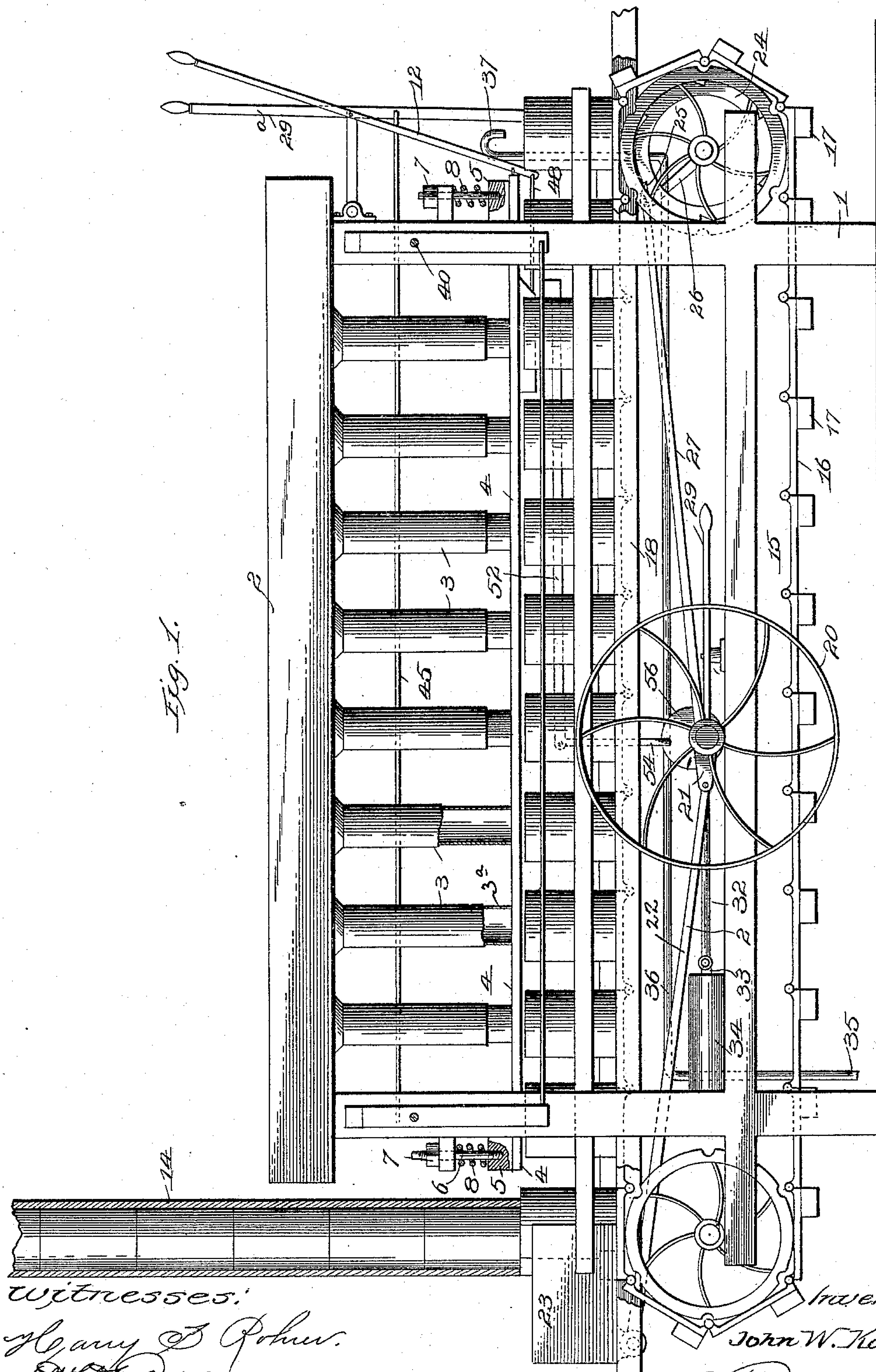
(No Model.) 4 Sheets—Sheet 1.

J. W. KALES.

CAN FILLING MACHINE.

No. 541,788. Patented June 25, 1895.



Witnesses:
Harry F. Rohrer.
W. W. Deane

Inventor
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His Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.)

