June 20, 1933. T. SIAMPOS 1,914,871

FUSE PLUG

Filed July 20, 1931

Fig. 1.

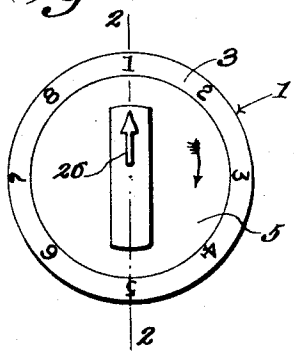


Fig. 2.

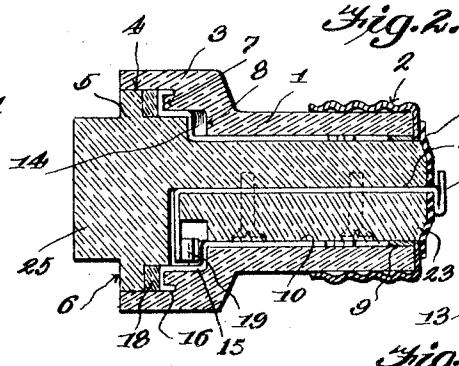


Fig. 12.

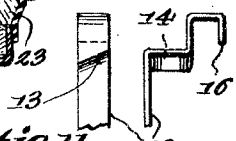


Fig. 11.

Fig. 3.

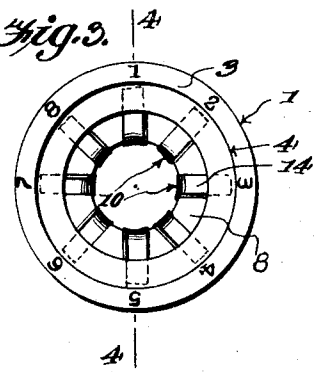


Fig. 4.

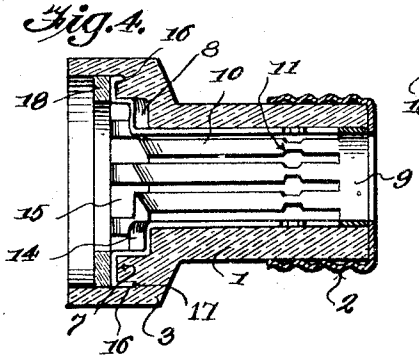


Fig. 10.

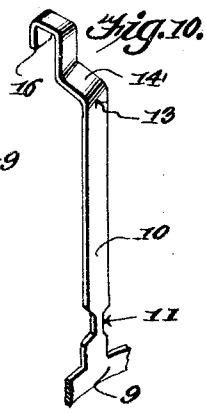


Fig. 5.

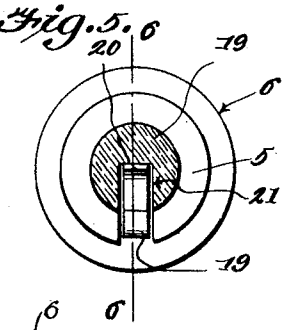


Fig. 6.

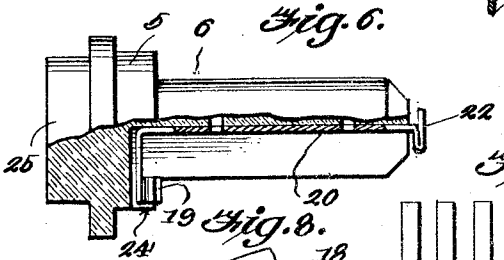


Fig. 9.

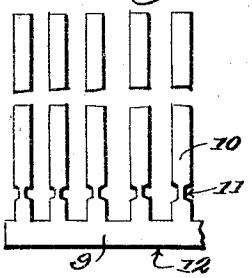


Fig. 7.

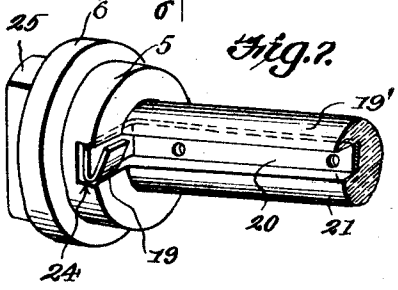
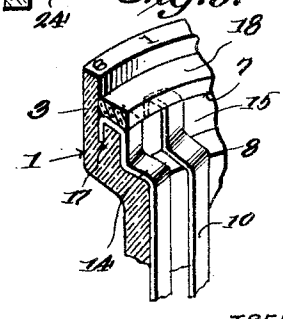


Fig. 8.



