

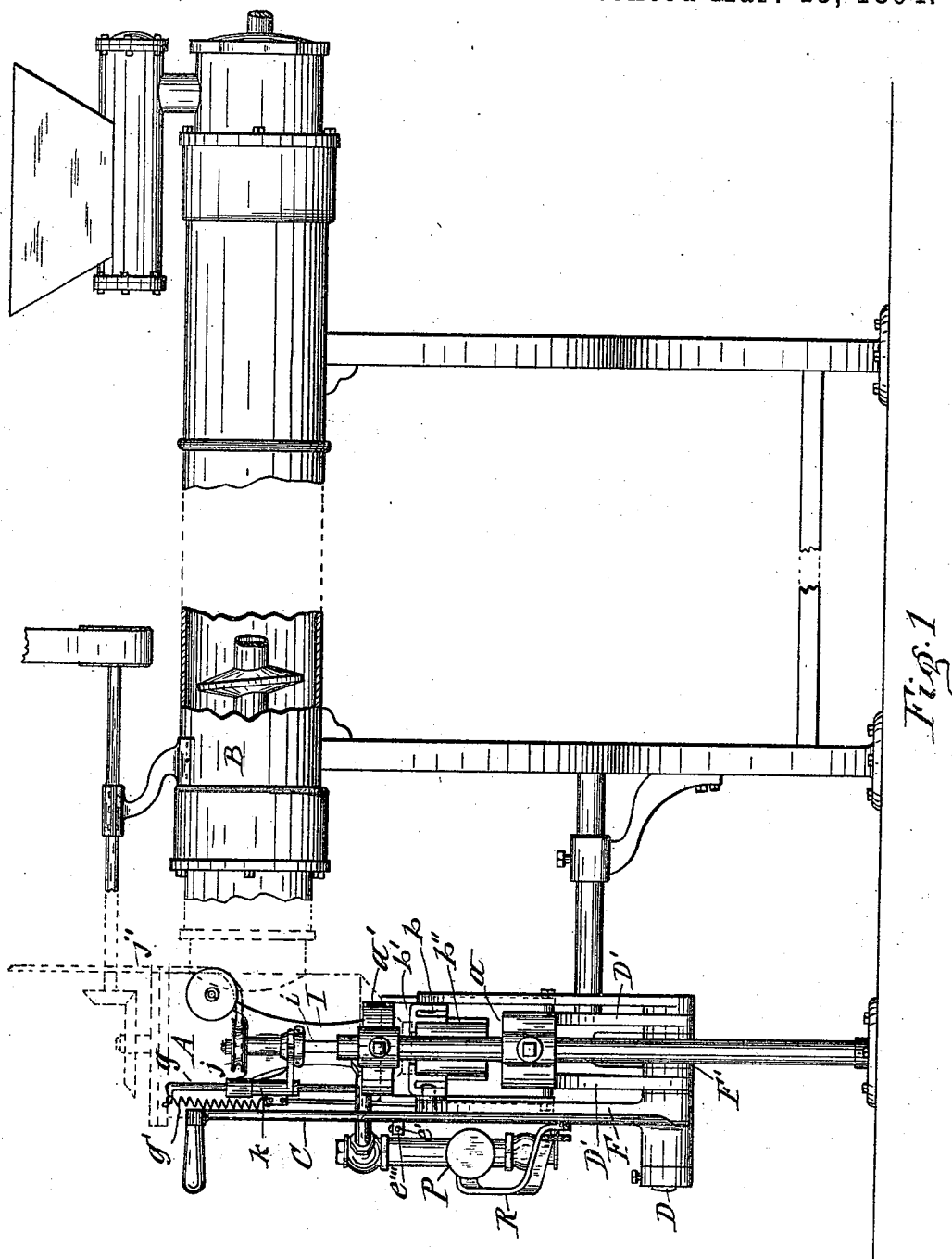
(No Model.)

4 Sheets—Sheet 1

H. C. BAXTER & H. R. STICKNEY.
CAN FILLING MACHINE.

No. 516,326.

Patented Mar. 13, 1894.



