

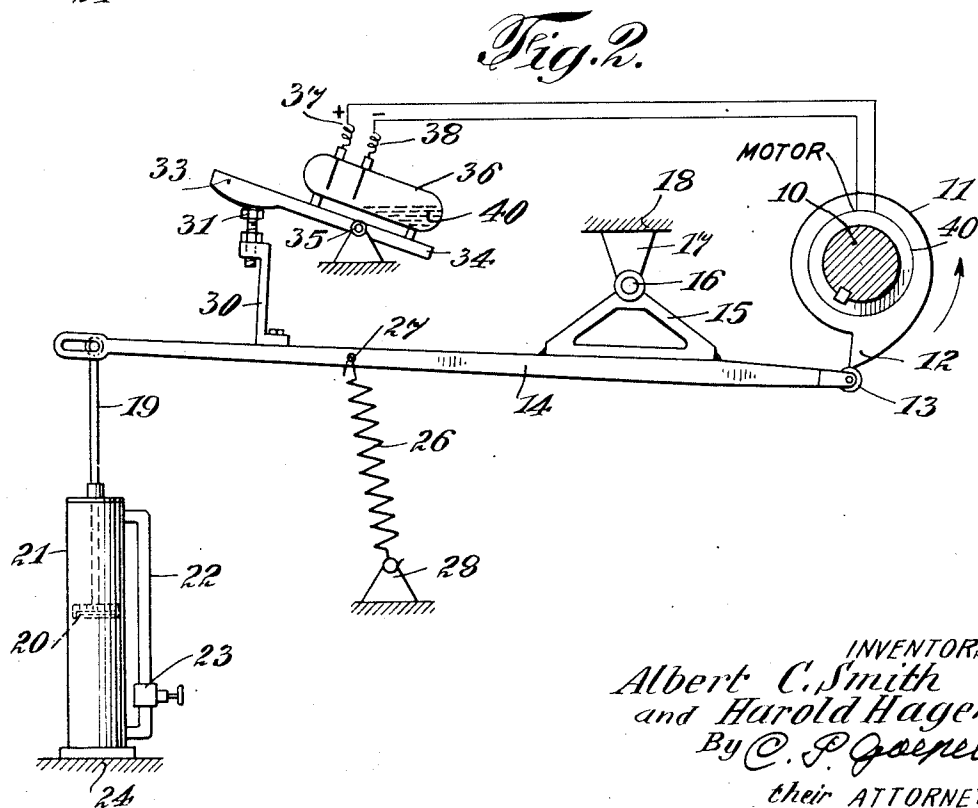
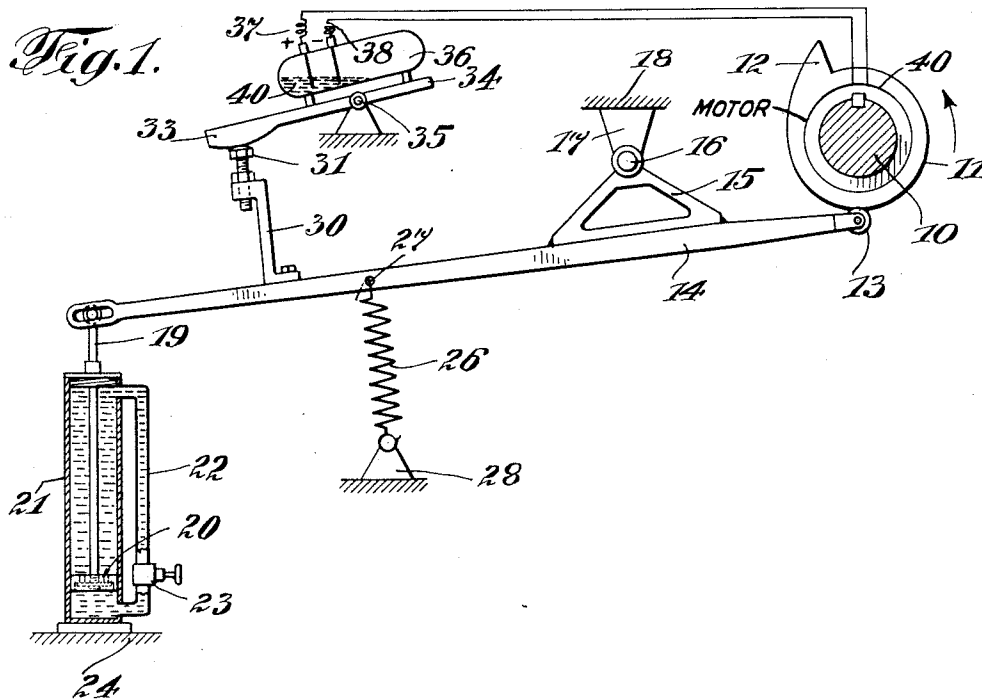
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TIMER FOR BARREL WASHING MACHINES

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## UNITED STATES PATENT OFFICE

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## TIMER FOR BARREL WASHING MACHINES

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1 Claim. (Cl. 318-443)

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This invention relates to timers for barrel washing machines.

The object of this invention is to provide a simple and satisfactory timing device, readily applicable to a barrel washing machine.

