

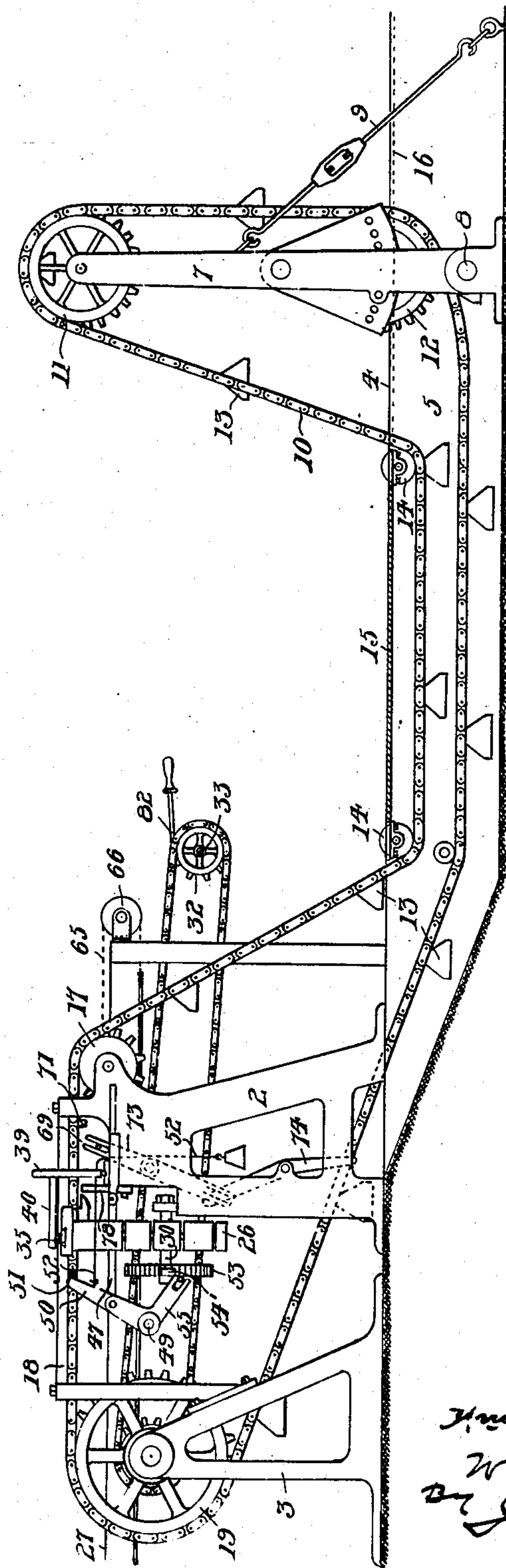
W. E. HUBBELL & W. MORRIS.  
LEER CHARGING APPARATUS.  
APPLICATION FILED JAN. 23, 1908.

924,356.

Patented June 8, 1909.

4 SHEETS—SHEET 1.

Fig. 1.



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*By Geo. Washburn*  
*Att'y*

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4 SHEETS—SHEET 2.

Fig. 3.

