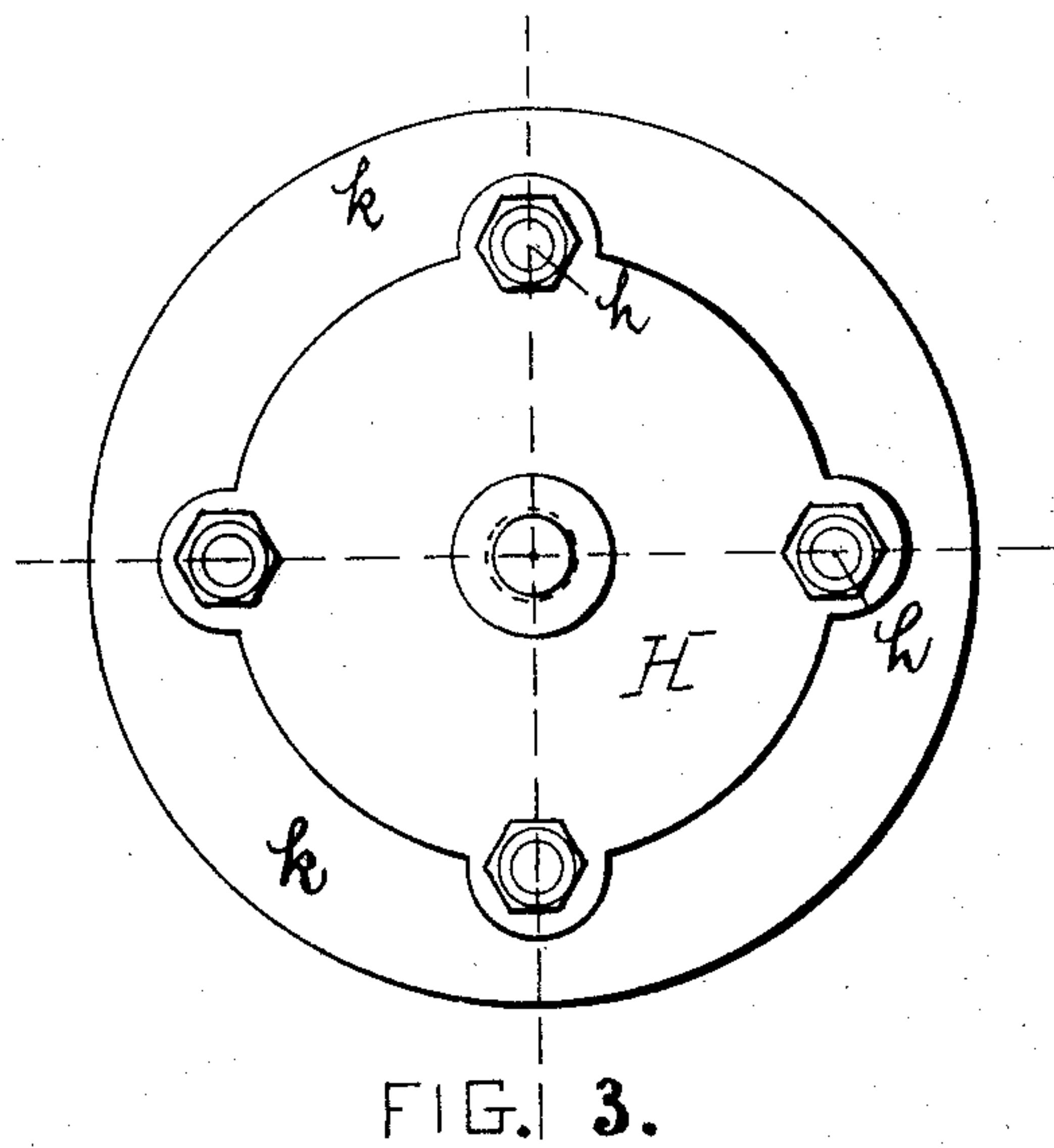
