

Jan. 9, 1923.

W. KAISLING.
POLARITY INDICATOR.
FILED AUG. 7, 1918.

1,441,427.

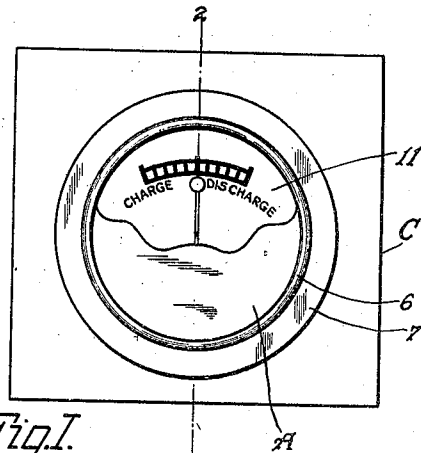


Fig. 1.

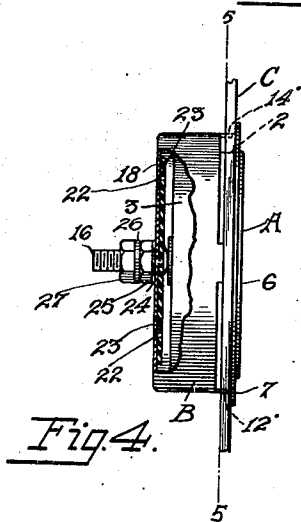


Fig. 4.

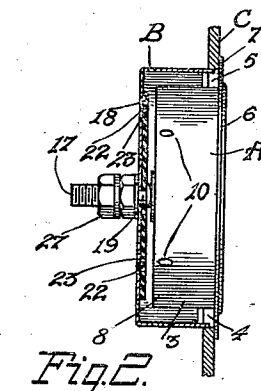


Fig. 2.

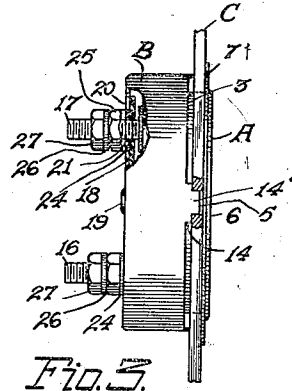


Fig. 3.

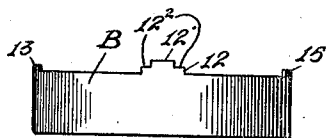


Fig. 6.

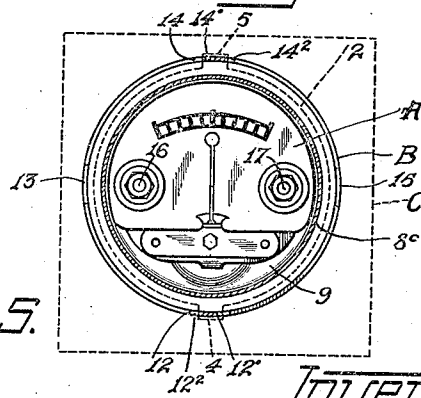


Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM KAISLING, OF CHICAGO, ILLINOIS, ASSIGNOR TO KELLOGG SWITCHBOARD AND SUPPLY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

POLARITY INDICATOR.

Application filed August 7, 1918. Serial No. 248,757.

To all whom it may concern:

Be it known that I, WILLIAM KAISLING, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Polarity Indicators, of which the following is a specification.

My invention relates to indicators such as are used for visualizing the direction flow of current in a circuit, and which are particularly adapted for use in connection with the electrical circuits of an automobile or the like. Devices of the above character are commonly termed polarity indicators, and my invention has to do more particularly with the means used for securing such polarity indicators in position.

It is the object of my invention to provide means which is simple in construction and cheap to manufacture, but positive in operation, for securing indicators of the above character in position on the cowl of an automobile or any other place the device is to be mounted. Other objects of my invention will be pointed out in the ensuing specification and in the appended claims.

Referring now to the accompanying drawing, I here illustrate the preferred embodiment of my invention applied to an indicator of the general type shown in my application for Letters Patent, Serial No. 104,138, filed June 16, 1916, but it is to be understood that my invention may be applied to various other types of indicators and I do not wish to be limited to the exact type of indicator as shown in the drawing. Reference may be had to the accompanying drawing in which like reference characters in the several views denote like parts, in which:

Fig. 1 shows a front view of the indicator and a portion of the cowl member to which the indicator is shown attached;

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1 showing the means used for securing the indicator in position in the cowl;

Fig. 3 is a top view of Fig. 1 with parts broken away to more clearly show certain features of construction;

Fig. 4 is a left side view of Fig. 1 with parts broken away to more clearly show certain other features of construction;

Fig. 5 is a sectional view along the line 5—5 of Fig. 4; and

Fig. 6 is a side view of the enclosing cap mounted on the rear of the cowl of the automobile.

