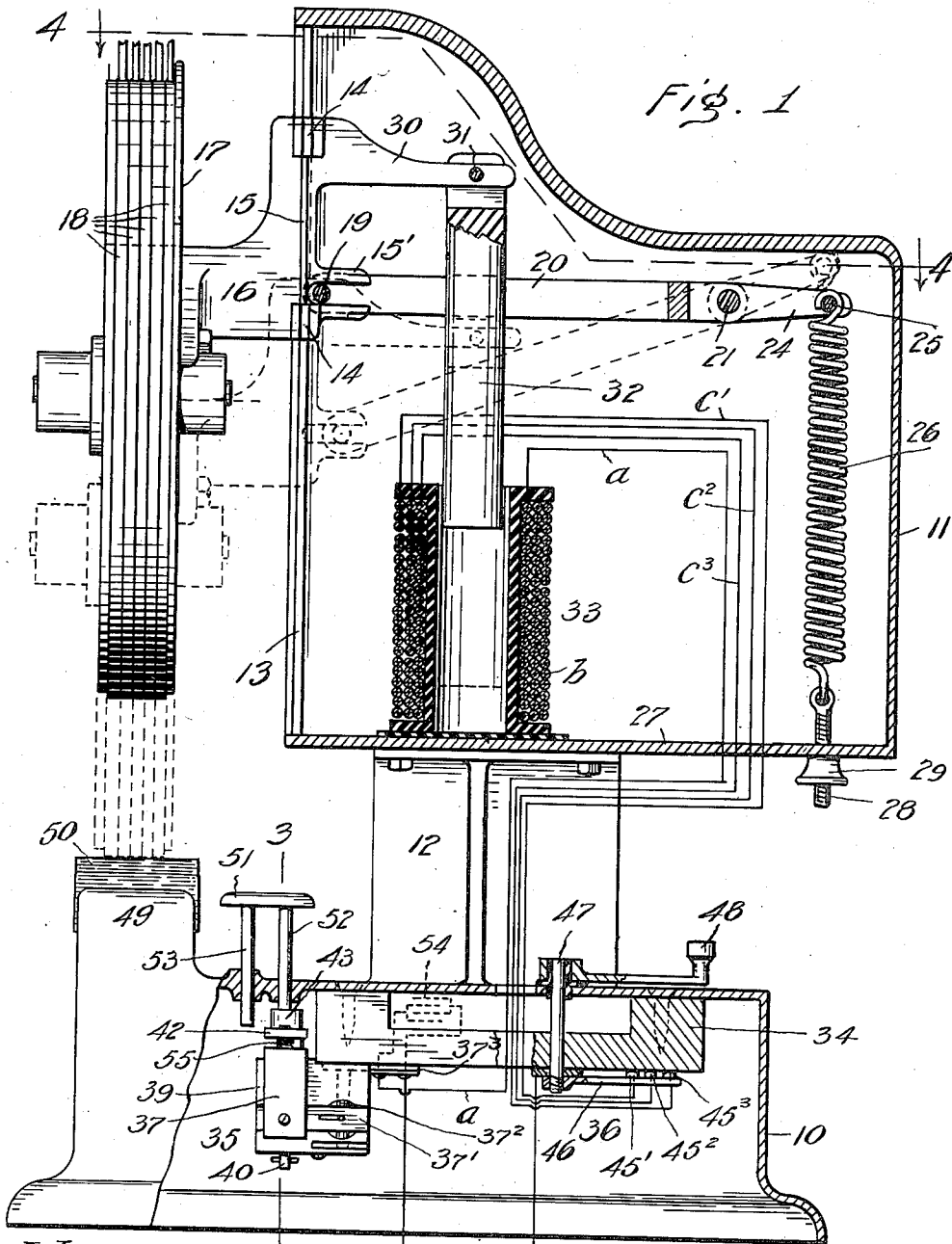


J. D. CALDWELL.
LAUNDRY MARKER.
APPLICATION FILED DEC. 15, 1909.

991,132.

Patented May 2, 1911.

2 SHEETS—SHEET 1.



WITNESSES: 3
Edward J. Heblton
H. Barnes.

