

W. H. SAWYER.
Supporting Head for Compound Electric Conductors.
No. 233,440. Patented Oct. 19, 1880.

Fig. 1

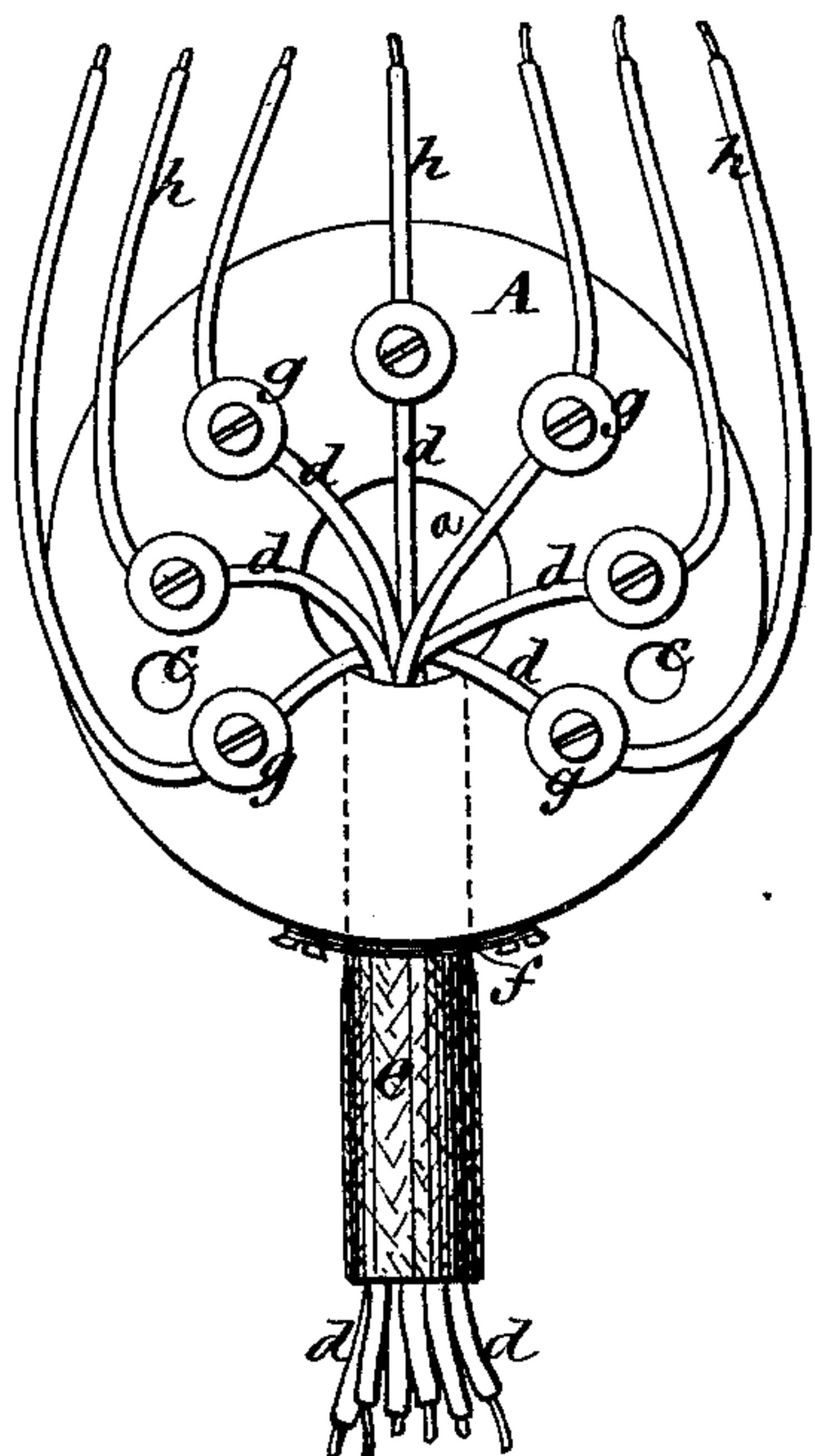


Fig. 2.