4 Sheets—Sheet 2.

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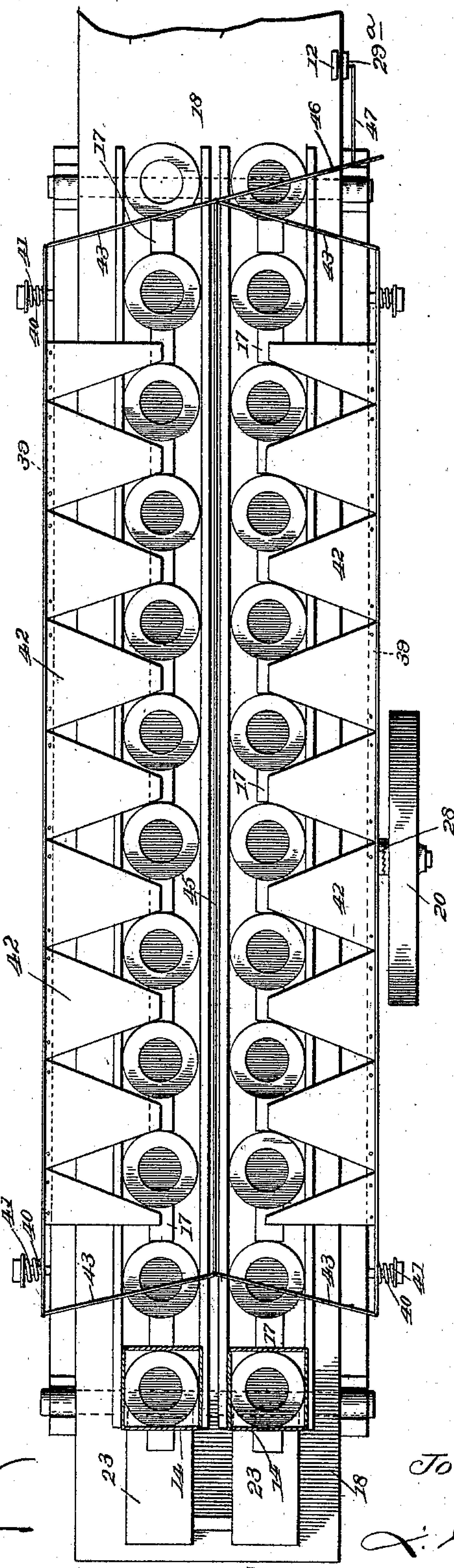
Fig. 2.



Witnesses

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By [signature]

his Atty

(No Model.) 4 Sheets—Sheet 3.

J. W. KALES.

CAN FILLING MACHINE.

