

(No Model.)

C. H. RUGGLES.
REVOLVING FUSE HOLDER.

No. 498,698.

Patented May 30, 1893.

Fig. 1.

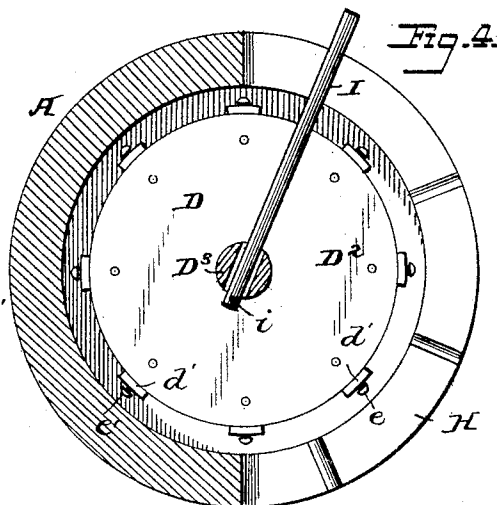
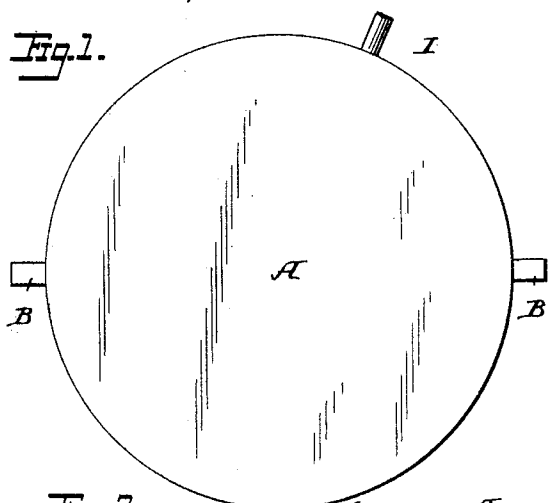


Fig. 2.

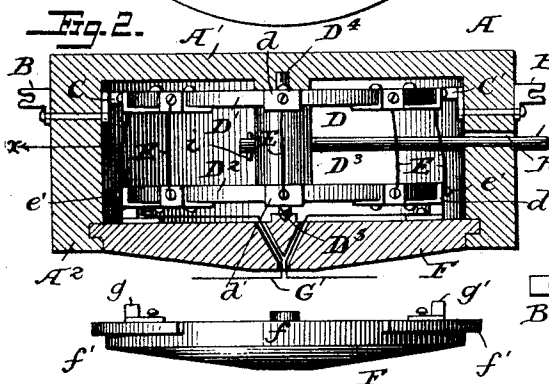


Fig. 5.

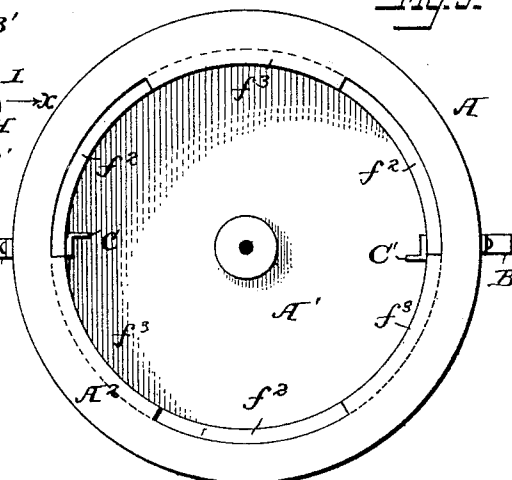


Fig. 3.

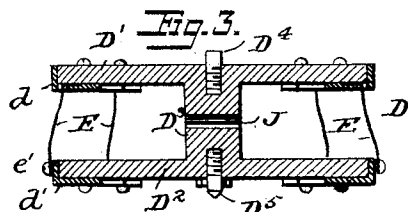


Fig. 6.

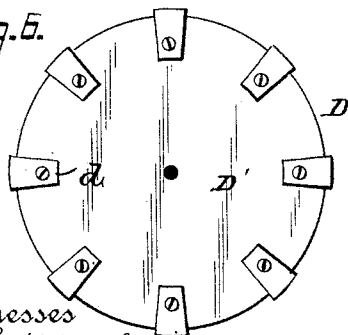
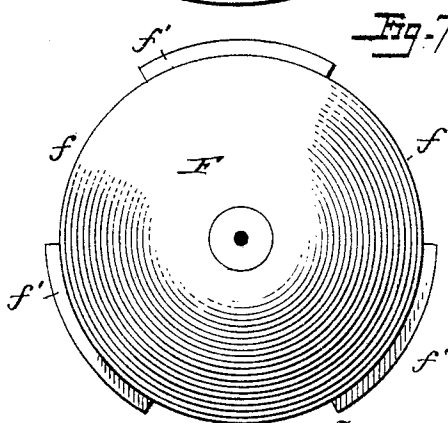


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES H. RUGGLES, OF LYNN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO JOSEPH K. McCAMMON, OF WASHINGTON, DISTRICT OF COLUMBIA.

