

(No Model.)

L. McCARTHY.
INSULATING COUPLING.

No. 468,773.

Patented Feb. 9, 1892.

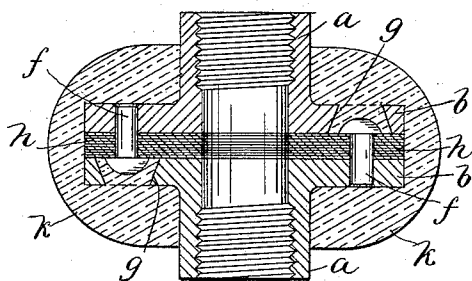


Fig. 1.

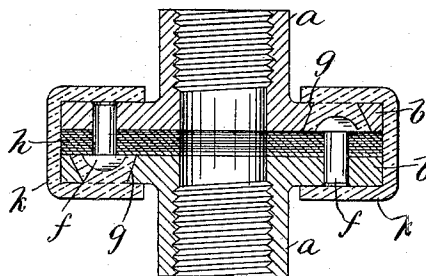


Fig. 2.

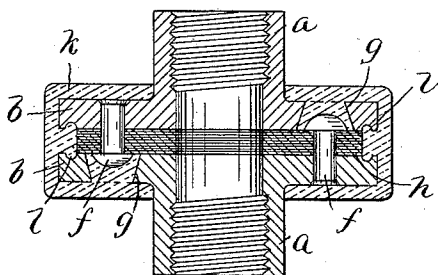


Fig. 3.

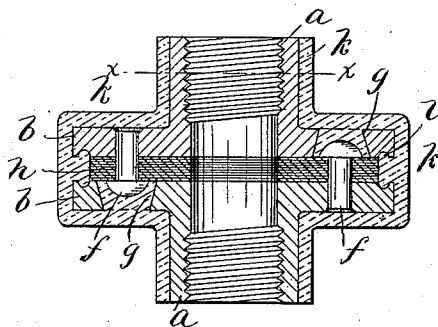


Fig. 4.

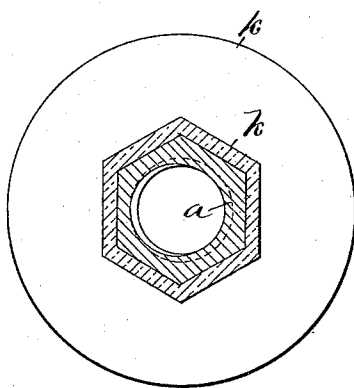


Fig. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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INSULATING-COUPLING.

SPECIFICATION forming part of Letters Patent No. 468,773, dated February 9, 1892.

Application filed October 19, 1891. Serial No. 409,111. (No model.)

To all whom it may concern:

Be it known that I, LOUIS MCCARTHY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Insulating-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

10 It is common to construct insulating-pipe couplings for use in connection with gasoliers and the like of two metallic portions, which consist of tubes or nipples that are properly threaded in order that they may be
15 screwed onto the ends of the gas-pipes which are to be connected, the said tubes each being provided with a flange. Between the proximate faces of the flanges is placed a mass or layer of insulating material, the
20 whole being held together by bolts, which pass through the flanges and through the interposed insulating-layer, or by other securing devices. These insulating-couplings or insulators are objectionable, in that the edges
25 of the flanges are liable to be connected electrically in consequence of the deposition of moisture on such edges and the edges of the interposed layer of insulating material. It is also common in wiring the fixtures to pass
30 the conducting-wires over the projecting edges of the flanges and then draw the wires tightly against the said edges. When this has been done, if the covering of the wires becomes broken in any way a circuit is im-
35 mediately established between the two flanges of the insulator and its efficiency destroyed.

My invention has for its object to produce an insulating-coupling which shall be free from these objections; and it consists of an
40 insulator or insulating-coupling, which is provided at the joint thereof with an outside covering of insulating material, as hereinafter will be described, and as will be pointed out in the claims which are appended hereto
45 and made a part hereof.