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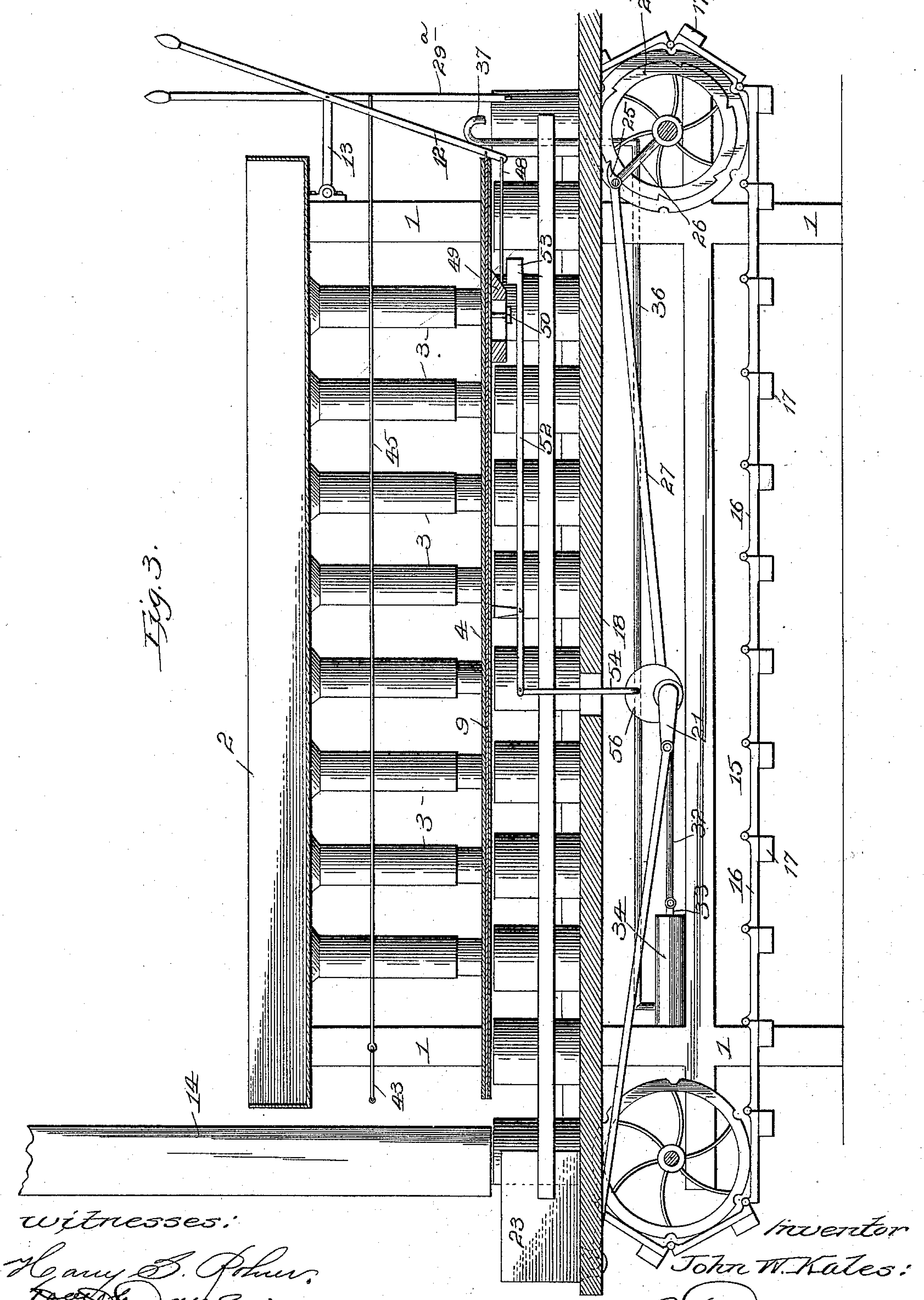

Fig. 3.

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J. W. KALES.

CAN FILLING MACHINE.

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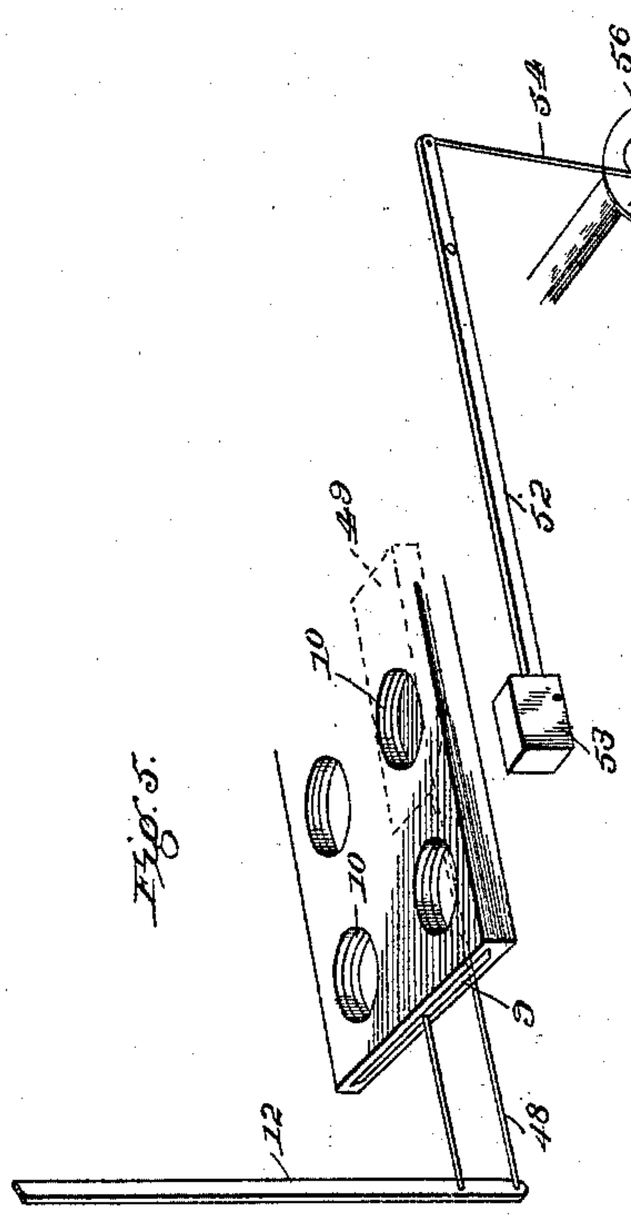

Fig. 5.