Referring now in general to my invention as illustrated, it comprises a polarity indicator unit A, a mounting cap or cup B, and a mounting or supporting member C, which may be the cowl or dash of an automobile.

The polarity indicator is used as a visualizing device to show the direction of current flow in the lighting and ignition circuits of an automobile so that in one instance when the indicator pointer moves to the left the accumulator or storage battery is being charged by the generator, and when the indicator pointer moves to the right the storage battery is supplying current to the operating circuits such as the lighting and ignition circuits. The cowl C of the automobile is provided with a circular orifice 2 of a size to receive the cylindrical portion 3 of the indicator A. Slots 4 and 5 are cut in the peripheral edge of the opening 2, diametrically opposite each other, for purposes to be more fully hereinafter described.

The indicator A is provided with a front plate 6 provided with a flanged portion 7, the said plate 6 having a cylindrical rearwardly extending open cup-shaped portion 8 which encloses the indicator mechanism, which mechanism is suitably mounted upon the mounting plate 9. The mounting plate 9 is of a size to fit into the cylindrical portion 8 and is fastened to the same by means of the rivets 10. The front plate 6 is provided with an opening 11 which is provided with a transparent protective member through which the indicator pointer may be seen.

The cap B is provided with upwardly extending tongues 12, 13, 14 and 15 spaced equi-distant apart, the tongues 12 and 14 being provided with reduced tongue portions 12' and 14' of a size to fit into the slots 4 and 5, respectively, which slots are cut in the cowl C. Terminal studs 16 and 17 are secured to the indicator mechanism in any suitable manner and are used for purposes to be described presently.

Circular apertures 20 are formed in the back plate of the cap B, through which the

terminal studs 16 and 17 extend. A circular plate of insulating material 18 is secured to the inner surface of the back plate of the cap B by means of a rivet 19. Openings 21 are provided in the plate 18 and are in alignment with the openings 20, but are somewhat smaller than the openings 20 in the cap B, and of a size just to receive the studs 16 and 17. To prevent the plate 18 from rotating and to keep the openings 21 in alignment with the openings 20, I provide tongues 22, sheared from the base of the cap B. The tongues 22 extend inwardly into openings 23 formed in the plate 18, thus preventing the plate 18 from rotating about the rivet 19, and also keeping openings 20 and 21 in the cap B and plate 18 in alignment as before mentioned.

To place the polarity indicator A in position in the cowl C of the automobile, it is only necessary to insert the said indicator A into the opening 2 in the cowl C, and the cap or cover B is then placed over the rear portion 3 of the indicator A in such a manner that the terminal studs 16 and 17 pass through the openings 20 and 21 in the cap B and plate 18, and the tongues 12' and 14' of the extensions 12 and 14 enter the slots 4 and 5 cut in the peripheral edge of the opening 2. The tongues 12' and 14' entering the slots 4 and 5 prevent the cap B from rotating, and as the terminal studs 16 and 17 pass through openings 20 and 21 of the cap B and plate 18, the indicator is also prevented from rotating in the circular orifice 2 in the cowl C. The lock washers 24 and nuts 25 are then placed on the terminal studs, and the nuts 25 tightened until the peripheral edges of the extensions 11 and 12 and the shouldered portions 12² and 14² formed by the tongues 12' and 14' on the extensions 12 and 14 engage the surface of the cowl C, thus securely holding the polarity indicator A in position in the orifice 2 of the cowl against displacement and rotation. Lock washers 26 and nuts 27 are also placed upon the studs 16 and 17, and are used for securing the wires, which lead to the polarity indicator from the operating circuits, between the lock washers 26 and nuts 25.

The plate 18 being of somewhat flexible material and being secured to the cap B at only one point, operates to yieldingly hold the indicator in position when the nuts 25 are tightened to hold the washers 24 firmly against the plate 18. The cap B rests against the cowl of the car at only four points, the points where the studs 12, 13, 14 and 15 engage the said cowl.

To remove the polarity indicator A from its position, it is only necessary to loosen the nuts 25 and 27 so that the cover or cap B may be removed and the indicator A taken out of the circular orifice 2.