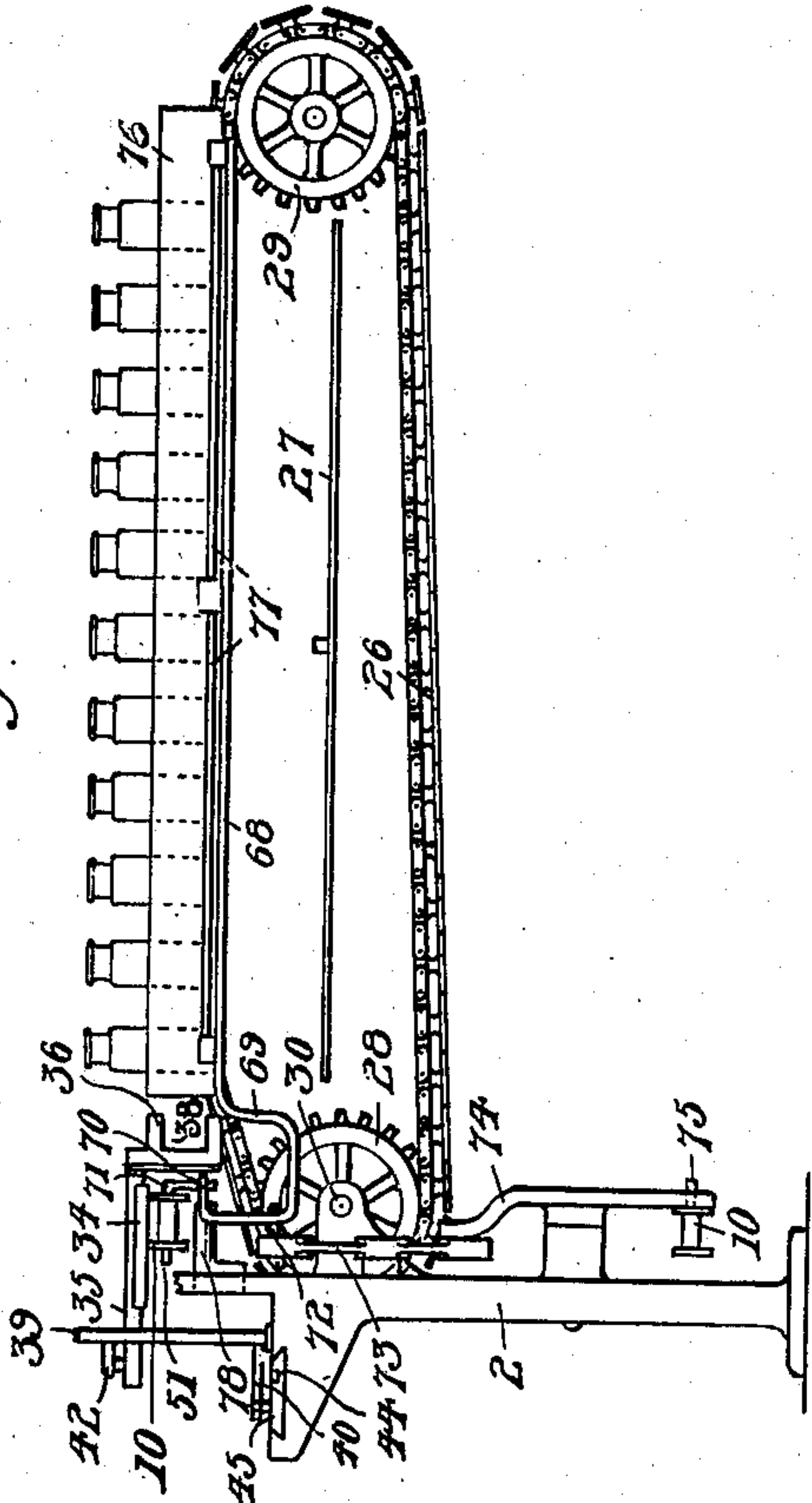
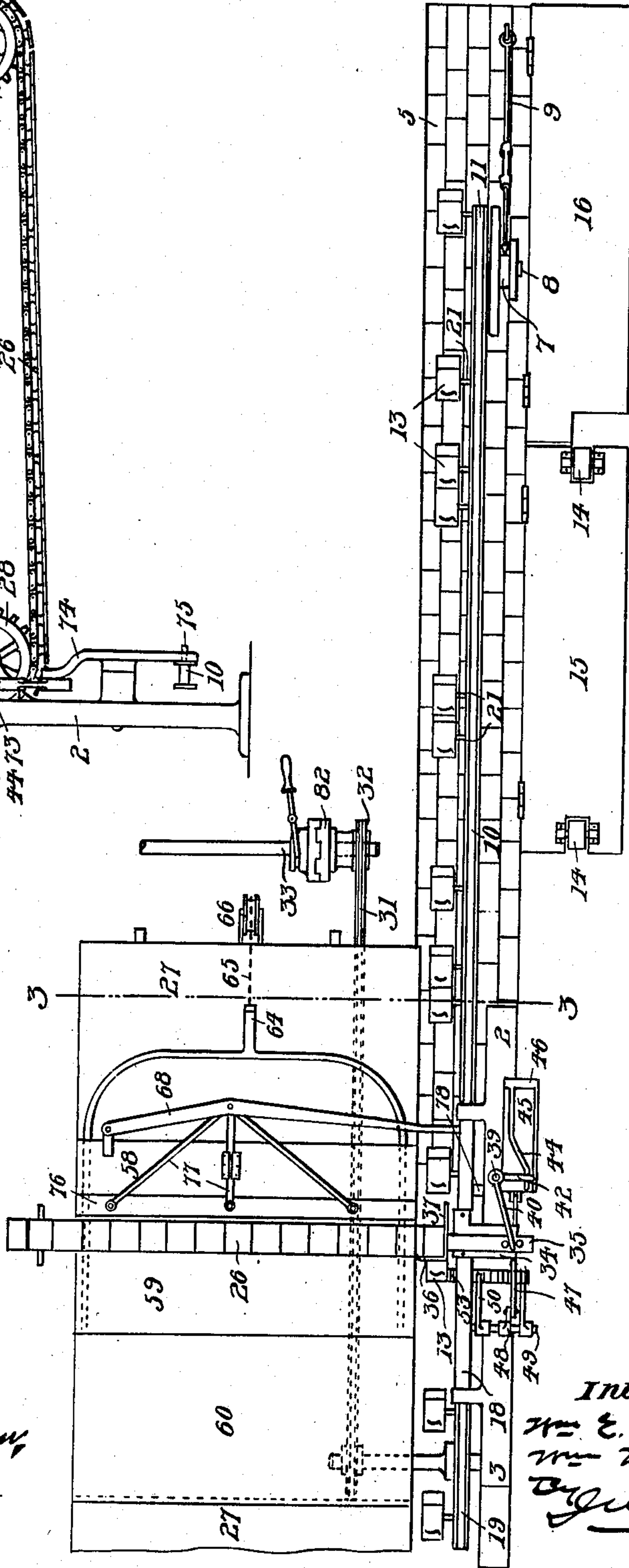


Fig. 2.



witnesses:

