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PATENTED OCT. 30, 1906.

J. H. GAULT.

INSULATOR FOR HANDLES OF VESSELS USED TO HOLD HOT LIQUIDS.

APPLICATION FILED MAR. 23, 1905.

Fig. 1.

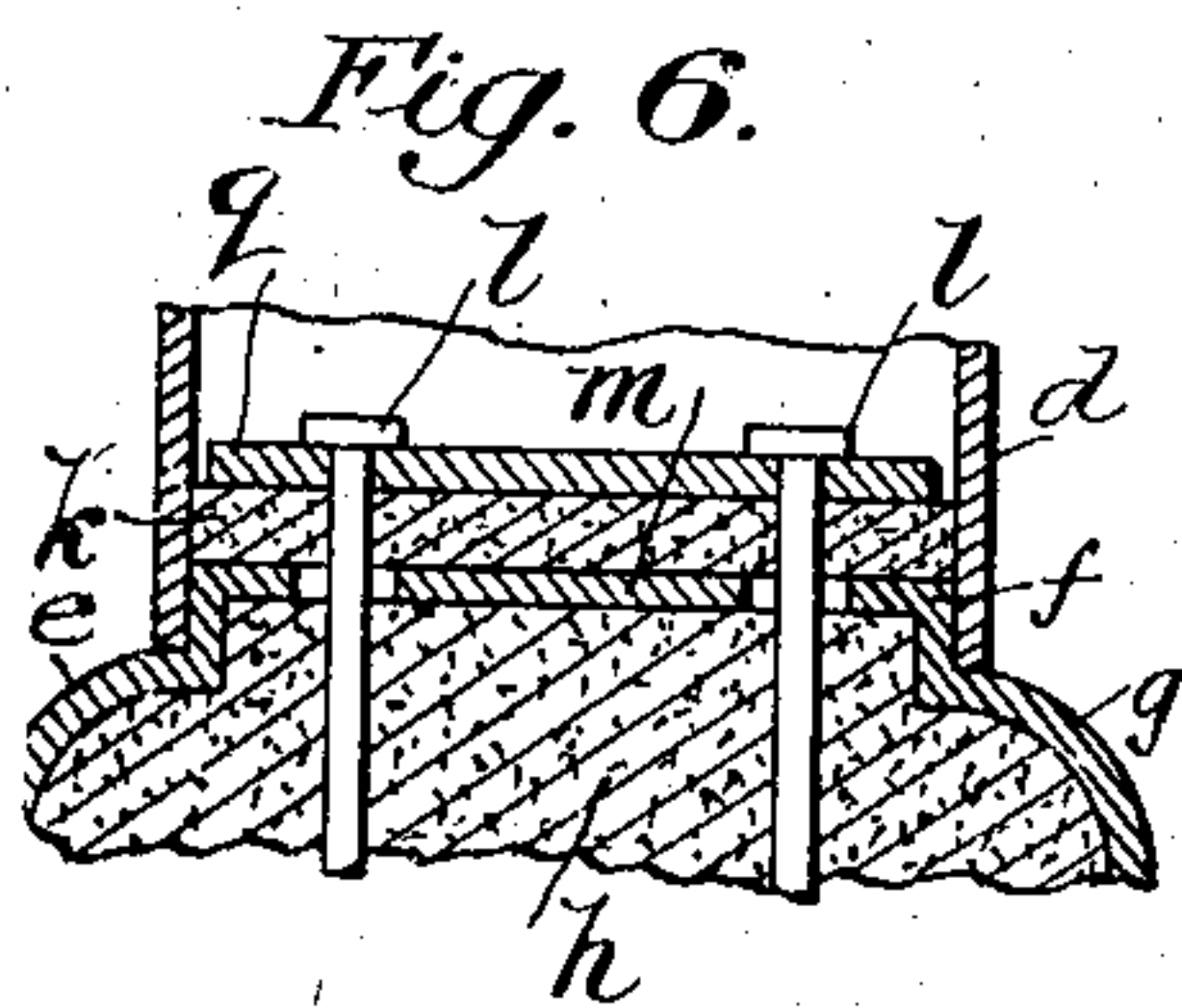
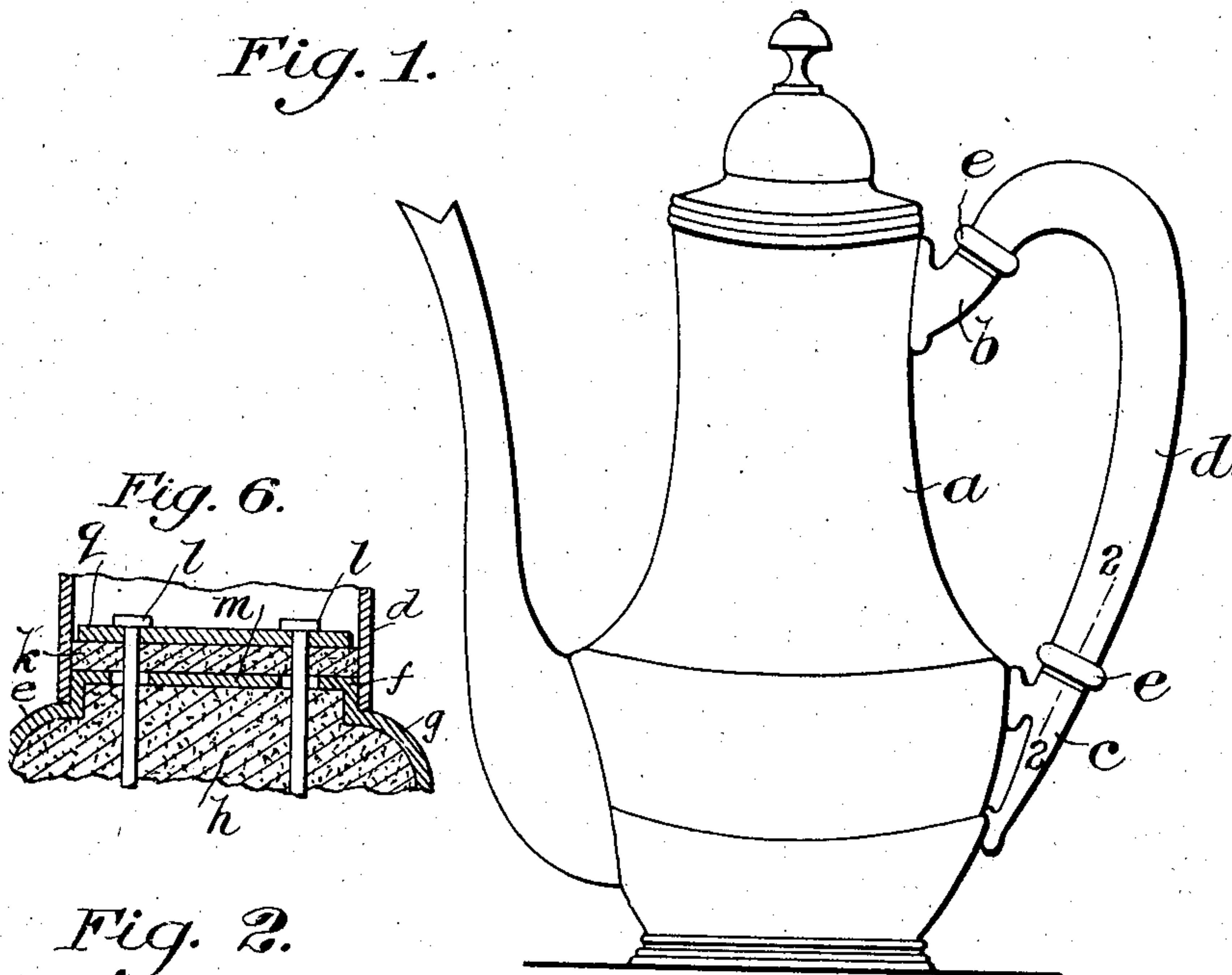


Fig. 2.

