

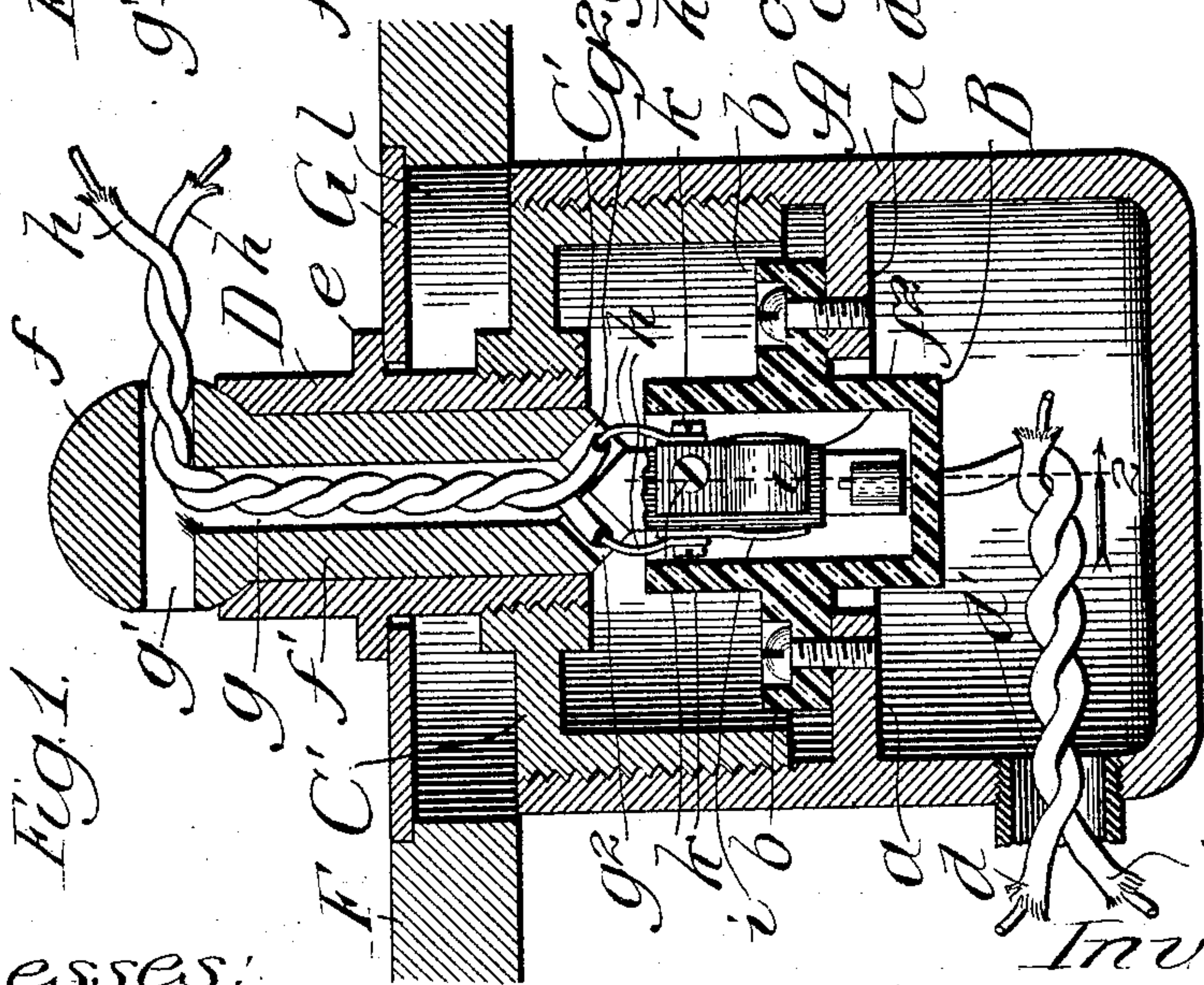
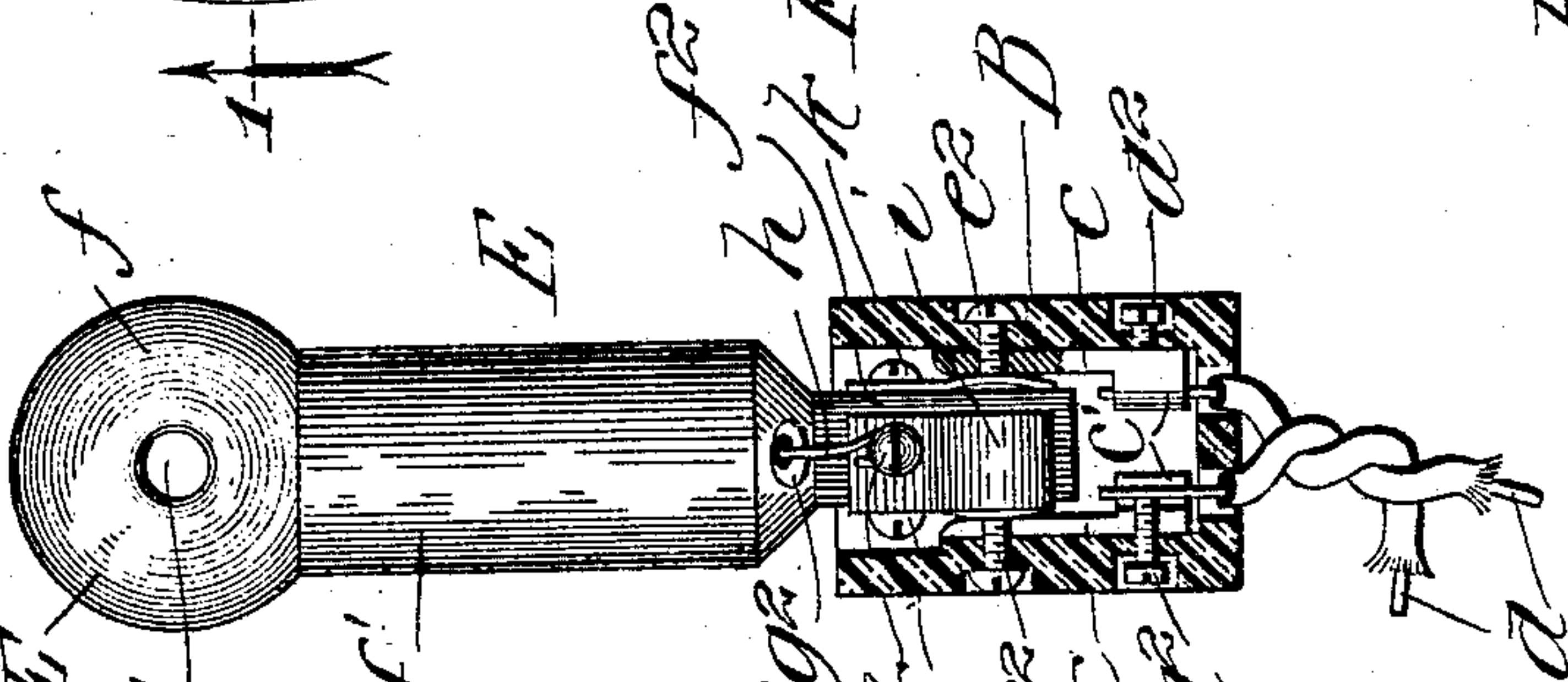
