

(No Model.)

E. F. GENNERT.
INSULATED JOINT.

No. 426,121.

Patented Apr. 22, 1890.

Fig. 1.

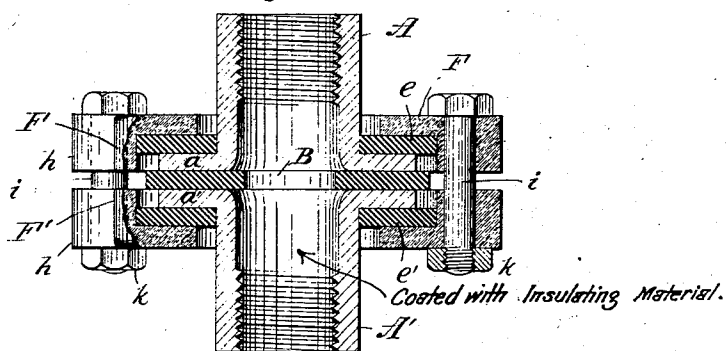


Fig. 2.

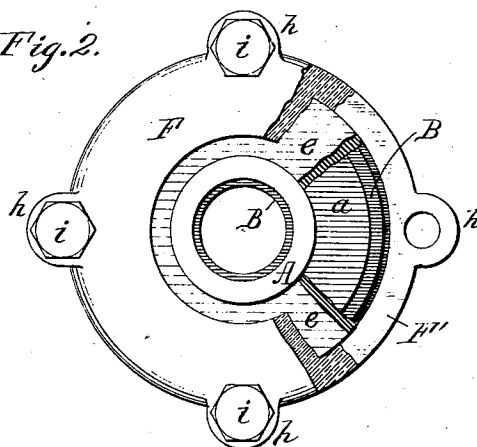


Fig. 3.

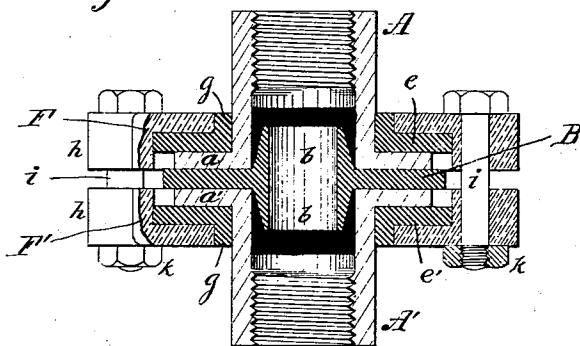
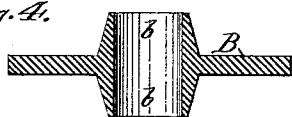


Fig. 4.



WITNESSES:

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INSULATED JOINT.

SPECIFICATION forming part of Letters Patent No. 426,121, dated April 22, 1890.

Application filed March 22, 1889. Serial No. 304,270. (No model.)

To all whom it may concern:

Be it known that I, EMIL F. GENNERT, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Insulated Joints for Fixtures for Electric Lighting, of which the following is a specification.

My invention appertains to fixtures for electric lighting, relating more particularly to insulated joints therefor, the object being to avoid the use of the ordinary unions, insulated screws, and other objectionable features, and to produce a joint of simple mechanical construction, easy of connection, and of being kept tight, also having great strength, and an insulation which will render less possible the short-circuiting which is liable to occur by reason of the insulating material becoming coated with coal-tar, moisture, or other deposit from coal-gas when the joint is used on a combined gas and electric fixture.

My invention consists in the combination and arrangement of parts, and the means, hereinafter described and claimed, whereby an extended surface of insulating material is intervened between the diverse parts of the joint, as will more fully appear, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical central section of a completed joint. Fig. 2 is a top view with portions broken away to show arrangement of parts. Fig. 3 is a vertical central section showing a mode of extending the insulating-surface within the joint. Fig. 4 is a central section of the insulating ferrule or flanged cylinder.

