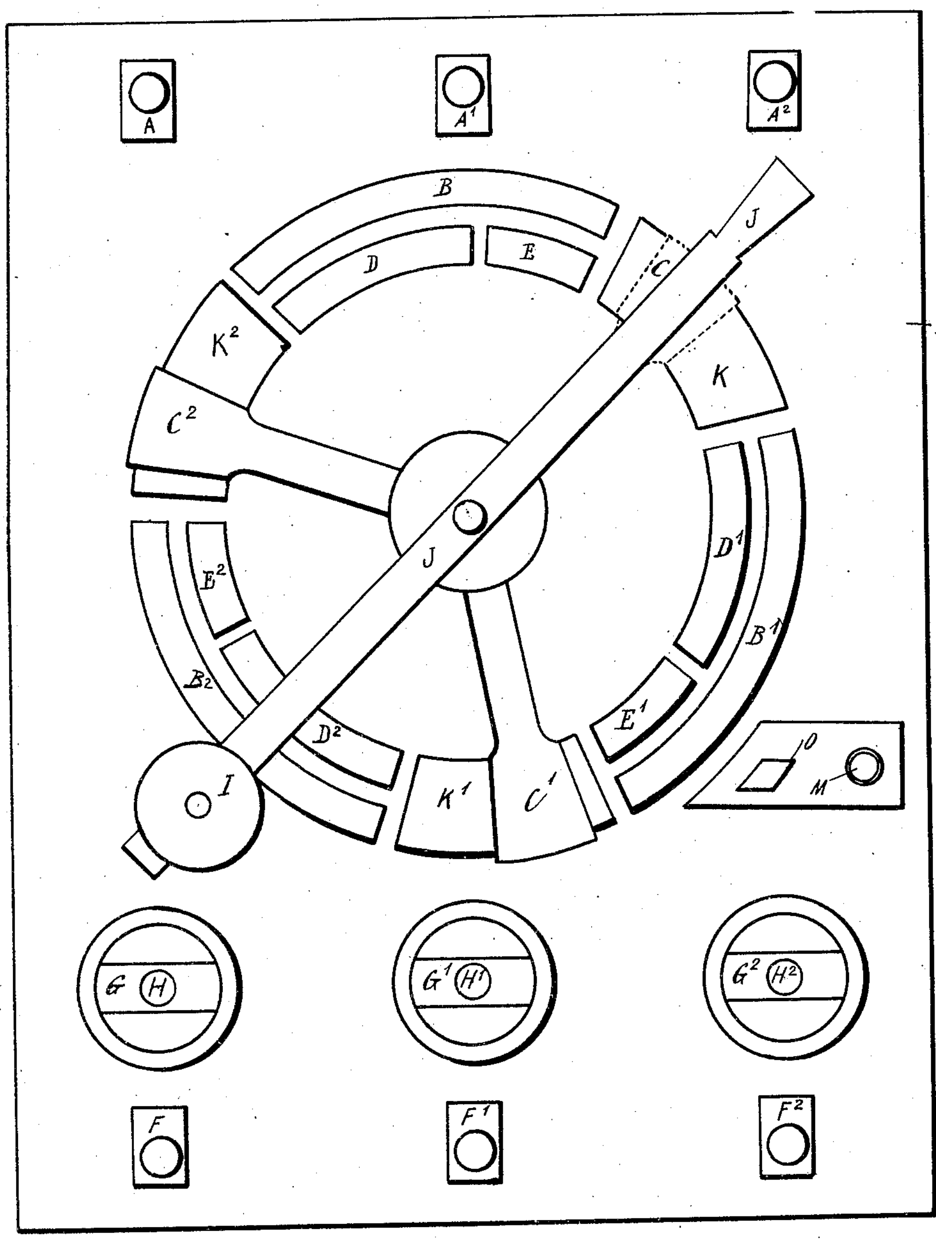
J. M. S. FONTECHA.
ELECTRIC SWITCH.
APPLICATION FILED FEB. 26, 1912.

1,053,022.

Patented Feb. 11, 1913.
2 SHEETS—SHEET 1.

Fig. 1.



