

H. KRUESHELD.
ELECTRIC HEATING UNIT.
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1,404,979.

Patented Jan. 31, 1922.

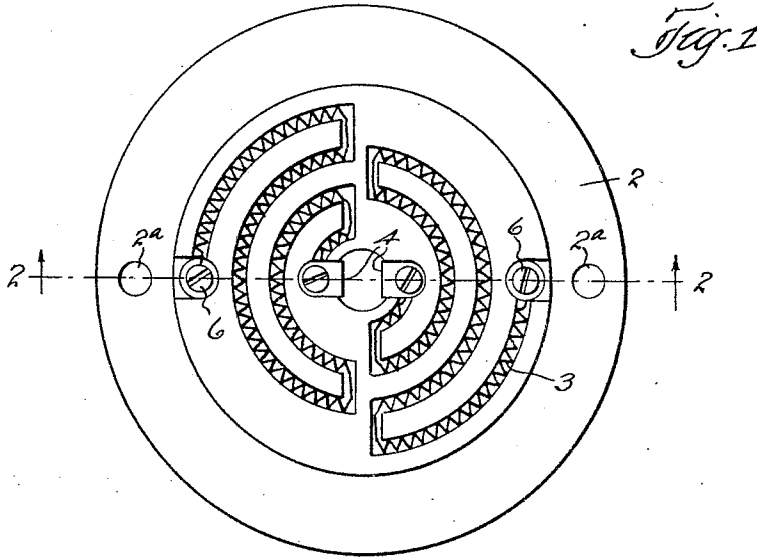


Fig. 2

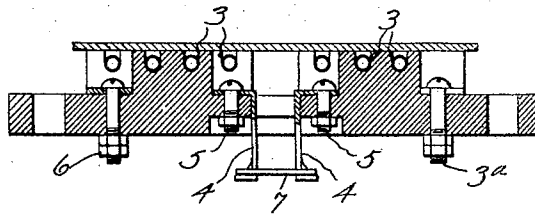


Fig. 3

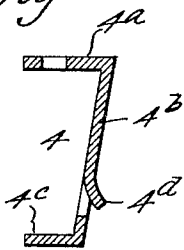


Fig. 5

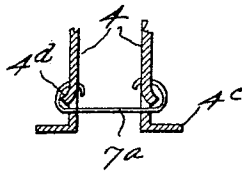
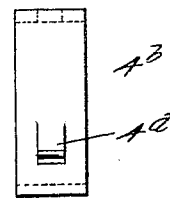


Fig. 4



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UNITED STATES PATENT OFFICE.

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ELECTRIC HEATING UNIT.

1,404,979.

Specification of Letters Patent.

Patented Jan. 31, 1922.

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To all whom it may concern:

Be it known that I, HENRY KRUESHELD, a citizen of the United States, residing at New Washington, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Electric Heating Units, of which the following is a specification.

This invention relates to the heater units for electrically heated vessels adapted to hold substances to be heated, and is applicable to such devices as percolators, water heaters, and other standard articles according to the nature of the material to be heated.

The object of the invention is to provide improved means for supporting the heating element, as well as for supporting a fuse in such position that a new fuse can easily be supplied without use of tools and without discarding or replacing any of the other parts of the apparatus. In electrical heaters, especially those intended for domestic use, it is desirable to provide means whereby fuses can be easily replaced without the services of an electrician, and without taking down the general structure of the heater.

These objects are accomplished by the means hereinafter described and illustrated in the accompanying drawings in which Fig. 1 is a top view of the heating unit, with a top plate removed. Fig. 2 is a central vertical section of the unit. Figs. 3 and 4 are details of the fuse clamp or holder. Fig. 5 is a detail showing how a fuse wire or ribbon is applied to the fuse clamp.

The unit to be described is as indicated above applicable to various types of utensils or apparatus, and no showing of such a utensil is considered necessary. On a percolator for example, it will be conveniently located under the bottom of the vessel, in the manner common in the art.

In the drawings 2 indicates the heater block or base, made of refractory material, and this may be attached to any suitable vessel, not shown, by means of screws inserted through holes 2^a in the block. The upper surface of the block is grooved to receive the heating coils 3. These coils comprise two sections, located respectively at opposite sides of the block, or on opposite sides of the middle division line. Each coil is connected at one end to a terminal screw 3^a

at the outer end of the coil, and extends thence in the grooves on one side of the middle line, crossing from the outer groove to the next inner groove in succession, as indicated at 3^b and finally to connection by a screw 5 to one member of a fuse clamp or holder 4, shown particularly in Figs. 3 and 4. The arrangement is symmetrical on both sides, so that the outer terminals of the coil are at the outer edge of the block and the inner terminals between the halves of the coil are at the center of the block, the fuse being located between said inner terminals.

Each fuse holding member consists of a strip of metal bent to angular shape as shown in Figs. 3 and 4, with an upper finger 4^a which rests on top of the block, or base, a spring leg 4^b which extends through a central hole in the base, and a foot or bottom part 4^c; and a tongue 4^d is struck up from the leg of the member.

These members are located opposite to each other, as shown in Fig. 2, and various kinds of fuses may be supported thereby. Thus in Fig. 2 I show a fuse washer 7, which, by springing the members 4^b together, can be inserted around said members which will then spring out and hold the fuse washer, the latter resting on the feet 4^c and being held in position by the tongues 4^d. When a fuse wire or ribbon is used, as shown in Fig. 5 at 7^a, it is inserted through the holes left by the tongues 4^d and then bent around or otherwise secured to the legs 4^b, as shown in Fig. 5. In any event it is easy to apply a new fuse when necessary, by the use of a piece of wire or a fuse washer, or any kind of a fuse device capable of being applied to or hooked on to the depending members 4; and it will be noticed that none of the standing parts of the heater have to be taken down in order to permit a new fuse to be applied. The construction cheapens and simplifies the means ordinarily used for supporting a fuse in connection with a heater of the type described. And also the manner of inserting the coils is an improvement, the coils being divided in halves so as to bring the ends together at the middle where the fuse is applied, and with the connecting terminals spaced apart at the outer sides of the coil.

An insulating plate 1 will ordinarily be used on top of the heater block, between the

block and the device to which the heater is applied.

The invention is not limited to the exact form shown, but various changes may be made within the scope thereof.

I claim:

1. The combination with an electric heating element, of a fuse holder comprising a pair of spring members connected to opposite sides of said element and each provided with means to engage and hold a fuse.

2. An electric heating unit comprising a base, a heating element thereon formed in sections each with a terminal at the center of said element, and a fuse holder member connected to each of said terminals, said members depending in opposite position

through the base and being located adjacent to each other, under the base.

3. An electric heating unit comprising a base having a central opening, a heating coil thereon, consisting of two sections each of which has a terminal adjacent said opening, and a fuse holder consisting of two spring members depending through said opening and each connected to one of said terminals, said members having means at their lower ends to engage and hold a fuse.

In testimony whereof, I do affix my signature in presence of two witnesses.

HENRY KRUESHELD.

Witnesses:

R. C. ALT,
F. H. SPILLETTE.