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Attorney at Law

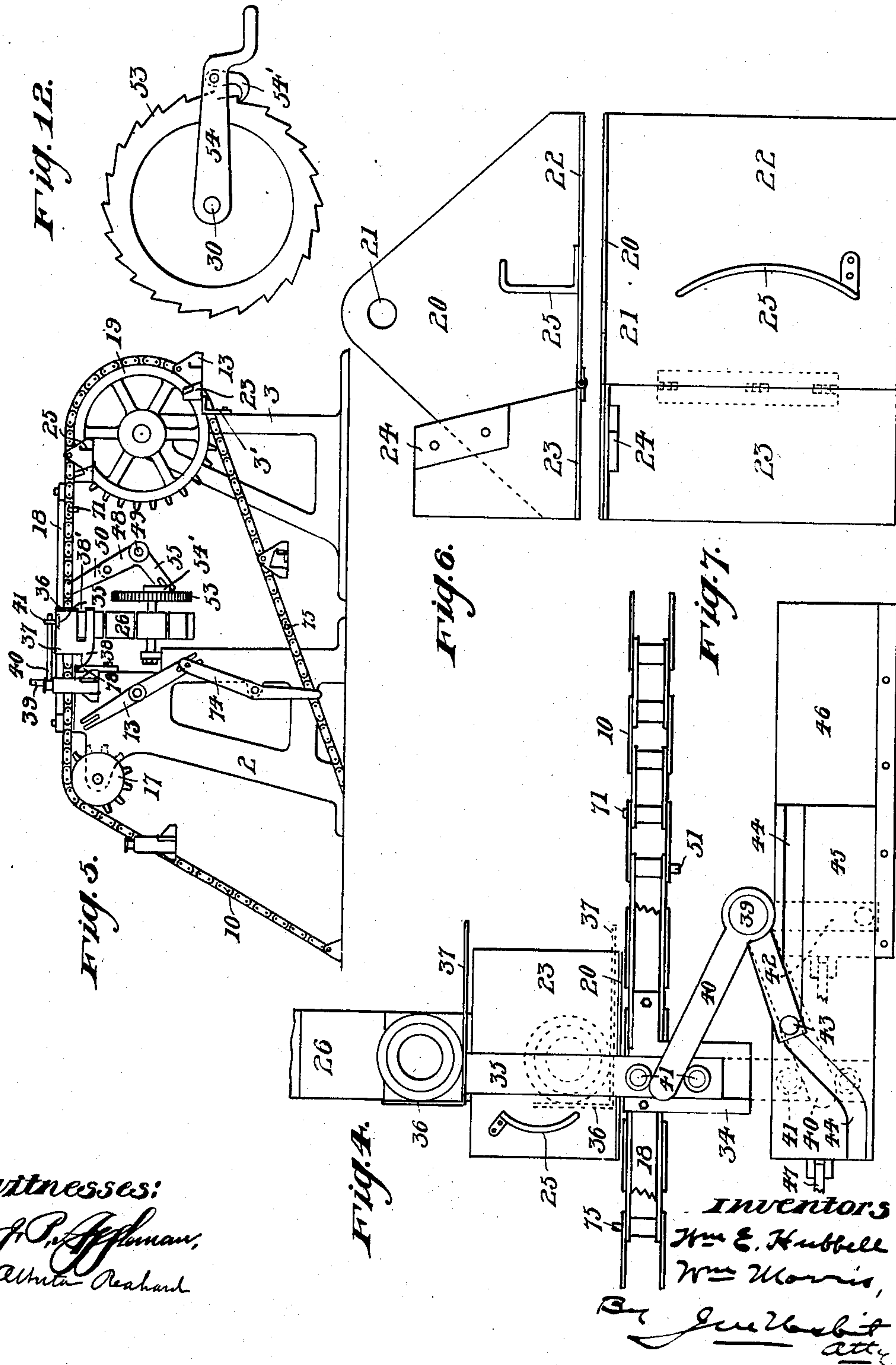
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4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

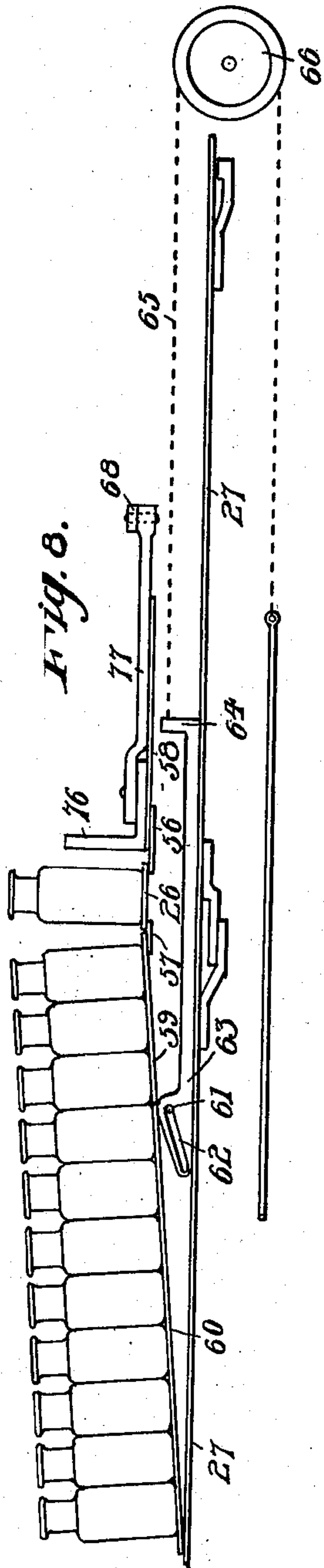


Fig. 8.

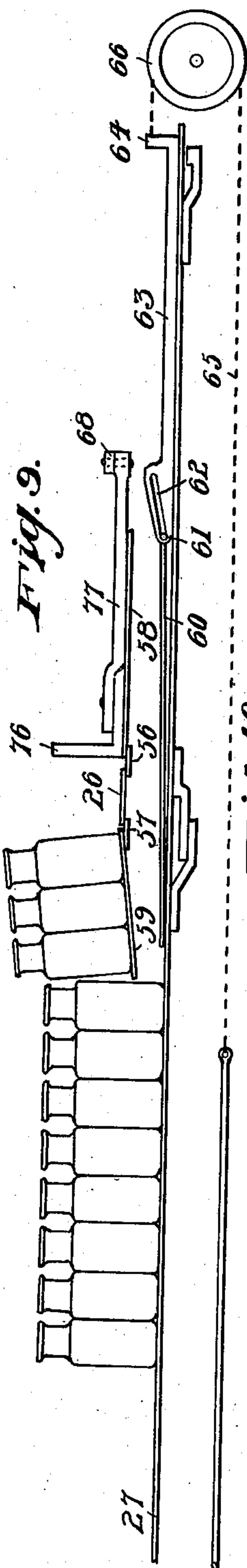


Fig. 9.