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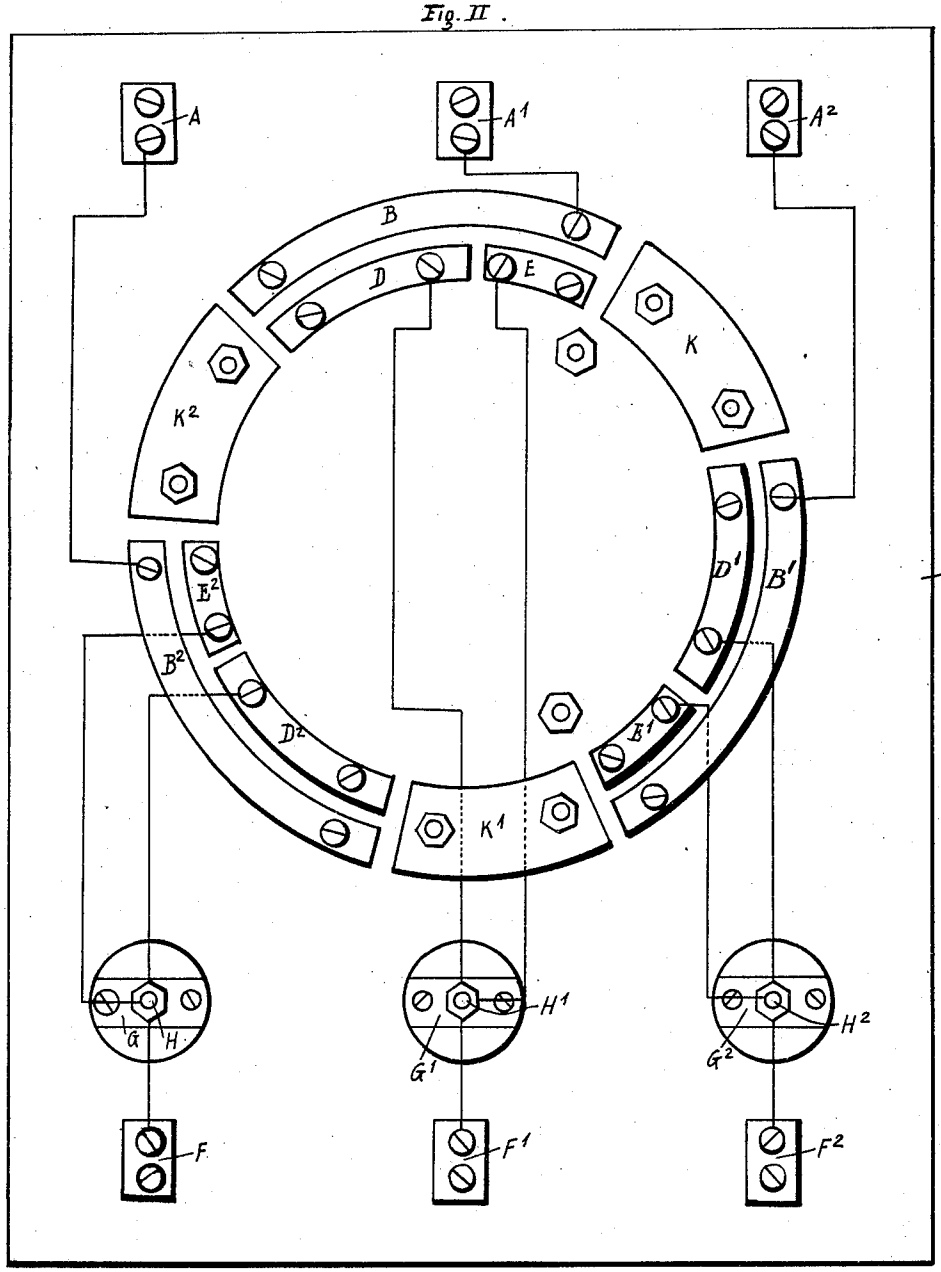
2 SHEETS—SHEET 2.

Fig. II.



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UNITED STATES PATENT OFFICE.

JUAN MANUEL SANCHEZ FONTECHA, OF MEXICO, MEXICO.

ELECTRIC SWITCH.

1,053,022. Specification of Letters Patent. Patented Feb. 11, 1913.

Application filed February 26, 1912. Serial No. 680,028.

To all whom it may concern:

Be it known that I, JUAN MANUEL SANCHEZ FONTECHA, subject of the King of Spain, residing at Mexico city, Mexico, have invented a new and useful Improvement in Electric Switches, of which the following is a specification.

This invention relates to improvements in electric switches.

The object of the invention is to provide in a switch a simple and reliable arrangement of parts which will prevent injury to motors or other electrical appliances in monophase or polyphase circuits.

The invention comprehends improvements in the details of construction and arrangement of parts which will be hereinafter described and particularly pointed out in the claims.

In the accompanying drawings:—Figure I is a face view of my improved switch, the parts being in position when the motor is not in use. Fig. II is a view looking from the front to illustrate the connections.