From the foregoing, it is at once apparent that I have provided a very simple yet efficient means for securing the indicator A in position, and in illustrating my invention I have shown a construction especially adapted for use with a certain type of polarity indicator now in use, but I do not desire to be limited to the exact structure as shown and described as I am aware that my method of mounting may be used for other pieces of apparatus and for other types of indicators, and that many modifications and changes will readily suggest themselves to others. Therefore, I contemplate using my invention otherwise than in the particular embodiment illustrated, and aim to cover all such changes and modifications which come within the spirit and scope of the appended claims.

What I claim as new and desire to secure by United States Letters Patent is:

1. A device of the character described including an electrical instrument, a mounting member provided with an orifice adapted to receive said electrical instrument and having a slot cut through said mounting member in the peripheral surface of said orifice, a cup-shaped member provided with an ear adapted to fit into said slot, and means for securing said instrument to said cup-shaped member.

2. A device of the character described including an electrical instrument, a mounting member upon which said instrument is adapted to be mounted, a pair of rearwardly extending electric binding posts attached to said instrument, a cup-shaped member mounted against the rear of said instrument having orifices therein adapted to receive said binding posts, and means adapted to engage said binding posts to secure said instrument and cup in position.

3. A device of the character described including an electrical instrument, a mounting member provided with an orifice adapted to receive said electrical instrument and having a slot cut through said mounting member in the peripheral surface of said orifice, a cup-shaped member provided with an ear adapted to fit into said slot, and means for securing said instrument to said cup-shaped member, said ear and slot cooperating to prevent rotation of said cup.

4. A device of the character described including an electrical instrument, a mounting member provided with an orifice for receiving said instrument and having an aperture cut through said mounting member, a cup adapted to be placed against said mounting member, means for securing said instrument to said cup, and an ear for said cup adapted to fit into said aperture to prevent rotation of said cup.

5. A device of the character described including an electrical instrument, a mount-

ing member having an orifice cut therein adapted to receive said instrument and having an aperture extending from said orifice, a cup-shaped member, an ear for said cup-shaped member adapted to fit into said aperture to prevent movement of said cup-shaped member, and a pair of studs fastened to said instrument and extending through orifices in said cup to secure said instrument to said cup.

6. A device of the character described including an electrical instrument, a mounting member provided with an orifice for receiving said instrument and having a pair of slots cut therein, a cup having an opening slightly greater than the orifice in said mounting member and adapted to be placed over said orifice, a pair of ears for said cup adapted to fit into said slots to prevent said cup from turning, and fastening means for securing said electrical instrument to said cup.

7. A device of the character described including an electrical instrument, a mounting member provided with an orifice for receiving said instrument and having a pair of slots cut therein, a cup having an opening slightly greater than the orifice in said mounting member and adapted to be placed over said orifice, a pair of ears for said cup adapted to fit into said slots to prevent said cup from turning, and means for holding said cup in position, said means also serving as fastening means for yieldingly securing said electrical instrument to said cup and for preventing said electrical instrument from turning.

8. A device of the character described including an electrical instrument, a mounting member provided with an orifice adapted to receive said electrical instrument, a pair of studs secured to said instrument and extending rearwardly, a cup-shaped member adapted to be placed against the rear of said mounting member and provided with

orifices adapted to receive said studs, and locking members adapted to be threaded onto said studs to secure said instrument to said cup-shaped member.

9. A device of the character described including an electrical instrument, a mounting member provided with an orifice adapted to receive said electrical instrument, a pair of studs secured to said instrument and extending rearwardly, a cup-shaped member adapted to be placed against the rear of said mounting member and provided with orifices adapted to receive said studs, locking members adapted to be threaded onto said studs to secure said instrument to said cup-shaped member, and a co-operating ear and aperture between said instrument and said cup-shaped member to prevent rotation of said cup-shaped member, thereby preventing rotation of said instrument.

10. A device of the character described including an electrical instrument, a mounting member provided with an orifice and adapted to receive said instrument, a stud secured to said instrument, a cap, a flexible plate secured to said cap having an orifice cut therein adapted to receive said stud, thereby yieldingly holding said instrument in its mounted position.

11. The combination of a mounting strip having an orifice and also slots, an instrument adapted to fit into said orifice, a flange for said instrument abutting against said mounting strip, terminal studs for said instrument, a cup adapted to be secured to said instrument by said terminal studs to hold the same in place, and means integrally formed with said cup for engaging said slots to prevent the movement of said cup relative to said mounting strip, thereby preventing movement of said instrument.

Signed by me at Chicago, in the county of Cook and State of Illinois, this 5th day of August, 1918.

WILLIAM KAISLING.