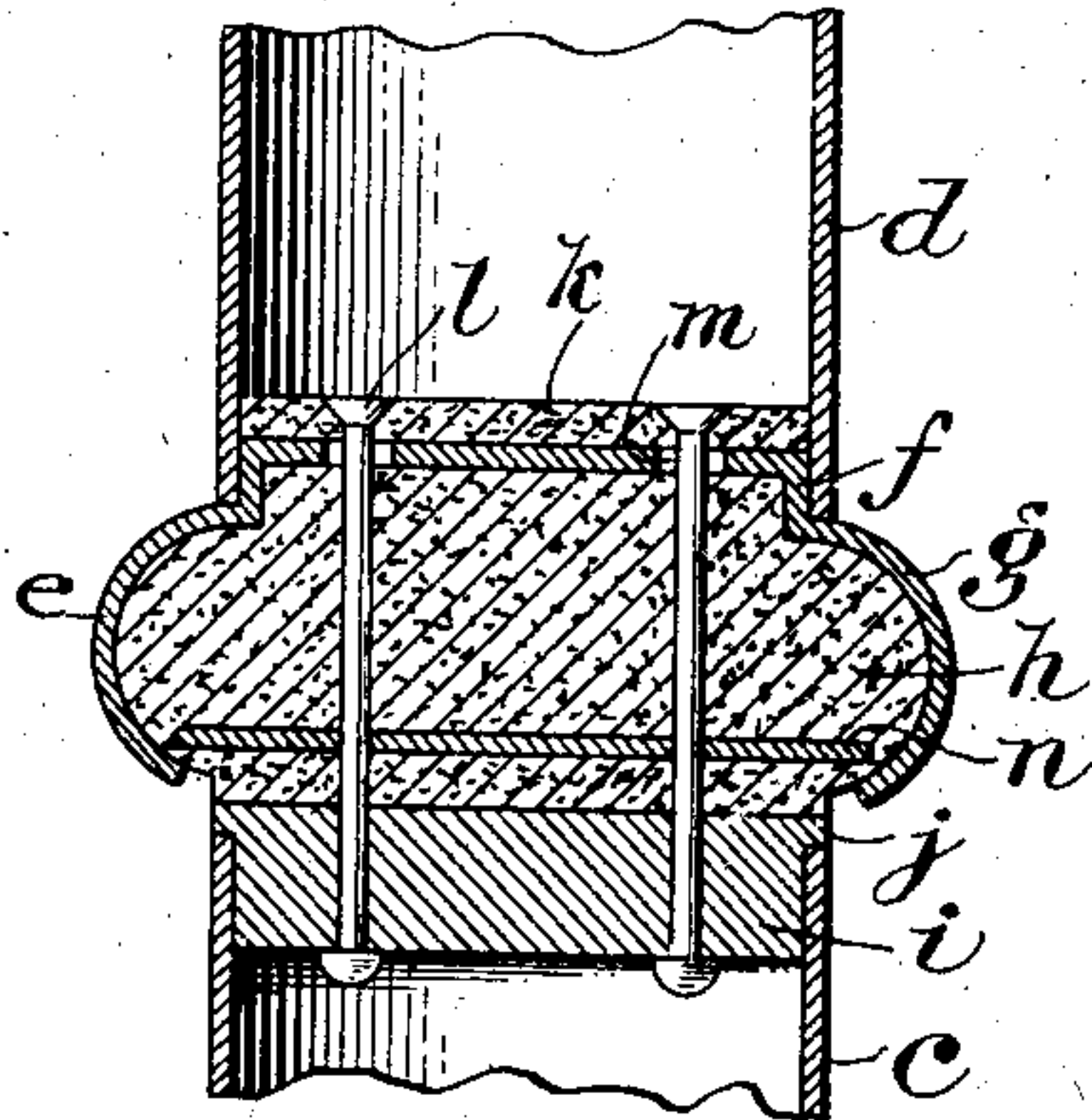


Fig. 3.

