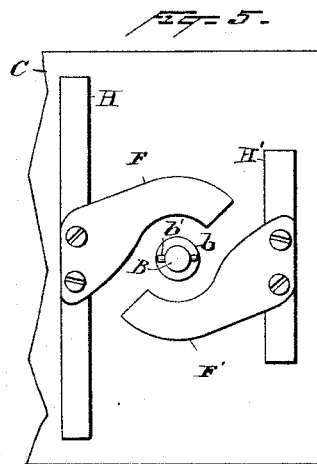
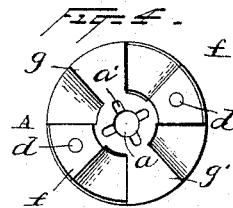
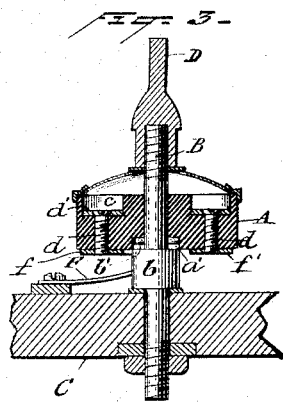
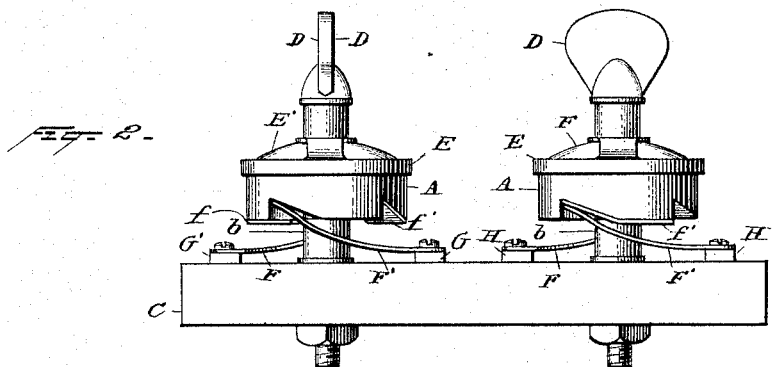
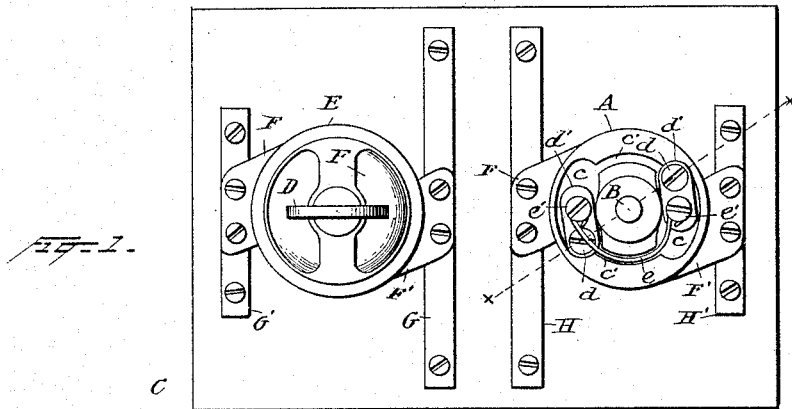


(No Model.)

J. HUTCHINSON.  
ELECTRICAL CONNECTING DEVICE.

No. 490,477.

Patented Jan. 24, 1893.



Witnesses:  
Morris A. Clark.  
George B. Crouk.

Joseph Hutchinson <sup>Inventor</sup>  
By his Attorneys  
Dyer & Seely

# UNITED STATES PATENT OFFICE.

JOSEPH HUTCHINSON, OF NEW YORK, N. Y.

## ELECTRICAL CONNECTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 490,477, dated January 24, 1893.

Application filed September 16, 1892. Serial No. 446,042. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH HUTCHINSON, a citizen of the United States, residing at New York city, in the county and State of New York, have invented a certain new and useful Improvement in Electrical Connecting Devices, of which the following is a specification.

The object of my invention is to produce a combined safety-catch and switch, more especially adapted for use on connecting blocks, which shall be cheap in construction, ornamental in appearance and effective in operation.

In addition, my object is to produce a device of this character which will have all the advantages and conveniences of removability and replacement, so far as the safety-catch is concerned, that are inherent in the safety-catch plugs commonly employed in the Edison system of incandescent electric lighting.

A connecting block embodying the invention is illustrated in the accompanying drawings, in which

Figure 1 is a top view of the device, with the cover of one of the safety-catch plugs removed; Fig. 2 is a side elevation of the device; Fig. 3 is a vertical section through one of the combined safety-catch plugs and switches; Fig. 4 is a bottom view of the combined safety-catch plug and switch, showing the moving switch contacts carried thereby; and Fig. 5 is a top view of the stationary switch contacts and switch spindle, with the plug removed from the spindle.

