Nov. 3, 1936. F. SAAR 2,059,283

POLARITY REVERSER

Filed May 5, 1933

Fig. 1

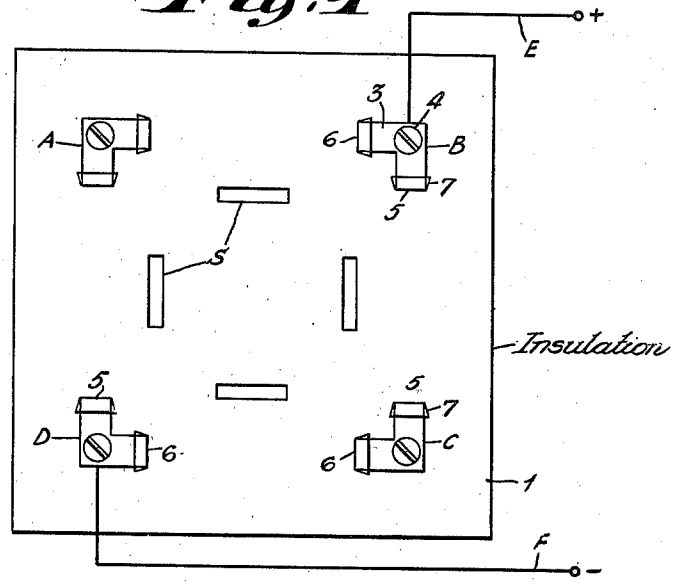


Fig. 2

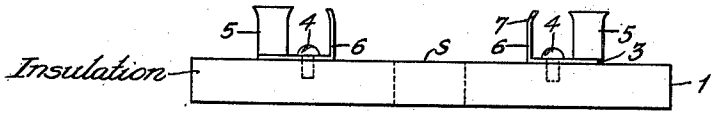


Fig. 3

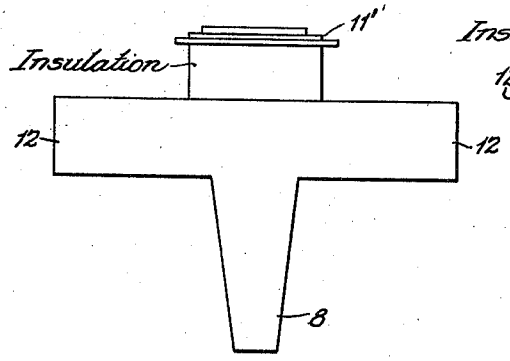
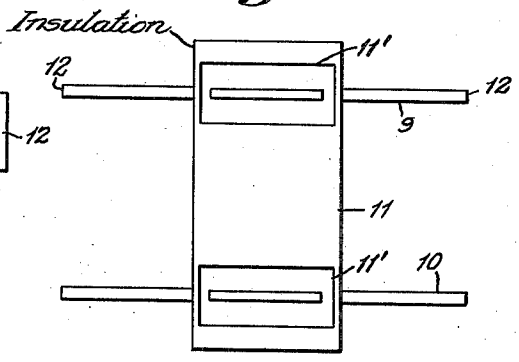


Fig. 4



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POLARITY REVERSER

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6 Claims. (Cl. 173—328)

An object of this invention is to provide a novel and simple form of polarity reverser and one which may be readily operated.

A further object of the invention is to provide a polarity reverser or switch which may be very cheaply manufactured and of few component parts.

According to the invention, a square base plate of any desired insulating material is provided with contacts united with the circuit elements. For effecting the change in polarity recourse is had to a plug connector which consists of two metallic blades interconnected by a handle or holder formed of insulating material. The blades have extensions adapted to engage in holes provided in the base plate, the extensions serving as supports or guides for the blades.

A preferred embodiment of the invention is illustrated in the accompanying drawing in which:

Fig. 1 is a plan view of the reverser with the switch handle removed;

Fig. 2 is a front view of the switch shown in Fig. 1;

Fig. 3 is a front view of the switch handle; and,

Fig. 4 is a top view of Fig. 3.