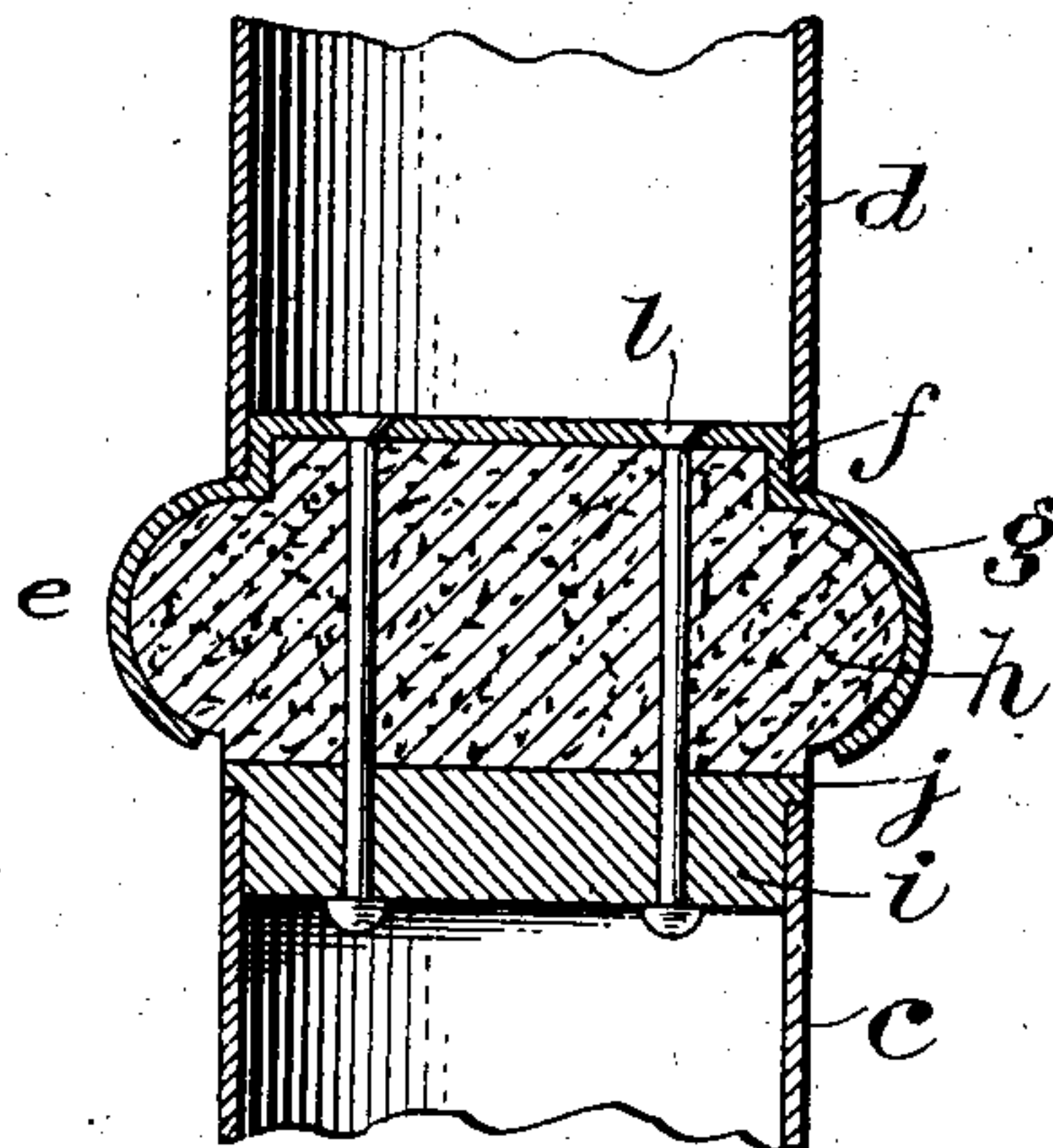