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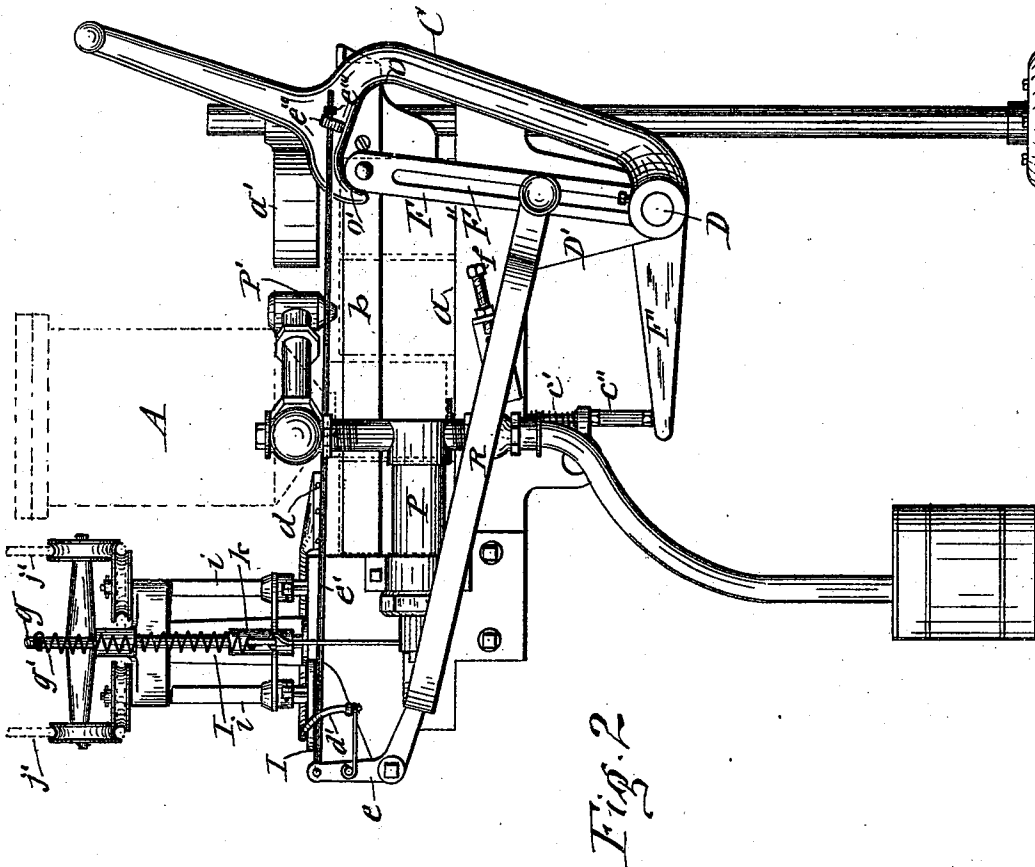