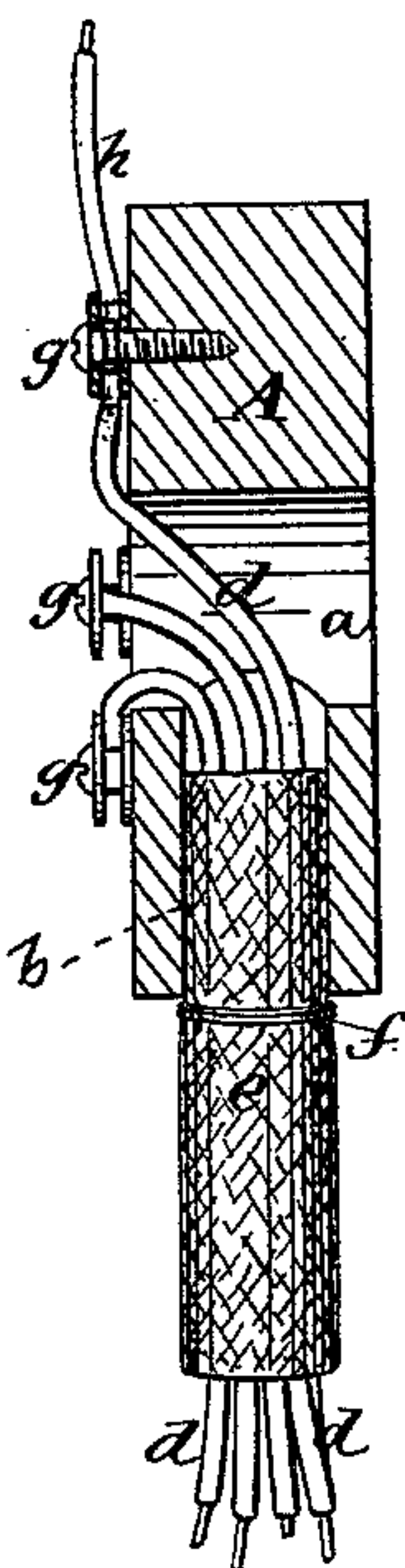


Fig. 3.

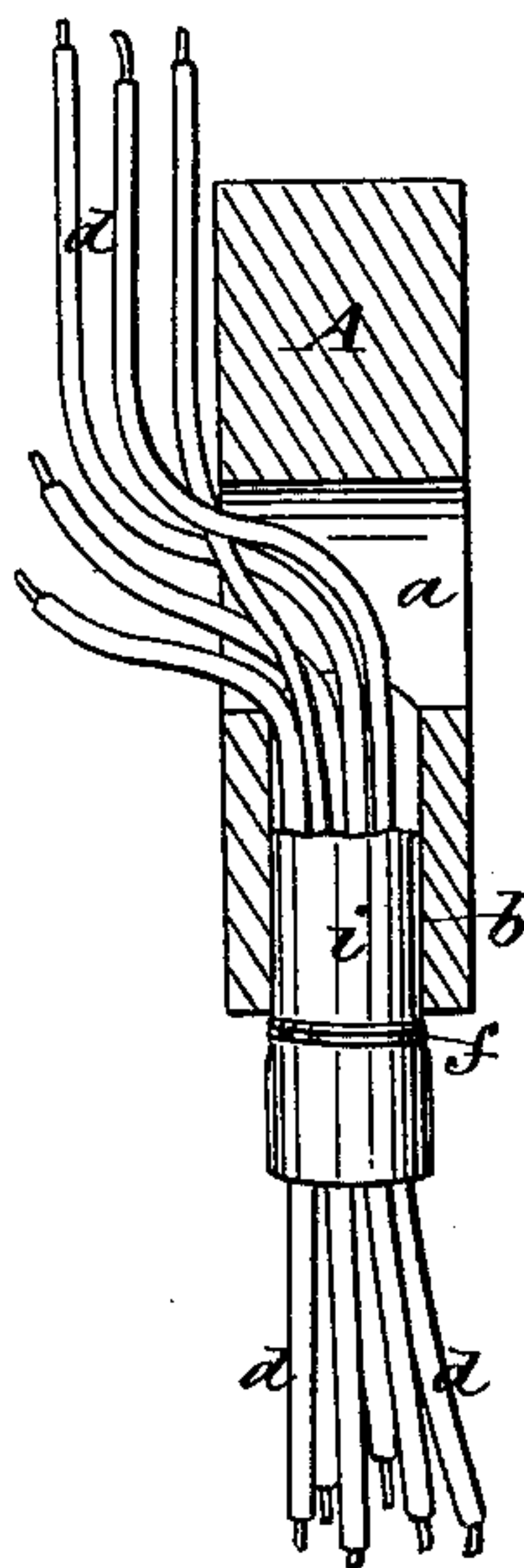


Fig. 4.

