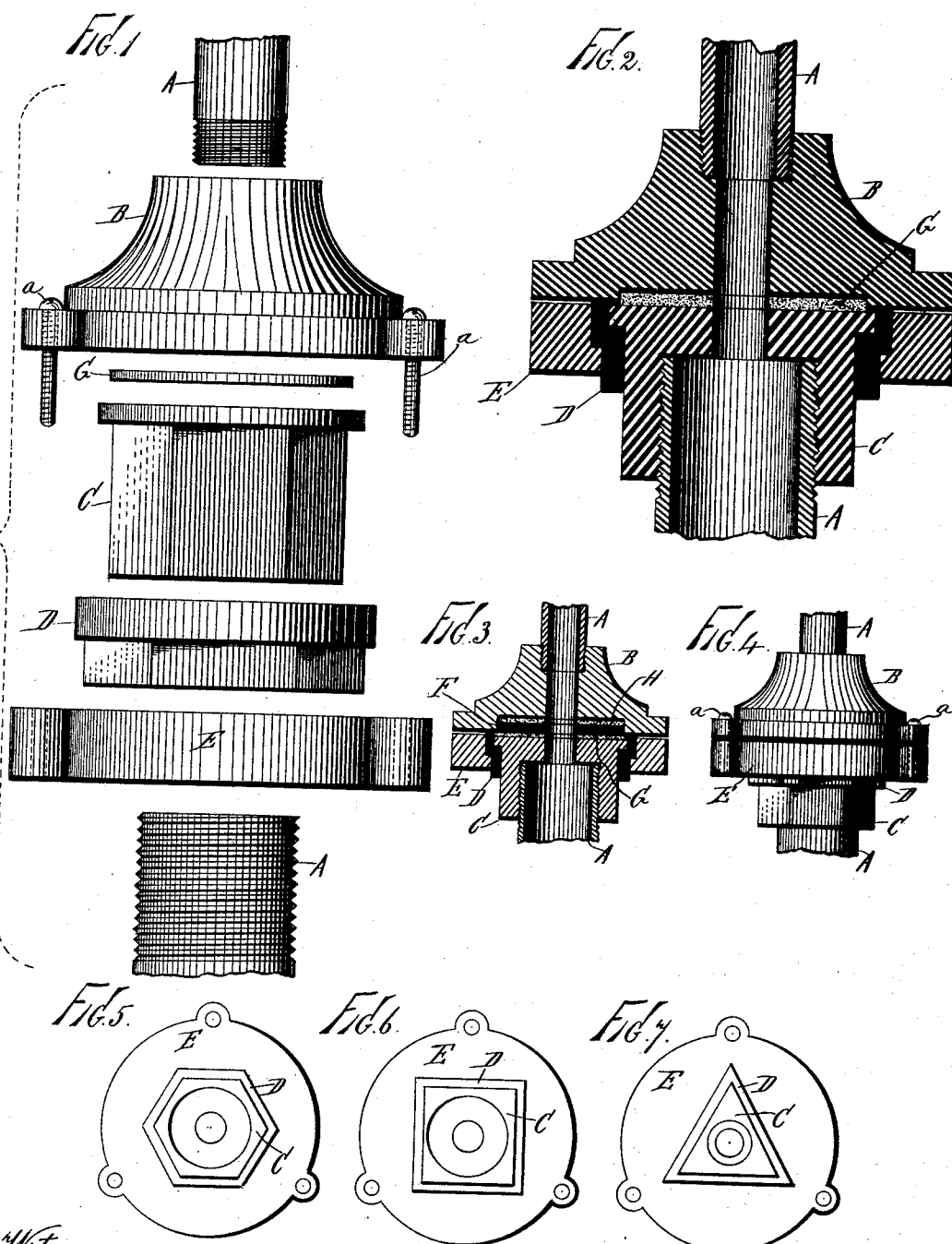


(No Model.)

C. H. FISCHER.
INSULATING PIPE UNION.

No. 320,645.

Patented June 23, 1885.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES H. FISCHER, OF NEW YORK, N. Y., ASSIGNOR TO THE ARCHER
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INSULATING PIPE-UNION.

SPECIFICATION forming part of Letters Patent No. 320,645, dated June 23, 1885.

Application filed April 15, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. FISCHER, of New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Insulating Pipe-
Unions, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has relation to that class of pipe-unions or pipe-couplings wherein provision is made for insulating the main parts of the couplings, so that when employed for uniting two sections of pipe the said two sections will be electrically insulated one from the other. These couplings are employed principally in connection with pipes for conveying gas in situations near to electric conductors; but they may also be employed in connection with pipes for conveying any liquids or fluids for any purpose.