I have shown my invention embodied in the best form now known to me in the accompanying drawings, in which drawings—

50 Figure 1 is a view in cross-section lengthwise of a coupling having my insulating-covering applied to the joint thereof. Figs. 2, 3, and 4 are views of similar character showing

modifications. Fig. 5 is a view in section on line *xx* of Fig. 4.

The principal metallic portions of the insulating-coupling are two short tubes or nipples 55 *a*, these being properly screw-threaded to receive the ends of the gas-pipes which are to be connected, and being provided with flanges *b* at their proximate ends. Between the 60 flanges is interposed a layer or mass *h* of insulating material, preferably sheet-mica, which has been cut to the proper shape and provided with a central hole for the passage of the gas, the mica being laid and compressed 65 between the flanges *b*, and the whole being tightly clamped and secured together. Any suitable known securing means may be employed. Thus the parts may be united by means of bolts *f*, which pass through the 70 flanges and through holes in the interposed layer of insulating material. The bolts *f* may engage with the flange *b* and be insulated from one or both of the flanges *b* in any well-known manner; but I prefer to have the 75 engagement and insulation effected in the manner shown. In the drawings the bolts are shown disposed in a manner to alternate in position—that is, the heads of alternate bolts are placed in holes *g*, which are provided in each flange *b*. In order to prevent the heads of the bolts from coming in contact with the flanges, each hole *g* is made considerable larger in diameter than the bolt-head placed therein. Each head rests on the 85 interposed layer of insulating material, and the other end of each bolt is in engagement with the other one of the flanges *b*—as, for example, by being riveted thereto—as shown. Outside of the joint formed by the flanges *b* 90 and interposed layer of insulating material I place a covering or mass of insulating material, preferably one of the well-known compositions, the composition employed being molded around the joint in a plastic state, 95 and then allowed to set and harden. The precise thickness or extent of the outer covering *k* of insulating material is not important so long as it is sufficient to thoroughly cover the joint and be strong and durable. 100 The joint covered in this way is wholly protected from short-circuiting by sweating or moisture or by impaired wires which may come in contact with it, is very durable, and

since the outer covering of insulating material may be smooth on the surface the insulating-coupling may be easily cleaned and does not so readily retain dust or dirt as would a coupling having holes or depressions in its surface or having projecting bolts or nuts.

I have shown in the drawings several modifications of my invention.

Figure 2 shows an outer-covering layer *k* of somewhat different form in cross-section from what is shown in Fig. 1.

Fig. 3 shows an insulator in which the edges of the flanges *b* project beyond the interposed layer of insulating material *h*, one or both of the said projecting edges being provided with a groove *l*, which serves to retain the insulating-covering *k* securely in place, the groove or grooves being provided in case there are no other inequalities on the surface of the flanges *b* which would serve that purpose, or in addition to such other inequalities when desired. It is advantageous to have the retaining-points near the edge of the projections, so that in case the outer insulating-covering becomes cracked or broken it will not so readily become detached as otherwise.

Fig. 4 shows an insulator in which the outer covering *k* is extended to the ends of the nipples or tubes *b*. If the covering be thus extended, it is desirable to make the tubes *b* hexagonal or octagonal in cross-section, so that a wrench may be applied to them outside of the covering *k*. It will be clear that this outer covering *k* of insulating material is not

limited in its application to any particular form of insulator or insulating-coupling, but may be applied irrespective of the precise form of the metallic portions of the insulator, and also irrespective of the means employed for securing them together.

I do not herein separately claim an insulating-coupling for pipes comprising two flanged tubes, a layer of insulating material placed between the flanges thereof, and a series of securing-bolts alternately set with reference to the said flanges and having their heads alternately engaging with the opposite sides of the said layer.

I have claimed this construction in another application for United States patent filed on the same date herewith.

What I claim is—

An insulating-coupling having the coupling portions thereof separated by an interposed layer of insulating material, devices whereby the whole is secured together, and an outer layer or jacket of insulating material whereby the joint is covered and whereby, also, the space between the outer parts of the coupling portions is prevented from becoming electrically bridged, substantially as and for the purposes set forth.

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

LOUIS MCCARTHY.

Witnesses:

WM. A. MACLEOD,
ROBT. WALLACE.