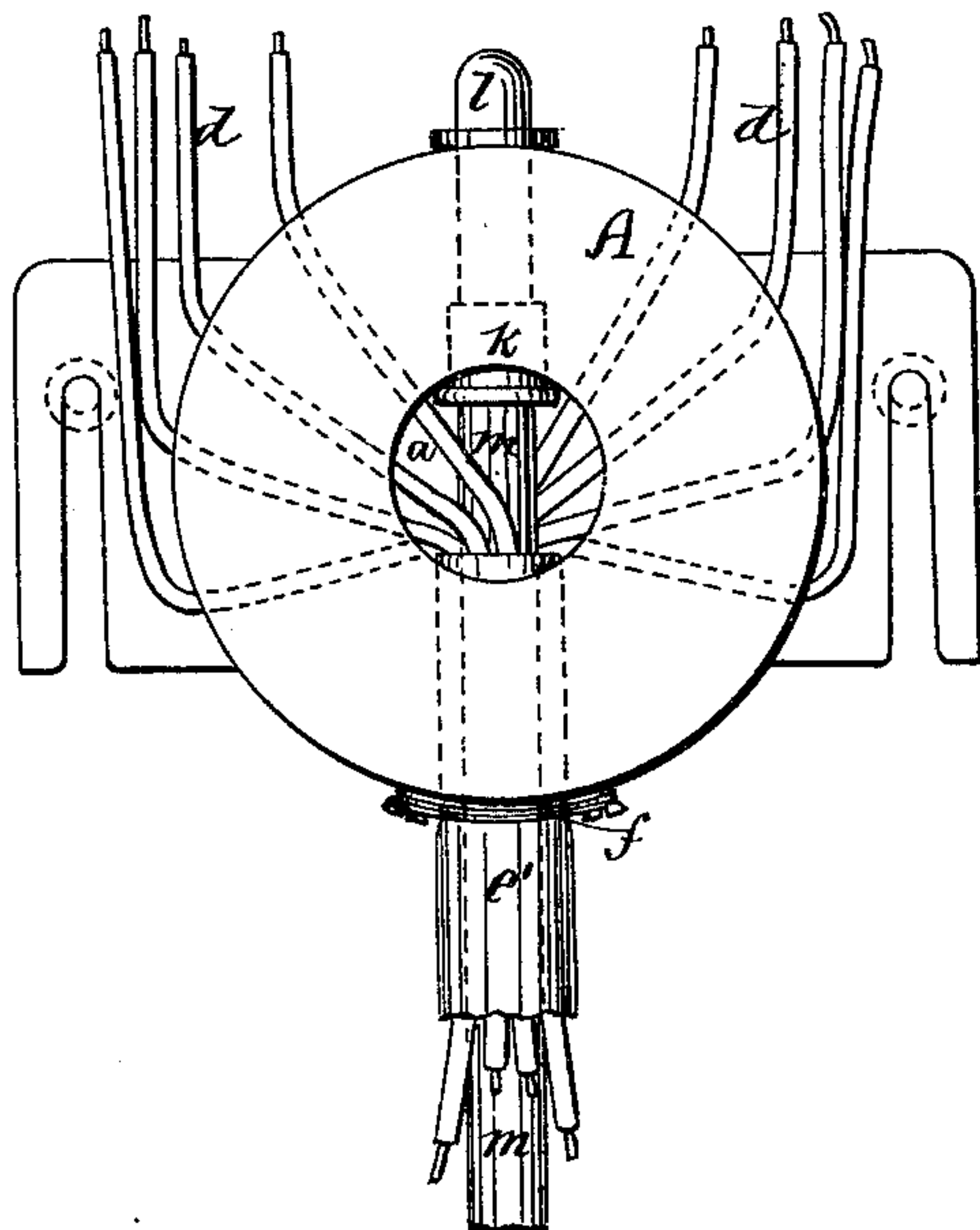
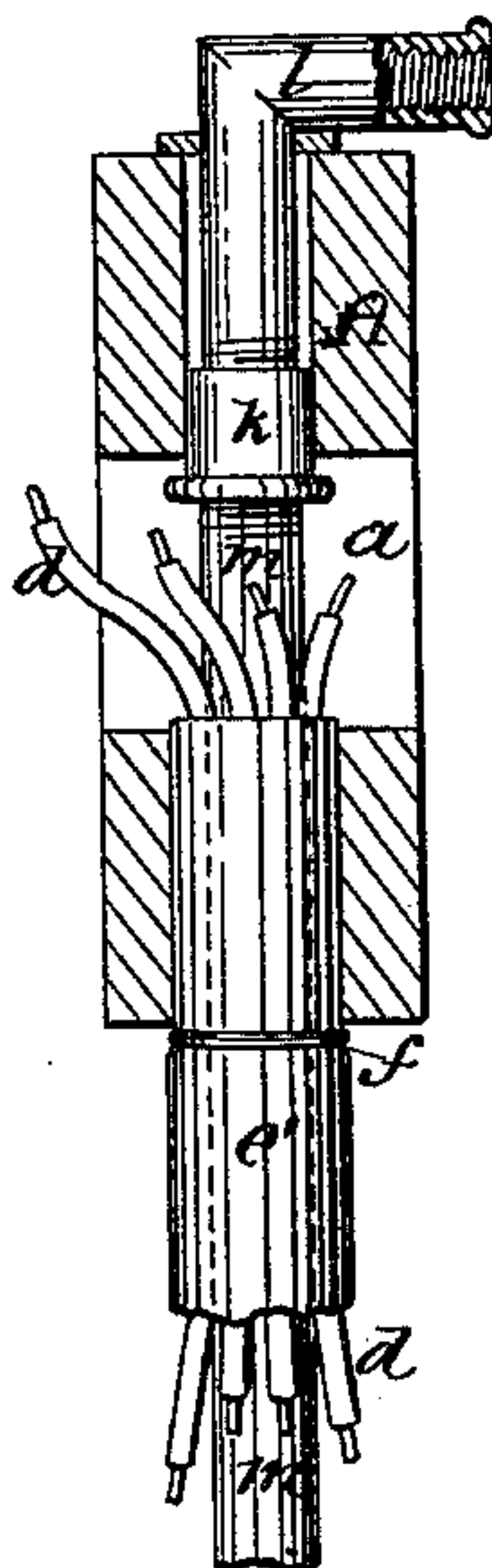


