

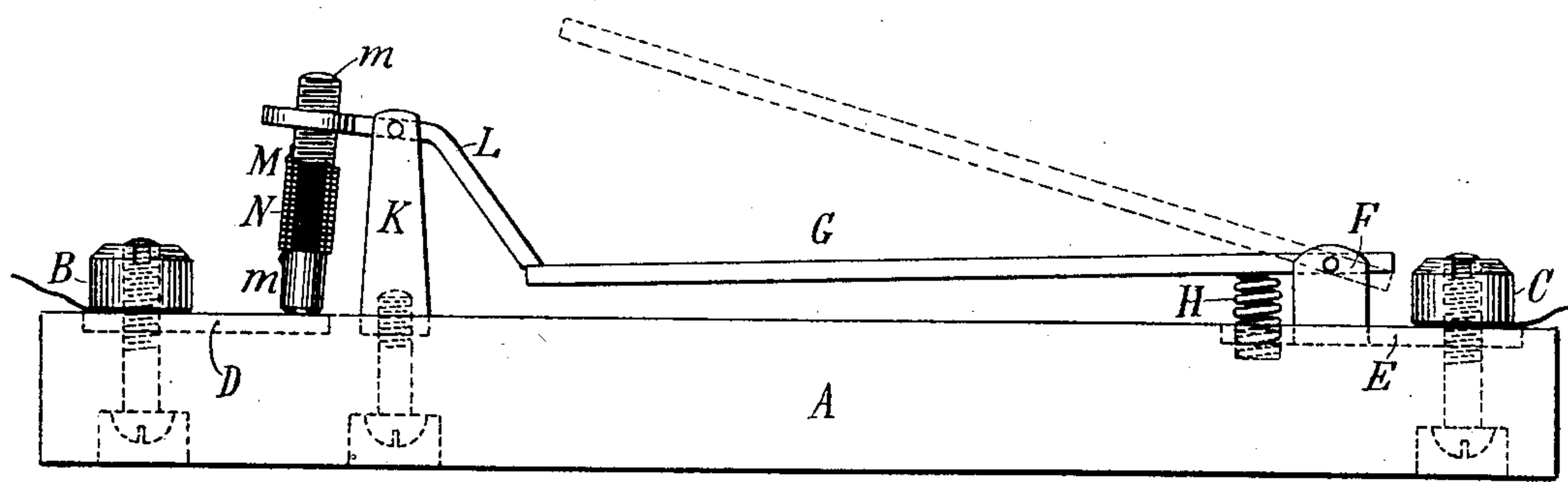
No. 704,361.

Patented July 8, 1902.

G. N. OEHMEN.
ELECTRIC CUT-OUT.

(Application filed Dec. 14, 1901.)

(No Model.)



Witnesses:

Benjamin Miller,
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by Kerr Page & Cooper Attys

UNITED STATES PATENT OFFICE.

GUSTAVE N. OEHMEN, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO OSCAR F. EHRLE, OF NEW YORK, N. Y.

ELECTRIC CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 704,361, dated July 8, 1902.

Application filed December 14, 1901. Serial No. 86,003. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE N. OEHMEN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electric Cut-Outs, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

The invention, subject of my present application, is an improved cut-out for electric circuits designed to interrupt the circuit upon the occurrence of an excessive or abnormal current-flow; and it consists in a novel construction of the details of such device which renders it more simple, cheap, and effective than those which have heretofore been used for a similar purpose.

The improved device is illustrated in elevation in the accompanying drawing.

A is a base or block, of porcelain or other insulating material, carrying two terminals or binding-posts B and C, set in metal plates D and E and secured to the base in the usual manner. From the plate E extend uprights F, which afford bearings for the fulcrum of a lever G, upon which latter a spring H acts, tending to raise its free end. Adjacent to the other plate D is a bracket or pair of standards K, forming a support for a pivoted lever L, the longer arm of which is bent downwardly, so as to engage with and form a retaining-catch for the end of the lever G. In the short arm of the catch-lever L is a tapped hole, in which is inserted the threaded end of a rod M, of some material, preferably insulating, which has a high coefficient of expansion, such as hard rubber, and which has metallic ends *m m*. A wire N, of German silver or other metal which has a relatively high specific resistance, is wound around the insulating middle portion of the rod M, and its ends are soldered or secured in electrical contact with the two metallic ends *m m*.

When the device is to be used, the several ends of a circuit are connected to the two binding-posts B and C, respectively, and the lever G depressed to bring its end under that of the catch-lever L. The extent of the engagement between these two elements is determined by the adjustment of the rod M in

the threaded opening of the lever L, and as the lower end of the rod M rests upon the plate D the parts are firmly held in this position. Under these conditions the circuit is completed from binding-post B through plate D, the lower metallic end of rod M, the wire N, the upper metallic end of rod M, lever L, lever G, and plate E to binding-post C; but should an abnormal current pass through the wire N it is heated, since it has a higher resistance than the other parts of the circuit, so that the rod M is expanded longitudinally, with the result that the short arm or lever L is raised and its long arm depressed out of engagement with the lever G. The latter is therefore released and thrown by the action of the spring H to the position shown in dotted lines, which is well beyond the limits of any possible arc, and the circuit thereby broken. Should the abnormal current be very excessive or occur so suddenly that the rod M does not expand with sufficient rapidity to afford the proper protection to the circuit, the wire N may be fused and thus interrupt the circuit; but the primary object of the instrument is to serve as a thermostatic cut-out which operates by a predetermined heating of a portion of the circuit. This provision is an important one, as it has been found in practice that an ordinary fuse will frequently carry a dangerous current which heats without destroying it.

I am aware that thermostatic tripping or releasing devices for electric cut-outs of various kinds are not broadly new, but my improvement resides in the special construction of the device which I have described above.

What I claim is—

In an electric cut-out, the combination of a spring-actuated lever, a catch-lever, an expandible rod adjustably carried by the catch-lever, a terminal plate on which the expandible rod rests, and a resistance-wire around the said rod and completing the circuit from said plate to the catch-lever, as and for the purpose set forth.

G. N. OEHMEN.

Witnesses:

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