John D. Caldwell
INVENTOR
by Pierre Barnes
his attorney

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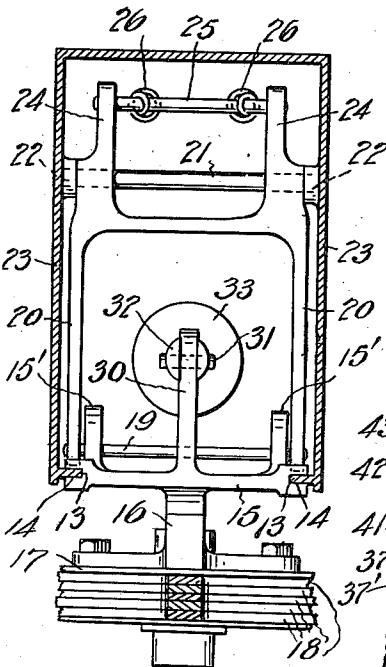
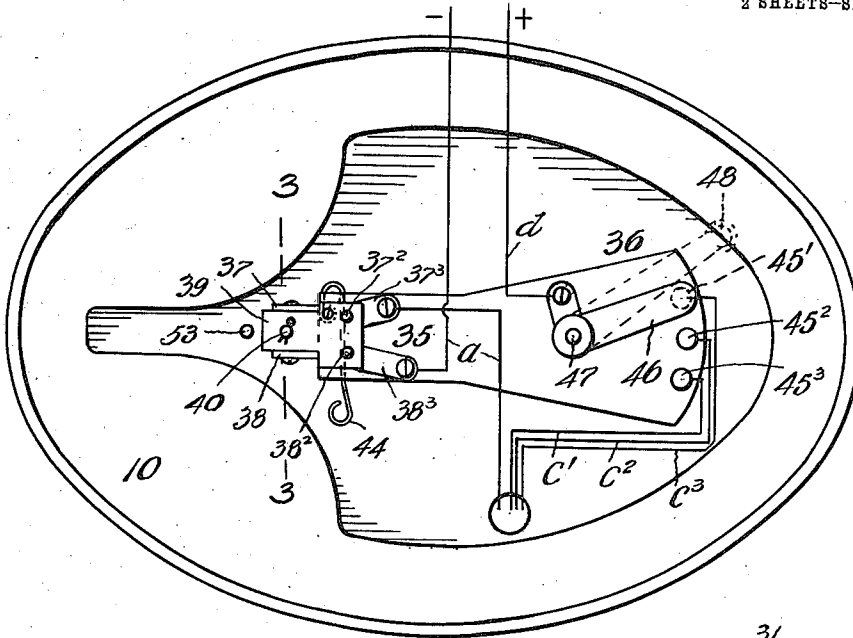


Fig. 2

Fig. 3

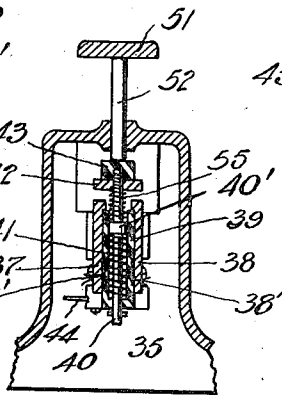


Fig. 4

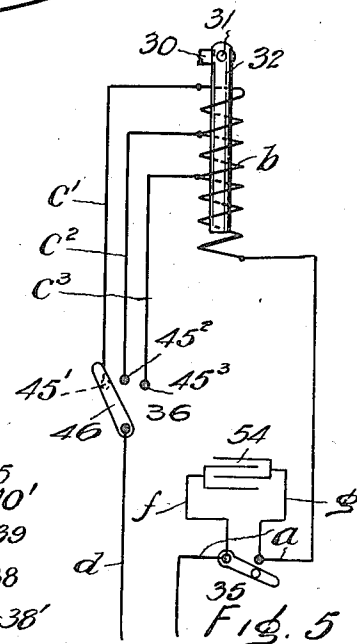


Fig. 5

WITNESSES:
Edward J. Hibernon
H. Barnes

John D. Caldwell
INVENTOR
by Pierre Barnes
his attorney

UNITED STATES PATENT OFFICE.

JOHN D. CALDWELL, OF SEATTLE, WASHINGTON, ASSIGNOR TO CALDWELL COMPLETE LAUNDRY MARKER COMPANY, OF SEATTLE, WASHINGTON, A CORPORATION OF WASHINGTON.

LAUNDRY-MARKER.

