(No Model.)

C. GODDARD.

SAFETY CATCH FOR ELECTRIC CIRCUITS.

No. 287,533. Patented Oct. 30, 1883.

Fig. 1.

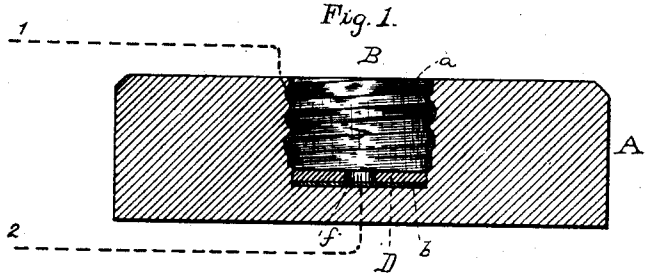


Fig. 2.

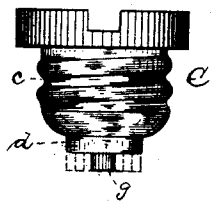


Fig. 3.

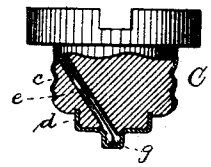


Fig. 4.

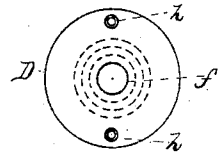
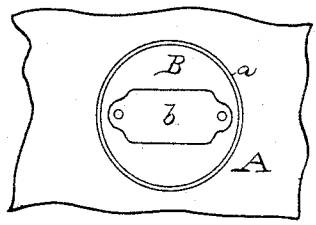


Fig. 5.



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UNITED STATES PATENT OFFICE.

CALVIN GODDARD, OF NEW YORK, N. Y., ASSIGNOR TO THE EDISON ELECTRIC LIGHT COMPANY, OF SAME PLACE.

SAFETY-CATCH FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 287,533, dated October 30, 1883.

Application filed December 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, CALVIN GODDARD, of New York city, in the county and State of New York, have invented a certain new and useful Improvement in Safety-Catches, of which the following is a specification.

The object I have in view is such an improvement upon the fusible safety-catches for electric-light circuits that they will be given a selective character, so that it will not be possible, in providing or replacing a safety-catch, to use one having a greater carrying capacity than required by the particular circuit, or the portion thereof protected by the safety-catch, the danger thus being avoided of overheating the conductors, which occurs when, intentionally or through carelessness, a larger safety-catch than required is employed.

In applying this invention to the safety-catch and cut-out plugs used in the Edison system of electric lighting, the difficulty is met with that it is desirable to preserve a uniform size and construction of the receiving-sockets and the blocks carrying them. This I do, the object of the invention being accomplished by covering the bottom plate of the receiving-socket with an insulating-washer having a central perforation, into which fits a projection formed on the tip-terminal of the plug bearing upon the bottom plate of the socket, said perforation and projection being varied in size to correspond with the several sizes of safety-catches used. The perforation of the insulating-washer and the projection of the plug-terminal are made of definite sizes, the larger the safety-catch or the greater its carrying capacity the larger being the projection of the plug-terminal, and consequently the perforation of the insulating-washer; hence it will be seen that it will be impossible to complete the connections with a plug having a larger safety-catch than the circuit is intended to have. It will be possible to insert a plug with a smaller safety-catch than the circuit should have; but no overheating of the conductors could occur with the smaller safety-catch, as will be readily understood. The safety-catch and cut-off plugs are stamped to show the number of lights they are designed to carry, and the perforated insulating-washers have corresponding marks. After the wiring of a house is completed and the safety-catch and cut-out blocks secured in place and connected with the circuit-wires, the sockets of such blocks are provided with the proper insulating-washers, depending upon the number of lights the circuit, or the portion thereof back of each block, is designed to carry, which washers are placed in the sockets and secured by screws or otherwise to the bottom of the same. The safety-catch and cut-out plugs are inserted in the sockets when the lamps are in position, plugs with numbers corresponding to those of the washers being employed. The washers not only prevent the insertion into the sockets of larger safety-catches than required at the time the circuits are first completed, but ever afterward in the replacement of the safety-catches.

Instead of inserting the selective washers within the sockets after the blocks are secured in position, it is evident that this may be done at the time the blocks are manufactured, or at any other suitable time.

In the accompanying drawings, forming a part hereof, Figure 1 is a vertical section of a safety-catch and cut-out block provided with the selective washer; Fig. 2, an elevation of the safety-catch plug, the different sizes of the projection from the tip-terminal being shown in dotted lines; Fig. 3, an elevation and partial vertical section of the plug; Fig. 4, a top view of the selective washer, the dotted lines indicating different sizes of the central perforation; and Fig. 5, a top view of a receiving-socket, showing the form of the bottom plate.

A is a block of insulating material, provided with one or more sockets, B, each having within it a screw-ring, *a*, of metal, and a bottom plate, *b*, of metal, from which run circuit-connections 1 2, as usual. The bottom plate *b* is cut away at its side or made in the form of a strip, as shown in Fig. 5, to permit the insulating-washer to be secured to the insulating-bottom of the socket.

C is a plug of insulating material, provided with a screw-ring, *c*, of metal, engaging with the ring *a* of the socket, and also provided with a metallic tip, *d*. The ring *c* and tip *d* are connected within the plug by a safety-catch wire, *e*, of lead or other metal or alloy fusible at a low heat.

D is a washer of insulating material, made of circular form and of the proper size to fit the socket B. It has a central perforation, *f*, of definite size, corresponding with the size of the projection *g*, which is formed on the tip-terminal *d* of the plug C. The size of *f* and *g* depends upon the size and carrying capacity of the safety-catch, the larger the safety-catch the larger being such perforation and projection. The dotted lines in Figs. 2 and 4 represent different sizes of these elements. The washer D has holes *h* for receiving screws, which may be used to secure the washer within the socket.

What I claim is—

1. The combination, with an electrical circuit, of a safety-catch and selective connections preventing the use of a larger safety-catch than required, substantially as set forth.

2. The combination, with an electrical circuit, of a cut-out socket having terminals connected with the circuit-wires, a cut-out plug provided with terminals engaging the terminals of the socket, a safety-catch connecting the terminals of the plug, and means for preventing the insertion into the socket of plugs with safety-catches of greater than a definite carrying capacity, substantially as set forth.

3. The combination, with a cut-out socket, of a washer covering the bottom plate of the same, and having a perforation of definite size, substantially as set forth.

4. The combination, with a cut-out socket provided with a washer covering its bottom plate, and having a perforation of definite size, of a cut-out and safety-catch plug having a projection of corresponding size from its tip-terminal, substantially as set forth.

This specification signed and witnessed this 27th day of November, 1882.

CALVIN GODDARD.

Witnesses:
H. W. SEELY,
EDWARD H. PYATT.