May 24, 1932. B. DOWICK 1,859,767

FUSE PULLER

Filed July 7, 1930

Fig. 1

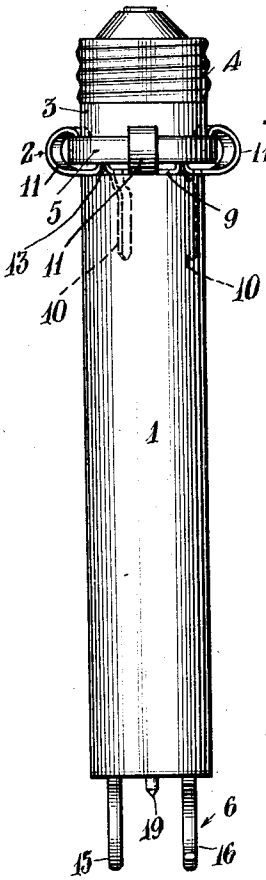


Fig. 3

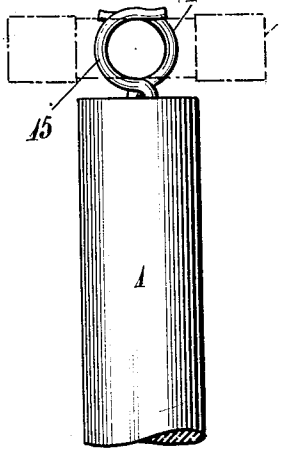


Fig. 2

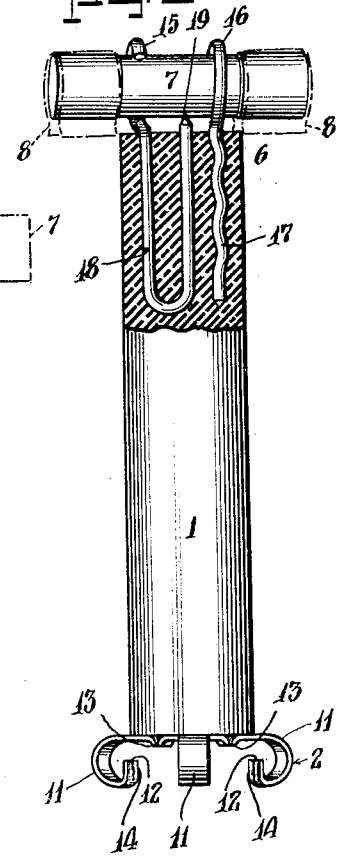


Fig. 4

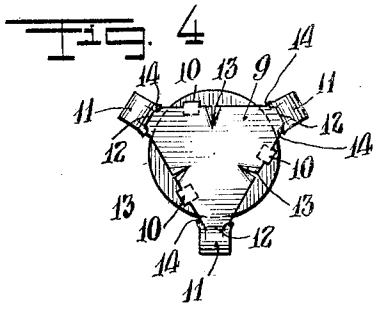
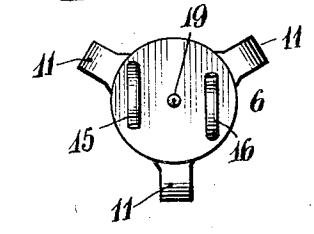


Fig. 5



INVENTOR
Benjamin Dowick
BY
Benjamin Roman
ATTORNEY

Patented May 24, 1932 1,859,767

UNITED STATES PATENT OFFICE

BENJAMIN DOWICK, OF JERSEY CITY, NEW JERSEY

FUSE PULLER

Application filed July 7, 1930. Serial No. 465,821.

This invention relates to a device for therewith safely inserting and withdrawing electric fuses from the gaps or sockets or clips generally provided in the fuse gaps of electric circuits, and its principal object is to provide a simple, inexpensive, conveniently and economically manufacturable, conveniently utilizable, reliable, strong, safe, efficient, and improved fuse inserting and withdrawing device.

Other objects and advantages will hereinafter appear.

In the accompanying drawings,—

Fig. 1 is an elevation of the device which is adapted for manipulation of the threaded type of fuses.

Fig. 2 shows an elevation, partly in section, of the device adapted for manipulation of fuses the terminals of which are held in the circuit gap by clips.

Fig. 3 shows another elevation of the device illustrated in Fig. 2.

Fig. 4 is a plan view of the device shown in Fig. 1.

Fig. 5 is a plan view of the device shown in Figs. 2, 3.

The handle 1 of the device is preferably made entirely of insulating material, such as bakelite or hard rubber. One end of the handle 1 carries a device 2 for manipulation, insertion, and removal of the household type of fuse 3 which is generally provided with a thread 4 and rimmed base 5, while its opposite end carries a device 6 for manipulation, insertion, and withdrawal of the cylindrical cartridge type of fuse 7 which is generally lodged in spring-clips 8 of the circuit-gap. The device 2 comprises a metallic plate 9 having a plurality of shanks 10 that are imbedded within the handle 1 to thereby secure the plate firmly to the latter, and from said plate project several members 11, preferably three in number, that are springy, configurated as shown, and provided with vertical portions 12 that are adapted to bear laterally and resiliently against the vertical walls of the base 5 of fuse 3 when the latter is set in among said members in the manner shown in Fig. 1. In the plate 9 are formed several prong-like projections 13, upon which the base 5 of the fuse is seated when inserted in the device, or when the device is slipped over the fuse, in the manner shown.