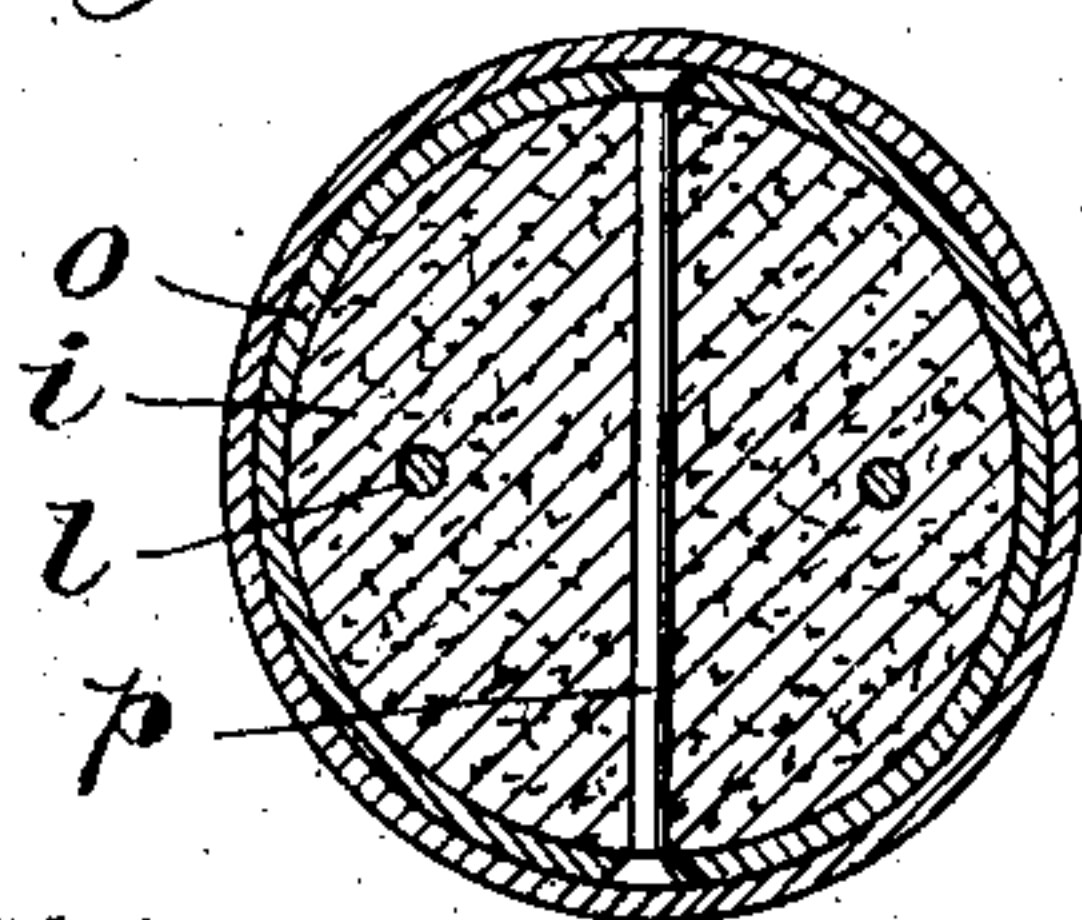


