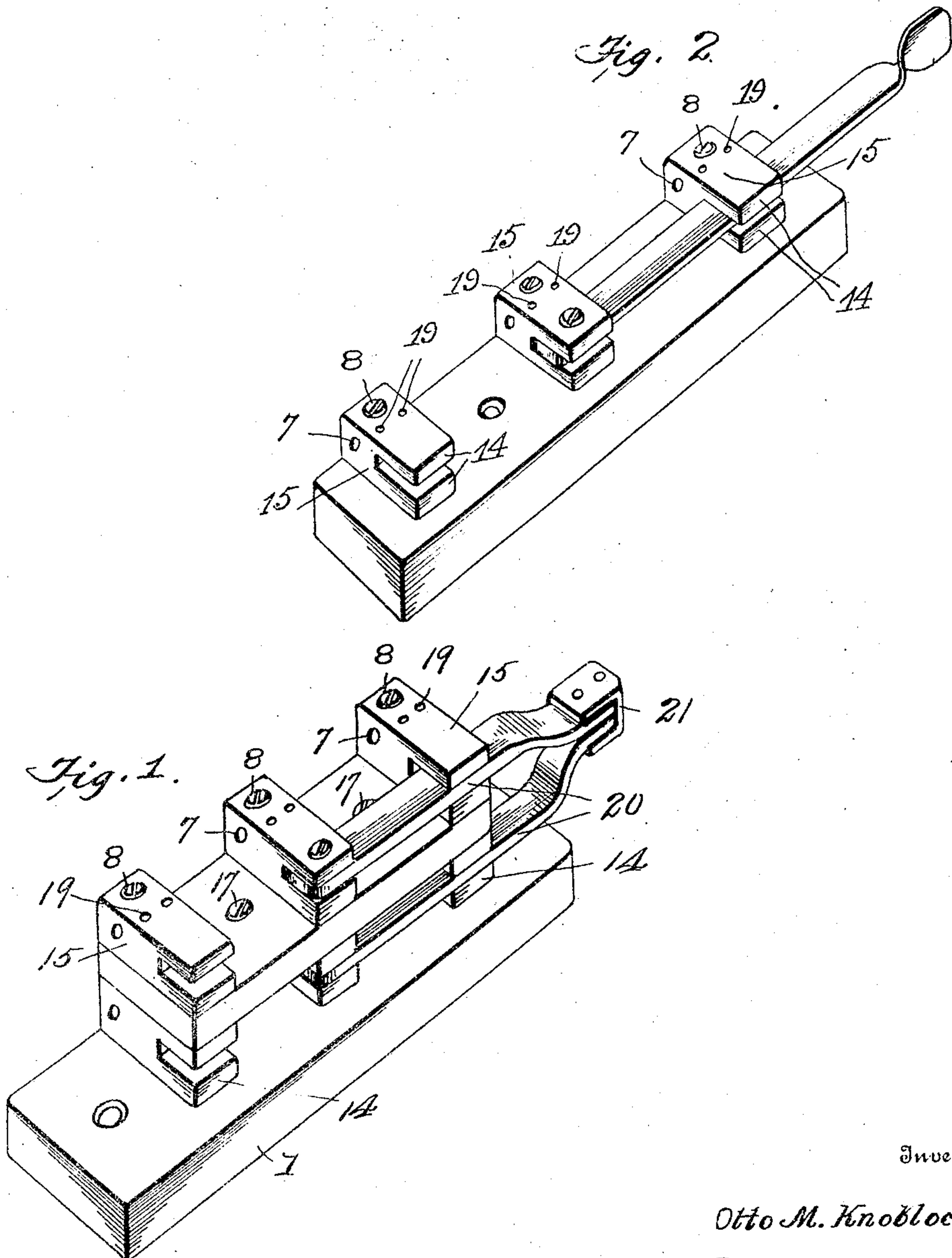


O. M. KNOBLOCK.
ELECTRIC SWITCH.
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940,328.

Patented Nov. 16, 1909.