Fig. 2

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By Bull, Laess & Bull
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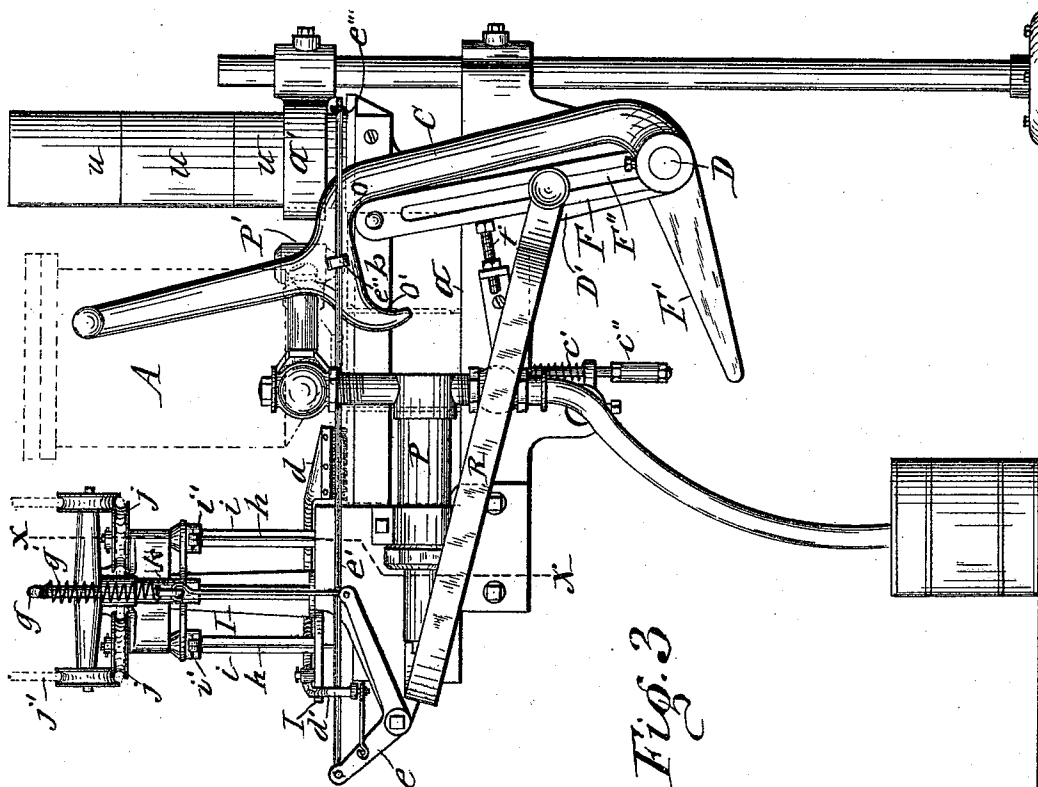
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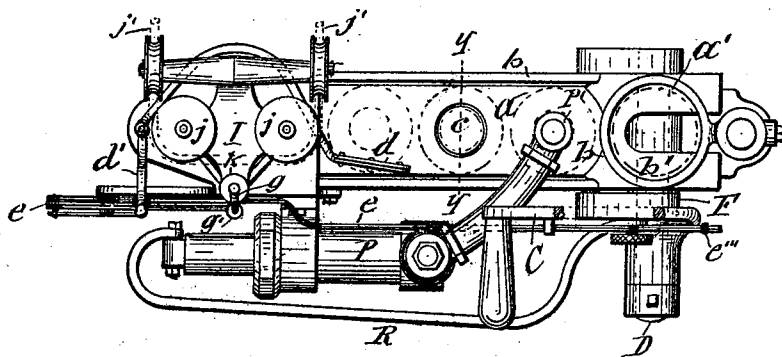


Fig. 4

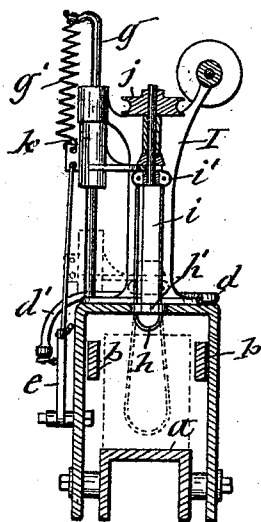


Fig. 5

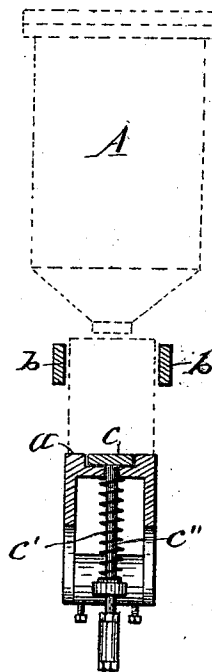


Fig. 6

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UNITED STATES PATENT OFFICE.

HARTLEY C. BAXTER, OF BRUNSWICK, AND HENRY R. STICKNEY, OF PORTLAND, MAINE, ASSIGNORS TO THE HEMINGWAY MANUFACTURING COMPANY, OF SYRACUSE, NEW YORK.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 516,326, dated March 13, 1894.

Application filed March 1, 1893. Renewed February 5, 1894. Serial No. 499,210. (No model.)