A A' are sockets or nipples screwed externally or internally, as shown at Fig. 1, and having radial flanges a a', extending from one end of each, between which is interposed a washer B, of insulating material. Washers e e', of insulating material, of suitable size to slip snugly over the outside of the sockets or nipples A A', are placed on the outside of the flanges a a'. These washers e e' are so large in diameter that they project sufficiently beyond the periphery of the flanges to prevent contact of the latter with the casing-rings F F'. These casing-rings are made cup-shaped

and placed over the washers e e', as shown, their central opening being sufficiently large in diameter to assure a space between the casing-ring and nipple or socket, across which the electric current will not jump. This space may also be filled with the insulating material, as shown at g, Fig. 3. A suitable number of bolt-holes are made through these casing-rings, to receive which lugs h h h h are projected from their peripheries. Bolts i i are then inserted through these holes, and the casing-rings drawn together by screwing home the nuts k k until the joint is firmly united and gas-tight. It will be seen, if at any time by reason of the shrinkage of the insulating material the joint should become loose or leaky, that it is but necessary to tighten up the nuts to make it tight and firm again. It will be observed that the upper half of the joint may be screwed to the support and the lower half to the electric fixtures before bolting the joint together, thus affording a facility for the placement of the fixture which avoids the necessity of turning the fixture while placing it. It will also be observed that by this construction it is not necessary to use insulation around the bolts, as both the casing-rings F and F' are completely insulated from the other metallic members of the joint. The bolts having metallic bearing and support in each of the casing-rings, no abrasion of the insulating material in the joint can occur, as would be liable to be the case if it were necessary to insulate them also.

The insulating-washer B is usually made of vulcanized fiber, hard rubber, or other suitable material, and for securing great strength and rigidity of the coupling it is desirable to have this washer comparatively thin—say one-eighth of an inch in thickness; but in some instances the board of underwriters requires the insulating-bridge of the coupling to be much more than this distance. In the ordinary constructions this is generally done by making the insulating-washer so much thicker, thus requiring longer bolts and weakening the mechanical strength of the coupling and impairing its rigidity. To overcome this difficulty, I construct the washer B as in Figs. 3 and 4. The washer itself is

flat and of the usual thickness and around its central opening projects in one or both directions as a thin tube *b*.

When the coupling is put together, the tubes *b* extend into the bore of the nipples *A A'*, which I prefer to enlarge for the purpose of forming a chamber between the outer surface of tube *b* and the inner wall of the nipple. This chamber, of which the tubular extension *b* constitutes a curb, serves to intercept and retain moisture, coal-tar, naphthaline, or other substance which may be carried along with the gas. Manifestly the tubular extension or extensions *b* greatly increase the distance interiorly between the adjacent sections *A A'* without adding to the ordinary thickness of the washer proper. The usual one-eighth of an inch insulating-surface can thus readily be extended to an inch and a half. For the purpose of still further increasing the insulating-surface I thoroughly coat the inner surfaces of the sockets *A A'* and the outer surfaces of the washer-extensions *b* with insulating material that will adhere to such surfaces. I prefer to make the insulating-extension *b* as shown at Fig. 4, so that its ends will extend in both directions from the washer *B*; but the latter may be nearer one end than the other, or entirely at one end, as may seem best for special constructions.

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

1. In fixtures for electric lighting, a joint consisting of two nipples, as *A A'*, having radial flanges on their adjacent ends, a washer of insulating material interposed between said flanges, washers of insulating material, as *e* and *e'*, of larger diameter than said flanges, placed one each on the outside of said flanges,

two casing-rings, as *F* and *F'*, inclosing said washers, and flanges and screw-bolts for securing said casing-rings together, all being constructed and arranged substantially as described.

2. In couplings for electric-lighting fixtures, the combination of the nipples *A A'*, having the parallel-faced flanges *a a'*, an interposed flat annular washer *B*, of insulating material, formed with the tubular extension *b*, perpendicular to the washer, and having its external diameter smaller than the internal diameter of the nipple and so related thereto, as described, as to adapt it to enter the bore of the nipple and leave a space or chamber between such extension and the nipple, and suitable means for clamping said washer between the adjacent flanges of the nipples, substantially as described.

3. In couplings for fixtures for electric lighting, the combination of two nipples, as *A* and *A'*, each having an enlarged bore forming a chamber extending a suitable distance from their adjacent ends, a coating for the walls of said chambers, of insulating material, which will adhere to their surfaces, a washer of insulating material interposed between the adjacent ends of said nipples, and suitable means for securing said nipples together with said washer of insulating material interposed, substantially as and for the purpose described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 16th day of February, 1889.

EMIL F. GENNERT.

Witnesses:

F. W. BELMONT,
F. A. WETTACH.