Witnesses

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OTTO M. KNOBLOCK, OF SOUTH BEND, INDIANA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, OTTO M. KNOBLOCK, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

This invention relates to electric switches of the knife-blade type in which the blade or blades are mounted on the insulating base or panel switch-board so as to swing in a plane parallel with the face of the support or panel, as distinguished from switches in common use in which the blade or blades are mounted to swing in a plane at right angles to the support or panel, so as to be objectionably in the way and subject to damage when they are held in open position and projecting outwardly from the panel.

The invention has for one of its objects to improve the construction, operation and arrangement of the parts of devices of this character so as to be comparatively simple and inexpensive to manufacture and thoroughly reliable and efficient in use.

A further object of the invention is the provision of a switch in which the contact blocks are pinned to the insulating base or otherwise suitably secured thereto in such a manner as to enable the blades to be actuated in a plane parallel to the base, the arrangement being such that switches of multiple blade construction and of the double pole type are capable of being simply and inexpensively manufactured.

With these objects in view, and others, as will appear as the nature of the invention is better understood, the invention comprises the various novel features and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claim appended hereto.

In the accompanying drawing,—Figure 1 is a perspective view of my invention shown as a double pole switch, and Fig. 2 is a view showing a portion of the double pole switch converted into a single blade switch.

Referring to the drawing, 1 designates the supporting base of suitable insulating material on which are mounted the contact blocks 15. These blocks are preferably of copper, may be molded or cast into the desired shape, or cut from bar stock of suitable size and dimensions, the bar being preferably grooved longitudinally so as to

form in the cut-off blocks slots for the knife or switch-blade 20. The slots extend longitudinally of the blocks forming lips 14, and the blocks are arranged flatwise on the top surface of the base, so that the slots will be parallel with the said surface.

Mounted upon the blocks 15 is a plate of hard rubber or other suitable insulating material, the same being held in place by screws 17, passing therethrough and engaging in suitably arranged openings in the base 1. On the upper surface of said plate are contact-blocks of the same construction as those mounted upon the base, secured to said plate by pins 19, which extend part way into the plate of insulation without making contact with the lower blocks 15, thereby preserving the independence of the two sets of contact blocks, the lower blocks being secured to the base 1 in the same manner.

The double knife-blade 20 is pivoted at its inner end to the middle contact-blocks, said blocks being apertured for receiving the screw pivot, and the outer ends of the two members of the blade are connected in any suitable manner, as by means of the cap 21 which forms a hand-hold, the blades where they are joined together to form the handle, being insulated in the usual manner.

In the solid portion of each block is a passage 7 for the reception of the terminals of the lead wires of the circuit in which the switch is connected, these terminals being held in place by binding screws 8.

The thickness of the blade members is approximately equal to the width of the slots in the contact blocks, so that the blade will fit snugly therein, and maintain a good electrical connection. By arranging the parts in this manner the blades of the switch swing on pivots disposed at right angles to the plane of the base, and while it is easy and convenient to operate in this way, it avoids the objection of standing outwardly from the base when in an open position, where it would be likely to be bent or otherwise damaged by objects coming in contact therewith, which is a common fault with switches in general use on switch boards.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction will be readily apparent to those skilled in the art to which this invention appertains. The switch is of simple, durable and substantial construction, and is readily adapted for

switch-board panels and other supporting bases.

It will be observed that this switch is convertible to a single switch by removing the upper set of contact blocks and their plate to which they are secured, and substituting a single blade as shown in Fig. 2; the separating of the two sets of contact blocks with their bases being provided for by having their fastening means independent of the fastening means of contact blocks.

What is claimed is:—

A switch comprising an insulating base, an upper and lower set of contact blocks, each provided with a slot at one end extending parallel to the face of the base, a plurality of pivoted blades adapted to engage the contact blocks of both sets, and an interme-

mediate insulating member for insulating one set from the other said intermediate member and the lower set of contact blocks being secured to the insulating base independently of each other, and the upper set of contact blocks being secured to the intermediate insulating means, whereby the upper set of contact blocks with the intermediate insulating member, can be removed independently of the lower set of contact blocks.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OTTO M. KNOBLOCK.

Witnesses:

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