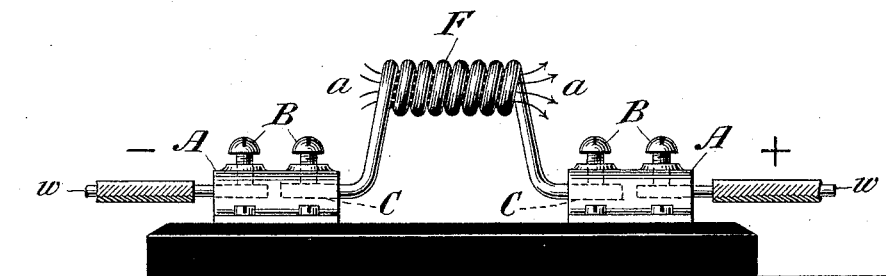


(No Model.)

O. M. RAU.  
ELECTRICAL SAFETY FUSE.

No. 526,502.

Patented Sept. 25, 1894.



Witnesses  
*C. E. Ashley*  
*John P. Nordstrom*

Inventor  
*O. M. Rau*  
By his Attorney *Charles J. Kintner*

# UNITED STATES PATENT OFFICE.

OTTO M. RAU, OF MILWAUKEE, WISCONSIN.

## ELECTRICAL SAFETY-FUSE.

SPECIFICATION forming part of Letters Patent No. 526,502, dated September 25, 1894.

Application filed October 31, 1893. Serial No. 489,676. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO M. RAU, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have made a new and useful Invention in Electrical Safety-Fuses, of which the following is a specification.

My invention is directed particularly to that type of electrical safety fuses which rupture or "blows" for an overcharge of current and its object is to instantly blow out or disrapture the are usually formed in the "blowing" of such fuses.

My invention will be fully understood by referring to the accompanying drawing which is a perspective view of my improved form of fuse connected in circuit with a current main in the usual manner.

Referring to the drawing in detail: *w w* represent the current conductors secured by binding posts B B to conducting blocks or cleats C C which in turn are affixed to an insulating base; F being my improved form of fuse secured at its opposite ends to the conducting blocks by additional binding posts B B. This improved fuse F is made of such material as is generally used in the construction of fuses of this nature and its novelty consists in constructing it in the form of a helix or coil of several turns sufficiently separated from each other to cause the current to traverse all of the coils, thereby establishing a magnetic field which is illustrated upon the drawing by magnetic lines of force *a a*.

I have discovered that by constructing a fuse in the nature or form of a helix or coil in which the successive turns or convolutions lie as closely together as possible without touching each other or affording a short circuit between said turns or convolutions, it will always rupture at or near its mathematical center or at some point between the consecutive turns or convolutions of the helix,

never, as I have found by experiment, rupturing at or near the points where it is secured to the binding posts.

I am aware that fuses have heretofore been constructed in the shape of a helix or coil and sustained by a rigid support, but I am not aware that any one has heretofore constructed a fuse in the form of a helix or coil in which the turns or convolutions are closely adjacent to each other and which is without any additional support other than is furnished at the binding posts at its opposite ends. I am aware of Patents No. 377,073, granted June 31, 1888, to A. S. Hibbard; No. 421,180, granted February 11, 1890, to E. W. Little, and No. 470,014, granted March 1, 1892, to C. F. Scott and A. Wurts, and I make no claims herein after broad enough to include the fuses shown and described in either of these patents, said fuses all being sustained by an additional support and not capable of operating in the manner of my improved fuse.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. An electric fuse constructed with a series of turns or coils lying in close proximity to each other substantially as described.

2. An electric fuse constructed in the shape of a helix with the coils thereof in close proximity to each other and supported at its ends only, substantially as described.

3. An electric fuse composed of fusible material having the form of a helix with the coils thereof in close proximity to each other and extended ends secured to binding posts, substantially as described.

In testimony whereof I have hereunto subscribed my name this 2d day of October, 1893.

OTTO M. RAU.

Witnesses:

EDW. SEGEL, Jr.,

ANDREW J. CLARKE.