REVOLVING FUSE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 498,698, dated May 30, 1893.

Application filed December 12, 1892. Serial No. 454,869. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. RUGGLES, a citizen of the United States, residing in Lynn, Essex county, Massachusetts, have invented certain new and useful Improvements in Revolving Fuse-Holders, of which the following is a specification.

My invention relates to fuse holders for electric circuits, and while it is adapted for application in many and various forms and circuits, I have shown it embodied in a revolving fuse holder and rosette, such as are commonly used in incandescent lighting.

The object of my invention is to provide a simple, cheap and effective device whereby if perchance the fuse should be inoperative for any reason, a new fuse can be quickly and easily connected with the circuit to complete the same.

To these ends my invention consists in a device having the general features of construction, arrangement and mode of operation, substantially as hereinafter pointed out.

Referring to the accompanying drawings, Figure 1, is a plan view of a device embodying my invention. Fig. 2, is a vertical section of the same. Fig. 3, is a plan and side view of the spool or bobbin detached. Fig. 4, is a plan view showing the grooves in the bottom of the slot. Fig. 5, is a bottom plan view showing the central portion detached.

It is well known that in the use of translating devices of all sorts in connection with systems of electrical distribution, it is common to introduce safety fuses between the distributing circuit and the translating devices, which safety fuses are arranged and adapted to carry a current of a certain strength, and beyond that strength the fuses will burn or disintegrate, breaking the electric circuit, and thereby preventing accidents. When these fuses are destroyed before the current can be used again on the circuit, a new fuse has to be supplied, and it is the object of my present invention to provide a device whereby the new fuse can be quickly interposed into the circuit to complete the same without the necessity of taking apart any of the devices.

I have shown my invention as embodied in an ordinary rosette such as is commonly used in distributing systems for incandescent elec-

tric lighting, but of course it will be understood that the same principles and general features of construction can be applied to other circuits and in connection with other translating devices.

Referring to the drawings, A, represents a rosette which is preferably made of some non-conducting and non-inflammable material, such as porcelain, and the like, and it consists of a circular disk A', having a cylindrical flange A², connected thereto, or preferably formed integral therewith. Secured to this rosette are the terminals B, B', which may be of any desired or convenient form, and to which terminals or ends of the electric circuit are to be connected. These terminals or binding posts are also connected to brushes C, C', arranged on the inner side of the cylindrical portion A², of the rosette, and while these brushes may be variously formed and shaped, I have shown them as consisting of angle plates and the bases fitting the interior of the cylindrical portion and secured thereto by passing a screw or bolt c, through the flange, and connecting the outside binding post or terminal with the brush, as this forms a simple and effective means, not only of securing the brushes and binding posts in position but of forming an electric connection between them.

Arranged to be mounted in the rosette is a spool D, and this is preferably made of porcelain or similar material, and consists essentially of the sides or flanges D', D², connected by a central portion D³, which is provided with suitable bearings D⁴, D⁵. Mounted on the sides or flanges D', D², is a number of plates d, d', held in position by suitable screws, and these are preferably arranged equidistant from each other, and as opposed to each other on the two flanges. Connected to these plates are the fuses E, which may be of any suitable or usual material, and may be secured to the plates in any way. Thus I have shown in Fig. 3, a fuse secured at the bottom, by the screw e', and at the top between the plate and the spool passing through a hole in the plate at the corner.

Any ordinary means may be used for securing the fuses in position, it only being essential that they should be held in good elec-

tric contact with the plates, and in such a manner as not to be injured by the other parts of the device, and so that they can be readily removed and replaced when necessary.

5 There may be any desired number of these fuses, they being diametrically opposite to each other, and I have shown in the present instance the spool as provided with eight fuses. This spool as before intimated is held by the
10 bearing D^4 , entering a suitable recess in the top of the rosette, and the bearing D^5 , is arranged to fit a recess in the bottom F , of the case or rosette, and this is preferably shaped as best seen in Fig. 2, and is provided
15 with three alternate notches f , and projections f' , which latter are adapted to pass through notches f^2 , formed in the bottom of the cylindrical portion of the rosette, and then when the bottom piece is in place, it can be rotated
20 slightly to cause the flanges f' , to rest upon the flanges f^3 , of the case, and it will thus be seen that the bottom piece F , can be quickly and easily removed or replaced when desired. This bottom piece is provided with suitable
25 brushes or contacts g, g' , arranged to bear upon the contacts or plates d' , of the spool, and to make good electric contact therewith, and connected to these contacts g, g' , are the conductors G , leading to the lamp or other
30 translating device in the circuit.

