

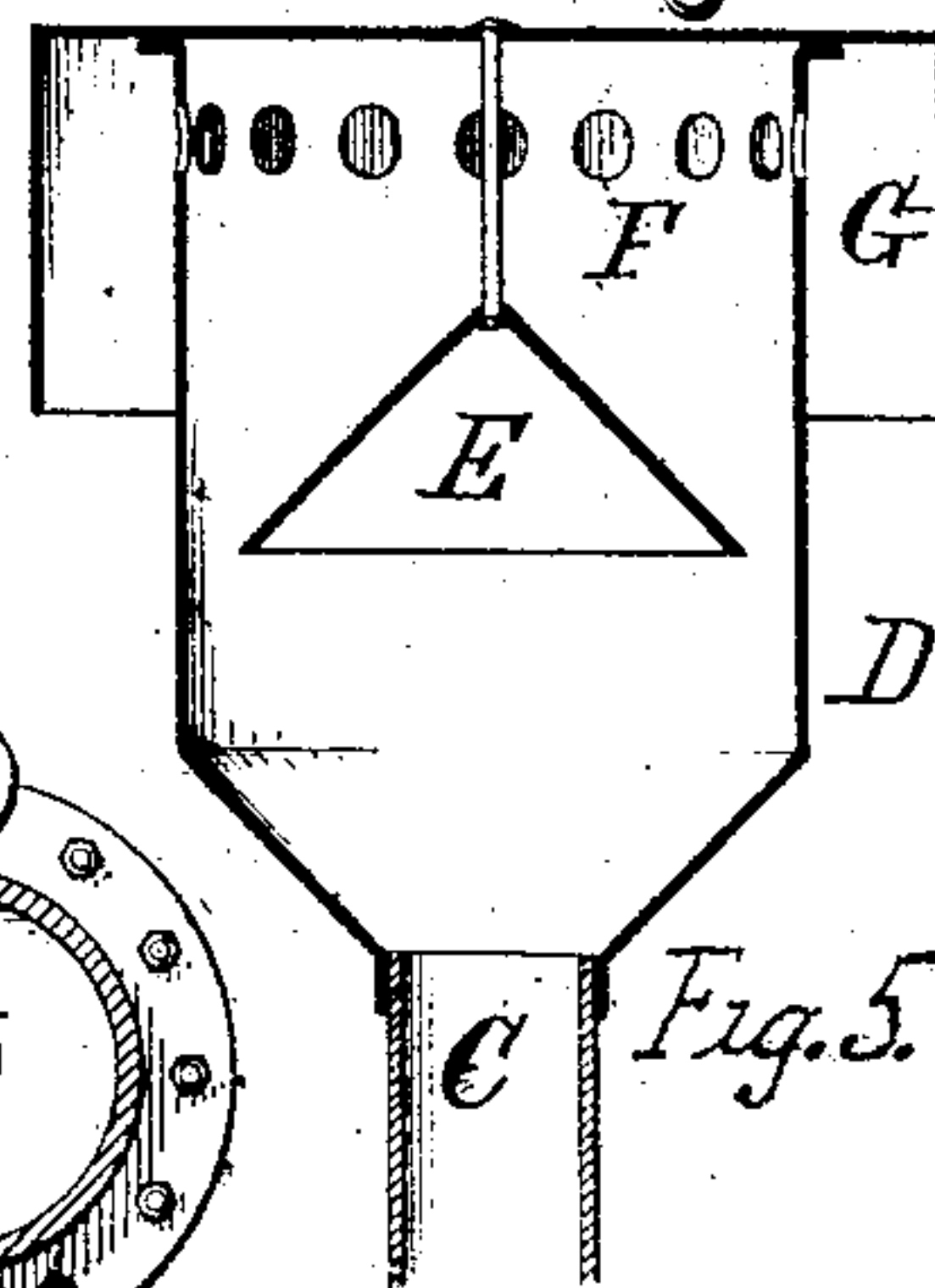