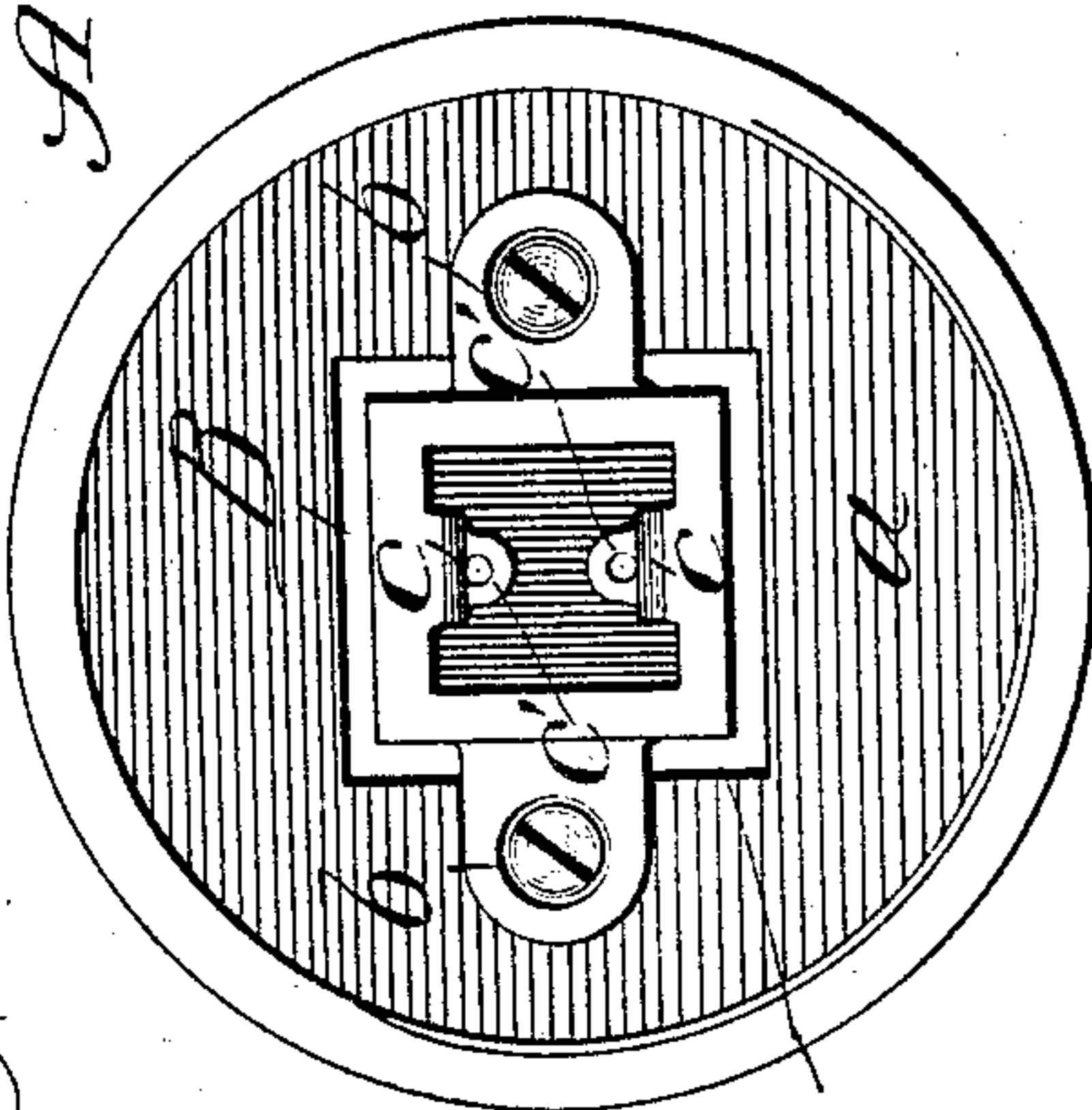
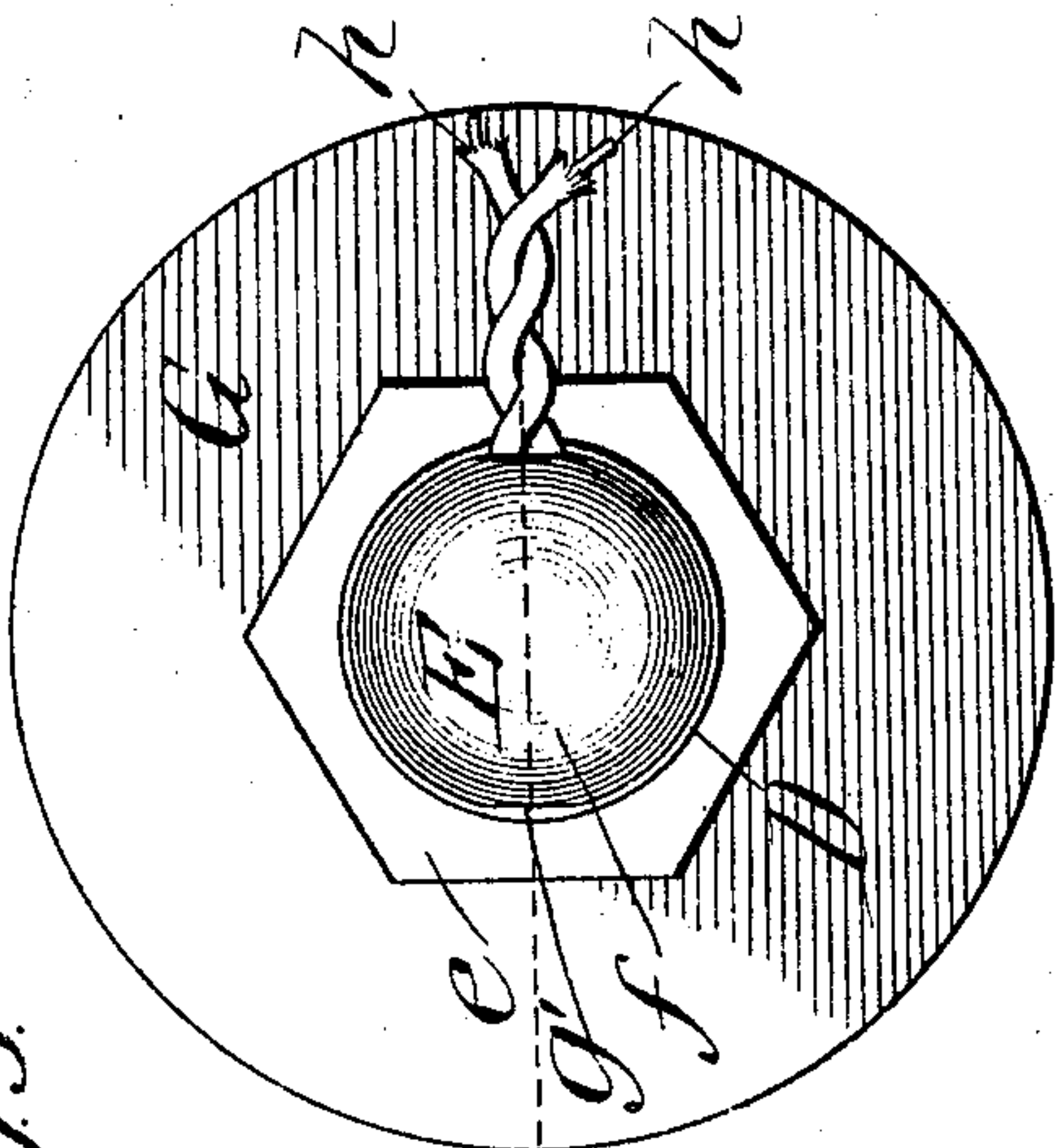
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D. R. WATERS & W. McGUINEAS.