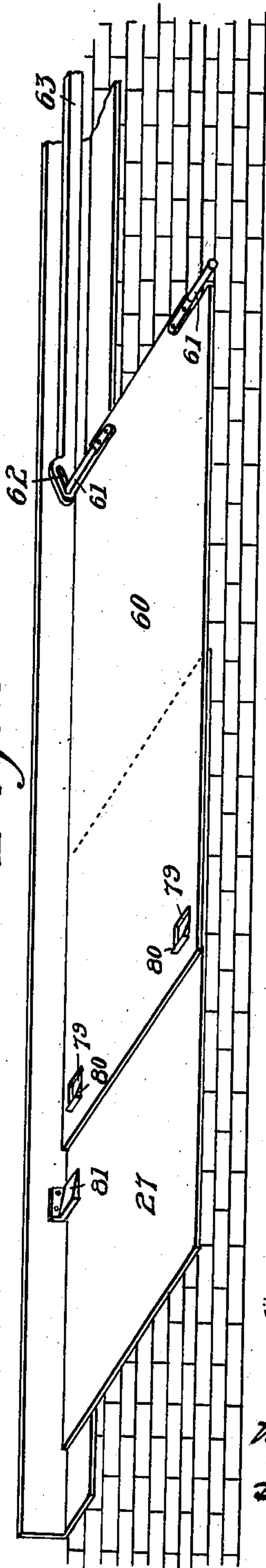


Fig. 10.

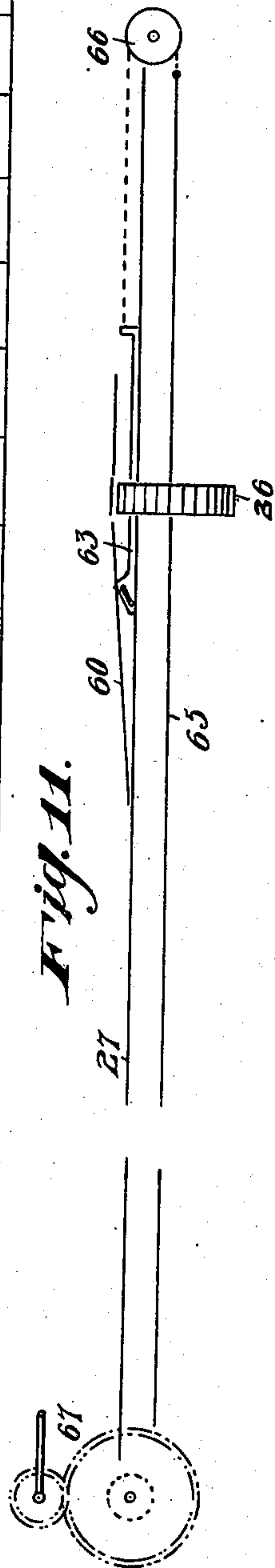


Fig. 11.

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*Wm. Morris,*  
*By J. A. Hoffman*  
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# UNITED STATES PATENT OFFICE.

WILLIAM E. HUBBELL AND WILLIAM MORRIS, OF ALTON, ILLINOIS.

## LEER-CHARGING APPARATUS.

No. 924,356.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed January 23, 1908. Serial No. 412,330.

*To all whom it may concern:*

Be it known that we, WILLIAM E. HUBBELL and WILLIAM MORRIS, residents of Alton, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Leer-Charging Apparatus, of which the following is a specification.

The general purpose of this invention is to provide mechanism at the inlet end of the leer for conveying the ware thereinto from the shop where it is pressed or blown and depositing the same on the leer pans, thus dispensing with the carrying-in boys now generally employed to do this work. While designed primarily for transferring bottles, the invention is not thus limited.

An objection to mechanisms heretofore proposed is that they occupy considerable room at the inlet end of the leer and are much in the way, both when in and out of operation. One purpose of the present invention is to so construct and arrange the apparatus as to occupy comparatively small space outside of the leer, with the exterior portion of the mechanism adapted to be placed in a depression in the floor and entirely out of the way when the shop which it is serving is idle, thus leaving the floor clear and unobstructed.

Primarily, the invention is embodied in a conveyer upon which the presser and blower deposits the ware and which moves it forwardly into the leer. Within the leer is a carrier which moves transversely of the leer pans. Mechanism of improved construction is employed for transferring the ware from the conveyer to the carrier, the arrangement being preferably such that the ware is assembled in rows on the transverse carrier. Upon the completion of each row, mechanism operates to move the same from the carrier, thus assembling at one side of the latter a number of rows, and when the accumulation is sufficient to fill a leer pan, mechanism operates to transfer the same onto a pan, and the pans are then advanced in the leer in the usual manner, placing an empty pan in position to be filled. The arrangement is preferably such that the pan filling operation is accomplished by the packer at the discharge end of the leer, thus making it unnecessary to provide an attendant at the inlet end.

In the accompanying drawings, Figure 1 is a side elevation of the improved mechanism. Fig. 2 is a top plan view of the same.

Fig. 3 is a cross-sectional view, taken on line 3—3 of Fig. 2. Fig. 4 is a top plan view of a portion of the mechanism, enlarged from Fig. 2, showing the device for pushing the ware from the pivoted supports in outward or projected position. Fig. 5 is an inside elevation of a portion of the mechanism. Figs. 6 and 7 are detail views of one of the pivoted ware supports. Fig. 8 is a longitudinal sectional view of the mechanism for transferring the ware from the transverse carrier to the leer pans, and Fig. 9 is a similar view of the same mechanism illustrating the mode of seating the ware on the leer pans. Fig. 10 is a detail view of the sliding transfer plate shown in connection with one of the leer pans. Fig. 11 is a diagrammatic view of the mechanism extending to the discharge end of the leer for operating the transfer mechanism at the inlet end thereof. Fig. 12 is a detail view of the ratchet mechanism for moving the transverse carrier.