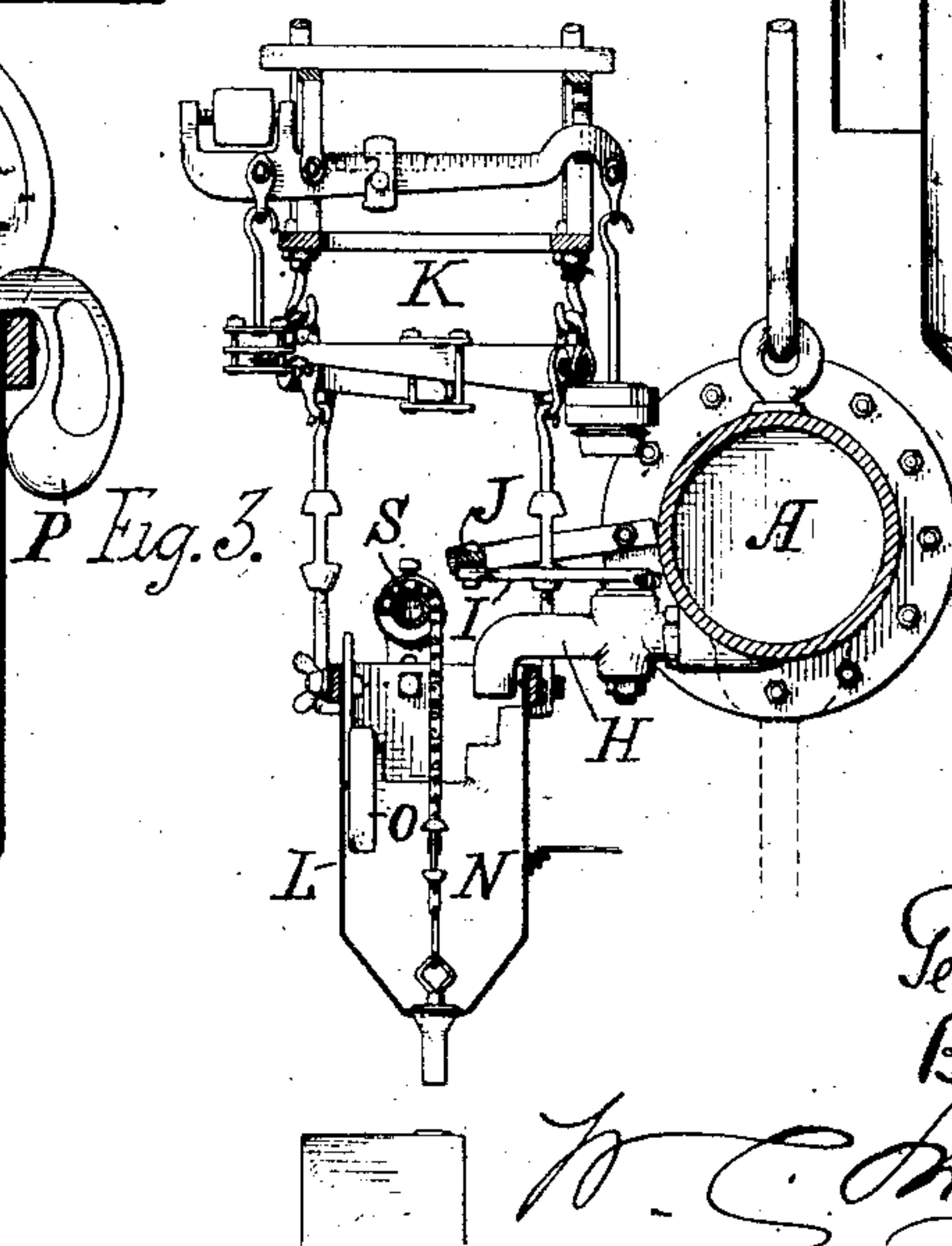
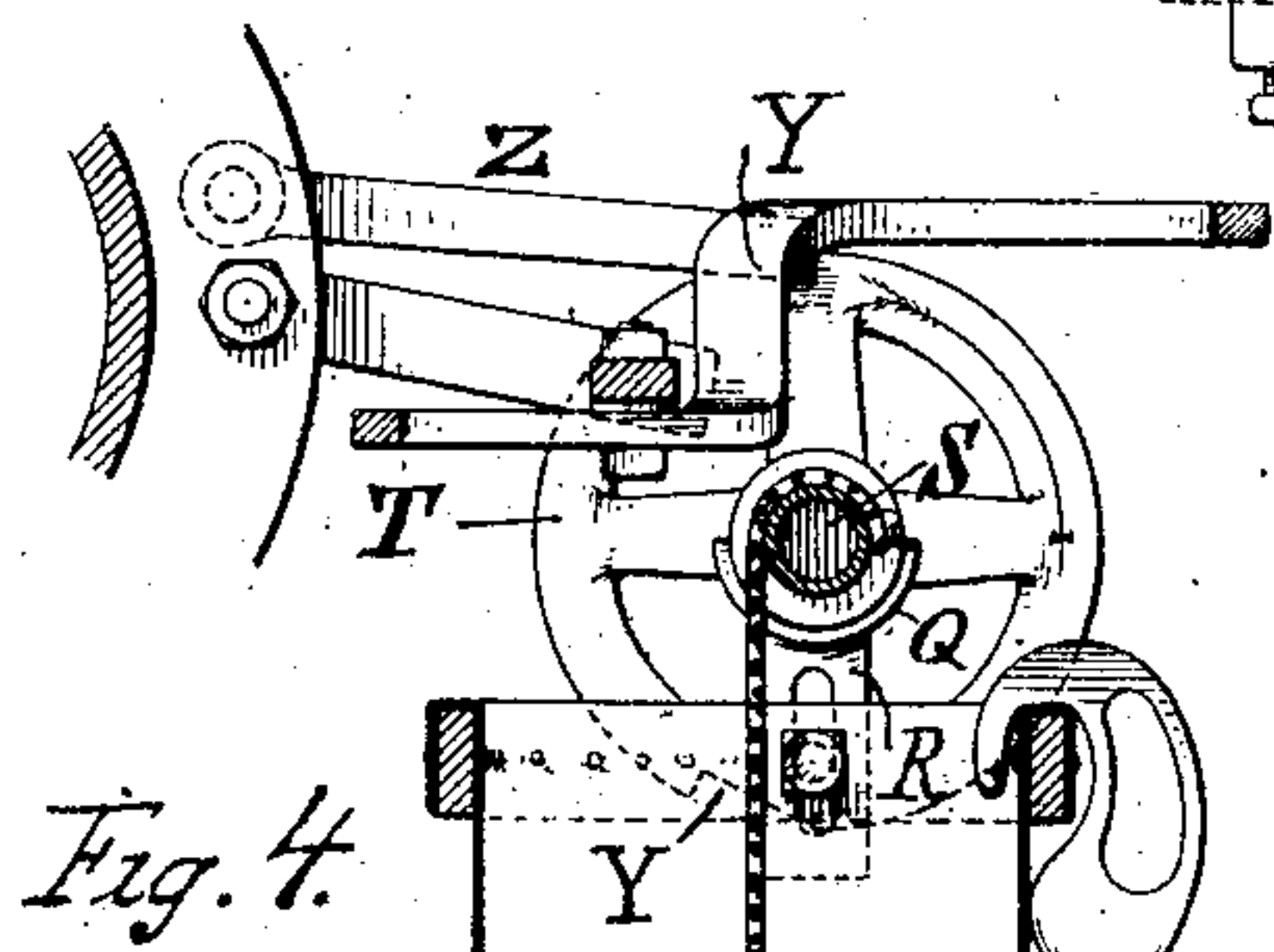