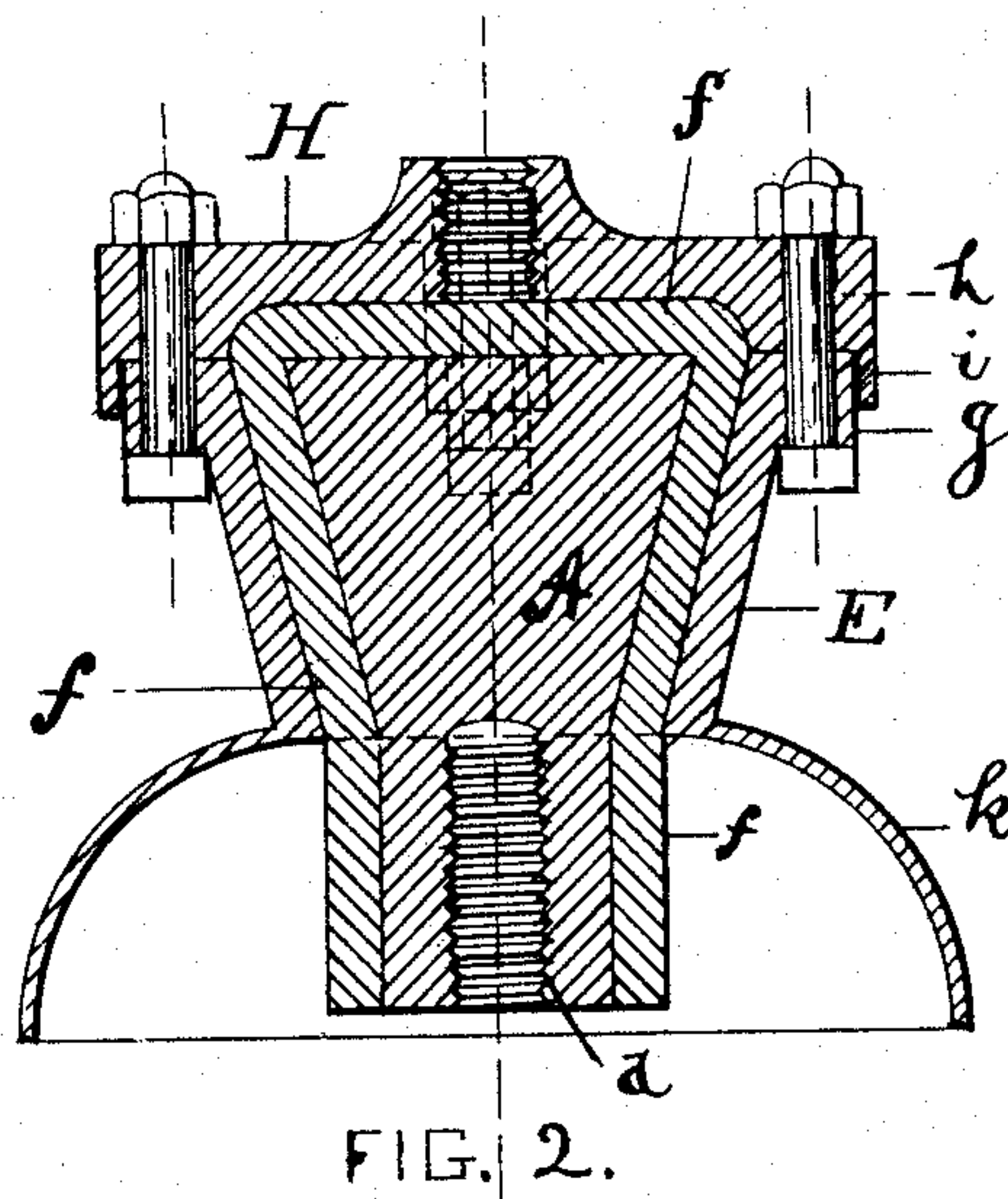
