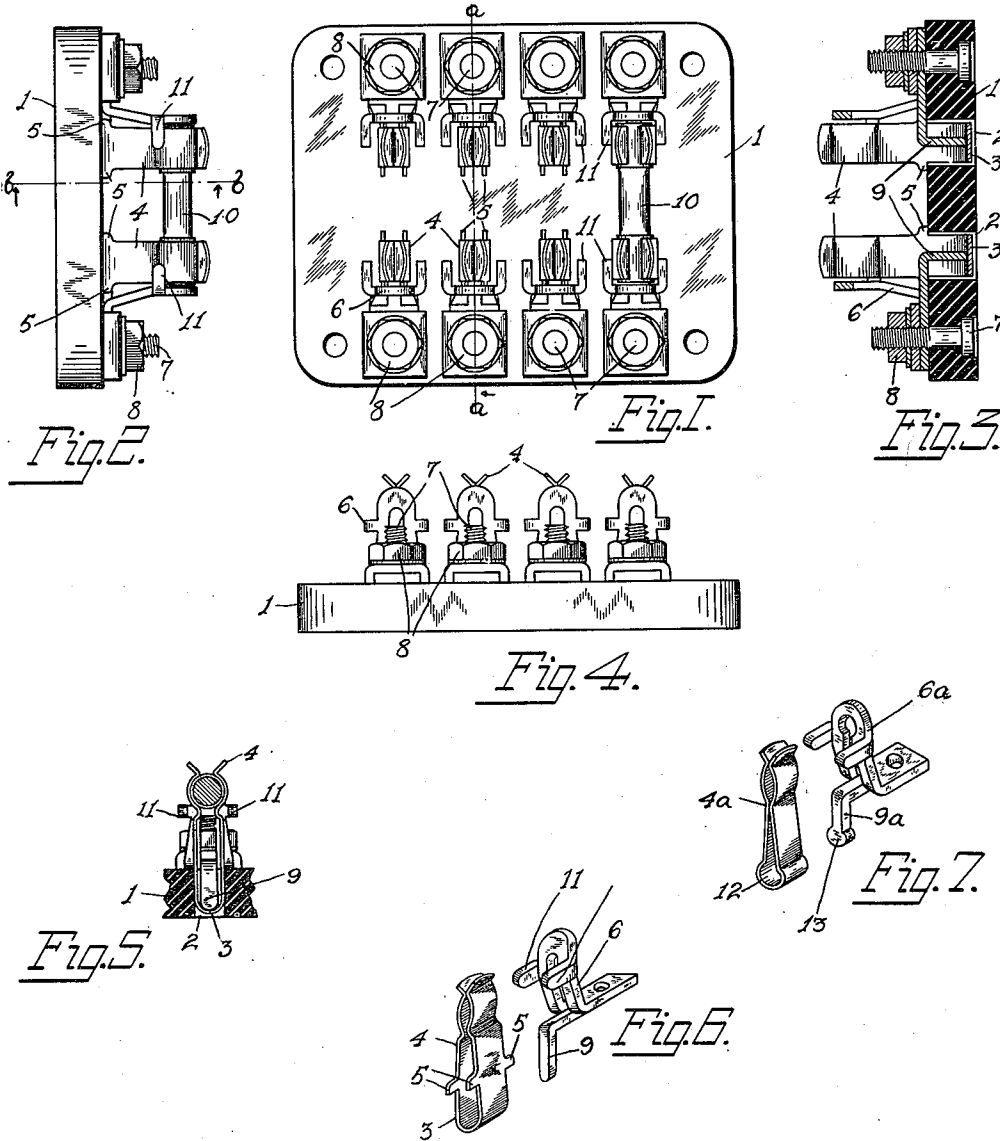


C. H. SMITH.
FUSE BLOCK.
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1,218,221.

Patented Mar. 6, 1917.



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UNITED STATES PATENT OFFICE.

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FUSE-BLOCK.

1,218,221.

Specification of Letters Patent.

Patented Mar. 6, 1917.

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To all whom it may concern:

Be it known that I, CHARLES H. SMITH, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fuse-Blocks, of which the following is a specification.

My invention relates to fuse blocks and has for its object the provision of improved means for constructing the mounting devices for holding removable fuse units. The structure of my invention is of such a character as to provide increased and better spring action of the spring clip for holding the fuse element. The structure is also adapted to provide means to prevent bending of the spring element referred to beyond the elastic limit, whereby its further usefulness would be impaired if not entirely eliminated.

I will explain one form which my invention may take more in detail by referring to the accompanying drawing, in which

Figure 1 is a top view of a fuse block constructed in accordance with my invention;

Fig. 2 is an end view thereof;

Fig. 3 is a sectional view on line *a-a* of Fig. 1;

Fig. 4 is a side view of the structure illustrated in Fig. 1;

Fig. 5 is a partial sectional view on line *b-b* of Fig. 2;

Fig. 6 is a disassembled view showing two parts of the mounting mechanism in perspective, and

Fig. 7 is a view similar to Fig. 6 of an alternative construction.