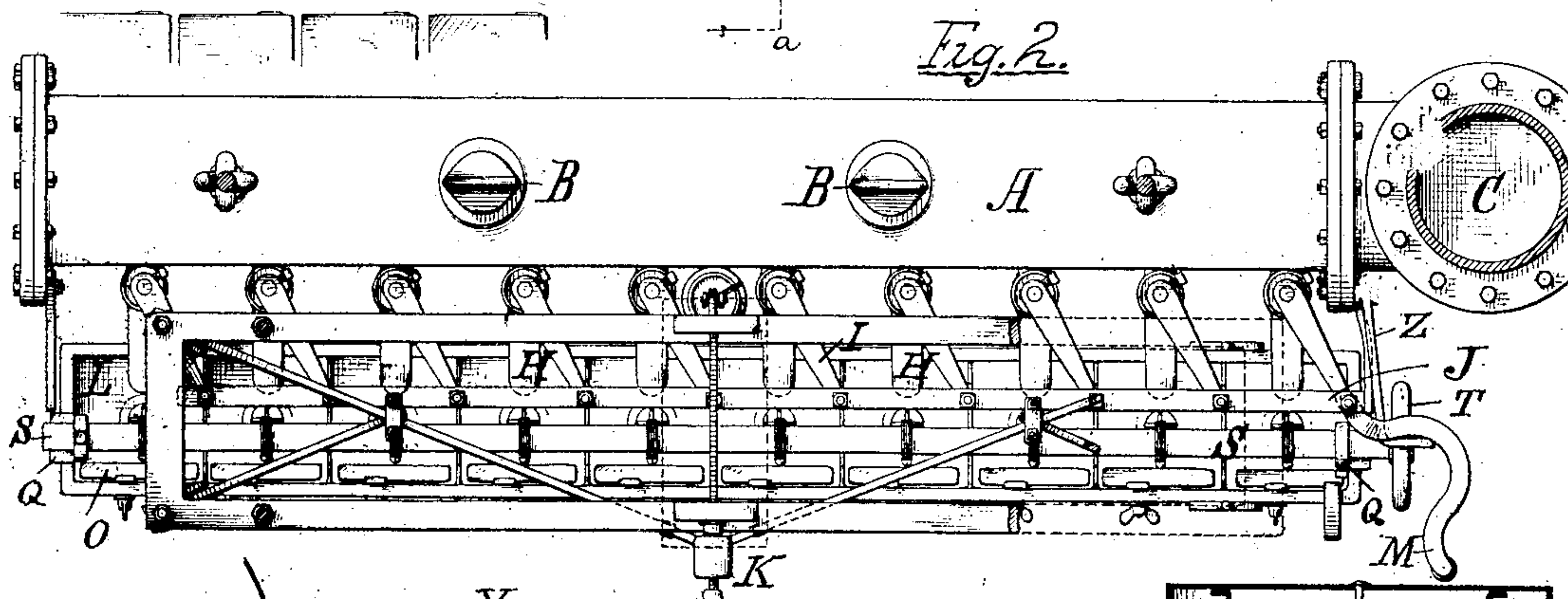