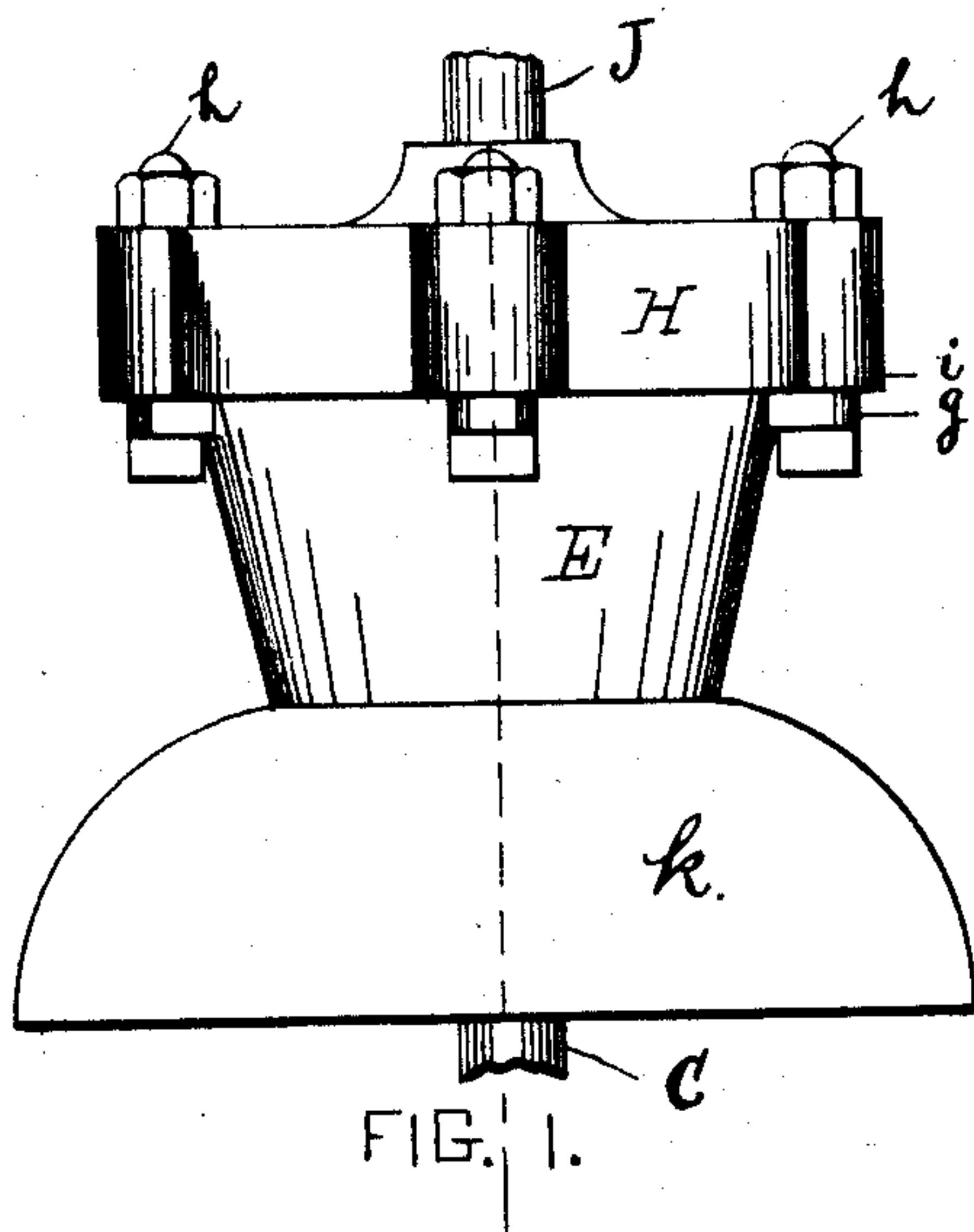