To all whom it may concern:

Be it known that we, HARTLEY C. BAXTER, of Brunswick, and HENRY R. STICKNEY, of Portland, county of Cumberland, State of Maine, have invented new and useful Improvements in Can-Filling Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in an improved organization of a machine which is convenient and efficient in its operation, and passes the cans to the filler, injects sirup into the cans in transit, wipes the tops of the filled cans and stirs the contents of the cans by means of a single lever operated by the person in charge of the machine, all as hereinafter more fully described and set forth in the claims.

In the annexed drawings Figure 1 is an end elevation of our improved can-filling machine showing its connection with the cooking apparatus. Figs. 2 and 3 are side elevations of said can filling machine showing the same in two of its operative positions. Fig. 4 is a top plan view of the same. Fig. 5 is a vertical transverse section of the stirrer taken on line *x, x*, in Fig. 3, and Fig. 6 is a vertical transverse section of the can-lifter taken on line *y, y*, in Fig. 4.

Similar letters of reference indicate corresponding parts.

A—represents the filler which is attached to the end of the cooking cylinder—B—which may be of any suitable and well known construction, preferably of the form shown in the Patent No. 202,979, granted to Edward P. Bates, April 30, 1878. Said cylinder being provided in its interior with a spiral conveyer which forces the cooked substance into the filler, which latter is also in this case provided with a vertical spiral conveyer, not necessary to be here shown, by which conveyer the cooked substance is forced from the filler into the can placed under the discharge spout of the filler. Beneath the filler and extending laterally therefrom is the can-guide—a—over one end of which is arranged a ring or suitable can-chute—a'—for the reception of

the cans to be filled. Under said can-chute is the can-pushing bar—b—which is movable lengthwise of the can-guide—a—and is provided on top of its outer end portion with a platform—b'—by which it supports the cans in the chute—a'—while said bar—b—pushes the bottom can from under the chute and toward the filler. Said platform has on its side facing the filler a downwardly extending shoulder—b''—by which it pushes the cans as aforesaid.

Directly under the filler—A—is the can-lifter—c—which raises the can from the can-guide sufficiently to cause the discharge spout of the filler to enter into the opening in the top of the can and charge the can with the cooked substance. Said can-lifter is held normally with its top flush with the top of the can-guide, by means of a spiral spring—c'—surrounding the downwardly extending stem—c''—of the lifter and bearing with its opposite ends respectively against the under side of the can-guide and against a collar attached to said stem.

The described can-pushing bar—b—and can-lifter—c—are both operated by means of one and the same lever—C—which is operated by the person in charge of the machine and also actuates all other mechanisms of the machine as hereinafter explained. The lever—C—is pivotally mounted on a shaft—D—extending across the machine some distance beneath the can-guide—a—and journaled in brackets—D'—rigidly attached to or integral with the bottom of the can-guide, which latter constitutes part of the frame of the machine.

To the shaft—D—are fastened two rock-arms—F—F'—which are thus pivoted in common and caused to move in unison. The rock-arm—F—is extended upward and pivotally connected to the can-pushing bar—b—at which point the lever, C, is provided with two bearings *o, o'*, for engaging said arm. The other arm—F'—is extended under the stem—c''—of the can-lifter and adapted to force the same upward and thus raise the same to bring the mouth of the filler into

the top opening of the can as hereinbefore stated. There is a sufficient play or lost motion between the arm —F'— and stem —c''— to allow the other rock-arm —F— to move the
 5 push-bar —b— back to its extreme outer position without raising the lifter to an excessive elevation. We also utilize one of said rock-arms, preferably the arm —F—, for operating the piston of the sirup-pump —P—
 10 which has its discharge nozzle —P'— over the can-guide —a— between the can-lifter —c— and can-chute —a'—. Said pump piston deriving motion from said rock-arm by a pitman —R—, which is connected to said arm
 15 adjustably lengthwise thereof, so as to allow the thrust of the pump piston to be regulated according to the amount of sirup desired to be introduced into the cans. Said adjustable connection may be made in various
 20 ways and is shown in the form of a longitudinal slot —F''— in the rock-arm receiving through it the bolt by which the pitman is connected to said arm.

To regulate the thrust of the rock-arm —F— so as to prevent it from moving the
 25 can-pushing bar —b— beyond the desired distance toward the filler, we attach to the frame a set-screw —f— or other suitable adjustable stop in the path of the said rock-
 30 arm.

