(No Model.)

L. G. WOOLLEY.

COMBINED SYRINGE AND ELECTRICAL APPARATUS.

No. 586,679. Patented July 20, 1897.

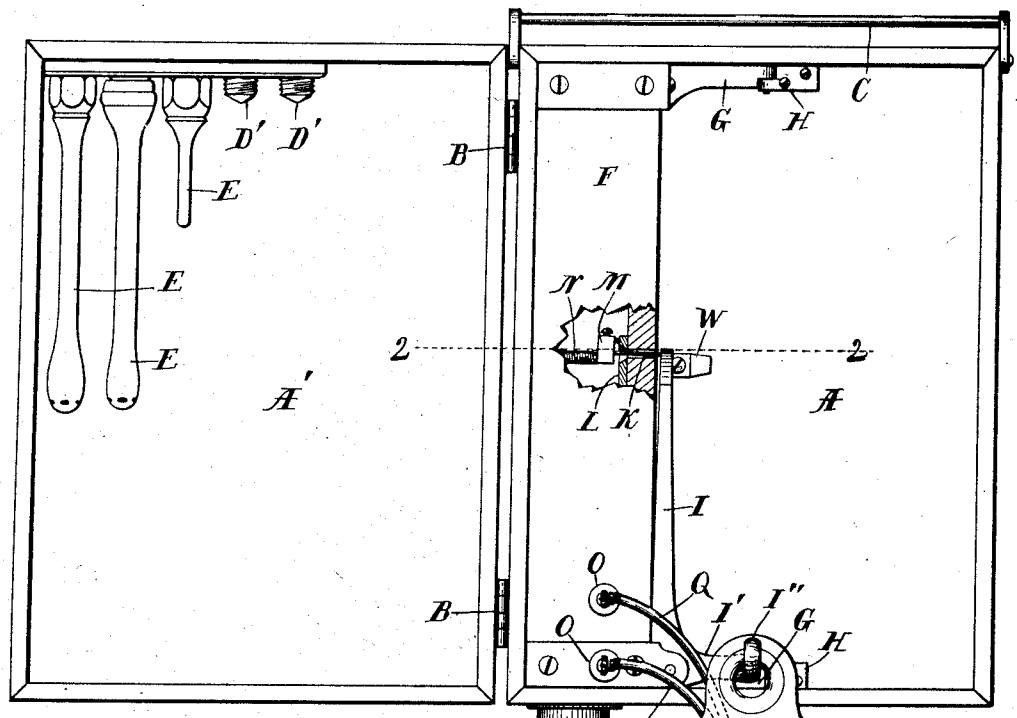

Fig. 1.

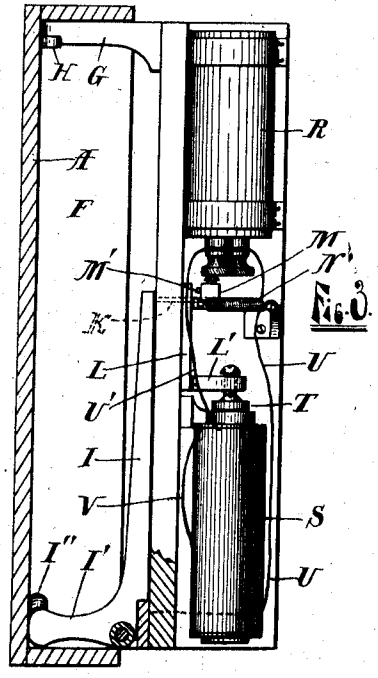

Fig. 3.

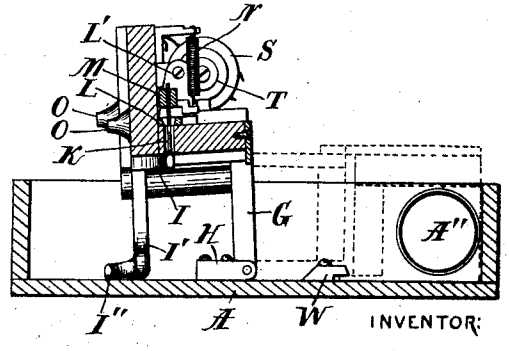

Fig. 2.

WITNESSES:

Lotta C. Buck

Joseph Irwin

INVENTOR:

Leonidas G. Woolley

By

Moulton & Flanders

Attorneys.

UNITED STATES PATENT OFFICE.

LEONIDAS G. WOOLLEY, OF GRAND RAPIDS, MICHIGAN.

COMBINED SYRINGE AND ELECTRICAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 586,679, dated July 20, 1897.

Application filed December 7, 1896. Serial No. 614,685. (No model.)

To all whom it may concern:

Be it known that I, LEONIDAS G. WOOLLEY, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in a Combined Syringe and Electrical Apparatus; 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 a combined syringe and electrical apparatus; and its object is to provide the same with certain new and useful features, hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a device embodying my invention as it appears when open for use with parts broken away to show the construction. Fig. 2 is a horizontal section of a part of the same on the line 2 2 of Fig. 1 with the electric apparatus opened out for access to the same, and Fig. 3 an elevation of the same with parts broken away as seen from the right of Fig. 2.

Like letters refer to like parts in all of the figures.

A and A′ represent the case, which is of any suitable dimensions and connected by hinge B B. The part A is of greater depth than the part A′ and is provided with a bail C, by which it may be carried or hung in any convenient place. A series of nipples D are provided in the part A′, to which the various syringe-nozzles E are attached when not in use.