Referring to the drawings, the mechanism for carrying the ware from a shop into the inlet end of the leer has its main portion arranged at one side of the interior of the latter, this inner portion consisting of the upright frame 2, with stand 3 at the inner end and in line therewith. The factory floor 4 in front of the leer has a depression or channel 5 of sufficient width to permit the conveyer and ware supports to travel therein. An upright 7 is hinged at its lower end in this depression at 8, and is held in upright position by the adjustable tie-rod 9. 10 is the carrying-in conveyer chain, the outer portion of which passes around the sprocket wheels 11 and 12 at the upper and lower ends, respectively, of standard 7, with the ware carriers 13 so pivoted to the chain as to always hang in upright position. Between upright 7 and the leer the conveyer travels in floor depression 5, the upper course of the chain bearing upwardly against rollers 14 on the trap door 15 which closes a portion of the floor depression. When the apparatus is not in use, stay 9 is released and upright 7 carrying the outer portion of the conveyer is turned downward into the depression and trap 15 closed thereover, thus clearing the floor of this portion of the mechanism. When the mechanism is thus turned down, the outer normally open portion of the floor depression may be closed by trap 16, similar to trap 15.

Within the leer, the upper and inwardly



traveling portion of chain 10 passes over sprocket 17, and beneath horizontal bar 18, and over the large sprocket wheel 19 journaled in stand 3. From this wheel the chain

5 passes downwardly and outwardly into the floor depression 5 and to sprockets 12 and 11. Each of the depending pivoted supports 13 on chain 10 consists of a rear vertical wall 20, with the centrally arranged chain connecting pivot 21 at its upper end, while at the lower edge thereof is the laterally projected ware supporting floor 22. Hinged to the rear edge of floor 22 is the angular holder 23, weighted at one end at 24 to hold it in

15 intumed position for confining the bottle or other ware on the laterally open floor 22. This holder operates in conjunction with the curved guard 25 secured to and raised from the outer portion of bottom 22 and against

20 which the forward side of the bottle is held. 26 is the linked belt-like transverse carrier which passes around the path of the leer pans 27 on sprocket wheels 28 and 29. Wheel 28 is secured to shaft 30 journaled at the inner side of frame 2, while wheel 29 is mounted in any convenient manner at the opposite side of the leer. The pivoted ware supports 13 pass upwardly and inwardly along the inner side of frame 2 and in close

30 proximity to the receiving end of carrier 26, as clearly shown in Fig. 4. It will be understood that carrier 10 moves continuously though relatively slowly, the power being imparted through drive-chain 31 extending

35 from a sprocket on the shaft carrying sprocket-wheel 19 to the sprocket-wheel 32 on drive shaft 33 at the exterior of the inlet end of the leer. I will now describe the mechanism for

40 transferring the ware from supports 13 to carrier 26, and will follow this with a description of the mechanism for intermittently moving said carrier after each article of ware has been transferred thereto. The

45 transfer mechanism consists of a slideway 34 fixed to a bar 18 in line with transverse carrier 26, though somewhat higher than the upper inwardly moving course of the latter, and slidable therein is arm 35 carrying at its

50 inner end the two depending wing-like blades 36 and 37 arranged at right angles to each other and directly in the path of carrier 13. Wing 37 extends longitudinally of conveyer chain 10 and toward the approaching sup-

55 ports 13, and the arrangement is such that the upright portion 20 of each support moves behind this wing so that the rounded extremity 38 of the latter engages holder 23 on the ware support and turns it outward, thus

60 releasing the bottle. Wing 36 is open at 38' to permit guard 25 to pass therethrough. When each carrier 13 (spaced at equal distances on chain 10), comes to position opposite the pushing device, with wing 36 of

65 the latter immediately in front of the bottle

and wing 37 behind it, the slide 35 is moved inwardly into the position shown in Fig. 4 and shoves the bottle from floor 22 of the support onto carrier 26. After the bottles are removed from supports 13 and as the

70 latter pass downward around sprocket wheel 19, the outturned holders 23 are engaged by trip 3' on stand 3 and turned inward into bottle-holding position, ready to receive

75 another article and carry it into the leer. For actuating slide 35, a vertical rock-shaft 39 has a horizontal arm 40 extending between roller studs 41 on the upper surface of the slide, while another arm 42 carries a roller stud 43 which moves in the irregular or

80 offset groove 44 in the top face of sliding plate 45. This plate moves in slideway 46 formed on frame 2, and has one end connected by link 47 with crank arm 48 on the horizontal rock shaft 49. Secured to the in-

85 ner end of this rock-shaft is arm 50 which extends upwardly in close proximity to the path of chain 10 where it is engaged by projection 51. These projections are arranged at such points on the chain as to effect the

90 inward movement of ware-pushing slide 35 each time a support 13 is in position to discharge the bottle carried thereby onto carrier 26. Arm 50 is of such length as to be re-

95 leased by projection 51 after shaft 49 has been rocked the distance necessary to operate the pushing mechanism, whereupon the latter is returned to normal position by the weighted line 52.

Endless carrier 26 is moved intermittently

100 by means of ratchet wheel 53 secured to shaft 30 on which shaft wheel 28 is also secured.