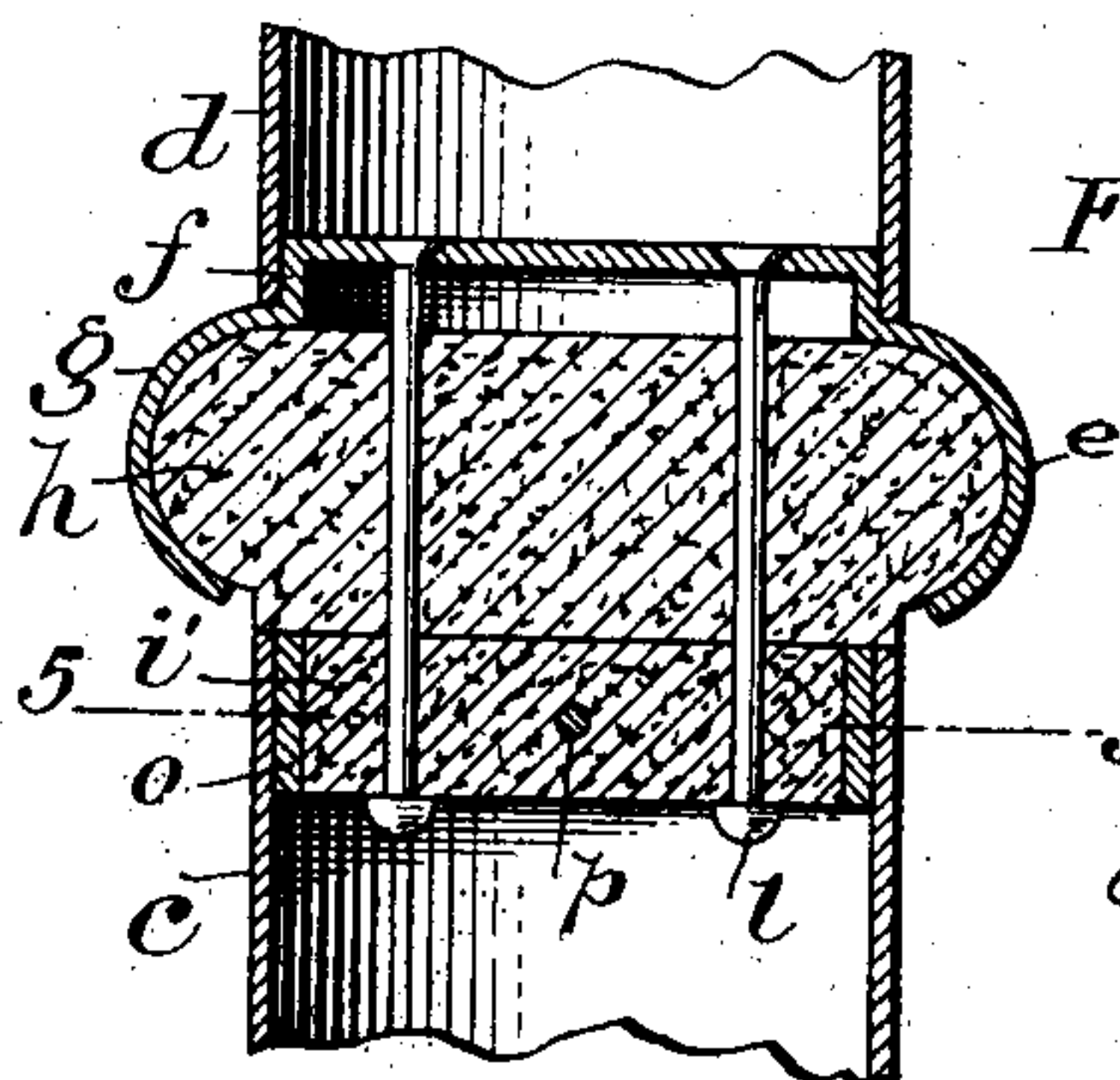
Fig. 5.



