No. 720,184. PATENTED FEB. 10, 1903.

H. R. SARGENT.

INSULATOR.

APPLICATION FILED AUG. 28, 1900.

NO MODEL.

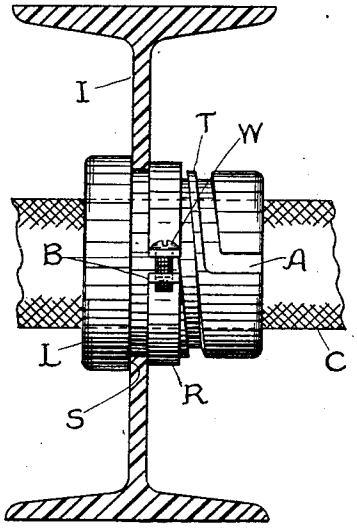


Fig. 1.

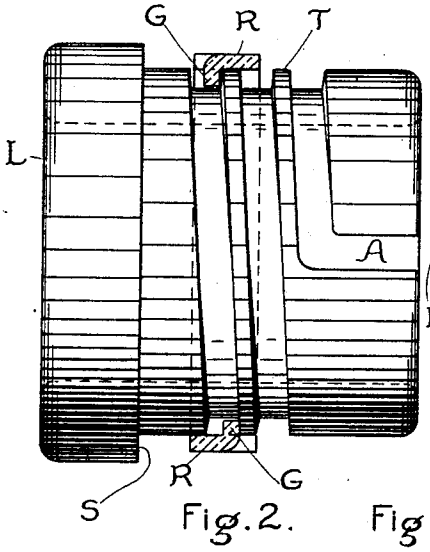


Fig. 2.

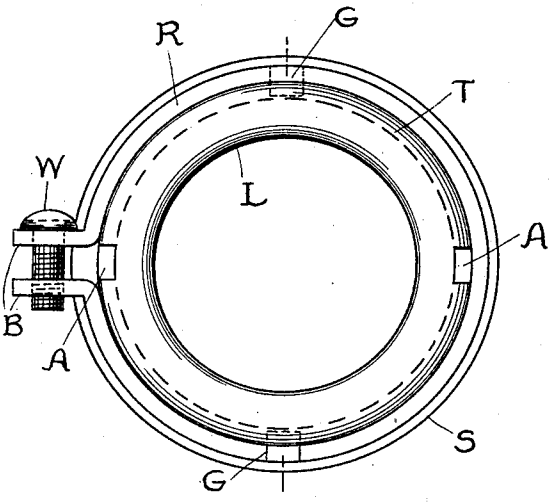


Fig. 3.

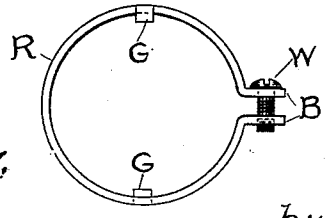


Fig. 4.

Witnesses.

Benjamin B. Hull.

Lewis P. Abell.

Inventor.

Howard R. Sargent.

by Albert G. Davis

Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HOWARD R. SARGENT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 720,184, dated February 10, 1903.

Application filed August 28, 1900. Serial No. 28,299. (No model.)

To all whom it may concern:

Be it known that I, HOWARD R. SARGENT, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Insulators, (Case No. 1,275,) of which the following is a specification.

This invention relates to insulating-supports for electric conductors.

Figure 1 is a side elevation of an insulator constructed in accordance with my invention and illustrating an application of the same in practice. Fig. 2 is a full-sized side elevation of the insulator, showing the ring R in cross-section. Fig. 3 is an end elevation of the same, and Fig. 4 illustrates the ring R in detail.

In the construction of modern fireproof buildings metallic beams are used to a large extent, and it is frequently desirable or necessary to pass wires or cables through these beams for various electrical systems, and further protection for such wires or cables than a covering of insulation is demanded. Hence it becomes necessary to use a support of insulating material through which the wires may pass and which separates them from the metallic beams. These insulators are made of porcelain or hard rubber or other suitable insulating material, and the character of this material causes great difficulty in providing proper means for securing the insulator in place upon the beams. This invention, however, removes all difficulties of this sort and provides means for the ready establishment of the insulator in position and for its easy removal therefrom.

With the invention herein as a basis it will be easy to devise modifications of the insulator which will embody the essence of the invention, and therefore I do not desire to be limited to the precise form described.

In Fig. 1 the insulator L, which is hollow to permit passage of the insulated cable C, is shown in position in a hole in the web of the I-beam I, the shoulder S of the insulator abutting against the web. The ring R is secured in its position on the insulator at the opposite side of the web in order to hold the insulator in place, and portions of the web adjacent to the hole therethrough extend between the shoulder S and the ring R. The position of the ring shown is one of several positions in which it may be secured in accordance with the varying thickness of webs of different I-beams.

As shown in Fig. 2, large screw-threads T are molded in the porcelain or hard rubber in order that the ring may be screwed thereon. These are not formed on the entire length of the insulator, but extend only so far as to permit the ring and shoulder to include a web of maximum thickness. It will be clear that the threads T, being formed integral with the insulating-body, are not adapted to secure the ring R rigidly in position, and hence it is necessary that additional means be provided to secure the ring in the desired position on the insulation. To this end the screw W passes through the bent ends B of the ring R and is screwed up to clamp the ring in its operative position. The ring is provided with inwardly-extending lugs G, which engage with the screw-threads T, and these lugs, together with the clamping-screw W, serve to retain the ring rigidly in position.

Grooves A are molded in diametrically opposite sides of the insulator in corespondence with the lugs G of the ring in order that the ring can be moved from the insulator without entirely removing the screw W. The ring itself is formed of a single-piece punching of any suitable metal, being bent around a mandrel to assume the shape of a ring, the ends B being bent and screw-threaded for the reception of the screw W.

In Fig. 2 it is shown more clearly that the inwardly-extending lugs G are formed integrally with the ring, being punched and bent to extend radially inward.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A hollow cylinder of insulating material, provided with a shoulder and with screw-threads, in combination with a ring adapted to engage with said screw-threads, and means in addition to the screw-threads, for rigidly securing the ring into the position to which it may have been screwed.

2. A hollow cylinder of insulating material, provided with a shoulder and with exterior screw-threads, in combination with a ring adapted to engage with said screw-threads, and a screw for securing the ring in a position to which it has been screwed.

3. A hollow cylinder of insulating material, provided with a shoulder and with screw-threads, and provided with exterior screw-threads in combination with a ring having interior punched lugs adapted to engage said threads.

4. A hollow cylinder of insulating material, provided with a shoulder and with exterior screw-threads, in combination with a clamping-ring having bent ends and adapted to engage said threads, and a screw passing through the bent ends of the ring to clamp it in the position to which it may have been screwed.

5. A hollow cylinder of insulating material, provided with a shoulder, in combination with an independent ring adapted to coöperate with the shoulder, to hold the cylinder against a body through which it extends.

6. A hollow cylinder of insulating material, provided with a shoulder, in combination with a single-piece punching bent to form a clamping-ring, the ends of which are parallel with each other, and a screw passing through the bent ends for clamping the ring on the cylinder.

7. A hollow cylinder of insulating material, provided with a shoulder, and having screw-threads extending a sufficient distance substantially midway between its ends, grooves extending from the end opposite the shoulder which ends are continuations of the bottom of the threads, in combination with a ring having projections corresponding with the grooves and adapted to coöperate with the screw-threads on the cylinder.

In witness whereof I have hereunto set my hand this 27th day of August, 1900.

HOWARD R. SARGENT.

Witnesses:
BENJAMIN B. HULL,
FRED RUSS.