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Patented June 20, 1933 1,914,871

UNITED STATES PATENT OFFICE

TREEFON SIAMPOS, OF EDWARDSVILLE, ILLINOIS

FUSE PLUG

Application filed July 20, 1931. Serial No. 552,022.

This invention relates to fuse plugs and has for its object the production of a simple and efficient fuse plug, wherein the fuses mounted therein may be renewed merely by turning a plug to bring a new fuse into position.

Another object of this invention is the production of a simple and efficient means for facilitating the renewal of the fuse without the necessity of removing the plug from the socket.

A still further object of this invention is the production of a simple and efficient fuse plug which is so constructed as to mount a plurality of fuse strips within the plug so as to be engaged by means of a suitable contact through the medium of a rotating central core, whereby the fuses may be renewed merely by rotating the central core.

A still further object of this invention is the production of a fuse plug which is simple in construction and efficient in use.

With these and other objects in view, the invention consists in certain novel constructions, combination and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawing:—

Figure 1 is an end elevation of the fuse plug.

Figure 2 is a section taken on line 2—2 of Figure 1.

Figure 3 is an end elevation of the body of the fuse plug, the central rotating core being removed therefrom.

Figure 4 is a section taken on line 4—4 of Figure 3.

Figure 5 is a transverse sectional view through the rotating core.

Figure 6 is a fragmentary sectional view taken on line 6—6 of Figure 5.

Figure 7 is a detail perspective view of the rotating core or plug.

Figure 8 is a fragmentary perspective view of a portion of the side wall of the plug, showing the fuse strips mounted thereon.

Figure 9 is a view of a series of the fuse strips.

Figure 10 is a perspective view of one of the fuse strips.

Figure 11 is a front elevation of one end of one of the fuse strips.

Figure 12 is an edge elevation of the upper edge of one of the fuse strips.

By referring to the drawing it will be noted that 1 designates the body of the fuse plug which is provided with the usual threaded contacting or metallic thimble 2 at its inner end. This thimble extends over the lower edge of the body 1 as is clearly shown in Figure 1, for the purpose of forming contacting engagement with the inner end of a bank of fuse strips hereinafter more fully described.

This body 1 is provided with an enlarged outer end 3, which enlarged outer end 3 is provided with a socket 4 for the purpose of receiving the enlarged head 5 of the rotating plug 6. The enlarged outer end 3 of the body 1 of the plug is provided with a shoulder portion 7, and an inset ledge portion 8.

A bank of fuse strips preferably formed from a single sheet of material 9 is employed, and the fuse strips extend from the lower end of the strip 9 in the nature of a plurality of parallel fingers 10. These fingers 10 are provided with cut out portions 11, as is usual with fuse strips of this character. These strips may be either formed singularly or may be formed in one bank of strips such as shown in Figure 9 for the purpose of convenient assembling and for the purpose of properly spacing the strips 10 apart. The lower edge 12 of the bank of fuse strips 9 is adapted to normally contact with the lower end or inner end of the threaded contact thimble 2 previously described.

The outer end of each fuse strip finger 10 is bent at an angle, preferably an angle of forty-five degrees as indicated at 13, for the purpose of producing a ratchet tooth 14, which is then bent substantially at right angles to the longitudinal axis of the finger 10, and is adapted to rest upon the ledge portion 8 of the body 1 of the plug, as shown clearly in Figure 8 of the drawing. The outer end of the finger 10 is then bent upwardly to extend snugly against the wall 15 of the body 1, and then overhangs the shoulder 7, the terminal clip 16 of the fuse

finger strips 10 being forced down into the channel 17 formed in the shoulder 7. A retaining washer 18 is then placed thereover for the purpose of holding the end of the fuse finger strips in position as clearly shown in the drawing.

As clearly shown in Figures 4 and 8 of the drawing, it will be seen that the finger fuse strips 10 will extend longitudinally of the body 1 of the fuse plug and the ratchet teeth 14 formed near the upper end of the fuse finger strips 10 will constitute a ratchet surface along the ledge 8, which ratchet surface is adapted to be engaged by the spring dog or pawl 19 carried by the rotatable plug 6. This rotatable plug or core 6 is provided with an elongated shank 19′, which has secured thereto a contacting strip 20, preferably placed within a longitudinally extending channel 21 formed in the shank. This contacting strip 20, however, may be connected in any suitable or desired manner to the plug 6 without departing from the spirit of the invention and has its inner end provided with a contacting plate 22 which projects beyond the extremity of the plug or core 6 and fits snugly against the disk of insulation 22′ which projects radially from the inner end of the plug or core 6 as shown clearly in Figure 2 and prevents the plug from slipping longitudinally out of its proper position. A suitable filler 23 may be employed for the purpose of closing the longitudinal channel 21 of the shank 19′ and this core or filler 23 may be secured to the shank by means of suitable screws shown in dotted lines or held in engagement therewith in any suitable or desired manner.