The invention consists in providing means controlled by a fluid oil resistance, to time the closing of the barrel washing machine conveyor or motor circuit, with means for varying said time period.

More particularly the invention consists of a pivoted lever moved in one direction by a cam on a conveyor lever shaft of a barrel washing machine, and in turn controlling the movement of a piston in an oil containing casing to bring the piston to its upper position, with a spring connected with the lever to return the lever to its initial position, with consequent return of the piston to its initial position, the time period of such return determining the period of stoppage of the conveyor motor of the barrel washing machine, the positioning of the pivoted lever determining the closing or opening of motor circuit.

The invention will be more fully described hereinafter, an embodiment shown in the drawings, and the invention will be finally pointed out in the claim.

In the accompanying drawings,

Fig. 1 is a side view of an embodiment of the invention, with the motor circuit closed, and

Fig. 2 is a side view of the embodiment with the motor circuit open.

Similar characters of reference indicate corresponding parts throughout the same parts.

Referring to the drawings, the shaft 10 at either end of the barrel washing machine, has secured to it a cam 11 with a nose 12. A cam follower 13 on a lever 14, is supported by a bracket 15 pivotally engaging at 16, a bracket 17 secured to a wall 18.

The other end of the lever 14 is adjustably secured to the upper end of a piston rod 19 of a piston with check valve 20 in a cylinder 21 having a by-pass tube 22, controlled by a valve 23, the cylinder being supported by a wall 24.

Intermediate the ends of the lever 14, a spring 26 is secured to the lower end of the lever 14 at 27, the other end of the spring being pivotally secured to a fixed member 28.

Above the lever 14 and disposed between its end connected with the piston rod 19, and the connection 27 on the spring 26, is an upstanding bracket 30, with an adjustable screw nut 31. Above the nut 31, one arm 33 of a pivoted lever

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34, pivoted at 35, is moved by the nut, and this lever 34, supports a mercury switch 36, having two conductors 37 and 38, connected with the motor of the barrel washing machine. A mercury supply 40, closes or opens the circuit of the conductors 37 and 38 depending on the position of the lever 34.

In Fig. 1, the circuit is closed and in Fig. 2 the circuit is open.

10 The improved device is intended to take the place of commercial timer, known and sold under the trade-mark "Eagle timer."

The operation of the timer is as follows:

The barrel washing machine (not shown, as well known) is started and the shaft 10 rotated as known. On the rotation of the cam 11 with the shaft 10, the mercury switch 36 is operated and shuts off the current (see Fig. 2). The oil operated piston 20 with valve 23 actually determines the timing. By the opening or closing of the valve 23, the rest period is reduced or increased, and this determines the capacity of the barrel washing machine. The spring 26 exerts a pressure action on the piston 20, through the lever 14 and connecting rod 19, and this pushes the oil through the valve 23. When the extended spring 26 has caused the piston 20 to reach its lowermost position as shown in Fig. 1, from its position shown in Fig. 2, then the mercury switch 36 has been tilted to close the circuit 37 and 38, which is in electrical connection with the conveyor motor 40 of the barrel washing machine.

The cam 11 with its nose 12 (see Fig. 2) places the lever 14 in the position shown, and with a further movement of the cam 11 due to the momentum of energy, the follower tends to drop against the cam behind the nose 12, where the rotation stops, but the lever 14 is resisted by the oil acting on the piston 20, and only when the spring 26 exerts its force on the lever 14, and thus on the piston 20, to bring it to its position shown in Fig. 1, can the follower 13, ride on the cam 11 (as in Fig. 1). There is a time period wherein the spring 26 and piston 20 cooperate in their actions, and this time period depends on the positioning of the valve 23, which controls the flow of the oil through the tube 22. Then, the increasing cam position in advance of the nose 12, gradually changes the position of the piston 20 while the check valve lets the oil pass through until it reaches its uppermost position as in Fig. 2, against the action of the oil. The check valve is so arranged to permit a fast upward movement of the piston.

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The foregoing simple means provide an assured timing means for barrel washing machines.

Thus, the valve 23 determines the resistance of the liquid oil, which in turn determines the capacity of the keg washing machine.

We wish it to be understood that we do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

We claim:

In a timing device for barrel washing machines having a keg carrier shaft, an electric switch normally closed, conductors connected with said switch and with the motor of said barrel washing machine, a pivotally supported substantially horizontal lever supporting said switch, a follower at one end of said lever, a pivotal connection at the other end of said lever, and a spring connected with said lever near its pivotal connection for lowering said end, the combination of an oil filled casing, a by-pass tube extending from the upper part of the casing to the lower part of the same for conveying oil of said casing, a valve in said tube for controlling said flow of oil in said casing and in said tube, a piston in said casing with a check valve, a piston rod connecting

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said piston with said pivotal connection, said piston being normally in the lower part of said casing, and a cam on said shaft having a nose, which on its rotation around said shaft depresses said follower end of said lever and raises said pivotal connection end of said lever and raises the piston to the upper part of said casing, and extends said spring and opens said switch, whereby upon said extended spring drawing said pivotal connection of said lever downwardly against piston resistance in said casing, causes a delay in the piston action to its normal lower position maintaining said switch open, and the motor connected therewith at standstill.

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