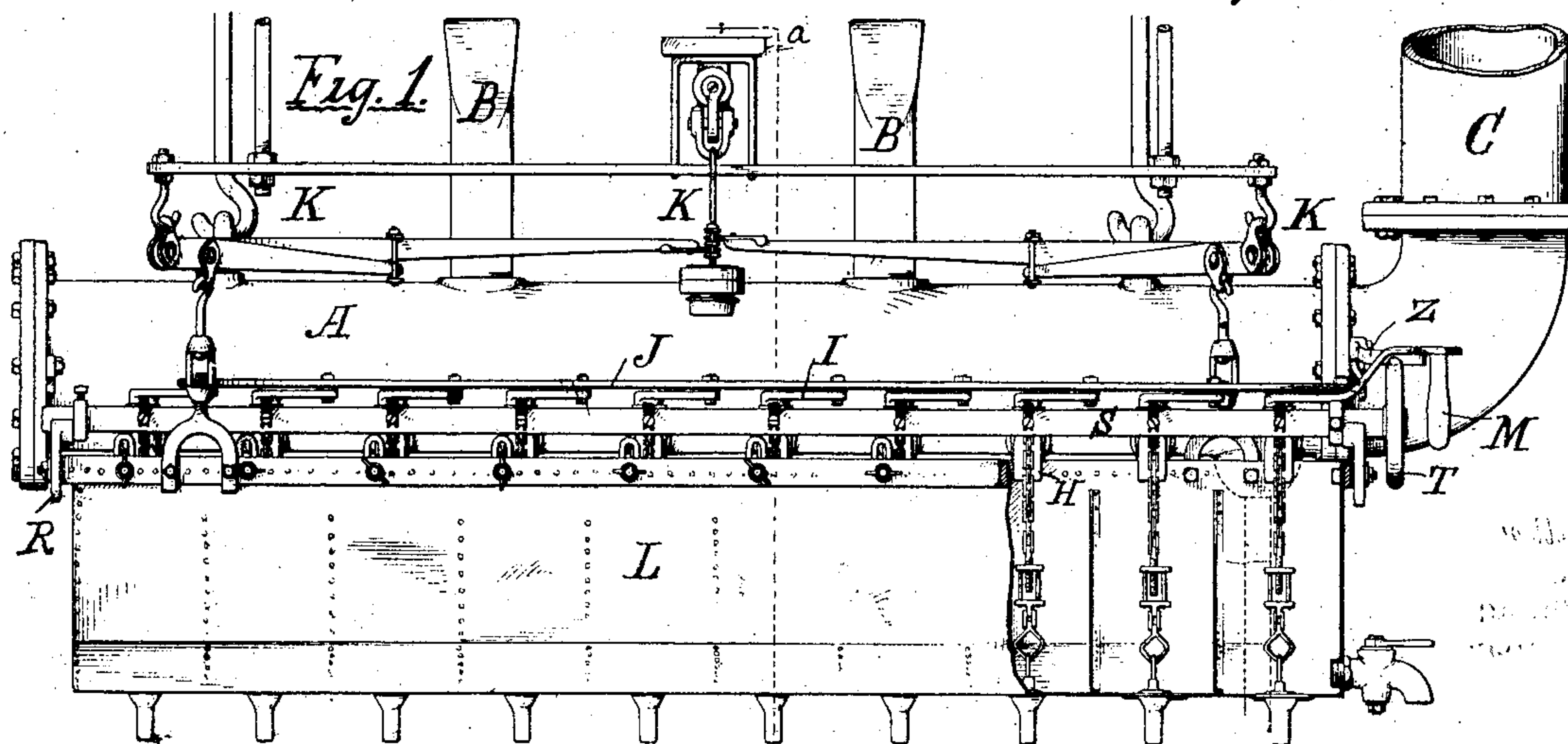
(Model.)