I show a base plate 1 of insulating material provided with a plurality of apertures 2, extending preferably entirely through the plate, which apertures are adapted to receive the lower U-shaped portions 3 of spring clips 4. These spring clips are provided with ears 5 which limit the downward movement of these clips. These spring clips are adapted to be held in place by metal retainers 6, illustrated more clearly in Fig. 6, which metal retainers are held in position upon the base plate by the bolts 7 and nuts 8. The retainers 6 each have a downwardly extending finger 9 which projects into the U-shaped section 3 of the spring clip 4 as more clearly shown in Figs. 3 and 5. These fingers 9 hold the spring

clips in position within the recesses 2, to hold them in place in connection with the limit stops 5. The spring clips 4 are adapted to receive preferably cylindrical fuse units 10. When these individual fuse units are inserted or withdrawn from the spring clips, if care is not used it is frequently possible to bend these spring clips beyond their elastic limit, whereafter their usefulness of course is impaired as the spring action does not remain as strong as before.

In order to prevent this the retainers 6 are provided with arms 11, which arms project forwardly to the opposite sides of the spring clip 4, and thus prevent bending these spring clips further than is wise. These arms 11 of course permit sufficient bending of the spring clip to permit proper insertion and withdrawal of the fuse element, but not sufficient bending so as to strain these spring clips beyond their elastic limit.

In Fig. 7, I show a modification of the structure disclosed in Fig. 6 in which the spring clip 4^a is not provided with limit stops 5 but has a cylindrical portion 12 which coöperates with a cylindrical head 13 at the lower extremity of the finger 9^a of the retainer 6^a. The cylindrical portion 12 when in engagement with the head 13 of course prevents downward movement of the spring clip 4^a farther than is intended, and this action is similar to that of the limit stops 5.

It will be seen from what has been described that I am thus enabled to provide a spring clip of longer length than is usually employed by reason of its being countersunk within the base. It will also be seen that I do not impair the spring action of the spring clip by perforating it for mounting purposes. I thus have plenty of available material to provide the required spring action.

I have thus described one general form which my invention may take without meaning thereby to limit my invention, as the particular embodiment shown is for illustrative purposes merely. Having however thus described one form which my invention may take what I claim as new and desire to secure by Letters Patent is:—

1. A device of the character described in combination with a base plate, of a resilient fuse retaining element having opposed

fingers adapted to grasp a fuse element between them mounted upon said base plate, and means mounted upon said base plate having extending arms normally out of engagement with the fingers of said fuse retaining element to limit the distance said fingers may be separated.

2. A device of the character described comprising a base provided with a rectangular recess, a U-shaped spring clip having its connected end projecting into said recess, a retaining device having a finger extending into engagement with the bridge end of the spring clip within the recess, a pair of forwardly extending members normally out of engagement with said spring clip for limiting the movement of the fingers of said U-shaped spring clip, and means for fastening said retainer to the base whereby said finger securely holds said clip upon the base.

3. A device of the character described comprising a base provided with a recess, a U-shaped spring clip having its connected end projecting into said recess, a retaining device having a finger extending into engagement with the bridge end of the spring clip within the recess, means also carried by said retainer for limiting the outward movement of the sides of the spring clip, and means for fastening said retainer to the base whereby said finger securely holds said clip upon the base.

4. A device of the character described comprising a mounting base provided with a recess, a U-shaped spring clip having its connected end projecting into said recess, ears formed integrally with said U-shaped spring clip for limiting the distance said clip projects within the recess, a retaining device having a finger extending into engagement with the bridge end of the spring clip within the recess, and means for fastening said retainer to the base whereby

said finger securely holds said clip upon the base.

5. A device of the character described comprising a base provided with a recess, a spring containing clip having two sides projecting into said recess, integrally formed ears for said clip to limit the distance that said spring clip extends into said recess, a retaining device having a finger extending into engagement with the bridged end of said containing clip, means carried by said retaining device for limiting the movement of the side piece of said containing clip, and means for fastening said retainer to the base whereby said finger securely holds said clip within the recess.

6. A device of the character described, comprising a base, a spring clip having opposed fingers adapted to grasp a fuse element, a retaining device provided with a finger for clamping said spring clip to said base, means also carried by said retainer for limiting the endwise movement of said fuse element, and means for fastening said retainer to the said base.

7. A device of the character described, comprising a base, a fuse retaining element adapted to grasp a fuse element between its opposed fingers, a retaining device for securing said retaining element to the base, means carried by said retaining device for limiting the endwise movement of the said fuse element, means for limiting the distance the said fingers may be separated, and means for fastening said retainer to the base.

Signed by me at Chicago, county of Cook, and State of Illinois, in the presence of two witnesses.

CHARLES H. SMITH.

Witnesses:

M. R. ROCHFORD,
GEORGE E. MUELLER.