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Fig. 4.



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UNITED STATES PATENT OFFICE.

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INSULATOR FOR HANDLES OF VESSELS USED TO HOLD HOT LIQUIDS.

No. 834,290.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed March 23, 1905. Serial No. 251,610.

To all whom it may concern:

Be it known that I, JOHN H. GAULT, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Insulators for Handles of Vessels Used to Hold Hot Liquids, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an insulator for handles of vessels used to hold hot liquids, adapted to be inserted in the handle between the grasping portion thereof and the body of the vessel.

The object of the invention is to secure the insulator so as to either absolutely or substantially prevent the communication of heat to the grasping portion of the handle and at the same time prevent the joint wearing loose.

My invention is in certain aspects an improvement on the inventions set forth in the patent issued to me November 24, 1903, No. 744,743, and the application filed by me June 8, 1904, Serial No. 211,708.

In the accompanying drawings, Figure 1 is a side view of a coffee-pot with the insulator applied to the handle thereof. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a sectional view, similar to Fig. 2, of a modification. Fig. 4 is a sectional view, similar to Fig. 2, of another modification. Fig. 5 is a section on the line 5 5 of Fig. 4, and Fig. 6 is a sectional view illustrating still another modification.

Referring first to Fig. 1, *a* is a vessel, shown here as a coffee-pot. *b* and *c* are end sections of the handle projecting, respectively, from the upper and lower portions of the body of the vessel. *d* is the grasping portion of the handle connecting the end sections *b* and *c* and forming with the latter the handle as a whole. The insulating devices *e e* are inserted, respectively, between sections *b* and *d* and between sections *c* and *d*. These two insulating devices are the same in construction, and the description of one will serve as a description of the other.

Referring first to the embodiment of my invention shown in Fig. 2, *f* is the neck, and *g* the convex body, of a metal shell, the neck

extending within and secured to the end of handle-section *d*. *h* is the core of insulating material, the same being preferably shaped to conform to the inner dimensions of the shell—that is, the core, like the shell, consists of a convex body portion embraced by the body of the shell and a contracted neck portion extending within the neck of the shell. The core may also have a short cylindrical neck at the other or lower end, whose diameter conforms substantially to the exterior diameter of the handle-section *c*. The shell may be secured to the core by bending or spinning it around the core. *i* is a plate, preferably of metal, extending within and secured to the end of handle-section *c*. The upper end of this plate is preferably provided with a flange *j*, of a width substantially equal to the thickness of the wall of section *c* and against which the end of handle-section *c* abuts. *k* is a disk of insulating material overlying the closed neck of the shell. *l l* are rivets extending through disk *k*, closed end of neck *f* of the shell, core *h*, and plate *i*. By thus securing together the shell and plate *i* (which are respectively secured to handle-sections *c* and *d*) the handle sections themselves are firmly secured together. Preferably the closed end of the neck portion of the shell is provided with holes greater in diameter than the diameter of the rivets. This prevents any escape of heat from one handle-section to the other by way of plate *i*, the rivets, and the shell. Without these holes, however, the leakage of the heat through the rivets would not be so great as to do more than appreciably warm the handle, and my invention would be embodied, although not perhaps in its preferred form, in a construction wherein no means are provided to insulate the closed end of the shell from the rivets. In such construction I prefer to omit the disk *k* and upset the upper ends of the rivets within the closed end of the shell, as shown in Fig. 3.

Another modification which absolutely prevents the passage of heat from one handle-section to the other is illustrated in Fig. 6. In this figure is shown only the upper portion of the insulator, which as a whole may be precisely like that of Fig. 2, except that on the disk *k* is imposed a metallic washer *q* of less

diameter than the internal diameter of the handle-section d , so that it will not contact therewith. The heads of the rivets l in this construction engage the washer g , thus avoiding a possible objection to the construction of Fig. 1, in which the rivet-heads sink into the more or less soft insulating material. I have shown the heads of the rivets or pins entirely outside and overlying the washer g , which illustrates one of many possible variations in the character of fastening device that may be employed.