FLOOR BOX.

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UNITED STATES PATENT OFFICE.

DAVID R. WATERS AND WILLIAM McGUINEAS, OF CHICAGO, ILLINOIS.

FLOOR-BOX.

No. 795,668.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, DAVID R. WATERS and WILLIAM McGUINEAS, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Floor-Boxes, of which the following is a specification.

Our invention relates to an improvement in the class of devices technically known as "floor-boxes," which are provided in the floors of rooms in buildings to receive the main conductors of electric circuits from conduits and which contain means for releasably connecting with such main conductors branch wires leading to lamps, motors, and other commodities of a portable or movable character, the positions of which in the rooms wherein they are used are subject to change.

The object of our invention is to provide a floor-box of novel construction in the matter of details to conform in all particulars to the requirements of the underwriters and which shall render the matter of adjusting the removable contact-plug so simple that it may be performed with facility by unskilled persons.

Referring to the accompanying drawings, Figure 1 shows our improved floor-box in operative position by a view in vertical sectional elevation, the section being taken at the line 1 on Fig. 3 and viewed in the direction of the arrow. Fig. 2 is a section taken at the line 2 on Fig. 1 and viewed in the direction of the arrow, but showing the plug in elevation; Fig. 3, a plan view of the box, and Fig. 4 a plan view of the box with its plug-carrying screw top or cap removed.

A is the chamber of the floor-box, preferably a metal casing of the cylindrical form represented, having a closed base and open upper end about which it is internally threaded, and internal annular lugs *a a* extending from opposite sides, preferably near its center, as shown.

B is the socket of insulating material, commonly formed of porcelain and having lateral perforated ears *b b* projecting from it for seating it on the lugs *a*, and through which to screw it to its seat. Against opposite walls of the socket, which is open at its top and closed at its base, are fastened metal contacts *c c*, shown as plates with vertically-apertured enlargements or heads *c'* at their lower inner sides and fastened in place by screws *c''*, passing through the opposite walls of the socket in which their heads are countersunk. The main wires *d d* enter the chamber A

through a suitably-placed opening *d'* in a side thereof, and the bared ends of the wires are passed through the apertured base of the socket into the apertures of the heads *c'* of the contacts *c*, wherein they are releasably held by set-screws *d''*, inserted through the walls of the socket with their heads countersunk therein.

Into the upper end of the chamber A is screwed a circumferentially-threaded cap C, having a central internally-threaded nipple C', into which is screwed a threaded metal sleeve D, provided with a circumferential hexagonal seating-flange *e* at the proper distance, say about one inch, below its outer end.