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM H. SAWYER, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
EUGENE F. PHILLIPS, OF SAME PLACE.

SUPPORTING-HEAD FOR COMPOUND ELECTRIC CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 233,440, dated October 19, 1880.

Application filed June 24, 1878.

To all whom it may concern:

Be it known that I, WILLIAM H. SAWYER, of the city and county of Providence, in the State of Rhode Island, have invented a certain new and useful Supporting-Head for the Electric Cables and Conductors of Elevator-Annunciators; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

As heretofore constructed, electric cables have been either secured to elevators by means of the several buttons with which electric connection with the annunciator is attained, or by winding each of the several wires around a post or pin in the side of the elevator. As a result of these former methods of attachment, the wires are liable to be unequally strained in their support of the cable, and considerable labor is involved in connecting and disconnecting the cable or conductors, as is sometimes desirable.

The object of my invention is to provide the cable or the conductors with a head which, in itself, practically constitutes the end of the cable, and is capable of being readily attached directly to the elevator, easily removed, and which, when applied to the elevator, supports the conductors either with an equal strain on all the wires and their buttons, or, as in some classes of cables, without any strain whatever on the wires above their connection with the head, or on their respective buttons.

To these ends my invention consists, mainly, in the combination, with a series of insulated electric conductors, of a supporting-head, to which the several conductors are separately attached, and which is adapted to be applied to an elevator. This portion of my invention enables the cable or series of conductors to be applied to or detached from an elevator without disturbing its several ends in any manner.

Another feature of my invention consists in the combination, with a series of electric conductors, of a supporting-head to which the said conductors are connected in mass, so that the head, when applied to the elevator, will support them all with uniformity, and leave their ends free to be connected directly with

the annunciator without any strain whatever on the wires above the head or between it and the annunciator. A clamping device is used for connecting the head with the cable.

