

No. 741,632.

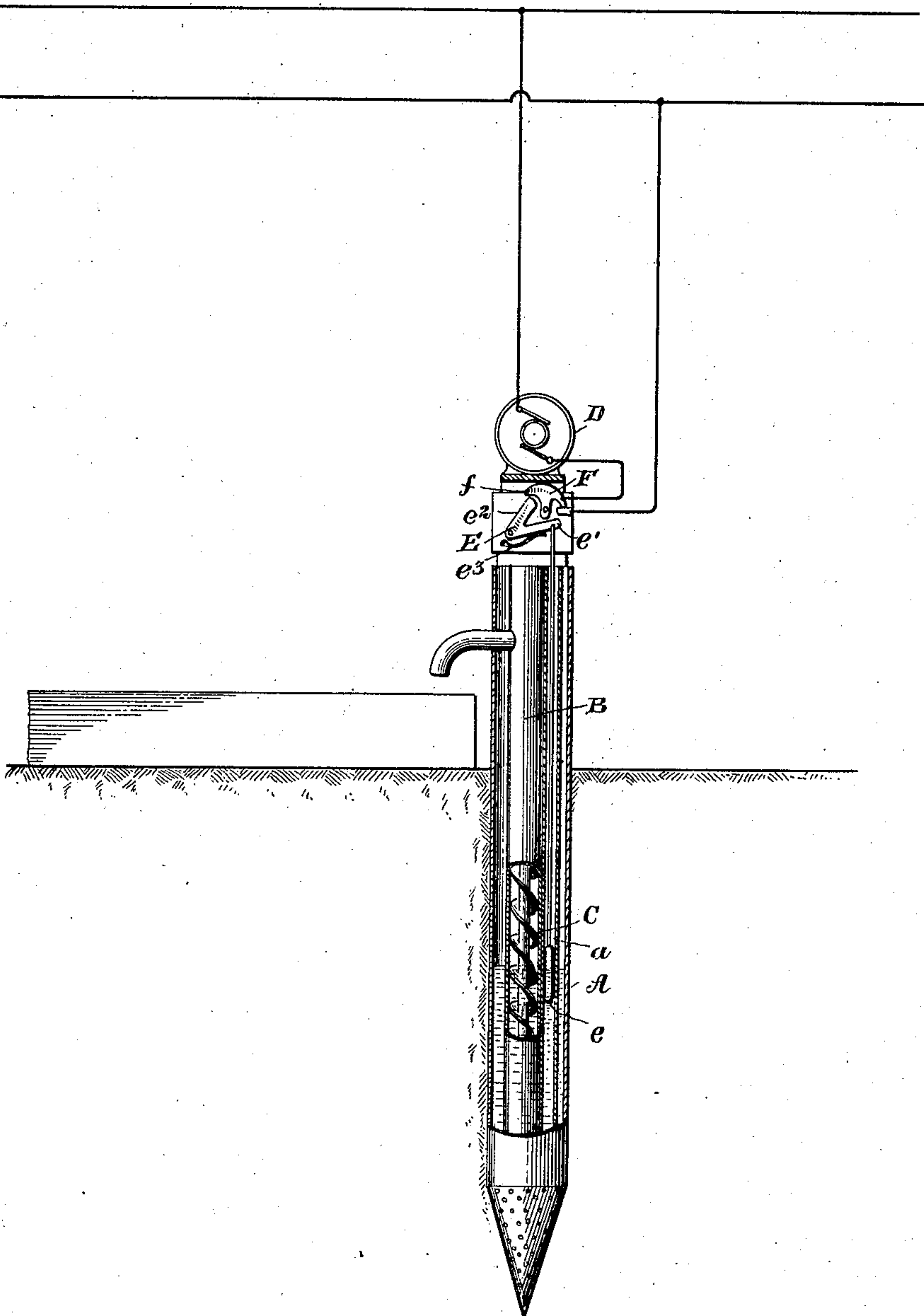
PATENTED OCT. 20, 1903.

G. A. CROFUTT.

WATER LIFT FOR IRRIGATION.

APPLICATION FILED JAN. 29, 1901. RENEWED MAR. 19, 1903.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE A. CROFUTT, OF HOBOKEN, NEW JERSEY.

## WATER-LIFT FOR IRRIGATION.

SPECIFICATION forming part of Letters Patent No. 741,632, dated October 20, 1903.

Application filed January 29, 1901. Renewed March 19, 1903. Serial No. 148,640. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. CROFUTT, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Water-Lifts for Irrigation, of which the following is a specification.

This invention relates to pumps such as may be used for irrigation purposes when operated electrically in a series, as set forth in my application of even date bearing Serial No. 45,263, my improvements, however, not being limited to such usage, but being equally capable of employment with any electrically-operated pump.

My invention, in brief, comprises the combination, with a pump fitted in a well and having electrical means of operation, of a pendent float buoyed by the water in the well, but which is provided with means whereby when the water-level sinks beyond a certain point the consequent lowering of the float serves to automatically operate a circuit-breaker to disconnect the pump-motor from its source of power. Consequently upon a well running dry the mechanism of the pump will be automatically disconnected from its motive power, and thus prevented from racing, while a renewal of the water-supply in the well serves to automatically close the circuit and start work again.

The drawing shows my invention applied to a drive well; but its application is not limited to such form of water-supply, as it may be used with an open well or other body of water. For a drive-well I require to use an outer tube or casing, as A, which is driven into the ground to tap the water strata, and an interior tube, as B, open at or near its lower end is arranged within said tube A, leaving a space *a* therebetween. Said tube B is fitted with an elevator-screw, as C, or it may operate by a plunger.

The pump is electrically operated through a motor, as D, and I provide a circuit-breaker, which is arranged to operate to open or close

the circuit according to the rise or fall of the water in the well. Said circuit-breaker consists of two pivotal members E and F, one of them, as E, having a weight, as *e*, pendent therefrom, said weight being suspended by a cord or the like within a tube *a*, located between the pump and its casing and having sufficient buoyancy to float upon water. Said tube *a* is, however, not essential and may be dispensed with, when the weight *e* will be suspended between the pump and its casing. The member E has the arms *e'* *e''*, the arm *e'* supporting the float, while the arm *e''* is straddled by a bifurcated portion *ff* of the pivotal member F. Said member F is in the electric line-circuit, and by its bifurcated portion is adapted to rock in unison with a rocking movement of the member E to either make or break the circuit. The line is held normally closed by a spring *e<sup>3</sup>* bearing against the member E, when the weight of the float is borne by water in the well; but upon the water sinking to an inoperative point, leaving the float, the weight of the latter pulls the member E against the spring tension and rocks the member F in such manner as to open the circuit and break the current, whereupon the pump-motor ceases to operate.

I claim—

In combination a pump disposed within a well, an electric motor to operate said pump, a pair of pivotal members arranged in the electric circuit, spring means to rock said members to close the circuit, and a weight pendent from one of said members, but normally buoyed by water in the well, said weight adapted upon the retreat of the water, to rock the pivotal members to open the circuit.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEO. A. CROFUTT.

Witnesses:

F. W. BARKER,  
CHAS. L. LONGHURST.