E is the contact-plug of insulating material, formed with a head *f*, a body portion *f'*, and a stem *f''*, reduced in diameter to adapt it to enter the socket B and represented as of square shape in cross-section, though it may be of other shape. The body of the plug contains a longitudinal passage *g*, terminating in the head in a transverse branch *g'* and at the junction of the body portion with the stem in the two inclined outlet branches *g''*. The branch wires *h h*, to be connected with an electric table-lamp or other article in a room, are introduced into the plug through the branch *g'* and passage *g*, and one of each is passed through an outlet branch *g''* into engagement with a contact *i* on the stem *f''*. Each contact *i* is shown as of L shape in cross-section to extend upon two sides of the stem, being held by screws *k* near their upper ends, which also serve as binding-screws for the wires *h*, the contacts being free and springy toward their lower ends to adapt them the better to engage the inner surfaces of the contacts *c* in the socket B when the plug-stem enters the latter.

The angular shape represented of the contacts *i*, whereby they extend each on two sides of the plug-stem, insures their engagement with the socket-contacts *c* in whatever position the plug may be inserted into place. The same advantage would result, however, if the contacts were of other shape than angular.

The chamber A, containing the socket B, occupies the position represented in Fig. 1, below a floor F, coincident with an opening *l* provided therein for access to the parts of the box, and with the cap C' screwed into place to cover the chamber and an annular floor-plate G, of brass or the like, covering the floor-opening the sleeve D is inserted through the plate and screwed into the nipple C', thereby

bringing the flange *e* against the plate to clamp it down. With the parts thus placed in their relative positions the plug E may be inserted by merely slipping it through the sleeve to make the contact in the socket B, and the elevation of the sleeve above the floor-level to the extent of about an inch, according to the requirement, maintains the plug-opening and wires therein beyond danger from water that may accumulate on the floor. To break the contact, it is only necessary to raise the plug out of the sleeve, the construction avoiding any need of turning the plug axially to unscrew it or screw it in removing and replacing it, such turning being objectionable because of the difficulty it incurs, including that incidental to consequent twisting of the branch wires *h*. The construction thus adapts the plug to be adjusted and removed without requiring other parts of the box to be manipulated or disturbed, thereby facilitating the handling of the plug and adapting the handling to be performed by unskilled persons.

What we claim as new, and desire to secure by Letters Patent, is—

1. A floor-box comprising, in combination, a chamber, a cap separably engaging the open upper end of said chamber and provided with a nipple, a seat in the chamber and a contact-containing socket on said seat, a sleeve releasably connected at its inner end with said nipple to project at its upper end beyond the floor-level and provided with a flange to engage a floor-plate, and a plug containing a wire-passage and terminating at its inner end in a stem carrying contacts, said plug being free for withdrawal through said sleeve and for insertion therethrough to enter the stem into the socket and engage the contacts on the stem with the socket-contacts, substantially as described.

2. A floor-box comprising, in combination, a chamber, a cap screwing into the open upper end of said chamber and provided with a threaded nipple, a seat in the chamber and a contact-containing socket fastened on said seat, a sleeve screwing at its inner end into said nipple to project at its outer end beyond the floor-level and provided with a flange to be clamped against a floor-plate by screwing the sleeve into place, and a plug having a head containing a transverse passage, a body portion containing a longitudinal passage

leading from said head-passage and terminating at its inner end in branch passages, and a stem carrying contacts, said plug being insertible, without turning, through said sleeve to enter the stem into the socket and engage the contacts on the stem with the socket-contacts, substantially as described.

3. A floor-box comprising, in combination, a chamber, a cap separably engaging the open upper end of said chamber and provided with a nipple, a seat in the chamber and a contact-containing socket on said seat, a sleeve releasably connected at its inner end with said nipple to project at its outer end beyond the floor-level and provided with a flange to engage a floor-plate, and a plug containing a wire-passage and terminating at its inner end in an angular stem having angular contacts secured upon it to extend, each, upon two sides of the stem, said plug being free for withdrawal through said sleeve and for insertion therethrough to enter the stem into the socket and engage the contacts on the stem with the socket-contacts, substantially as described.

4. A floor-box comprising, in combination, a chamber, a cap screwing into the open upper end of said chamber and provided with a threaded nipple, a seat in the chamber and a socket fastened on said seat and containing contacts provided with apertured heads, a sleeve screwing at its inner end into said nipple to project at its outer end beyond the floor-level and provided with a flange to be clamped against a floor-plate by screwing the sleeve into place, and a plug having a head containing a transverse passage, a body portion containing a longitudinal passage leading from said head-passage and terminating at its inner end in branch passages, and an angular stem having angular spring-contacts secured upon it to extend, each, upon two sides of the stem, said plug being insertible, without turning, through said sleeve to enter the stem into the socket and engage the contacts on the stem with the socket-contacts, substantially as described.

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In presence of—

M. S. MACKENZIE,
W. B. DAVIES.