991,132.

Specification of Letters Patent.

Patented May 2, 1911.

Application filed December 15, 1909. Serial No. 533,290.

To all whom it may concern:

Be it known that I, JOHN D. CALDWELL, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Laundry-Markers, of which the following is a specification.

This invention relates to printing machines such as employed in laundry markers of the class illustrated and described in my pending patent application, Ser. No. 472,081, filed January 13, 1909.

The object of the invention, generally stated, is the improvement in electrically actuated devices for controlling and affecting the printing movements of a head containing a series of settable type elements.

The invention consists in a novel construction, adaptation and combination of parts as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical, longitudinal section of a laundry marker embodying my invention. Fig. 2 is an underside plan view of the same. Fig. 3 is a cross sectional view taken through 3—3 of Figs. 1 and 2. Fig. 4 is a section on line 4—4 of Fig. 1. Fig. 5 is a diagrammatic view of the solenoid-magnet and the circuit connection therefor.

The machine is provided with a chambered base 10 and a casing 11 which is supported thereabove by a standard 12. At the front side of said casing is a vertical slot which is bounded upon the sides by parallel inwardly directed ribs 13 which serve as guides for slideways 14 provided in the lateral edges of a plate 15. Extending forwardly from said plate is a neck 16 to which is rigidly secured a head 17 wherein is mounted for individual rotary movements a series of rings, or disks, 18, which are severally provided with peripherally disposed type characters as illustrated and described in the referred to patent application.

The plate 15 is also provided to the rear with slotted lugs 15' wherein are engaged the ends of a transversely disposed rod 19 which is carried by the forwardly directed companion arms 20 of a lever which, as best shown in Fig. 4, is fulcrumed to a rod 21, having its ends supported in sockets 22 provided in, or secured to, the side walls 23 of the casing 11. The opposite arms 24 of this lever are connected by a transverse rod 25

to afford a connection with the upper ends 55 of helical springs 26 whose lower ends are connected with the bottom wall 27 of the casing. More particularly, said springs are each connected with such bottom wall by means of a screw-bolt 28, Fig. 1, extending 60 through an aperture of the wall to receive an adjustment nut 29 therebelow to afford means for regulating the tension of the respective springs. The function of these springs is to actuate said lever to yieldingly retain the head 17 in its elevated position as illustrated by full lines in Fig. 1 and to restore the head into such inoperative position subsequent to each printing movement thereof. The plate 15 is further provided with a rigid arm 30 which extends rearwardly and is connected by a pin 31 with the armature-core 32 of a solenoid-magnet 33. This magnet is fixedly secured to the bottom wall 27 of said casing. With 75 in the frame-base 10 is a block 34 of non-ferruginous material, which furnishes the support for electric switches 35 and 36.

The switch 35, as seen in Fig. 3 desirably consists of circuit terminals 37 and 38 secured to the opposite sides of another block 39 of an insulating substance. This block is bored to receive a vertically arranged stem 40 and is counterbored from the top to accommodate a collar 40' of the stem and 85 a spring 41 therebelow which tends to elevate the stem. Said stem extends through a plate 42 which serves as the contact member of the switch. In order that the plate will, when depressed, bear upon the ends 90 of said terminals, it is fitted loosely upon the stem and is yieldingly held against the underside of the stem-head 43 by a spring 55 positioned between the contact member and the stem-collar 40'. 95

The switch 35, as represented in the diagrammatic view, Fig. 5, is interposed in a circuit wire *a* extending to the magnet-coil *b*. The block 39 whereon are secured the switch terminals 37 and 38 is detachably 100 connected to the block 34 by means of a spring latch 44 engaging in a notch provided in one of the pins 37² or 38² projecting downwardly from the block 39 through apertures provided in the other block. 105 Under such a condition the pins may be utilized as electric conductors together with metal strips 37' and 38' connecting the pins

with the respective terminals. The pins are furthermore connected to metal strips 37^a and 38^a against which the complementary parts of the circuit wire *a* may be secured by the ordinary binding screws. Said coil is likewise connected by a plurality of tap-wires C¹, C² and C³ with the contacts 45¹, 45² and 45³ of the switch 36 whose contact-piece 46 is connected with the other circuit wire *d*. Said contact-piece comprises a metal arm secured to the lower end of an upright rod 47 extending above the frame-base and carries a crank-arm 48 thereabove for adjustably moving the contact-piece to establish communication between the circuit-wire *e* and any of said tap-wires. At the front of the frame-base is a support for a platen 50 upon which the goods to be marked are placed. In proximity to such support, so as to be actuated from one of the operator's hands when holding an article upon the platen, is a depressible element comprised of a horizontally disposed plate 51 with a depending pin 52 which extends through an aperture provided in said base. This pin is located to engage the stem-head 43 so that when pressure is put upon the top-plate 51, the stem will be carried thereby down to cause the closure of switch 35 through the instrumentality of the contact member 42.

