Feb. 19, 1924. 1,484,448

G. W. HART

COMBINED SWITCH AND FUSE BLOCK

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Fig. 1.

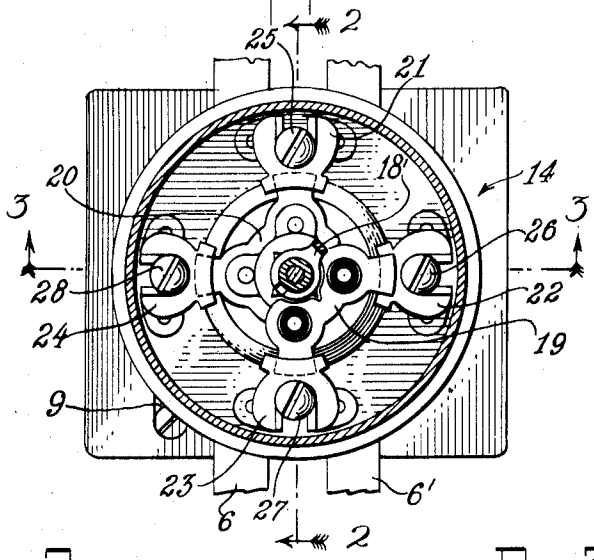


Fig. 2

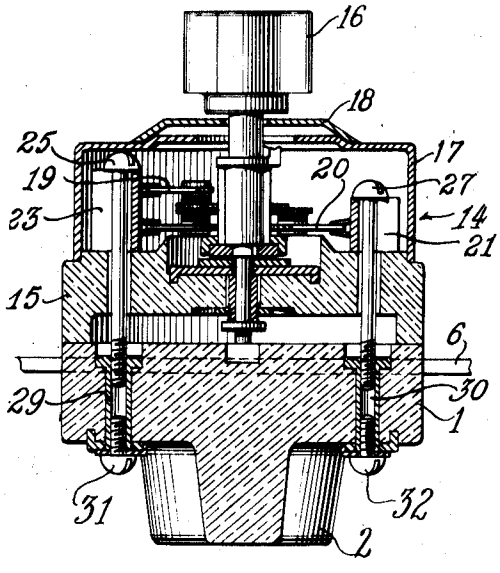
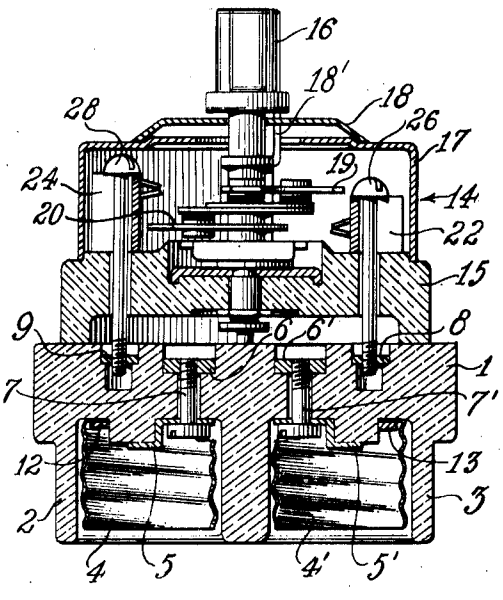


Fig. 3.



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Fig. 4

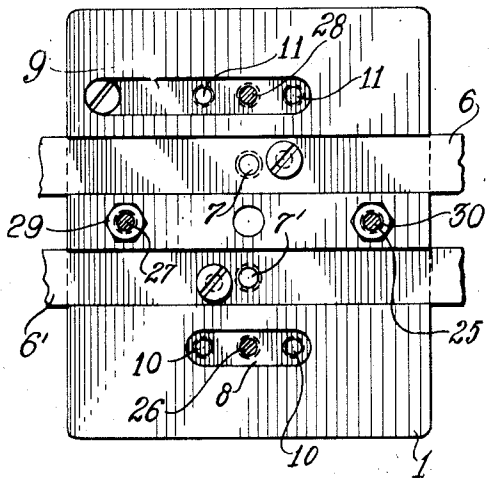


Fig. 5.