G. H. PERKINS.

Apparatus for Filling Cans.

No. 227,825.

Patented May 18, 1880.



Attest,

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UNITED STATES PATENT OFFICE.

GEORGE H. PERKINS, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR FILLING CANS.

SPECIFICATION forming part of Letters Patent No. 227,825, dated May 18, 1880.

Application filed March 13, 1880. (Model.)

To all whom it may concern:

Be it known that I, GEORGE H. PERKINS, of Philadelphia, Pennsylvania, have invented an Apparatus for Filling Cans, of which the following is a specification.

Of the drawings, Figure 1 is a side elevation of an apparatus embodying my invention; Fig. 2, a top-plan view of the same; Fig. 3, a transverse sectional elevation taken on the line *aa* of Fig. 1; Fig. 4, a transverse section of the trough, and Fig. 5 a sectional elevation of a convenient form of cap-piece for the stand-pipe of the supply-reservoir.

Similar letters of reference indicate corresponding parts.

My invention relates to that class of apparatus which is employed in oil-refineries for the filling of cans, by means of which a large number of cans are simultaneously supplied with the exact quantity of oil which is requisite to fill each can of the series simultaneously filled.

In the apparatus represented provision is made for the simultaneous filling of ten cans. It is to be understood, however, that the invention is susceptible of embodiment in an apparatus adapted to supply a greater or a less number of cans than ten.

In the drawings, A represents the supply-pipe or secondary reservoir, which is continuously supplied, by means of the pipes B, from a primary tank, receiver, or source of supply. (Not shown in the drawings.) The reservoir A is a horizontal pipe, closed at one end and at the other provided with an elbow, from which ascends a stand-pipe, C, whose office is to afford a means of temporary overflow or escape for an excessive rush of oil. The stand-pipe is of any required height, and at its upper extremity is supplied with a cap, D, within which is suspended a hood, E, to reflect back any spray of oil.

F are air-orifices in the cap, and G is a rain-excluding diaphragm surrounding the top of the cap.

Laterally projecting from the reservoir are a series of faucets, H, corresponding in number to the number of compartments of the trough. Each faucet is supplied with a cock-lever, I, whereby the faucet is opened or closed, and all the levers are connected together by a bar, J,

to the extremity of which a handle, M, is attached, whereby the series of faucets are simultaneously opened or closed.

Suspended independently of the reservoir, upon a set of scales, K, is an elongated trough, L, provided with such a number of compartments as corresponds with the number of cans to be supplied. The scales are so set that when the trough has been supplied with the requisite amount of oil from the faucets which overhang it the scales will indicate its condition and the trough will descend to an extent limited to the throw of the scale-beam. Internally the trough is divided, by means of partitions N, into as many compartments as there are cans. The upper edges of the partitions are stepped off, as shown in Fig. 3, by which means, after each compartment is filled to the level of the lowest step of its partition, the oil will overflow the tops of all the partitions and find its level in the trough.