54 is an arm which turns loosely in shaft 30 and is embraced by an arm 55 on rock shaft 49, so that each time the rock shaft is oscil-

105 lated by carrier chain 10, arm 54 is lifted and dog 54' on said arm and in engagement with the ratchet turns shaft 30 and advances carrier 26 a distance sufficient to give room for the bottle then being pushed onto the carrier.

110 Obviously, upon the backward movement of shaft 29 in response to the pull of weighted line 52, arms 55 and 54 move downward, giving the dog 54' a fresh hold on the ratchet for the next operation.

115 The transverse belt-like chain 26 moves over the separated plate-like guides 56 and 57 supported above the leer pans 27. 58 is a plate-like support extending from guide 56 toward the inlet end of the leer, while pro-

120 jecting in the opposite direction from guide 57 is the inclined fixed support 59. Coöperating with support 59 is the transfer plate 60 which normally forms an inclined extension thereof, with its outer edge resting on the

125 leer pans 27. Pins 61 at opposite sides of the raised rear edge of plate 60 are entered in the inclined grooves 62 formed in the outer extremities of arms 63 of the pulling device

130 64, which is slidable longitudinally of the



leer on top of the leer pans. This pulling device may be drawn toward the inlet end of the leer by a chain 65 working over sheave 66, and extending from the latter to the other end of the leer where it is connected to mechanism 67 of well known construction which is operated by the leer tender or packer for advancing the leer pans. This mechanism enables the packer to operate plate 60 at the required times for depositing the bottles onto the leer pans, as will presently appear.

68 is an arm pivoted at one end to support 58, and at its free end looped downwardly at 69 with its extremity 70 in the path of projections 71 on chain 10. A pin 72 on the looped arm extension 69 is embraced by the upper extremity of lever 73, while loosely connected to the lower end of this lever is a second lever 74 whose lower end is in the path of pin 75 on chain 10. 76 is a push bar slidable on support 58 with links 77 connecting it with the pivoted arm 68.

With the mechanism in operation, when carrier 26 has become loaded with a row of ware which extends across the leer pans, arm 68 is engaged by projection 71 on chain 10 and the arm is so oscillated as to move push bar 76 across the carrier, moving the ware therefrom onto support 59, and at the same time advancing the foremost ware previously placed on support 59 onto the inclined plate 60. When bar 76 has moved sufficiently to push the ware off of carrier 26 the fixed incline 78 depresses the looped portion 69 of bar 68 out of engagement with chain projection 71, thus freeing the pushing device of further forward movement. At this juncture, a pin 75 on chain 10 engages the lower end of lever 74, thus operating the latter and lever 73 and restoring the push bar to its normal position, ready for the next operation. By this means, bottles are advanced row by row from the carrier 26 over fixed support 59 and from the latter onto the inclined transfer plate 60.

When sufficient ware has accumulated on plate 60 to fill one of the leer pans 27, pulling device 64 is brought toward the inlet end of the leer. The first effect of this movement is to lower pins 61 in slots 62, permitting plate 60 to rest flatly on the leer pans 27, with only the thickness of the plate separating the ware from the leer pans. A further backward or outward movement of support 64 operates to draw plate 60 beneath the fixed supports 59 and 58 and beneath the upper course of carrier 26, and with the outer edge of support 59 operating as an abutment for the ware, the continued backward movement of plate 60 causes the ware to be shoved therefrom onto one of the leer pans. The latter are then advanced through the leer the length of a pan as is ordinarily done when moving the pans progressively through the

leer as they are loaded at one end and emptied at the other. This movement carries the ware last deposited out of the way of the charging mechanism. The same movement also operates to retract plate 60, slots 79 in the plate being engaged by the taper lugs 80 on the leer pans so that plate 60 is drawn inward when the pans are advanced. Plate 60 rides up on the fixed inclines 81 and is thus disengaged from lugs 80 and is free for the next operation. When plate 60 has been thus returned into the leer, pins 61 are in the lower ends of slots 62, with the plate 60 resting flatly on the leer pans, and it is only necessary to shove the pulling device 64 inward slightly in order to raise pins 61 in the inclined slots and place the edge of plate 60 in line with the outer edge of the fixed support 59.

It will be understood that the several pins or projections on chain 10 are so spaced apart as to properly time the sequence of operation. With the mechanism arranged as here shown, the whole apparatus is manipulated by the ware packer at the discharge end of the leer, the charging mechanism operating automatically to place the ware on the transverse carrier and to advance it from the latter—one row at a time—toward and onto the inclined plate which finally transfers it to the leer pan.

Several leers are usually arranged side by side, and in such a case shaft 33 may drive the charging mechanism for all, the individual clutch device 82 for each mechanism operating to place the same in and out of operation as required. Obviously, however, various forms of driving mechanism may be provided.

With the improved mechanism in service, there is no necessity for handling the ware from the time it is deposited by the blower or presser onto one of the supports 13 until it is finally removed by the packer from the leer, all of the manipulation incident to carrying it into the leer pans being accomplished automatically.

We claim:—

1. Leer charging apparatus comprising a conveyer movable longitudinally of the leer, a ware supporting carrier movable transversely of the leer with means for transferring ware from the conveyer to the carrier, and means for transferring the ware from the carrier to the leer pans.

2. Leer charging apparatus comprising a conveyer movable longitudinally of the leer, an endless ware supporting carrier movable transversely of the leer, means for transferring ware from the conveyer to the carrier, means for intermittently advancing said carrier after each transfer of ware thereto from the conveyer, and mechanism for transferring the ware from the carrier to the leer pans.