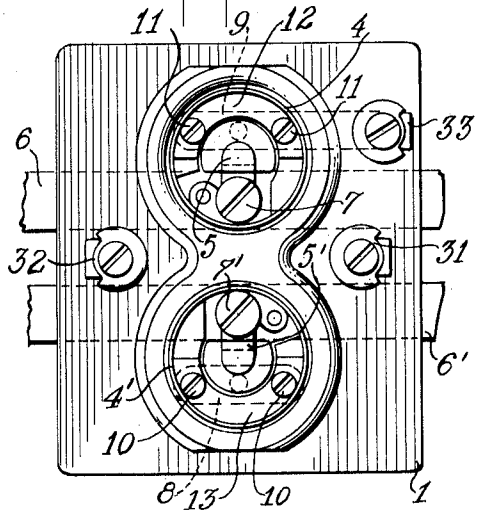
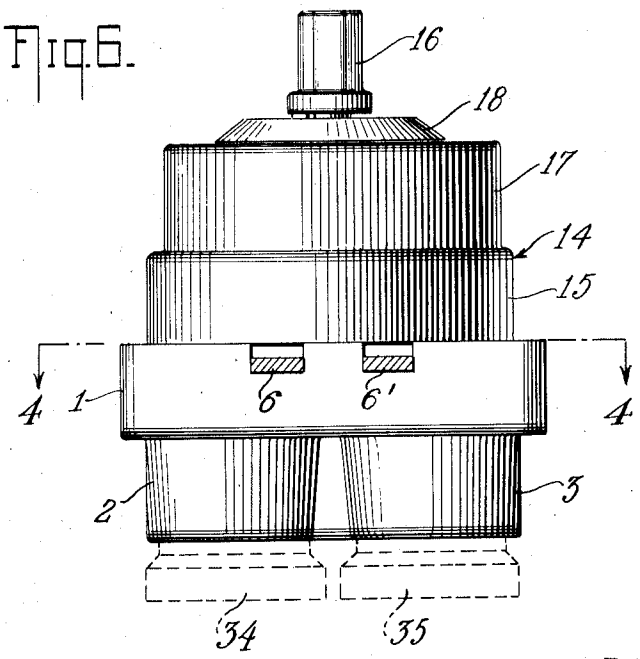


Fig. 6.



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Fig. 7.

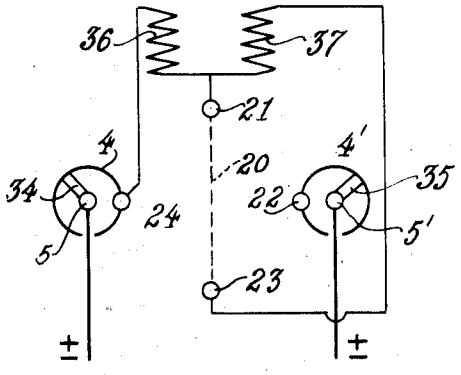


Fig. 8.