To more particularly describe my invention I will refer to the accompanying drawings, in which—

Figures 1 and 2 represent, respectively in front view and section, a short length of the well-known Reed and Phillips annunciator-cable provided with one of my cable-heads. Fig. 3 represents, in section, one of my cable-heads applied to a series of electric conductors which are not consolidated, as is usual with cables, except at the point where they are connected with the head. Figs. 4 and 5 represent, respectively in front view and section, one of my cable-heads applied to the Phillips complex gas and electric conductor.

The supporting-head A is here shown to be circular in form, with a central aperture, *a*, and a radial aperture, *b*, which extends from the periphery to the central aperture. This head may be composed of wood or any equivalent strong and preferably non-metallic material, and its form may be varied to any desired extent. The head should be provided with means for attaching it securely to the elevator. A simple means for attachment to the elevator consists in the holes *c* in the head, which admit of the use of screws or bolts; but instead thereof ears with vertical slots may be provided on each side of the head, as shown in Fig. 4, which will admit of the cable-head being placed on a pair of headed bolts or pins in the side of the elevator, each occupying one of the slots.

In Figs. 1 and 2 a Reed and Phillips cable is shown, which consists of the several insulated electric conductors *d*, inclosed within a flexible semi-metallic jacket, *e*. The jacket *e* is secured to the head by means of a clamp, *f*, of any desired construction, a simple form of which consists of two pins or screws firmly set in the periphery of the cable-head, one on each side of the cable, and a length of soft strong wire, which is wound around each stud, and thence snugly around the cable, so that the latter will be firmly surrounded by the wire and secured thereby to the head. Although

the conductors are loosely inclosed within the jacket, the latter performs a more or less supporting function in practical use, and the jacket being firmly secured to the head, the individual
 5 wires are practically free from any injurious strains. The jacket *e* and the conductors *d* pass into the head through the radial aperture *b*, and from thence the conductors pass through the central aperture to the front face of the
 10 head. On the face of the head, arranged at desired intervals, a button *g*, is provided for each conductor, the core of which is stripped, passed around the screw of the button, and thereby secured in electric contact with the
 15 wires *h*, which communicate with the annunciator.

In Fig. 3 the several insulated electric conductors *d* are not separately attached to the head, as in Figs. 1 and 2. For a short distance, as at *i*, the conductors are firmly secured together in mass, and thence by clamp *f* to the head. This construction, when the head is secured to the elevator, leaves the upper ends of the conductors free, and they may be
 25 of such length as to enable them to be directly connected with the rear of the annunciator, instead of employing the intermediate conductors *h*, as in Figs. 1 and 2.

The Phillips complex electric and gas conductor, when combined with my cable-head, as shown in Figs. 4 and 5, involves, preferably, a diametrical aperture, which extends entirely through the head from bottom to top, as shown. In this case the complex conductor occupies
 30 this aperture, the upper portion of which contains the metal gas-coupling *k*, to which the elbow *l* is applied, as usual, with threaded connections.

It will be seen that the flange of the coupling is in contact with the head inside of the central aperture, and that, a washer being placed under the elbow, the latter, when turned up tight, secures the gas-tubing firmly to the upper portion of the head. The electric con-

ductors *d*, being between the gas-tube *m* (which has a spiral core) and the outer jacket, *e'*, are firmly secured to the head by the clamp *f*, which, as in Fig. 3, leaves the upper ends of the conductors wholly without strain, and permits them to be directly attached to the annunciator. These ends may be protruded through the central aperture, as in Figs. 1, 2, and 3, or, as in Fig. 4, they may be extended radially through the head to its periphery, at which point buttons may be located, if desired.

It will be seen that in the several modes shown of applying the head the conductors are free from strain, and that the work of attaching a cable to or disconnecting it from an elevator is reduced to a minimum.

I do not limit my invention to a cable-head of any particular form, because I am well aware that this may be varied indefinitely without departing from the spirit of my invention; nor do I limit myself to any particular form of clamp for mechanically securing the conductors to the head, whether in mass or separately; but

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

1. The combination, with a series of insulated electric conductors, of a supporting-head to which the several conductors are separately attached, and which is adapted to be secured to an elevator, substantially as and for the purposes specified.

2. The combination, with a series of insulated electric conductors, of a supporting-head which is adapted to be secured to an elevator, and a clamping device for securing the conductors in mass to said head, substantially as described, whereby the free ends of the conductors are wholly protected from strain, as set forth.

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