F is a movable vertical angle-plate, to which the various electrical appliances are attached, as hereinafter described. Said plate is provided with arms G, which are pivoted to the case at H, whereby said angle-plate may be swung into the part A of the case and together therewith form an inclosing box for the parts within the same, being secured by the button W or released and swung outside the case to bring the parts attached into accessible position for the purpose of adjustment, repairs, &c.

Within the angle of the plate F and attached thereto is a battery R of any convenient construction, preferably of the dry-chlorid type, and also an induction-coil S of any convenient construction.

Through an opening A″ in the case A is inserted an adjustable jacket P to adjust the action of the induced current.

T is the rheotome or circuit-breaker; U and U′, parts of the primary circuit; L′, the rheotome-post and adjusting-screw; L, a plate integral with the post L′.

M is a movable block having a contact-point M′ to engage the plate L and close the primary circuit. Said block is moved away from the plate L by means of a spring N to break and hold open the circuit when the device is out of use.

K is a wire connecting the block M with the vertical arm I of a bell-crank lever, the horizontal arm I′ of which lever is provided with a forwardly-projecting hook I″, on which the bag J of a fountain-syringe is hung.

V is a part of the induction-circuit, which circuit terminates in binding-posts O O, to which posts are attached the conductors Q Q to convey the induced current to any desired parts of the body to there coact with the stream of water or other liquid flowing from the bag J.

The primary circuit is through the wire U′, the inducing-coil, the rheotome T, the post L′ and plate L, contact-point M′, block M, wire K, lever-arm I, and wire U to the battery R.

The operation of my device is as follows: The tension of the spring N is such that the empty bag will not be heavy enough to close the circuit; but when the said bag contains any appreciable weight of liquid this additional weight will enable it to overcome the tension of said spring and close the circuit. Thus the battery is automatically brought into action while there is any liquid in the bag J and cut out of action when the liquid escapes therefrom without any special attention on the part of any one. In case it becomes desirable to adjust, repair, or otherwise gain access to the electrical apparatus attached within the angle of the plate F the button W is released and the angle-plate swung outward until the arm I′ engages the back of the case A.

When the device is out of use, the bag J and its connections may be placed within the

case at the right of the angle-plate F and the part A' closed over it and secured by any convenient means.

Having thus fully described my invention, what I claim, and wish to secure by Letters Patent, is—

1. The combination of an electrical apparatus having a normally open circuit adapted to be closed by a weight, and a syringe acting as such weight and closing said circuit by the weight of the liquid in the bag thereof, and permitting said circuit to open as said liquid escapes therefrom, substantially as described.

2. The combination of an electric apparatus having a primary circuit normally held open by a spring, a lever closing said circuit, and a bag acting as a weight to close said circuit only while the liquid remains in said bag, substantially as described.

3. The combination of an electrical apparatus, consisting of a battery, an induction-coil, and a rheotome; a circuit-breaker in the exciting-circuit, and opened by a spring, and closed by a lever, and a syringe, having its bag attached to said lever to close the circuit by the weight of liquid in said bag, substantially as described.

4. In a combined syringe and electrical apparatus, a battery, an exciting-coil in circuit therewith, a rheotome and circuit-breaker in said circuit, an induction-coil and conductors, connected therewith, a spring to open the circuit-breaker, a bell-crank lever having a vertical arm to close said circuit-breaker, and a horizontal arm having a hook, and a syringe having its bag suspended from said hook, and operating said circuit-breaker by the weight of the liquid therein, substantially as described.

5. In an electrical apparatus, the combination of the case, consisting of two parts hinged together, an angle-plate located and hinged within one of said parts, and a battery and coöperating electrical devices, secured to the under side of said angle-plate and normally protected and concealed thereby when the case is open, substantially as described.

6. In a combined syringe and electrical apparatus, the combination of the case, consisting of two parts hinged together, nipples within one of said parts for supporting the syringe-nozzles, an angle-plate hinged within one side of the other part of the case, of such size relatively thereto as to leave a compartment within the latter for the syringe-bag, and electrical devices protected and wholly supported by the angle-plate, substantially as described.

7. In an electrical apparatus, the combination of a battery, an induction-coil, a rheotome, a contact-plate, a movable contact, a spring connected with said movable contact for holding the circuit normally open, and a lever connected with said movable contact for closing said circuit.

8. In an electrical apparatus, the combination with the case, and an angle-plate hinged therein, of electrical generating and distributing devices, embodying a generator, a movable contact, a contact-plate, and a spring connected with said movable contact for holding the circuit normally open, all secured to the inner surface of and protected by said angle-plate, and a weight-operated bell-crank lever connected with said movable contact for closing the circuit.

9. In a combined syringe and electrical apparatus, a rectangular case in two parts and hinged, an angle-plate, having arms hinged to one of said parts, a battery, induction-coil, rheotome, and circuit-breaker mounted within the angle of said plate, a lever and spring attached to said plate to operate said breaker, said lever having a vertical arm operating the breaker and a horizontal arm having a hook, and a syringe having a bag suspended from said hook, and closing said breaker by means of the weight of liquid therein, substantially as described.

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

LEONIDAS G. WOOLLEY.

Witnesses:
LUTHER V. MOULTON,
LEWIS E. FLANDERS.