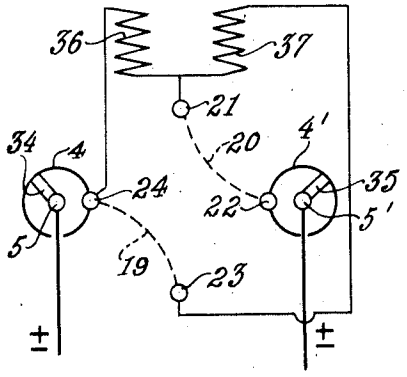


Fig. 9

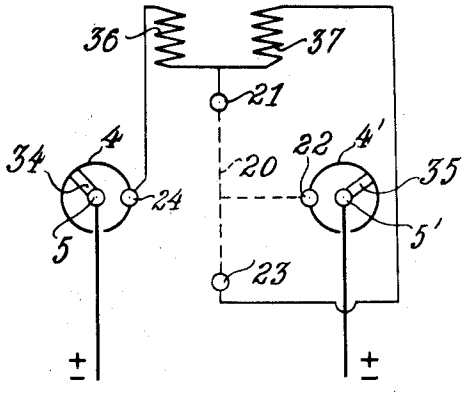
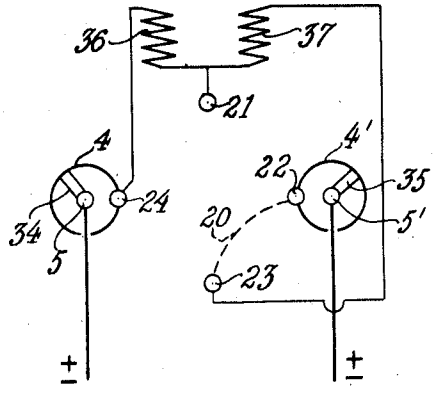


Fig. 10.



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Patented Feb. 19, 1924. 1,484,448

UNITED STATES PATENT OFFICE.

GERALD W. HART, OF WEST HARTFORD, CONNECTICUT, ASSIGNOR TO THE HART MANUFACTURING COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF NEW JERSEY.

COMBINED SWITCH AND FUSE BLOCK.

Application filed February 23, 1921. Serial No. 447,140.

To all whom it may concern:

Be it known that I, GERALD W. HART, a citizen of the United States, residing at West Hartford, county of Hartford, State of Connecticut, have invented a certain new and useful Improvement in Combined Switches and Fuse Blocks, of which the following is a full, clear, and exact description.

My invention relates to a combined switch and fuse block and has for its object to produce a construction adapted to be used particularly in electric ranges. It further has for its object to produce a novel and simple construction in which there is a fuse block having receptacles upon one side thereof and a switch located upon the opposite side thereof, the electric and mechanical connections being made by members perpendicular to the surface of the fuse block upon which the switch is mounted, thus simplifying the manufacture and assembly of the parts.

It further has for its object to produce such a combined fuse block and switch in which the switch is readily detachable and can be easily added after the fuse block is installed.

The following is a description of an embodiment of my invention, reference being had to the accompanying drawings, in which:

Fig. 1 shows a front elevation of the fuse block with a switch mounted thereon, the cover and handle of the switch having been removed;

Fig. 2 is a section of the combined switch and fuse block on the line 2—2 of Fig. 1;

Fig. 3 is a similar section on the line 3—3 of Fig. 1;

Fig. 4 is a front elevation of the fuse block alone;

Fig. 5 is a rear elevation of the fuse block;

Fig. 6 is a side elevation of the switch and fuse block in assembled position; and

Figs. 7, 8, 9 and 10 are diagrams showing electric connections between the fuse receptacles, switch terminals and heating coils of an electric range.

Referring more particularly to the drawings, 1 is a fuse block having on its rear surface two fuse receptacles 2 and 3, containing, respectively, metallic screw shells 4—4′ and central terminals 5—5′. Upon the front face of the fuse block are bus-bars 6—6′ lying in grooves formed therein and with which screws 7—7′ passing through ears on the central terminals engage so as to connect them together. In recesses on the front of the fuse block there are plates 8 and 9 forming anchorages each connected to the shells 4—4′ respectively by screws 10—10 and 11—11, said screws passing through plates 13 and 12 located at the inner ends of the shells.

On the outer surfaces of the fuse block is a rotary snap switch 14 having a porcelain base 15, an operating handle 16, a removable cover 17 and an indicator 18 engaged by the lug 18′ revolving with the switch spindle. This rotary snap switch is of well known construction for changing the connections of two coils from multiple to series or cutting out one or both coils altogether, being provided with a right-angled switch plate 19 in one plane and a T-shaped switch plate 20 in another plane. 21, 22, 23 and 24 are four switch terminals mounted upon the base of the switch in the ordinary way and provided with apertures at right angles to the base so that screws 25, 26, 27 and 28 can pass through them and through corresponding holes in the switch base and engage the anchorages 8 and 9 and also the anchorages 29 and 30. The anchorages 29 and 30 are electrically connected to binding posts 31 and 32 on the rear side of the fuse block and the anchorage 9 is connected with binding post 33 on said rear side, as well as with the shell 5. 34 and 35 indicate in dotted lines screw fuse plugs within the shells of the fuse block.