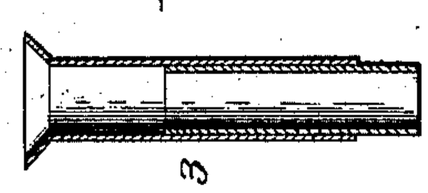

Fig. 6.

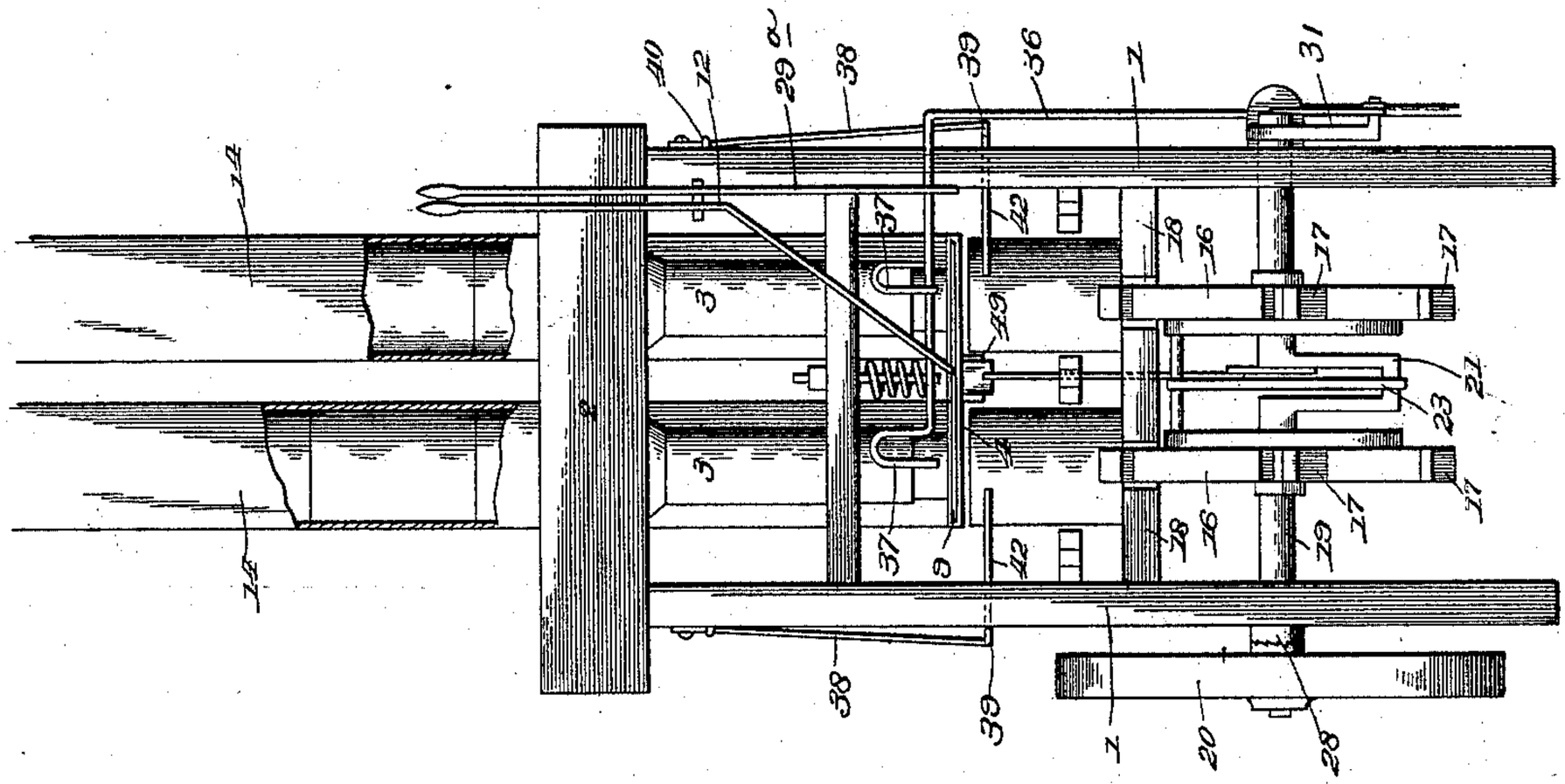

Fig. 4.