A represents the body of the safety-catch plug, made of suitable insulating material and preferably of cylindrical form, it being pierced axially by a hole *a*, through which passes the supporting spindle B. This supporting spindle is mounted upon a suitable base C of insulating material and adapted to rotate therein. Above the base the spindle is provided with a shoulder *b*, upon which the hub of the plug A rests, and above that shoulder the spindle is provided with one or more studs *b'*, which enter recesses *a'* in the hub of the plug A, so as to cause the spindle and plug to rotate together. The upper end of the spindle is screw-threaded and receives a screw-threaded thumb-piece D, which, after the plug A is placed upon the spindle B, is screwed down upon the plug until it can rotate no fur-

ther, when it serves as a thumb-piece by which the plug and spindle can be rotated. The upper surface of the plug A is provided with recesses *c* on opposite sides of its hub, connected by grooves *c'* formed in the face of the plug. In these recesses are secured by screws *d*, metal plates *d'*, which are connected by a safety-catch link *e* held by binding screws *e'*. This chambered upper surface of the plug is closed by a skeleton metal cap E and a mica washer E', which are held in place by the thumb-piece D. The lower surface of the safety-catch plug A is formed into four ratchet teeth, two of which are surfaced with metal plates *f*, *f'* which are held by the screws *d* which secure the terminal plates for the safety-catch on the other side of the plug, these screws passing from the terminal plates through the insulating body of the plug and into the metal plates *f*, *f'*, thus not only holding the ratchet plates in place but connecting them electrically with the safety-catch terminal plates. The other two ratchet teeth *g*, *g'* are formed entirely of the insulating material of the plug.

Upon the base C are mounted two metal springs F, F', forming the stationary switch contacts, which are secured to the base at their outer ends and project toward and partly around the spindle B, rising at their inner ends so as to engage with the ratchet teeth of the plug A. In the case of a connecting block such as that shown in the drawings, these springs F, F' rise directly from metal plates G, G', secured to the block C, to which metal plates G, G' circuit wires are connected. It will be seen that when the spring plates F, F' are in contact with the metal ratchet teeth of the plug, the circuit between the connecting strips G, G' will be closed through the safety-catch, while if the springs F, F' are in contact with the insulating ratchet teeth, the circuit will be broken between the strips G, G'. If the safety-catch is destroyed, the safety-catch plug can be readily removed by unscrewing the thumb-piece D, which permits the plug to be drawn off of the spindle B, when another plug with the safety-catch fuse intact can be quickly slipped on the spindle and secured in place by screwing the thumb-piece down upon it. In the case of the safety-catch block illustrated by the drawings, there are

two of these combined safety-catch plugs and switches mounted upon the block for completing the connections between a branch circuit taken from the conducting strips G', H' and  
 5 a circuit from which this branch is taken, which latter circuit is connected to the conducting strips G H.

It is evident that connecting blocks embodying my invention can be made with one or  
 10 any number of the combined safety-catch plugs and switches mounted upon them according to the particular use for which the blocks are designed, as is well understood in the construction of safety-catch blocks which  
 15 employ the ordinary Edison safety-catch plug.

What I claim as my invention is,

1. A chambered safety-catch plug carrying exterior switch contacts and having within its chamber a safety-catch link connecting such  
 20 exterior switch contacts, said plug being constructed for ready connection with and removal from the operative parts of a rotating circuit making and breaking switch and adapted to form the rotating element of such a  
 25 switch, substantially as set forth.

2. A chambered safety-catch plug carrying exterior switch contacts and having within its chamber a safety-catch link connecting such exterior switch contacts, said plug being con-

structed to form the rotating element of a  
 30 circuit making and breaking switch and having a central opening through it adapting it to be readily mounted upon and removed from a rotating switch spindle, substantially as set forth.

3. The combination with stationary switch  
 35 plates, of the rotating plug A having movable switch plates on its under side, said plug being chambered on its upper side, a safety-catch located in the chambered upper side of  
 40 the plug, a cover for the safety-catch chamber, the rotating spindle B, and the thumb-piece D, substantially as described.

4. The combination with the stationary  
 45 switch plates F, F', of the safety-catch plug A having ratchet teeth on its under side, two of which are surfaced with metal plates *f, f'*, a safety-catch chamber in the upper part of the said plug containing a safety-catch connecting such plates *f, f'*, a cover for said  
 50 chamber, the rotating spindle B, and the thumb-piece D, substantially as described.

This specification signed and witnessed this  
 13th day of September, 1892.

JOSEPH HUTCHINSON.

Witnesses:

EUGENE CONRAN,  
 GEORGE B. CROUK.