To a base plate 1 which may be formed of any known insulating material are secured preferably at the four corners of a square the metallic contacts A, B, C and D. Each contact is preferably formed of a flat central portion 3 which is held in position against the face of plate 1 by a screw 4 threaded into a tapped hole in plate 1. The contacts are formed to have two upwardly turned ends 5 and 6 arranged at substantially right angles to the flat portion 3. The planes of the end portions 5 and 6 are also arranged at right angles to each other, so that when mounted on the base as shown in Fig. 1 the corresponding ends 6 of cooperating contacts are substantially parallel. The contacts are preferably made of a metal having considerable resilience or which acts like a spring and the extreme end portions or tips are preferably turned inward somewhat as shown at 7 so as to facilitate the entering of the switch blade.

The power supply lines E and F are connected to diagonally opposite contacts such as B and D as diagrammatically shown in Fig. 1. Four elongated narrow slots S are provided passing through the base, the width of each being slightly greater than that of the guide portion or finger 8 on the switch blade 9, said slots S being preferably located between the corner contacts as shown.

The switch plug is formed by two metal blades 9 and 10 which may be secured by any means (not shown) to an elongated handle 11 of substantially rectangular shape as shown in Fig. 3 the handle 11 has a rectangular shaped raised top portion 11' near each of its ends. The blades 9 and 10 are preferably cut T shape as shown in Fig. 3 the center arm 8 being tapered as shown and being substantially longer than the upturned ends 6 of the contacts A, B. By virtue of this shape, extensions 8 are formed in the middle of the blade which are adapted to enter the slots S and guide the plug as it is moved downwards to cause the opposite ends 12 of the blade to meet and contact the upturned ends 6 of the corner contacts. The tapered ends 8 thus facilitate the insertion of the plug as it is only necessary to enter their narrow ends in the slots S and apply pressure to handle 11, the end portions 8 serving as mechanical guiding means to correctly position the switch blades.

It will be evident that when the plug is inserted with the switch blade 9 in contact with contacts B and C, the contact C will be on the positive side of the line and contact A will be connected to its negative side. By turning the plug through 90 degrees contact A will be connected to the positive and contact C to the negative side of the supply line. When arranged as shown contacts A and C may be considered the output terminals of the reverser and B and D its input terminals.

Having described my invention, what I claim is:

1. A polarity reverser comprising an insulating base provided with a pair of apertures, at least three spaced apart contacts mounted on said base, a plug comprising an insulated handle, an elongated switch blade having a length equal to the distance between two only of said contacts and a guide means arranged to enter either of said apertures to guide said switch blade into position with two of said contacts.

2. The combination of the preceding claim in which said guide means has a tapered end portion.

3. A switching means comprising a base provided with at least two narrow, elongated apertures, two pairs of metallic contact members secured to said base and insulated from each other, and a plug comprising an insulated handle, two T shaped switch blades secured thereto and each of a length equal to the distance between the contact members of either pair, the vertical arms of said T shaped blades being tapered to enter the elongated apertures in said base and to thereby guide said plug as it is adjusted endwise.

4. A switching means comprising an insulating base, two pairs of metallic spring contacts mounted on said base each contact comprising a flat portion adapted to lie against said base and two upturned end portions lying in planes substantially at 90° with each other and with the plane of said flat portion and a cooperating plug comprising a handle of insulating material and two elongated switch blades carried thereby, each blade being arranged to contact with the parallel upturned end portions of one pair of contacts or with the parallel upturned end portions of a contact of one pair and the adjacent contact of the other pair.

5. A polarity reverser comprising a base formed of insulating material, four spring contacts secured to said base at the corners of a square, said base being provided with two pairs of elongated apertures located within said square, and a cooperating plug comprising two parallel metallic switch blades each of which has an integral extension whose length is greater than the height of said spring contacts, said extensions being shaped and arranged so as to enter either of said pairs of apertures to effectively guide said plug.

6. The combination of the preceding claim in which said switch blades and extensions are formed of sheet metal.

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