3. Leer charging apparatus comprising an endless conveyer movable longitudinally of the leer, a ware supporting carrier movable transversely of the leer, means for transferring ware from the conveyer to the carrier, means actuated by the conveyer for intermittently moving the carrier after each transfer, and means for transferring the ware from the carrier to the leer pans.
4. Leer charging apparatus comprising an endless conveyer movable longitudinally of the leer, an endless ware supporting carrier movable transversely of the leer, means for transferring ware from the conveyer to the leer carrier, means actuated by the conveyer for intermittently advancing the carrier, and means for transferring the ware from the carrier to the leer pans.
5. Leer charging apparatus comprising an endless conveyer movable longitudinally of the leer, an endless carrier movable transversely of the leer, means for transferring ware from the conveyer to the carrier, means for intermittently moving the carrier after each transfer of ware thereto, and means including a pushing device actuated by the conveyer for transferring the ware from the carrier to the leer pans.
6. Leer charging apparatus comprising an endless conveyer movable longitudinally of the leer, a ware supporting carrier movable transversely of the leer, means actuated by the conveyer for transferring ware therefrom to the carrier, means for intermittently moving the carrier after each transfer of ware thereto, and mechanism for transferring the ware from the carrier to the leer pans.
7. Leer charging apparatus comprising an endless chain movable longitudinally of the leer, a series of ware supports thereon, an endless ware supporting carrier movable transversely of the leer, a device for moving the ware from the supports to the carrier, and means for transferring the ware from the carrier to the leer pans.
8. Leer charging apparatus comprising an endless chain movable longitudinally of the leer, a series of ware supports thereon, an endless carrier movable transversely of the leer, a pushing device movable across the supports as they aline with the carrier for transferring the ware to the latter, means actuated by the conveyer for operating the pushing device, and means for transferring the ware from the carrier to the leer pans.
9. Leer charging apparatus comprising an endless chain movable longitudinally of the leer, ware supports secured to the chain and open at their outer sides, a device for moving the ware from the supports from the open outer sides thereof, and transfer mechanism extending to the leer pans for receiving the ware from the supports.
10. Leer charging apparatus comprising an endless chain movable longitudinally of the leer, ware supports secured to the chain and open at their outer sides, a slide movable transversely of the chain, a pusher on the slide for moving the ware from the open sides of the supports, slide actuating means operatively connected to the chain, and transfer mechanism extending to the leer pans for receiving the ware from the supports.
11. Leer charging mechanism comprising an endless chain movable longitudinally of the leer, ware supports secured to the chain and open at their outer sides, a slide movable transversely of the chain, a pusher on the slide for moving the ware from the open sides of the supports, a rock shaft, arms on the shaft with one arm loosely engaging the slide and a projection on the other arm, a sliding plate having an irregular groove in which said projection is entered, means actuated by the chain for sliding the plate in one direction and a weight for moving it in the other direction, and transfer mechanism extending to the leer pans for receiving the ware from the supports.
12. Leer charging apparatus comprising an endless chain, ware supports secured thereto and open at their outer sides, a ware holder pivoted to each support and adapted to turn inward thereon into ware holding position, ware moving means turning the holder outward and operating to move the ware from the open side of the support, and transfer mechanism extending to the leer pans for receiving the ware from the supports.
13. Leer charging apparatus comprising an endless chain, ware supports each having a laterally extending bottom and a rear upright wall—the latter secured to the chain, a pushing device overhanging the path of movement of the supports and having two upright wings for engaging the front and inner faces of the ware resting on the supports, means for moving the pusher transversely of the supports, and transfer mechanism extending to the leer pans for receiving the ware from the supports.
14. Leer charging apparatus comprising an endless chain, ware supports each having a laterally extending bottom and a rear upright wall—the latter secured to the chain, a raised guard secured to the outer portion of the bottom and extending inwardly toward the upright wall, a pushing device overhanging the path of movement of the supports and having two upright wings for engaging the front and rear faces of the ware resting on the supports, the wing engaging the front face having an opening for the passage of said guard, means for moving the pusher transversely of the supports, and transfer mechanism extending to the leer pans for receiving the ware from the supports.
15. Leer charging apparatus comprising



vertical sprocket wheels arranged in line longitudinally of the leer, an endless chain on the sprocket wheels, ware supports pivoted to hang upright on the chain, a ware holder 5 pivoted to turn inward on each support in ware-holding position, means for turning the holders outward and for removing the ware from the holders, a fixed device which the holders engage after the ware is discharged 10 for turning them inward into ware-holding position means for turning the holders outward and for removing the ware from the holders, a fixed device which the holders engage after the ware is discharged for turning 15 them inward into ware-holding position, and transfer mechanism extending to the leer pans for receiving the ware from the supports.

16. Leer charging apparatus comprising 20 an endless conveyer extending longitudinally of the leer, a carrier movable transversely of the leer, means for transferring the ware from the conveyer to the carrier, mechanism for transferring the ware from the carrier to the 25 leer pans, said mechanism including a pusher for moving the ware off the carrier, and mechanism operated by the conveyer when moving in one direction for advancing the pusher and by the conveyer when moving 30 in the opposite direction for retracting the pusher.

17. Leer charging apparatus comprising an endless conveyer extending longitudinally of the leer, a carrier movable transversely of 35 the leer, means for transferring the ware from the conveyer to the carrier, mechanism for transferring ware from the carrier to the leer pans, said mechanism including a pusher for moving the ware off the carrier, a bar extend- 40 ing from the pusher into the path of the conveyer with a projection on the latter operating the bar for pushing the ware, two upright levers loosely connected at their ends and each fulcrumed between its ends with the up- 45 per end of the uppermost lever loosely connected to said bar, and a projection on the conveyer for engaging and oscillating the lower lever and thereby retracting the bar and pusher.