It is to be noted that the screws 7—7′, 10 and 11 and the screws 21, 22, 23 and 24 are all parallel to one another and at right angles to the face of the fuse block. This makes a very simple construction to manufacture and makes a very easy construction to assemble, of both the assembly of the fuse block proper and the subsequent assembly of the rotary snap switch thereon.

The circuit connections are shown in Figs. 7 to 10 of the drawings, similar letters of reference being used for the fuse terminals and switch contacts. In these drawings 36 and 37 represent two heating coils of an electric range. From an examination of these drawings it will be seen that when the switch arms are in the position shown in Fig. 1, the circuit is open. When they are in the next position the heating coils are in multiple with the source of current; when they are in

the next position the coil 36 is in circuit while the coil 37 is short-circuited; and then they are in the next position, the two coils are in series. The second position corresponds to high heat, the third position corresponds to medium heat, and the fourth position corresponds to low heat.

As will be evident to those skilled in the art, my invention permits of various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. In a combined fuse block and switch a fuse block having upon one face three binding posts and a fuse socket, said fuse socket comprising a screw shell terminal and a central terminal, and on the opposite face four successive equally spaced anchorages arranged in a circle and two bus-bars, one of said anchorages being electrically connected to one of said socket terminals and to one of said binding posts and one of said bus-bars being connected to the other terminal of said socket, another of said anchorages being connected to the other of said bus-bars, and the other two anchorages being intermediate and connected to the other two binding posts respectively, a rotary series-multiple snap-switch mounted on said opposite face, said snap-switch having four successive switch terminals, and means electrically and mechanically connecting said successive switch terminals to said successive anchorages respectively, the means connecting the anchorages and switch terminals together holding said switch in position upon said opposite face.

2. In a combined fuse block and switch a fuse block having upon one face three binding posts and two fuse sockets, each of said fuse sockets comprising a screw shell terminal and a central terminal, and on the opposite face four successive anchorages, one of said anchorages being connected to one of said shell terminals, and to one of said binding posts a second of said anchorages being connected to the shell terminal of the other socket, and the other two anchorages being intermediate and connected to the other two binding posts respectively, two bus-bars on said opposite face and connected to the central terminals respectively, a rotary series-multiple snap-switch mounted on said opposite face and having four successive terminals, means connecting successive terminals of said switch to successive anchorages respectively, said means holding said switch upon said opposite face.

3. In a combined fuse block and switch a fuse block having upon one face three binding posts and two fuse sockets, each of said fuse sockets comprising a screw shell terminal and a central terminal, and on the opposite face four successive anchorages, one of said anchorages being connected to one of said shell terminals and one of said binding posts, a second of said anchorages being connected to the shell terminal of the other socket, and the other two anchorages being intermediate and connected to the other two of said binding posts respectively, two bus-bars on said opposite face and connected to the central terminals respectively, a rotary series-multiple snap-switch mounted on said opposite face and having four successive terminals, screws connecting successive terminals of said switch to successive anchorages respectively, said screws holding said switch upon said opposite face, the connections between said fuse terminals and said anchorages and bus-bars passing through parallel holes in said fuse block and being parallel to each other and to said screws.

4. A fuse block having on its rear face three binding posts and two fuse sockets each fuse socket comprising a central terminal and a shell terminal, and having on the opposite face two parallel bus-bars and four anchorages, two of said anchorages being intermediate between said bus-bars and two being external thereof and on opposite sides of said two bars, connections between said bus-bars and said central terminals respectively, connections between said anchorages and said shell terminals respectively, and connections between said three binding posts and said two intermediate and one external anchorages respectively, all of said connections being electrical and having their axes parallel to one another and at right angles to said faces, said anchorages being adapted to receive screws securing a rotary series-multiple snap-switch on the front side of said fuse block and electrically connecting the terminals of said switch to said anchorages respectively.

GERALD W. HART.