adjustably secured to the same, a shifting lever connected with the rod and arranged in the path of the movable support, and a spring-actuated operating-rod connected with the clutch-lever and adapted to actuate the same to close the feed mechanism out of operation, said rod being also adapted to return the movable section of the clutch to its engaging position, substantially as described.

11. In a machine of the class described, the combination of a casing, a vertical series of filling-tubes arranged to extend into the receptacles to be filled, a vertical series of screw conveyers extending into the filling-tubes and provided with short shafts or extension arranged on the exterior of the casing, the exterior clutches connected with the screw conveyers and provided with vertically-movable sections, a horizontal shaft extending across

the front of the casing at the upper ends of the short shafts 11, beveled gear connecting the shaft 23 with the clutches, independent clutch-levers connected with the movable sections of the clutches, the levers 50 arranged to support the clutch-levers and adapted to be swung out of such engagement, springs for holding the levers 50 in position for supporting the clutch-sections, movable supports arranged to hold receptacles to the feed mechanism, shifting levers connected with the levers 50 and arranged in the path of the movable supports, and spring-actuated operating-rods connected with the clutch-levers and adapted to actuate the same to throw the feed mechanism out of operation, said rods being also adapted to return the movable sections of the clutches to their engaging position, substantially as described.

12. In a machine of the class described, the combination of a casing, a vertical series of filling-tubes arranged to extend into the receptacles to be filled, a vertical series of screw conveyers extending into the filling-tubes and provided with short shafts 11, arranged on the exterior of the casing, the exterior clutches connected with the screw conveyers and provided with vertically-movable sections, a horizontal shaft 23 extending across the front of

the casing at the upper ends of the short shafts 11, bevel-gear connecting the shaft 23 with the clutches, an agitator arranged within the casing and connected by gearing with the shaft 23, independent clutch-levers connected with the movable sections of the clutches, the levers 50 fulcrumed beneath the clutch-levers and arranged to support the same and adapted to be swung out of such engagement, springs for holding the levers 50 in position for supporting the clutch-levers, movable supports arranged to hold receptacles to the feed mechanism, shifting levers connected with the levers 50 and arranged in the path of the movable supports, and spring-actuated operating-rods connected with the clutch-levers and adapted to actuate the same to throw the feed mechanism out of operation, said rods being also adapted to return the movable sections of the clutches, to their engaging positions, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM GEBHARDT.

Witnesses:

ALBERT KRONKOSKY,
D. BURGHEIM.