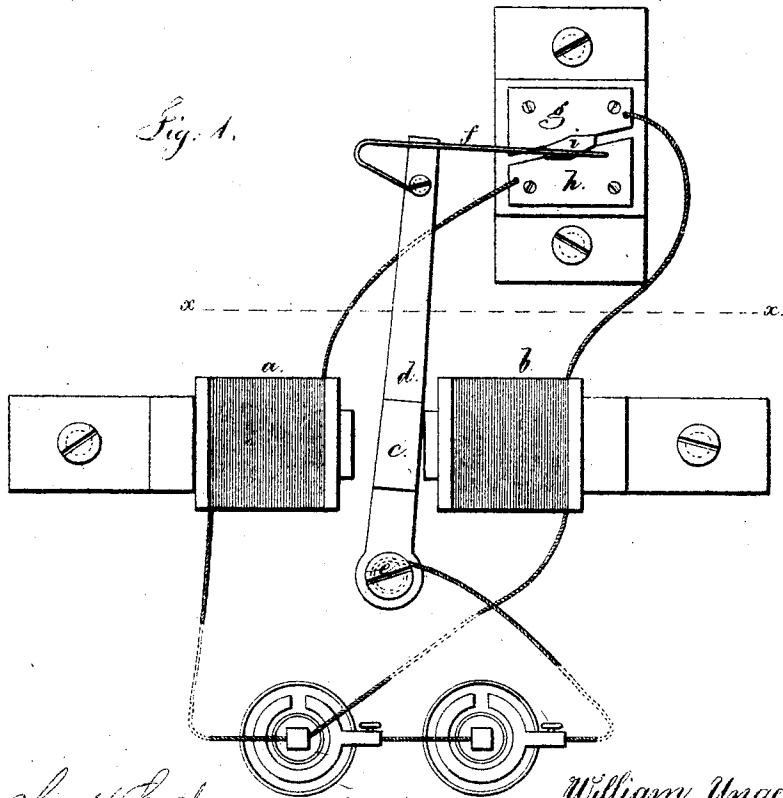
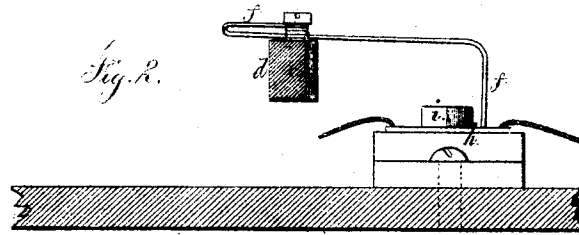


William Unger

Automatic Magnetic Circuit Break.

No. 120,132.

Patented Oct. 17, 1871.



Witness,

Charles Smith
George Walker

William Unger
Lemuel W. Ferrell
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM UNGER, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN CIRCUIT-CLOSERS.

Specification forming part of Letters Patent No. 120,132, dated October 17, 1871.

To all whom it may concern:

Be it known that I, WILLIAM UNGER, of Newark, in the county of Essex and State of New Jersey, have invented an Improvement in Automatic Magnetic Circuit-Break; and the following is declared to be a correct description thereof:

The object of this invention is to make an electro-magnet break its own circuit and direct the electrical current through another magnet or in a different direction. This device becomes a reciprocating electro-motor that is self-acting, and can be applied to the propulsion of a sewing-machine, to the movement of several telegraph-machines in harmony with each other, or the performance automatically of any other operation.

In the drawing, *a* and *b* represent two electro-magnets, with the poles facing each other, and *c* is an armature upon the lever *d* that swings upon the fulcrum-stud *e*, and carries the spring-arm *f*, the end of which is bent at right angles, or nearly so, and rests at its upper end upon one of the plates *g* or *h*. These parts are shown in the plan, Figure 1; and Fig. 2 is a side view of the plates, cam, and arm, the arm being in section at the line *x*. These plates *g* and *h* are of metal, preferably of platinum, and between them is the diagonal cam-switch *i*. The position of this cam-switch is diagonal to the arc described by the end of the spring-arm *f*; hence, as the said arm is moved in one direction by the magnet, the end of said arm moves upon the surface of the plate *g*, but goes along one side of the cam *i* until it reaches the end of said cam, and upon clearing the same the contraction of the spring immediately slides the

end of the arm *f* off the plate *g* upon the plate *h*. These plates *g* and *h* are insulated as well as the cam *i*, or said cam may be of glass or hard rubber, and one plate *g* is connected with the magnet *b*, and thence to the battery, and the other plate *h* is connected to the magnet *a*; thence to the same pole of the battery; and the armature-lever *d* and spring-arm *f* are in connection with the opposite pole of the battery; hence the movement of the spring-arm, as aforesaid, will reverse the connections breaking the circuit to the magnet *b*, and closing the circuit to the magnet *a*, so that the motion is reversed; and at the other end the arm *f* springs back upon the plate *g* to cause this reverse movement of the armature and itself.

By this construction the circuit-break becomes entirely self-acting; and I remark that a spring might take the place of one of the magnets in cases where only one circuit and magnet are required; or the automatic switch aforesaid might be employed to reverse the current upon one main-line circuit and single magnets.

I claim as my invention—

A cam placed diagonally to the movement of a spring-arm, actuated by a magnet, in combination with a metallic plate contiguous to said spring-arm, and acting therewith to close an electric circuit automatically and break the same, substantially as set forth.

Signed by me this 9th day of May, A. D. 1871.

WILLIAM UNGER.

Witnesses:

JOHN ROSE,
JOS. T. MURRAY.

(50)