18. Leer charging apparatus comprising 50 an endless conveyer extending longitudinally of the leer, an endless carrier extending transversely of the leer, means for transferring ware from the conveyer to the carrier, 55 mechanism for transferring ware from the carrier to the leer pans, a ratchet mechanism for intermittently moving the carrier, a weight-retracted ratchet operating lever projecting into the path of the said conveyer, 60 and a projection on the conveyer for engaging and moving forward the lever.

19. Leer charging apparatus comprising an endless carrier movable transversely of 65 the leer pans, mechanism for depositing articles of glassware—one by one—on the car-

rier, mechanism for intermittently moving the carrier after each deposit of ware thereon whereby a row of ware is assembled on the carrier, and mechanism for transferring each 70 row of ware from the carrier to the leer pans.

20. Leer charging apparatus comprising an endless carrier extending transversely of the leer, mechanism for depositing articles of ware—one by one—on the carrier, means for 75 intermittently advancing the carrier across the leer after each article is deposited thereon whereby a row of ware extending across the leer is assembled on the carrier, and intermit- 80 tently moving automatically acting mechanism operative upon the completion of each row for removing the same from the carrier and advancing it toward the leer pans.

21. Leer charging apparatus comprising a carrier movable transversely of the leer 85 above the leer pans, a ware supporting plate with means for sliding the plate longitudinally of the leer pans, and mechanism for transferring the ware from the carrier to said plate.

22. Leer charging apparatus comprising a 90 carrier movable transversely of the leer above the leer pans, a ware supporting plate at one side of the carrier with means for moving the plate backwardly longitudinally of 95 the leer pans, the plate being normally inclined, with its front edge resting on the leer pans and its rear edge raised, means for sliding the ware from the carrier onto the raised portion of said plate, and means operating to 100 lower the raised portion of the plate before moving the plate longitudinally of the pans.

23. Leer charging apparatus comprising a carrier movable transversely of the leer 105 above the leer pans, a fixed ware support at one side of the carrier, means for sliding the ware from the carrier to said support, a ware-sustaining plate inclined from said support to the leer pans, means for lowering the raised portion of the inclined plate beneath the plane of said fixed support, and means for 110 sliding said plate rearwardly beneath the fixed support for depositing the ware on the leer pans.

24. Leer charging apparatus comprising a carrier movable transversely of the leer 115 above the leer pans, a fixed support at one side of the carrier, an inclined ware-supporting plate aligned with said fixed support with its rear edge resting on the leer pans, mechanism for advancing the ware from the 120 carrier to the fixed support and thereby progressively pushing the ware from the support onto the inclined plate, means for lowering the said plate and for retracting it beneath the fixed support for the purpose of 125 depositing the ware on the leer pans, and means engaging the sliding plate with the leer pans for moving the plate outwardly into ware receiving position following each backward movement of the plate. 130



25. In leer charging apparatus the combination of the sliding plate resting on the leer pans, mechanism for placing ware on the plate, a transverse abutment above the leer pans, and means for moving the plate beneath the abutment with the ware bearing against the latter and pushed thereby from the plate to the leer pans.

26. In leer charging apparatus the combination of the inclined ware-supporting plate resting at its outer edge on the leer pans with its inner edge raised, an abutment extending transversely of the leer on the plane of the raised edge of the plate, mechanism for depositing ware on said plate, means for lowering the raised plate, and means for sliding the plate beneath the abutment with the ware engaging the latter and pushed thereby from the plate onto the leer pans.

27. In leer charging apparatus, the combination of an inclined ware-supporting plate above and at its outer edge raised on the leer pans, a pulling device having inclined slots with pins projecting from said plate into the slots for sustaining the rear portion of the plate in raised position, an abutment extending transversely of the leer in the plane of the raised rear edge of the plate, mechanism for moving ware over the abutment and onto the plate, the pulling device when moved backwardly operating to lower the plate supporting pins in the slots thereof and thereby lower the inclined plate, the continued movement of the pulling device retracting the plate beneath the abutment with the ware pushed by the latter from the plate onto the leer pans.

28. In leer charging apparatus the combination of a transverse plate above and bearing on the leer pans, mechanism for depositing ware on the transverse plate, a transverse abutment, means for sliding the transverse plate beneath the abutment with the ware engaging the latter and pushed thereby onto the leer pans, lugs on the leer pans entering the openings in the trans-

verse plate for drawing the same forward into ware-receiving position after each backward movement of the plate, and fixed devices engaging the plate for disconnecting it from said lugs.

29. In leer charging apparatus, the combination of a transverse plate slidable on the leer pans adjacent the inward end of the leer, mechanism for depositing ware on said plate, the transverse ware-engaging abutment for pushing the ware from the plate onto the leer pans, and mechanism for retracting the plate beneath the abutment consisting of a chain connected to the plate and passing over a sheave at the inlet end of the leer, and operating means at the outlet end of the leer connected to said chain.

30. Leer charging apparatus comprising an endless ware conveyer partially within the inlet end of the leer and extending longitudinally of the latter, the portion of the conveyer outside of the leer operating in a depression in the floor in front of leer, a support for the outer portion of the conveyer raised from the floor depression with means for holding the support in raised position, the support being adapted to fold downward into the floor depression, traps for closing floor depression, and mechanism within the leer for transferring ware from the conveyer to the leer pans.

31. The combination with the inlet end of a leer and the floor in front thereof having a depression extending outwardly from the leer with means for closing the depression, of leer charging mechanism raised in said depression when in use and lowered thereinto when not in use.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM E. HUBBELL.  
WILLIAM MORRIS.

Witnesses:

CHARLES S. LEECH, Sr.,  
LEOR VIETH.