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his Atty

UNITED STATES PATENT OFFICE.

JOHN W. KALES, OF FRANKLINVILLE, NEW YORK.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 541,788, dated June 25, 1895.

Application filed May 28, 1894. Serial No. 512,779. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. KALES, a citizen of the United States, residing at Franklinville, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Machines for Canning Food Products; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines for canning food products, such for instance as green peas, and its object is to provide an improved construction of the same, by which such food products are accurately measured and deposited in cans with a suitable quantity of preserving fluid or liquid.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a canning machine constructed in accordance with my invention. Fig. 2 is a plan view of the same. Fig. 3 is a central longitudinal sectional view. Fig. 4 is an end elevation. Figs. 5 and 6 are detail views.

In the said drawings, the reference numeral 1, designates the frame of the machine, consisting of a number of uprights and horizontal and transverse bars, suitably connected together, which support the working parts of the apparatus. Secured to the upper part of this frame is a shallow tray 2, to receive the articles to be canned, and to this tray are secured a series of downwardly depending two part measuring tubes 3 and 3^a, of a capacity corresponding with that of the cans to be filled. In the present instance, twenty-four of these measuring tubes are shown arranged in two rows, of twelve each, although more or less may be employed as found convenient or desirable. At their lower ends these tubes engage with a corresponding number of holes in a horizontal plate 4, connected with lugs 5, on the uprights of the frame, by means of screw rods 6, and nuts 7, by which said plate may be adjusted vertically. Coiled springs 8, are interposed between said lugs for the purpose of allowing said plate to have a slight vertical play.

Fitting in a dovetailed groove in the under side of plate 4, is a slidable valve 9, provided with a series of holes 10, corresponding in number with the measuring tubes, and one end of which valve is connected with a lever 12, fulcrumed to a bracket 13, by means of which the holes in the valve, may be made to register with the open lower ends of the measuring tubes.

At one end of the apparatus is a vertical conveyer 14, leading to a store room above, from which the empty cans to be filled are fed, by gravity to a conveyer 15, consisting of an endless chain, made up of a number of links 16, pivotally connected together and provided with blocks 17, which engage with the cans so fed. This endless conveyer passes over sprocket wheels at each end of the machine, and the blocks 17, pass up through slots in a horizontal platform 18, upon which the empty cans as they come from the conveyer or chute 14, are deposited.

Journaled in bearings in the lower horizontal bars of the frame, is a driving shaft 19, provided with a pulley 20, connected by a belt, not shown, with any suitable motor. This shaft at its center is provided with a crank 21, which is pivotally connected to a connecting rod 22, which in turn is pivoted to a plunger 23, supported by the platform 18, at the front of the machine. This plunger as it is reciprocated back and forth by the rotation of the driving shaft, pushes the cans forward, which strike against the blocks of the endless traveling conveyer. These blocks thus form spacers so as to regulate the distance between the cans.

The sprocket wheel at the rear end of the machine is provided with a ratchet wheel 24, with which is adapted to engage a pawl 25, on the end of a lever 26, fulcrumed on the shaft of said wheel. This lever is pivotally connected with one end of a bar 27, the other end of which is journaled on the crank 21. By this means the traveling conveyer is given a positive movement, so that the blocks 17, aid in pushing or feeding the cans to the measuring tubes and delivering them from the platform, and thus prevent too great a strain coming on the plunger.

The numeral 28, designates a clutch on the driving shaft adapted to be thrown into and

out of engagement with a corresponding clutch on the pulley for starting and stopping the machine. This clutch is connected with a lever 29, or it may be connected with a lever 29ª, at one end of the machine by means of connections not shown by which it may be thrown into and out of engagement with the clutch on the pulley.

The driving shaft at one end is provided with a crank 31, with which is connected a rod 32, which in turn is connected with the piston rod 33, of a pump 34, having an inlet pipe 35, communicating with a tank or vessel not shown, containing a suitable preserving fluid or liquid. This pump is also provided with an outer pipe 36, extending toward the rear end of the machine and then bent upwardly and then transversely across the machine, where it is provided with goose necks 37, which terminate just above the cans at the rear end of the machine.