Some means must be provided by which the spool can be easily turned in the socket or rosette, and while various means may be used, I have shown what I consider to be the simplest and best, and which consists in providing
35 the cylindrical portion of the rosette with a slot H , extending practically one hundred and eighty degrees around the periphery thereof, and connecting the arm or lever I , to the body portion D^3 , of the spool, and this
40 can readily be done by providing the body portion with an opening J , having slots at each side opposite each other, while the arm I , has a pin i , which is arranged to slide
45 through the slots, but which when the arm is turned a quarter round, will serve to hold the arm in position, and prevent its being accidentally withdrawn. On the bottom of the
50 slot in the hollow case, through which the fuse-holder moves to bring the several plates in connection with the fuses successively in contact with the brushes, are slots or grooves
55 H' , arranged the same distance apart in degrees as are the fuse plates, so that when the lever drops into one of the grooves, it insures that the brushes are in their proper position relative to the contact plates.

This being the preferred construction of the device, it will be seen that when the parts
60 are in the position shown in Fig. 2, the circuit will be traced as follows: Entering the rosette at the binding post B , it passes through the screw c , to the brush C , which bears on one of the plates d , thence it passes through
65 the fuse E , to the plate d' , and thence by the brush or contact piece g , to the conductors G , including the translating device. The

return circuit passes through the contact or brush g' , one of the plates d' , the fuse E' , plate d , brush C' , and binding post B' ,
70 and it will be seen that in each circuit of each translating device there are two fuses. When from any cause one or both these fuses become destroyed, it is only necessary to
75 turn the spool by means of the arm I , a sufficient distance until the arm falls in the next groove H' in the slot H , which will bring the next set of contacts d, d' , in line with the
80 brushes, and contacts of the rosette, when the circuit will be completed, and this can be repeated as many times as there are sets of
85 fuses, as four in the present instance. When all the fuses are burned out, the arm I , is rotated one quarter of a revolution and withdrawn, when, by turning the base F through
90 one hundred and twenty degrees, it will drop out, and with it the fuse holder D . A stocked fuse holder is then inserted in the place of the exhausted one, that can be restocked at
95 some future time. All these operations are exceedingly simple and can be quickly performed, and it will be seen that the device is
100 cheap and effective and answers the requirements in a most efficient manner.

While I have thus described and illustrated
95 the preferred embodiment of my invention, it will be understood that I do not limit myself to the details of construction and arrangement set forth, as it is evident that they can be varied by those skilled in the art without
100 departing from the spirit of my invention.

What I claim is—

1. In a revolving fuse-holder, the combination with a hollow circular case having one removable side and provided with contact
105 brushes; of a spool of insulating material detachably mounted within the case and having bearings in the body of the case and in the removable side, the spool being provided with parallel sides connected by a central
110 portion, and having a series of contact plates mounted on each side, connected in pairs by fuses, substantially as described.

2. A revolving fuse holder comprising a hollow case, a spool mounted therein carrying a
115 number of fuses, contact plates for completing the contact between the circuit and fuses, and an arm connected to the spool and passing through a slot in the case for operating
120 the spool, and grooves in the bottom of the slot for holding the arm so that the brushes will be in their proper position relative to the contact plates, substantially as described.

3. A revolving fuse holder, comprising a hollow case having electric terminals and brushes,
125 a detachable spool mounted therein having contact terminals and fuses connecting the pairs of terminals, a bottom piece for the case having alternate notches and recesses and arranged to fit in similar notches and recesses
130 in the case; substantially as described.

4. A revolving fuse holder comprising a hollow case having terminals and brushes connected to the terminals, a spool having flanges

carrying contact plates, fuses connecting the opposite contact plates on the flanges, means for rotating the spool, and the removable bottom to the case forming one of the bearings
5 to the spool, substantially as described.

5. A revolving fuse holder comprising a hollow cylindrical case having contacts, and a slot in one side, grooves in the bottom of the slot, a spool mounted therein carrying fuses
10 and contact pieces, and an arm secured to the

body of the spool and passing through the slot in the case, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES H. RUGGLES.

Witnesses:

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WILLIAM H. ROBERTS.