Beyond the filler —A— is a can wiper —d— arranged to sweep across the top of the filled can and clean the same. Said can wiper is pivoted to a bracket —I— erected on the
 35 frame of the machine, and swings in a horizontal plane and in an arc extending transversely over the can-guide. The said can-wiper has extending from it an arm —d'— which is connected to a two armed lever —e—
 40 pivoted to the frame of the machine. To a post —g— on the bracket —I— is connected the upper end of a spiral spring —g'—, the lower end of which is attached to a sleeve, K, sliding on said post and connected to the
 45 horizontal arm of the lever —e— which is thereby drawn upward and caused to hold the wiper —d— in its normal position. To sweep said wiper across the top of the can we connect the vertical arm of the lever —1°—
 50 to the manually operated lever —C— by a rod —e'— which passes freely through an eye in a stud-pin —e''— attached to the lever —C— and has adjustably secured to its outer end a collar —e'''— which is set in such a position
 55 as to permit sufficient lost motion between the rod and lever to leave the wiper dormant during the first part of the rearward movement of the lever —C— and only actuate the wiper during the latter part of said
 60 movement of the lever which at the same time lifts to the filler the empty can brought directly under it by the pushing bar —b.

h— denotes a stirrer which is arranged beyond the wiper and movable vertically to enter into the filled can and stir the contents
 65 thereof and subsequently withdraw there-

from. Two of such stirrers may be employed if desired, as shown. We prefer to construct said stirrer of a horizontal disk —h'— pivoted in and extending through the base of the
 70 bracket —I— and rigidly attached to a vertical shaft —i— and pivoted at its upper end to the said bracket and provided with a pulley —j— upon which runs the belt —j'—, by which rotary motion is imparted to the shaft
 75 —i. The body of this shaft from the disk —h'— to the journal of the shaft is squared or otherwise made angular and upon the same slides vertically a collar —i'— to which are fastened the stirring wires —h— which pass
 80 freely through apertures in the disk —h'— and are preferably united or formed in one piece looped beneath the disk as represented in Fig. 5 of the drawings. The collar —i'— is connected to the before described sliding
 85 sleeve —k— and the stirrer is thus also sustained normally in its raised position by the spring —g'— and actuated simultaneously with the can-wiper —d.

The operation of the described machine is
 90 as follows: The cooker —B— being in operation forces the cooked corn or other substance into the filler —A. The empty cans —u—
 95 —u— to be filled may be placed either singly or in a tier upon the platform —b'— of the pushing bar —b—, the bottom can being surrounded by the ring —a'. Then by swinging the lever —C— to the rear as represented in
 100 Fig. 2 of the drawings the platform —b'— is withdrawn from under the cans which then drop onto the guide —a—. The operator then throws the lever —C— forward and causes the bearing —o— thereof to engage the rock-arm —F— and push the same forward as shown in Fig. 3 of the drawings.
 105 Said rock-arm carries with it the bar —b— which pushes the bottom can to a position directly under the discharge-nozzle —P'— of the sirup-pump. In said movement the platform —b'— passes under the remainder of
 110 the tier of cans and supports the same. The operator then draws back the lever —C— to its extreme outer position, another can is thus allowed to drop onto the guide —a— and pushed forward by the next forward motion
 115 of the lever. Each can thus introduced into the machines pushes along the cans in front of it, and in this manner the cans are passed successively to the nozzle —P'—, lifter —c—, wiper —d— and stirrer —h. The rearward
 120 movement of the lever —C— operates the pump —P— by the rock-arm —F— and pitman —R— so as to force sirup into the can standing under the nozzle —P'— and at the same time the rock-arm —F'— pushes up the
 125 lifter —c— so as to cause the discharge spout of the filler —A— to enter into the opening of the can seated on the lifter, and the wiper is drawn across the top of the filled cans and the stirrer entered and rotated in the farthest
 130 filled can by the lever —C— drawing back the rod —e'. There is sufficient play between the