The foregoing construction provides an insulating-joint between the handle-sections that will not wear loose under any conditions incidental to ordinary usage. Even the absorption of moisture by the insulating-core will not set up any conditions of looseness, as is ordinarily the case with insulating-joints, as any expansion of the core due to absorption of moisture will only tend to draw the shell and plate toward each other, and thereby tighten the connection. To prevent deterioration of the insulating material, however, and for other reasons, it may be advisable to exclude moisture from the core, or at least the major part of it. This I effect by inserting within the core a metallic disk n , overlapping the intumed lower end of the shell, but preferably not contacting with the shell.

The core may be composed of any suitable insulating material. It is desirable that the portion of the core beneath the disk n should be composed of fiber or rubber that will not absorb moisture, while the portion of the core above the disk n may be composed of fiber or rubber that is not non-absorbent.

If the plate i is made of insulating material, I prefer to secure it to the handle-section c by inserting it within a metallic ring o and securing the ring o within the handle-section c , as in my application hereinbefore mentioned. This modification is shown in Fig. 4, the plate being lettered i' . The ring may be secured to the handle-section c by any suitable means—such as by a rivet p , extending through the handle-section, ring, and insulating-plate—or by soldering.

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

1. An insulating-handle connection comprising handle-sections, a plate corresponding in external diameter to the internal diameter of one of the handle-sections and inserted within the same but having a flange of substantially the width of the thickness of the wall of said handle-section and extending outside said section and abutting against the end thereof, a metallic shell having a contracted neck corresponding in external diameter to the internal diameter of the other

handle-section and inserted within and secured thereto, said shell having also a convex body extending beyond the last-named section, a core of insulating material having a convex body portion within the convex body of the shell and engaging said plate, and means connecting and securing together the shell and plate and confining the core between them.

2. An insulating-handle connection comprising handle-sections, a plate inserted within one of the handle-sections, a metallic shell having a contracted neck corresponding in external diameter to the internal diameter of the other handle-section and inserted within and secured thereto, said shell having also a convex body extending beyond the last-named section, a core of insulating material having a convex body portion within the convex body of the shell and engaging said plate, and means connecting and securing together the shell and plate and confining the core between them.

3. An insulating-handle connection comprising a metallic shell adapted to be secured to one section of the handle, a plate adapted to be secured to the other section of the handle, a core of insulating material within the shell and between the shell and the plate, means for securing the parts together and a metallic disk within the core.

4. An insulating-handle connection comprising a core of insulating material having a convex body portion, a metallic shell having a convex body embracing the core-body, a plate between which and the shell the core is confined, means for securing the parts together and a metallic disk within the core and overlapped by the end of the convex body of the shell.

5. An insulating-handle connection comprising handle-sections a metallic shell having a convex body and a contracted neck inserted within one of the handle-sections the outer wall of the neck contacting with the inner wall of the handle-section, a plate connected with the other handle-section, a core of insulating material within the shell and between the shell and the plate, a disk of insulating material beyond the closed neck of the shell, and a rivet engaging the disk, core and plate, there being an orifice in the shell, through which the rivet extends, of a diameter greater than the diameter of the rivet.

6. In an insulating-handle connection comprising a metallic shell having a convex body and a contracted neck adapted to be connected with one of the handle-sections, a plate adapted to be connected with the other handle-section, a core of insulating material within the shell and between the shell and the plate, a disk of insulating material beyond the closed neck of the shell, a metallic

washer, of smaller diameter than the internal diameter of the handle-section, beyond the disk, and a rivet engaging the washer, disk, core and plate, there being an orifice in the
5 shell, through which the rivet extends, of a diameter greater than the diameter of the rivet.

In testimony of which invention I have hereunto set my hand, at Philadelphia, on this 14th day of March, 1905.

JOHN H. GAULT.

Witnesses:

F. M. BROWER,
R. M. DUFFY.