The outer end of the contacting strip 20 is bent at right angles and fits in a socket 24 formed in the head 5 of the core or plug 6, the spring dog or pawl 19 projecting beyond the socket and being adapted to engage the ratchet portion 14 of the fuse finger strips 10 as is clearly shown in Figure 2 of the drawing.

From the foregoing description, it will be seen that a very simple and efficient means has been produced for mounting a plurality of fuse strips within the body of the fuse plug so as to be brought into progressive engagement with the contacting pawl 19. When one fuse finger strip 10 burns out, the operator may merely grasp the grip portion 25 of the rotating core or plug 6 and turn the same until the pawl 19 engages one of the ratchets 14 of the remaining fuse strips or fingers 10. Then as each fuse is burned, the plug may be rotated so as to cause a proper contact between the pawl 19 and one of the fuse strip fingers 10. The outer face of the enlarged portion 3 of the body 1 is provided with suitable numerals as shown in Figure 1 to correspond with the fuse finger strips 10 secured and mounted within the body 1 and a suitable arrow 26 is formed upon the grip portion 25 so as to permit an operator to readily determine whether or not the plug or core 6 is in proper position for causing the pawl 19 to contact with one of the ratchet portions 14 of the fuse strip fingers 10.

It should be understood that certain detail changes in mechanical construction may be employed without departing from the spirit of the invention, so long as these changes fall within the scope of the appended claims.

Having described the invention, what I claim as new is:

1. A multiple fuse plug of the class described comprising a body, a plurality of fuse strips mounted within said body, said fuse strips provided with ratchet means formed thereon, and a rotating core mounted within said body provided with means for contacting with said ratchet means for forming a contact with said removable fuse strips.

2. A multiple fuse plug of the class described comprising a body, a plurality of fuse strips mounted within said body and provided with angularly bent ratchet portions terminating in offset outer ends, said ends terminating in inwardly bent lips, said body provided with a channel for receiving said lips, a washer for clamping the extremities of said fuse strips in position, a rotating core mounted within said body and provided with a contacting strip, said contacting strip provided with a pawl for engaging said ratchet portion of said fuse strips whereby said fuse strips may be brought into progressive contacting engagement with said pawl to permit of the progressive renewal of the fuses within the body.

3. A multiple fuse plug of the class described comprising a body having an enlarged outer end, said enlarged outer end provided with an inset shoulder portion and a further inset ledge portion, a plurality of fusible strips mounted within said body and having the ends thereof overhanging said ledge portion, said ends being twisted to produce ratchet teeth, the terminals of said ends being constructed in substantially U-shaped formation, said body provided with a channel for receiving the extremities of said fuse strips, a washer for engaging the outer portions of said fuse strips and holding the same in position upon said body, a rotating core, a contacting member having a laterally extending end terminating in a spring pawl adapted to ride over the faces of said ratchet portions of said fuse strips for forming contacting relation therewith as said core is rotated, and means for facilitating the rotation of said core.

4. A multiple fuse plug of the class described comprising a body, said body pro-

vided with a central bore, a bank of fuse fingers extending longitudinally of said bore and being integrally connected at their lower ends, the outer end of each fuse finger being bent laterally and pitched upwardly with respect to its tranverse axis to produce a ratchet tooth, the extremity of each fuse finger being bent to form a hooked outer end, means for clamping said hooked outer end into engagement with said body, a rotating core mounted within said body and contacting means carried by said core for engagement with said fuse strips.

5. A multiple fuse plug comprising a body, a core rotatably mounted within said body, a plurality of fuse strips mounted within said body about the core and having portions adjacent their outer ends bent to form ratchet elements, a contact strip extending longitudinally in said core and having one end exposed at the inner end of the core and its outer end portion bent to form a dog adapted to engage said ratchet elements for progressive contact with said fuse strips as the core is rotated within the body and prevent rotation of the core in one direction.

6. A multiple fuse plug comprising a body, a plurality of fuse strips mounted within said body, said fuse strips having their inner ends connected with each other and each being bent adjacent its outer end to form a laterally bent and angularly twisted ratchet element, a rotatable core mounted within said body, and a center contact extending longitudinally in said core and having an arm extending radially of the core for forming electrical contact with the ratchet elements of the fuse strips whereby said fuse strips may be successively brought into contacting relation with said arm by rotating the core in the body.

In testimony whereof I affix my signature.

TREEFON SIAMPOS.