To guard against accidental variances in the capacity of each compartment, each is supplied with a vertically-adjustable displacing-block, O, by the adjustment of which an equal quantity of oil can be insured to each compartment.

It will now be understood that when the trough is empty the scales hold it at its highest level. When the faucets are opened each compartment of the trough is rapidly filled, and so soon as all are filled and the oil has found a level in the trough the trough overpowers the counterpoises of the scales and descends to the lowest level which the scales permit it to assume. If, therefore, the scales be watched, the condition of the trough can be accurately determined and the faucets closed at the proper moment, so that no overplus of oil results. In practice, however, the supply of oil is so rapid that even if the faucets are instantly closed at the moment when the scales indicate that the trough is properly supplied, yet a sufficient amount of oil remains in the nozzles of the faucets to cause a slight oversupply to the trough, to regulate which a counterweight, P, calculated to exactly balance the oil remaining in the nozzles of the faucets after the closing of their cocks, is hung upon the trough, and removed by the operative at the instant that the trough descends and that the

faucets are closed, whereby only the exact supply of oil requisite to exactly fill each can is obtained in the trough.

Resting in journals Q, erected from standards R upon either end of the trough, is a valve-shaft, S, which extends the length of the trough, and terminates at the end nearest the handle of the faucets in a hand-wheel, T, which controls the rotation of the same. To this shaft is connected a series of flat chains or the like, corresponding in number to the compartments of the trough, which extend down into each compartment, and are connected with cone-valves U by means of length-adjusting devices V, and by, for instance, two large links, *e e*, adapted to obviate kinking in the chain.

The valves rest in valve-seats W, connected with spouts X, adapted to come over the nozzles of the cans for the filling of the same.

The hand-wheel is provided with notches Y upon opposite extremities, of a vertical diameter considered with reference to the position of the wheel when the valves are in their seats.

A pivot-arm, Z, pivoted to the reservoir, is adapted to rest in the notch which is uppermost when the valves are in their seats.

After the trough has been filled and has descended upon the scales, the operative revolves the hand-wheel in the direction indicated by the arrow in Fig. 4, whereby the pivot-arm lifts out of the first notch and drops into the lower notch as the latter is revolved beneath it, with the effect of locking the hand-wheel in a position that retains all the valves out of their seats, during which period of retention the compartments are emptied of their oil, and the cans which are arranged upon a gage, or, for instance, upon such a platform as is described in my Letters Patent No. 167,356, filled.

When the oil ceases to flow from the spouts the cans are full, and the operative then thumbs up the pivot-arm so as to release the hand-wheel, whereupon the valves simultaneously descend by gravity into their seats, after which the faucets can be turned on and the operation instantly repeated.

Incident to my invention is the advantage that the scales are fixed, and that the trough has only a vertical movement corresponding to the throw of the scales, whence results that

the spouts are not introduced into the nozzles of the cans, but stop at some distance above them.

The adjustability of the valve-chains renders a nice adjustment of each valve possible. 55

When desired, other supply and stand pipes may be applied to the secondary reservoir, or the arrangement may be other than that shown.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States— 60

1. In an apparatus for simultaneously filling a series of cans, a trough hung to rigid scales, provided with a series of spouts and combined with a series of valves fitted to said spouts and adapted to be simultaneously operated by a revolving valve-shaft connected therewith and with the trough, substantially as described. 65

2. In an apparatus for simultaneously filling a series of cans, a secondary reservoir connected with a primary source of supply adapted to be emptied into a trough and provided with a stand-pipe, as and for the purpose specified. 70

3. The combination, with a valve-shaft provided with a hand-wheel or other analogous device for operating and locking the shaft, of a series of adjustable chains or the like, to which are attached a series of valves, substantially as shown and described, and for the purpose specified. 75 80

4. In combination with the stand-pipe of a secondary reservoir, a cap-piece constructed and operating as hereinbefore set forth.

5. In an apparatus for simultaneously filling a series of cans, a trough constructed and operating as set forth, in combination with a set of fixed scales, the arrangement being such that the trough has a vertical movement limited by the scales to an extent which in its descent brings its spouts near to but not into the nozzles of the cans to be filled therefrom. 85 90

In testimony whereof I have hereunto signed my name this 14th day of February, A. D. 1880.

GEORGE H. PERKINS.

In presence of—

J. BONSALE TAYLOR,
C. B. TAYLOR.