The object of my invention is to produce a simple, cheap, and effective pipe-union of the class named, in which the parts may be easily and quickly united or disunited, preserving all the facilities of operation and desirable insulating qualities, and at the same time preventing the two connected sections of pipe from revolving one with respect to the other.

To accomplish all of this my invention involves certain novel and useful relative arrangements or combinations of parts, peculiarities of construction, and principles of operation, all of which will be herein first fully explained, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation showing the various parts of a coupling, and fragments of two sections of pipe, separated but ready to be united, all constructed and arranged for operation in accordance with my invention and involving the principles thereof. Fig. 2 is an axial section and elevation, representing the several parts united for operation. Fig. 3 is an axial section and elevation, and Fig. 4 an exterior view, of a coupling, also constructed and arranged for operation in accordance with my invention, having an extra insulating-disk and an extra packing-disk, which may or may not be employed. Figs. 5, 6, and 7 are plan views showing various forms

or outlines which may be given the insulating-shell and adjacent parts of the coupling to prevent turning or twisting of the united parts.

In all these figures like letters of reference, wherever they occur, indicate corresponding parts.

In situations where gas and electricity are employed for illuminating purposes the devices of the class to which my invention relates are employed to prevent the pipes from conducting electricity, so that there will not result short circuits, groundings, and other disadvantages which are well understood. This class of devices is also employed for analogous purposes in connection with other metallic pipes.

In the insulating-unions as heretofore ordinarily constructed the parts have been assembled by threading one into the other, and so united that one section of the coupling might be turned upon the other, and when employed in connection with gas-chandeliers these insulating-unions have been observed to permit the chandeliers carrying the electric conductors to be twisted or turned, and frequently this movement of the chandeliers results in breaking the wires, in damaging the insulating-coverings thereof, and otherwise impairing the efficiency of the illuminating structure. Other forms of couplings, wherein it has been attempted to prevent the turning or twisting of the chandelier by application of separate screws or bolts, render it necessary (in case insulation be desired) to insulate each and every screw or bolt by application of separate insulating devices to each, and this renders the device cumbersome, difficult to make, and difficult to place in position for use. To obviate these disadvantages I construct the coupling so as to prevent movement of one part upon the other, and provide a simple insulating-shell for application between the two.

A A represent the ends of two pieces of pipe which it may be desired to couple together, to insulate one from the other, and to prevent the turning or twisting of one in respect to the other. B and C are the two main parts of the coupling, each intended to receive a threaded end of a pipe. The unions between the pipes and their adjacent parts of

the coupling are made very firm; or the pipes are, as is usual, turned in so hard as to make a gas-tight joint, and at the same time prevent movement of the pipes with respect to the pieces of the coupling.

Surrounding the piece C is the shell D, made of insulating or non-conducting material, the said shell being in turn surrounded by the coupling-piece E, which is to be united to the part B. Thus the part C is insulated from E, and it is also insulated from B, by having the shell D so formed as to project slightly above or beyond C, as shown in Fig. 2, or by the interposition of a disk, F, of insulating material, as shown in Fig. 3, or by any other suitable means of preventing metallic contact between B and C.

The ring or coupling piece E is connected with B in an immovable manner by means of any desired number of screws or bolts, *a*, which, as will be observed, prevent the revolving of E with respect to B.

To prevent the part C from revolving in its seat, I make the exterior thereof of any irregular or angular form, some of which forms are shown in the drawings, and I also make the insulating-shell D of some similar or analogous form to fit the opening in the coupling-piece E, and thus the three parts C D E are held immovable one with respect to the other.

In Figs. 1 and 5 the forms employed are hexagonal, and this seems to be the simplest form; but they might be square or rectangular, as indicated in Fig. 6, or triangular, as indicated in Fig. 7, or any other suitable form which would prevent the described turning or twisting.

G is a leather or other disk employed be-

tween B and C for the purpose of making a gas-tight joint between them.

When the insulating-disk F, Fig. 3, is employed, a second leather disk, as H, may be used to insure against leakage of gas.

The parts are all simple and durable, and are easily made and mounted.

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

1. The herein - described insulating pipe-union, composed of the two main parts for receiving the ends of the pipe-sections, the coupling-ring, the insulating-shell having the angular or irregular interior and exterior, and the screws or bolts for uniting the two main parts, substantially as shown and described.

2. In an insulating pipe-union, the combination, with the coupling-ring and one of the main parts, of the second main part having the interior thread and the angular or irregular exterior, an insulating-shell fitted thereon and in an angular or irregular opening in the coupling-ring, substantially as and for the purposes set forth.

3. In an insulating pipe-union, the combination of the two main parts, the coupling-ring, the angular or irregular insulating-shell, and the leather disk interposed between the main parts, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

CHARLES H. FISCHER.

Witnesses:

JOHN BUCKLER,
WORTH OSGOOD.