When it is desired to insert a fuse 3 into place within its socket, it is first placed in the device as shown and becoming then manipulable with the handle 1 the fuse may be threaded into its socket by rotating the handle 1 about its longitudinal axis, the members 11 bearing frictionally and resiliently against the base 5 and thereby transmitting the rotation to the fuse. Upon completion of the rotation the handle 1 may be pressed toward the base, and the projections 13 will then bear positively against the base and thereby drive the fuse-thread 4 home within its socket as required. To remove the fuse from its socket the foregoing operation is reversed, i. e., the handle 1 is brought up to the fuse and the device 2 slipped over its base 5, the handle is then pressed toward the base and simultaneously rotated to cause the projections 13 to bear upon the base to initially release the fuse-thread from its socket, and then the handle 1 is rotated for unthreading the fuse and removing it. If desired the edges of the vertical walls 12 of members 11 may be bent inwardly as shown at 14 to produce a firmer hole of the base 5, particularly in case the latter is serrated.

The device 6 comprises a pair of oppositely disposed hooks 15, 16, which extend from the terminal of the handle 1 and are configurated and arranged as shown in Figs. 2, 3, 5. The hook 16 is provided with a shank 17 which is imbedded within the handle 1, and is preferably made serpentine as shown to insure a firmer retention and disposal of the hook in its requisite place; while the hook 15 is provided with a U-shaped shank 18 which is likewise imbedded within the handle, and its terminal 19, which is pointed, protrudes outwardly from the center of the handle between the two hooks.

When it is desired to insert a fuse 7 into place within its spring-clips 8, it is first placed in the device 6, by means of disposing the fuse between the hooks 15, 16, as shown by the dash and dot lines in Fig. 3, and then partially rotating the handle 1 about its axis

to the position shown in Fig. 2, whereupon the two hooks embrace the cartridge and being springy hold it firmly in position upon the handle. Simultaneously the pin 19 pierces the middle of the cartridge and thereby prevents any accidental longitudinal dislocation of the latter. The fuse 7 being then completely manipulable with the handle 1, it may be therewith conveniently inserted into the spring-clips 8 of the circuit-gap, with perfect safety to the user, whose hand is at all times upon the insulating handle 1 and remote from the live circuit. To remove the fuse 7 from its spring clips 8 the foregoing operation is reversed, i. e., the handle 1 is brought up to the fuse, the device 6 is slipped thereover in the aforesaid manner, and the fuse is then withdrawn from said clips.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. A fuse puller having the combination with a handle, of a pair of oppositely disposed hooks projecting from said handle being spaced apart to permit insertion between them of a fuse, said hooks being adapted to embrace the fuse when imparting a fractional turn to said handle about its longitudinal axis while said fuse is between the hooks, and a pin projecting from said handle and located between said hooks being adapted to pierce the fuse when it is embraced.

2. A fuse puller having the combination with a handle, of a pair of oppositely disposed hooks projecting from said handle being spaced apart to permit insertion between them of a fuse, said hooks being adapted to embrace the fuse when imparting a fractional turn to said handle about its longitudinal axis while said fuse is between the hooks, a pin projecting from said handle and located between said hooks being adapted to pierce the fuse when it is embraced, and said hooks being springy in the direction toward said handle to positively engage the fuse upon its embracement.

3. A fuse puller having the combination with a handle, of a pair of oppositely disposed hooks projecting from said handle being spaced apart to permit insertion between them of a fuse, said hooks being adapted to embrace the fuse when imparting a fractional turn to said handle about its longitudinal axis while said fuse is between the hooks, said handle having an insulated body, each of said hooks having a shank imbedded within said body, and said shanks being separated from each other by the material of said body.

4. A fuse puller having the combination with a handle, of a pair of oppositely disposed hooks projecting from said handle being spaced apart to permit insertion between them of a fuse, said hooks being adapted to embrace the fuse when imparting a fractional turn to said handle about its longitudinal axis while said fuse is between the hooks, a pin projecting from said handle and located between said hooks being adapted to pierce the fuse when it is embraced, said handle having an insulated body, said hooks having shanks imbedded within said body, and said pin forming an integral part of one of said shanks.

5. A fuse puller having the combination with a handle, of a pair of oppositely disposed hooks projecting from said handle being spaced apart to permit insertion between them of a fuse, said hooks being adapted to embrace the fuse when imparting a fractional turn to said handle about its longitudinal axis while said fuse is between the hooks, said handle having an insulated body, each of said hooks having a shank imbedded within said body, said shanks being separated from each other by the material of said body and said hooks being springy in the direction toward said handle to positively engage the fuse upon its embracement.

6. A fuse puller having the combination with a handle, of a pair of oppositely disposed hooks projecting from said handle being spaced apart to permit insertion between them of a fuse, said hooks being adapted to embrace the fuse when imparting a fractional turn to said handle about its longitudinal axis while said fuse is between the hooks, a pin projecting from said handle and located between said hooks being adapted to pierce the fuse when it is embraced, said handle having an insulated body, said hooks having shanks imbedded within said body, said pin forming an integral part of one of said shanks, and said hooks being springy to positively engage the fuse upon its embracement.

Signed at New York, in the county of New York and State of New York, this 26th day of June, A. D. 1930.

BENJAMIN DOWICK.