53 is a guide rod extending downwardly from plates 50 and through a hole to the frame-base.

When the apparatus is to be operated by a direct current, I employ with the aforescribed devices, a condenser 54, indicated diagrammatically in Figs. 1 and 5, which is connected by wires *f* and *g* with the circuit wire *a* at, or in proximity to, the switch contacts 37 and 38, respectively.

The operation of the invention is as follows: After the type-rings 18 have been adjusted to assemble predetermined of the type characters upon the printing line, or in the same vertical plane with the platen 50, the articles to be marked are placed, one at a time, upon the platen to be successively marked by the previously set type being impinged thereagainst. Such printing movement of the head is effected by depressing the plate 51 with one of the operator's hands to cause the corresponding downward movements to the pin 51 and the stem 40 to lower the contact plate 42 into contact with the switch terminal 37 and 38 and thus complete the circuit which includes the magnet-coil *b*. Whereupon the magnet is energized to attract the armature core 32 and draw the same downwardly together with the head 17 into the position indicated by broken lines in Fig. 1 to effect the aforesaid printing operation.

When the plate 51 is released, the springs 41 and 26 assert themselves to respectively

open the switch 35 and to raise the head into its normal position as indicated by full lines in the view.

In the performance of its duty there will be articles presented for marking which should be impressed to varying amounts and to meet such a demand, the magnet-coil would be more or less cut out by utilizing that one of the tap-wires C¹, C² or C³ which would render sufficient length to render a suitable magnetic power to accomplish the desired force of the stroke to the head 17. This variation of the effective power of the magnet being regulated by swinging contact-piece 46 into electrical contacts 45¹, 45² or 45³ to accordingly regulate such power.

What I claim as my invention, is:—

1. In a laundry-marker, the combination of the machine frame comprised of a base and a superposed casing, said casing being provided with a front opening, a platen supported by the frame base, a printing-head slidably mounted upon guides provided at the opposite sides of said opening, an arm fixed rigidly to the head, an electro-magnet fixedly connected to the frame casing, the armature of said magnet which is connected directly to said arm, a normally open circuit for said magnet, a switch for closing the circuit, and a spring-controlled depressible member extending through the frame-base and in proximity to said platen for actuating the switch to close said circuit.

2. In a laundry marker, a casing, a printing head slidably connected with the casing for vertical movements, an arm rigidly connected with the head, an electromagnet, a solenoid core for said magnet and connected to said arm, a switch in the magnet circuit for closing the latter to cause said magnet to become energized to effect the printing movement of said head, slotted lugs projecting inwardly from the head below said arm, a rod extending through said slotted lugs, and a spring-controlled lever connected with said rod and constituting means for restoring the head to its inoperative position when the magnet is deenergized.

3. In a laundry-marker, the combination of the casing, a head slidably connected with the casing, a plurality of settable type members carried by the head, an electro-magnet fixedly secured to the casing, an armature-core connected to and movable with said head, a normally open circuit for said magnet, a switch for closing said circuit to energize the magnet to impart printing movement to the head, and a spring-controlled lever having a rod and slot connection with said head and adapted to elevate the head from its printing position.

4. In a laundry-marker, the combination of the casing, a head slidably connected with the casing, a plurality of settable type members carried by the head, an electro-magnet

fixedly secured to the casing, an armature-core connected to and movable with said head, a normally open circuit for said magnet, a switch for closing said circuit to energize the magnet to impart printing movement to the head, a condenser electrically connected with the circuit at opposite sides of the first named switch, a lever having a rod and slot connection with said head, and a spring influencing said lever to move the head from its printing position when the magnet is deenergized.