Hinged to the upper part of the frame of the machine, at each side thereof are a number of downwardly depending bars 38. The bars on each side are connected together by horizontal bars 39, through which pass pins 40, at each end of the machine. Interposed between these bars 39, and embracing said pins are coiled springs 41, the tendency of which is to throw the said bars 38 and 39, inwardly. At their lower ends the bars 38, are provided with triangularly shaped, inwardly extending plates 42, which are adapted to engage with and center the cans. The bars 39, at each end are provided with inwardly extending pivoted levers 43, pivoted at their inner ends to a horizontal rod 45. At the rear end of the machine, one of the levers 43, is extended as seen at 46, and connected by means of a rod 47, with the lever 29ª, by which the machine is started and stopped.

For the purpose of aiding in removing the contents from the tubes when the valve is opened, I provide a jarring mechanism as follows: Pivoted to the lower end of lever 12, is a link 48, the other end of which is connected with an anvil 49, slidably connected with the under side of plate 4, by means of a slot and screws. Located underneath said plate 4, is pivoted a lever 52, provided at one end with a hammer 53, and at the other end with a link 54, connected with an eccentric 56, on the driving shaft.

The measuring tubes may be made of any suitable material and are preferably constructed in two parts telescoping into each other, see Fig. 8, so that they may be contracted or extended to vary the capacity. The upper tube is also made flaring or trumpet shape so as to allow the articles to be canned to readily fall into the tube.

The operation is as follows: The empty cans being placed in the chute descend by gravity to the platform below. The machine is then set in operation and the cans are fed forward by the plunger and endless conveyer underneath the measuring tubes, each empty can as it is pushed forward by the plunger striking one of the blocks 17, causing the conveyer and cans to be fed or moved forward step by step. When a suitable supply of cans has thus been fed to the machine, the lever 29ª, is operated to stop the same, which will also through the medium of the connecting rods and levers, force the triangular plates inwardly thus centering the cans. The sliding valve is then operated by its lever, the holes therein registering with the open ends of the measuring tubes, when the contents of the latter will fall into the cans below. The operation is then repeated when the filled cans will be removed from underneath the measuring tubes and as they pass from the rear end of the machine will receive a suitable supply of preserving fluid or liquid, from the goose necks connected with the pump.

It will be noted that when the valve is operated to discharge the contents of the tubes, the anvil 49, is drawn outward over the hammer 53. This hammer is continuously vibrated through the medium of the lever and eccentric on the driving shaft, so that it will rap or strike the anvil and vibrate or jar the plate 4 and the measuring tubes, thus aiding in removing the contents from the tubes. When the valve is closed the anvil is pushed away from the hammer so that the latter will not strike the same and consequently the tubes are only vibrated when the valve is open.

Having thus fully described my invention, what I claim is—

1. In a can filling machine, the combination with the measuring tubes and the sliding valve, of the platform, the reciprocating plunger and the traveling conveyer adapted to be operated by the movement of said plunger, substantially as described.

2. In a can filling machine, the combination with the measuring tubes and the sliding valve, of the platform, the driving shaft having a crank, the connecting rod and reciprocating plunger, the sprocket wheels, the endless traveling conveyer chain adapted to be operated by the movement of the plunger having pivoted links provided with blocks, the ratchet wheel secured to one of said sprocket wheels, the arm journaled on the shaft of said sprocket wheel having a pawl and the rod connecting said arm with the crank of the driving wheel substantially as described.

3. In a can filling machine, the combination with the measuring tubes and sliding valve, of the platform for receiving the cans to be filled, the reciprocating plunger and traveling conveyer adapted to be operated by the movement of the plunger, the downwardly depending spring actuated bars having inwardly projecting triangular centering plates at their lower ends, the levers and rods connected therewith and the rod connecting said

levers with the lever for starting and stopping the machine, substantially as described.

4. In a can filling machine, the combination with the measuring tubes, the plate at the lower end thereof, the slidable valve, the lever connected with said valve, the slidable anvil connected with said lever, the pivoted lever having a hammer at one end and a link at the other and the eccentric on the driving shaft connected with said link, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. KALES.

Witnesses:
JOHN K. WOOD,
HENRY L. WHITMAN.