bearings —*o—o'*— to allow the lever —*C*— to be swung forward a sufficient distance to release the rod —*e'*— and allow the wiper —*d*— and stirrer —*h*— to resume their normal positions before causing the lever to actuate the can pushing bar —*b*— by the rock-arm —*F*.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with the filler, and can-guide extending laterally from under the filler, a can-pushing bar movable lengthwise of said guide, a can-lifter under the filler, a sirup-pump having its discharge nozzle over the can-guide, two rock-arms pivoted in common beneath the can-guide, one of said arms extending upward and being connected to the aforesaid pushing-bar, and the other arm extending forward under the can-lifter to raise the same, with a lost motion between them, a pitman connecting the pump-piston to one of said rock-arms, and a lever operating the two rock-arms in common as set forth.

2. In combination with the filler and can-guide extending laterally from under the filler, a can-pushing bar movable lengthwise of said guide, a can-wiper beyond the filler, a rock-arm pivoted to the frame and connected to the aforesaid pushing-bar, a lever operating said rock-arm with a lost motion between them, and a rod transmitting motion from said lever to the can-wiper and having a lost motion in its connection as set forth.

3. In combination with the filler and can-guide, a can-pushing-bar movable lengthwise of said guide, a can-lifter under the filler, two rock-arms pivoted in common and swinging in vertical planes, one of said arms extending upward and being connected to the aforesaid pushing-bar, and the other arm extending under the lifter with a lost motion between them, a lever operating said rock-arms with a lost motion between them, a can-wiper pivoted to swing in a horizontal plane beyond the filler, and a rod transmitting motion from the aforesaid lever to the wiper, as set forth.

4. In combination with the filler and can-guide, a can-pushing bar movable lengthwise of said guide, a can-lifter under the filler, two rock-arms pivoted in common, one of said rock-arms being connected to the aforesaid pushing-bar, and the other extending under the lifter with a lost motion between the latter, a sirup-pump having its discharge nozzle over the can-guide, a pitman connecting the pump-piston to one of the rock-arms, a manually operated lever operating the rock-arms with a lost motion between them, a can-wiper pivoted to swing in a horizontal plane beyond the filler, and a rod transmitting motion from

the aforesaid lever to the can-wiper and having a lost motion in its connection as set forth.

5. In combination with the filler, sirup-pump, and can-pushing-bar, a combined rotary and vertically reciprocating stirrer beyond the filler, and a lever operating said pushing-bar and forcing the stirrer into the can substantially as set forth.

6. In combination with the filler and can-guide, a can-pushing bar movable lengthwise of said guide, a manually operated lever operating said bar, a vertically movable stirrer beyond the filler adapted to enter the can, a two-armed lever connected at one end to the stirrer, and a rod connecting the opposite end of said lever to the manually operated lever, as set forth.

7. In combination with the filler and can-guide, a can-pushing-bar movable lengthwise of said guide, a can-lifter under the filler, a can-wiper beyond the filler, a stirrer beyond the said wiper adapted to enter into the can, two rock-arms pivoted in common, and one of said arms connected to the can-pushing-bar, and the other of said arms extending under the can-lifter to raise the same, a manually operated lever operating said rock-arms, a spring sustaining the wiper and stirrer both in their normal positions, a two-armed lever throwing said wiper and stirrer into their operative positions, and a rod transmitting motion from the manually operated lever to the two-armed lever and having lost motion in its connection to leave the wiper and stirrer dormant during the transit of the cans to the same, as set forth.

8. In combination with the filler and can-guide, the can-pushing bar, sirup-pump, can-lifter, can-wiper, vertically movable stirrer, a spring sustaining said wiper and stirrer in their normal positions, rock-arms pivoted in common and transmitting motion to the can-pushing bar, lifter and pump-piston, a manually operated lever operating said rock-arms, and a rod transmitting motion from said lever to the wiper and stirrer, the connection of the lever with said rock-arm and rod having a lost motion to time the movement of the aforesaid parts, as set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

HARTLEY C. BAXTER.
HENRY R. STICKNEY.

Witnesses to H. C. BAXTER,
LOTTIE F. BRUCE,
H. C. UPTON.

Witnesses to H. R. STICKNEY.
S. W. BATES,
E. G. S. RICKER.