The letter L indicates a marble, slate or other suitable base on which the elements constituting the switch are mounted. A series of spaced apart contacts indicated at B, B′ and B² are arranged in circular form on the base L, and inside and spaced from said contacts is a second set of spaced apart contacts D, D′ and D². Forming a part of the circular arrangement of the second set of contacts D, D′ and D² is a third set of spaced contacts E, E′ and E². Each set of contacts is composed of preferably three semi-circular metal strips as clearly shown in the drawings. Between and spaced from the adjacent sets of contacts and forming a part of the circular arrangement are plates K, K′ and K².

A lever J, is pivotally mounted on the base and at one end said lever is formed with a handle, while at its opposite end it is provided with a counter-weight I. Secured to and turning with the lever J, is a spider comprising three arms C, C′ and C² which coöperate with the contacts on the base to carry the current. Located in the path of movement of the handle end of the lever J, is a stop O, controlled by a button M. When the switch is turned to operate a motor, the stop O engages said lever and holds it in the position, and to release the lever the button M is depressed. The contact B² is connected by a wire with the terminal post A; the contact B is connected by a wire with the terminal post A′, and the contact B′ is connected by a wire with the terminal post A².

Below the contacts are three interchangeable fuse plugs H, H′ and H², mounted on strips G, G′ and G². Below the fuse plugs are terminal plugs F, F′ and F².

A wire connects the contact E² with the plug H and the latter is connected by a wire with the terminal post F. The contact E is similarly connected through the plug H′, and terminal post F′, so also, is the contact E′, connected to plug H², and terminal post F².

The contact D² is connected by a wire with the plate G, and thence the current passes through plug H H to terminal F. The contact D, is similarly connected to plate G′ and so also is the contact D′ connected with plate G².

In operation, the counter-weight I will hold the lever J in the position shown in Fig. I, the arms C, C′ and C² being on the plates K, K′ and K² and as the latter are not wired, obviously the current is cut off. To start a motor, the handle of the lever J, is turned so as to bring the arm C over the contacts D′—B′, the arm C′ over the contacts D²—B², and the arm C² over the contacts D and B. The current will then pass from terminals A, A′, A² to the contacts B, B′ and B², through the arms C, C′, C² to contacts D, D′ and D² to the plugs H, H′ and H² and direct to terminals F, F′ and F² to the motor. The lever is then given a further movement and the current passes from terminals A, A′ and A² to contacts B, B′ and B² through the arms C, C′ and E, E′, and E² to the plates G, G′, G² and the respective plugs to the terminals F, F′ and F² and thence to the motor. When the lever J reaches the last mentioned position, it is caught behind the stop O and is held thereby and cannot be released until the button M, is pressed to withdraw the stop. During the interval of the movement of the lever from its initial position until the arms C, C′ and C² engage the contacts, E, E′, E², the current does not pass through the fuse plates G, G′, G², but upon the lever reaching its final position, the current is directed through the fuse plates and the plugs, so that if during the operation of the motor something should go wrong, the fuse will blow out and the current will be cut off.

Then by pressing the button M, the stop O will be withdrawn and the weight I will return the lever to its normal position.

What I claim is:—

1. In a switch of the character described, the combination of a base, a lever centrally pivoted on the base, a counter weight on one end of the lever, two arms extending from and movable with the lever, a series of spaced apart contacts arranged in the path of movement of the two arms on the pivoted lever, terminals connected with the said contacts, two series of spaced apart contacts arranged within and spaced from the first mentioned contacts, the two series of contacts being in the path of movement of the two arms on the pivoted lever, one series of contacts being of greater length than the companion series of contacts, terminals connected directly with each of the longer contacts in one of the series, a fuse in each of the connections between the said longer contacts and the latter terminals, a connection between each fuse and the shorter contacts in one of the aforesaid series of contacts, the ends of the arms being of sufficient width to engage the first mentioned contacts and overlap the spaces between the two series of contacts when the lever is turned, and means for holding the lever in operative position.

2. In a switch of the character described, the combination of a base, a lever pivoted to the base, a counter-balance on the lever to return same to normal position, arms movable with the lever, a set of contacts, a second set of contacts, a third set of contacts, a set of terminals connected direct with the second set of contacts, a set of fuses connected to the third mentioned set of contacts and the terminals, whereby when the lever is turned the arms will direct the current through the second mentioned contacts and the terminals and when further moved, will direct the current through the first and third mentioned set of contacts and the fuses and to the terminals, and a spring pressed button which engages the lever to hold same in operative position.

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

JUAN MANUEL SANCHEZ FONTECHA.

Witnesses:

PEDERICO HINYETMAN,

C. BUTRÓN.