

C. WIRT.
INSULATING JOINT.
APPLICATION FILED MAY 16, 1912.

1,164,971.

Patented Dec. 21, 1915.

Fig. 1

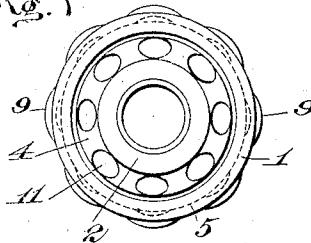


Fig. 2

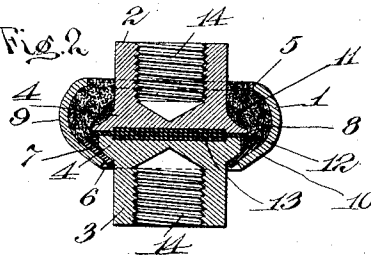


Fig. 3

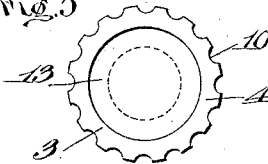


Fig. 4

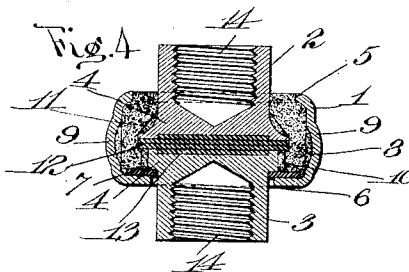
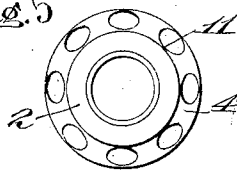


Fig. 5



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES WIRT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MACALLEN COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

INSULATING-JOINT.

1,164,971.

Specification of Letters Patent.

Patented Dec. 21, 1915.

Application filed May 16, 1912. Serial No. 397,642.

To all whom it may concern:

Be it known that I, CHARLES WIRT, a citizen of the United States, and a resident of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Insulating-Joint, of which the following is a specification.

This invention relates to insulating joints such as gas joints for use with combination fixtures, as well as blank joints for externally wired fixtures and hickeyes for internally wired fixtures.

It also relates to strain insulators generally.

The present invention is a modification of the invention disclosed and claimed in my co-pending application for patent filed April 24, 1907, Serial No. 369,888.

The object I have in view is to produce a strain insulator of the type disclosed in my co-pending application, which will be more cheaply constructed and will have all or most of the advantages of such device.

These and further objects will more fully appear from the following specification and accompanying drawings, considered together or separately.

Figure 1 is a top view of the metallic portions of the insulator, arranged in the position they will occupy in the finished structure. Fig. 2 is a longitudinal section of a complete insulator embodying the invention. Fig. 3 is a plan view of the lower inner member of the structure illustrated in Fig. 2. Fig. 4 is a view similar to that shown in Fig. 2, of a modification. Fig. 5 is a plan view of the upper inner member illustrated in Fig. 2.

In all of the views, like parts are designated by the same reference characters.

In carrying out my invention, I provide an outer member or shell 1, and two inner members or thimbles 2 and 3. Each of these inner members is formed with a flange 4. The outer member 1 is provided with a large opening 5 at one end and a small opening 6 at the other end. The large opening is larger than the flanges 4, 4. The small opening is smaller than the flange 4 of the inner member 3. It is shown as also smaller than the flange of the inner member 2; but this is not necessary. An insulating washer 7, larger than the small opening and with a central opening smaller than the flange 4 of