(No Model.)

G. B. WATSON.
ELECTRIC INSULATOR.

No. 428,979.

Patented May 27, 1890.



WITNESSES:

Robert Wallace.
Louis M. Barry.

INVENTOR

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UNITED STATES PATENT OFFICE.

GEORGE B. WATSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE GOULD
& WATSON COMPANY, OF SAME PLACE.

ELECTRIC INSULATOR.

SPECIFICATION forming part of Letters Patent No. 428,979, dated May 27, 1890.

Application filed August 12, 1889. Serial No. 320,538. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. WATSON, of Boston, county of Suffolk, State of Massachusetts, have invented certain new and useful
5 Improvements in Electric Insulators, of which the following is a specification, reference being had to the drawings accompanying and forming a part hereof, in which—

Figure 1 is a side elevation. Fig. 2 is a cen-
10 tral vertical section. Fig. 3 is a plan view.

The object of my invention is the construction of a durable, efficient, and comparatively inexpensive insulator or device which may be inserted between an electrical conductor and
15 its support, and which shall have great strength, so that it may afford a secure support, and at the same time shall serve to completely insulate the parts with which it is connected below from those with which it is
20 connected above; and it consists in the device shown and hereinafter described, which comprises, essentially, a block or socket-piece having beveled sides, said sides being sur-
25 rounded by a layer of insulating material or composition, and being seated in a reversely-beveled recess or aperture formed in a block or supporting-frame, said frame being provided with a cap for covering or partially
30 covering said aperture to retain the block or socket-piece in place, all as hereinafter more fully set forth.

My invention is more especially intended to be used in insulating the supports of the overhead or line wires of electric railways.
35 Such supports require to be of sufficient strength to support a conducting-wire of considerable weight and to resist any downward strain of that wire, and also must be so constructed as to resist the upward strain ex-
40 erted by the upward pressure of the spring-arm on the car as the car passes the support. The insulating devices now in use for the above purposes, so far as known to me, lack efficiency, simplicity, and durability, while
45 they are at the same time comparatively expensive. In my invention, one of the best forms of which now known to me is shown in the accompanying drawings, I have a line-insulator in which the above objections are
50 reduced to a minimum.

I will describe my invention as embodied in the device shown in the said drawings, designating the various parts by letters of reference.

A is a block or plug, preferably circular in
55 cross-section and having a flaring top—that is, having a top of the shape, or substantially of the shape, of the frustum of a cone inverted, and having its lower part cylindrical or with parallel sides. This lower part, how-
60 ever, is not essential, as the flaring or conical sides may extend throughout the length of the block, or they may be shortened and the cylindrical portion increased in length, the relative length of the conical portion, as also
65 the angle of its sides, being comparatively unimportant, although I prefer the form shown, Fig. 2. To this block A is secured one portion C of the line-support, preferably that
70 to which the line-wire is secured, and for this purpose a threaded socket (shown at *d*, Fig. 2) is provided in the lower end of the block or plug. As will be obvious, however, any
75 suitable method of securing the support C to the block may be employed.

E is a collar or support having a tapering
aperture therethrough, the walls of the aper-
80 ture being beveled to correspond substantially with the flare of the block A, and the collar being in transverse section of a shape corresponding to the transverse section of the block. The smallest end of the aperture in the collar is preferably of less diameter than the greatest
85 diameter of the block, so that the block may only be inserted in the collar from above, (see Fig. 2,) and so that any downward strain upon the block will be borne by the tapering or beveled collar.

Between the block and the collar is a layer
90 or mass *f* of insulating material or composition, any suitable insulating material being employed. This insulating material is preferably carried over the top of the block A to more effectively insulate the same.

Two or more lugs or projections *g* are pro-
95 vided on the collar for the reception of bolts *h*, secured by means of screw-nuts and passing through apertures in said lugs and in corresponding lugs or projections on the cap H, which extends over the collar and the in-
100

closed block A, and serves to hold the block firmly within the collar. The edge of said collar is preferably provided with a downwardly-projecting flange *i*, which serves to shed moisture and to protect the insulation.

The precise method of securing the cap to the collar is obviously unimportant so long as the two are firmly secured together and so that they may be readily detached when that is desired. The space between the cap and the block A should for the best results be filled with the insulating material.

For the purpose of securing the device to the upper portion J of the line-support I make the cap somewhat thicker in the central portion, so that it may be provided with a threaded socket into which the rod J may be screwed; but the precise method of securing the device to the support J is not essential.

To prevent rain or moisture from interfering with the insulation, the usual skirt *k* or bell-shaped projection may be provided, and

is preferably secured to or made integral with the collar E, as shown.

I am aware of Letters Patent No. 8,419, dated October 14, 1851, which show an insulating device adapted to be secured to a post or similar object, and having a protecting-cover to which the other parts are not secured, but within which they are retained by securing the insulator in position, and I do not claim such a device.

What I claim is—

An insulator comprising a block having an enlarged end and beveled sides, a collar having a tapering or beveled aperture, a cap secured to said collar, and an interposed layer or mass of insulating material separating said block from said collar and cap, substantially as shown and described.

GEORGE B. WATSON.

Witnesses:

WM. A. MACLEOD,
ROBERT WALLACE.