5. In a laundry marker, the combination of the casing, a head slidably connected with the casing, a plurality of settable type members carried by the head, an electro-magnet fixedly secured to the casing, an armature-core connected to and movable with said head, a normally open circuit for said magnet, a switch for closing said circuit to energize the magnet to impart printing movement to the head, a condenser electrically connected with the circuit at opposite sides of the first named switch, a second switch arranged to selectively conduct the current to said magnet over one of a plurality of elements provided in said circuit for regulating the power of the magnet, a lever including a pair of parallel arms between which said core extends, said lever arranged within said casing, slotted lugs projecting inwardly from the head, a rod connected to the arms of the lever and seated in said lugs whereby the lever is loosely connected with the head, and a spring influencing said lever to move the head from its printing position when the magnet is deenergized.

6. In a laundry-marker, the combination of the casing, a head slidably connected with the casing, a plurality of settable type members carried by the head, an electro-magnet fixedly secured to the casing, an armature-core connected to and movable with said head, a normally open circuit for said magnet, a switch for closing said circuit to energize the magnet to impart printing movement to the head, a second switch arranged to selectively conduct the current to said magnet over one of a plurality of elements provided in said circuit for regulating the power of the magnet, a condenser electrically connected with the circuit at opposite sides of the first named switch, and a spring tending to elevate the head from its printing position.

7. In a laundry marker, the combination of a casing, a base for the casing, a head slidably connected with and projecting from the casing, a plurality of settable type members carried by the head, an electro-magnet arranged within and fixedly secured to the bottom of the casing, an armature arranged within the casing and fixed to and movable with the head, a normally open circuit for said magnet, a switch arranged within said

base for closing the circuit to energize the magnet to impart printing movement to the head, a switch arranged in the base to selectively conduct the current to said magnet from one of a plurality of elements provided in said circuit for regulating the power of the magnet, a condenser electrically connected with the circuit at opposite sides of the first-named switch, a spring-controlled depressible member extending in the base for actuating the first-mentioned switch to close said circuit, a platen arranged in proximity to said member, and a spring-controlled lever loosely connected with the head and arranged within the casing and adapted to elevate the head from its printing position.

8. In a laundry marker, a casing, a printing head slidably connected with the casing for vertical movement, an arm rigidly connected with the head and extending in said casing, means engaging with said arm for shifting the head downwardly to effect the printing movement of the head, slotted lugs projecting inwardly from the head below the arm, a rod extending through said slotted lugs, and a spring-controlled lever pivotally-mounted within said casing and connected with said rod and constituting means for shifting the head in the opposite direction.

9. In a laundry marker, a casing, a head slidably connected therewith and projecting therefrom, a plurality of settable type members carried by the head, means for shifting said head in one direction to cause the marking of the laundry, slotted lugs integral with said head and projecting in said casing and arranged in proximity to each side of the head, a rod extending through and projecting from said slotted lugs, and a spring-controlled lever provided with a pair of arms connected with said rod, said lever pivotally mounted in said casing and constituting means for shifting the head in the opposite direction after marking the laundry.

10. In a laundry marker, a slidable printing head, means for shifting said head to effect the printing, an arm projecting from the head, slotted lugs integral with and projecting from the head and arranged below said arm, a rod extending through and having its ends projecting from the lugs, a lever including a pair of arms fixed to the projecting ends of said rod exteriorly of the lugs, a pivot for the lever, and a retractile spring connected to the lever and actuating the lever in one direction for restoring the head to inoperative position.

11. A laundry marker comprising a casing, a printing element mounted to slide in one wall of said casing, an arm projecting from said element and into said casing, slotted lugs projecting from said head into said casing, a rod extending through said lugs,

means for operating said element in one direction to effect the printing, and a spring-controlled lever connected to said rod for restoring said element to inoperative position.

12. In a laundry marker, a slidable head adapted to be provided with type elements, a pair of slotted lugs integral with and projecting inwardly from said head, one of said lugs arranged in proximity to one side of the head and the other of said lugs in proximity to the other side of the head, an in-

wardly-extending arm projecting inwardly from said head and arranged over said lugs and constituting means for connecting an element for shifting it in one direction, a rod extending through the lugs, and a spring-controlled lever connected to the ends of the rod and adapted to shift in the head in the opposite direction.

JOHN D. CALDWELL.

Witnesses:

H. BARNES,

E. PETERSON.