the inner member 3, is provided. This washer lies against the inside of the outer member concentric with the smaller opening 6. The parts being assembled as shown in Fig. 2, the space between the inner and outer members is filled with the insulating filling 8. This filling 8 may be made of any suitable material which can be readily packed or molded. Hard rubber or artificial stone is a good example of the kind of material to be used, but I may utilize any materials suitable for this purpose, as well as those which are described in my co-pending application above identified. This filling, which is molded into place, is adapted to hold the members together and to resist shearing strains when the device is screwed in place and when it is in use and is subjected to torsional and tensional strains. In order to provide or design the filling to resist torsional strains when the outer member 1 has strains applied to it, the latter is formed with corrugations 9. The filling enters these corrugations which, therefore, form a lock to resist torsional strains. In order to prevent mutual rotation of the inner members and the filling, the flange 4 of the inner member 3 is provided with notches 10. These notches being on the periphery of the flange, allow the filling to enter the notches, and thereby produce a lock between the filling and the member to resist torsional strains. For the same purpose, the flange 4 of the inner member 2 is provided with a series of pockets 11, these pockets being located upon the upper face of the flange so that the filling will enter them and serve as a lock to resist torsional strains.

An insulating washer 12 may be interposed between the two inner members if necessary. The abutting faces of the inner members may be provided with recesses 13 (as shown), in which washers will lie, serving as a means for centering the inner members and resisting shearing strains in a lateral direction. The inner members may be provided with any arrangement for connection to the load, such as screw threads 14, for attachment to the pipes. The device described is what is termed as a blind joint for fixtures. With obvious modification, it may be used for gas joints or hickeyes or any other form of strain insulators.

In the modification illustrated in Fig. 4, the insulating washer 7, instead of being

cup-shaped as shown in Fig. 2, is flat and the lower end of the outer member is similarly formed. The flange 4 on the inner member 3 is also so formed that it will properly engage with this flat washer.

In constructing the device, the metallic parts are formed and, together with the washers 7 and 12, are assembled in the position shown in Fig. 2. The filling is then packed in the space between the inner members and outer members, so that it fills the notches 10 and the pockets 11. The filling can be molded in place through one end of the shell or outer member without removing the latter from its support. This is all done in one operation instead of in two operations, as is necessary with the device disclosed in my co-pending application. I, therefore, avoid the necessity of two operations. The inner member 3 having a flange larger than the small opening 6, cannot be drawn through that opening, but will force the insulating washer 7 closely against the inner walls of the outer member and will have the lower face of its flange forced closely against the washer. The filling 8 effectually locks or holds the two inner members in place within the outer member and also resists shearing strains in the direction toward the large opening 5, and also in a torsional direction as when the device is being applied to the pipes by means of a wrench.

After the device is completed, it may be coated with a water-proof varnish, and may be finished in any way desired. Preferably the outer member 1 is formed of sheet steel, stamped to shape. The two inner members 2 and 3 are formed of any suitable material, preferably of malleable iron. The insulating washers are formed of any suitable material, such as mica. Other materials, however, suitable for the purpose may be employed.

In accordance with the provisions of the patent statutes, I have described the principle of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is merely illustrative and that the invention can be carried out in other ways.

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

1. An insulating connection having a continuous shell provided with end openings, one being larger and one being smaller than the greatest diameter of the inner members, two inner members of a size to be readily insertible through the larger opening, and insulating material molded into the space between said shell and said inner members.

2. An insulating connection having a continuous shell provided with end openings, one being larger and one being smaller than the greatest diameter of the inner members, two inner members of a size to be readily insertible through the larger opening, insulating material molded into the space between the said shell and said inner members and means on the shell and inner members cooperating with the insulating material to subject the latter to a shearing strain when the device is in use.

3. An insulating connection having a continuous shell provided with end openings, one being larger and one smaller than the greatest diameter of the inner members, two inner members of a size to be readily insertible through the larger opening, a disk of insulating material between the said inner members, and insulating material molded into the space between the shell and said inner members.

4. An insulating connection having a continuous shell provided with end openings, one being of greater and one being of less diameter than the inner members, two inner members of a size to be readily insertible through the larger opening, insulating material molded into the space between the shell and inner members, a disk of insulating material between said inner members cooperating with the insulating material to subject the latter to a shearing strain when the device is in use.

This specification signed and witnessed this 10th day of May, 1912.

CHARLES WIRT.

Witnesses:

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