

(No Model.)

W. L. SILVEY.

METHOD OF MAKING STIFFENED CONNECTORS FOR SECONDARY  
BATTERY PLATES.

No. 523,949.

Patented July 31, 1894.

Fig. 1.

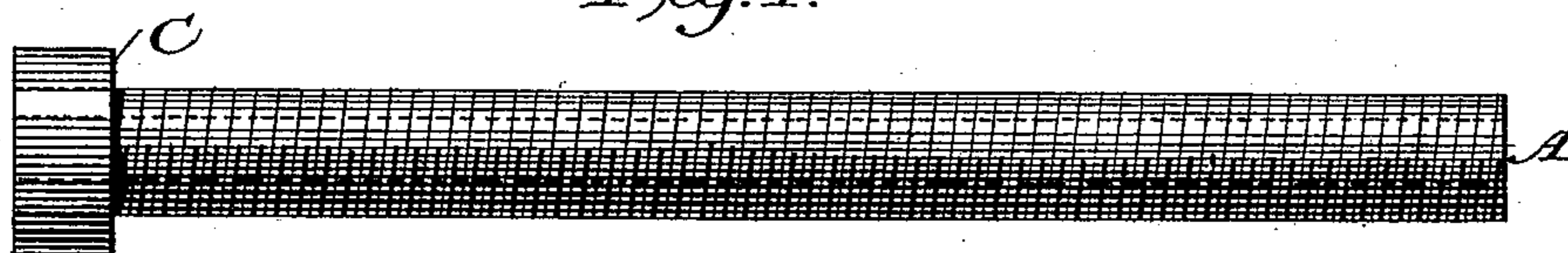


Fig. 2.

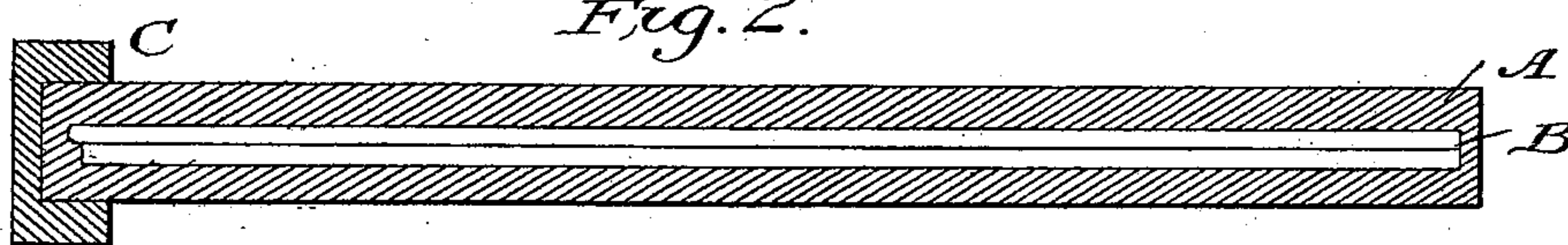


Fig. 4.

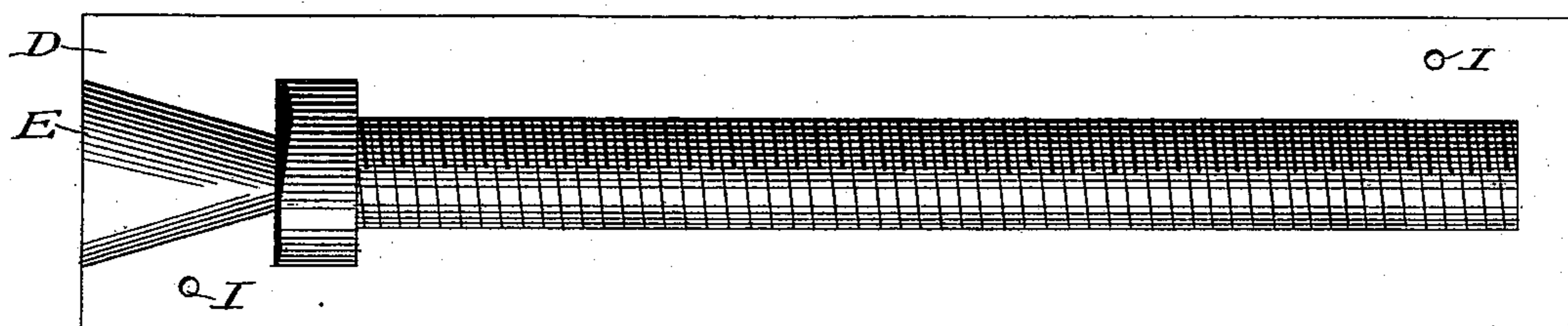


Fig. 5.

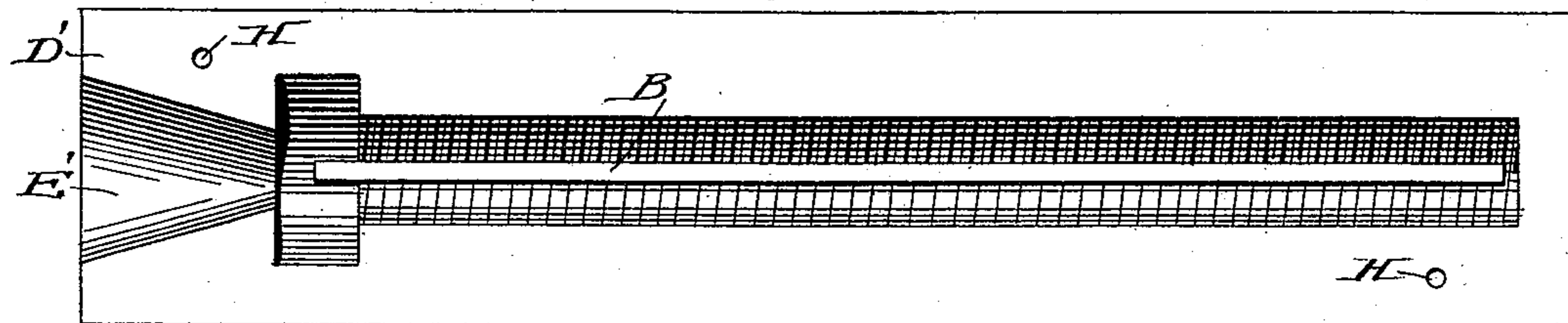


Fig. 3.

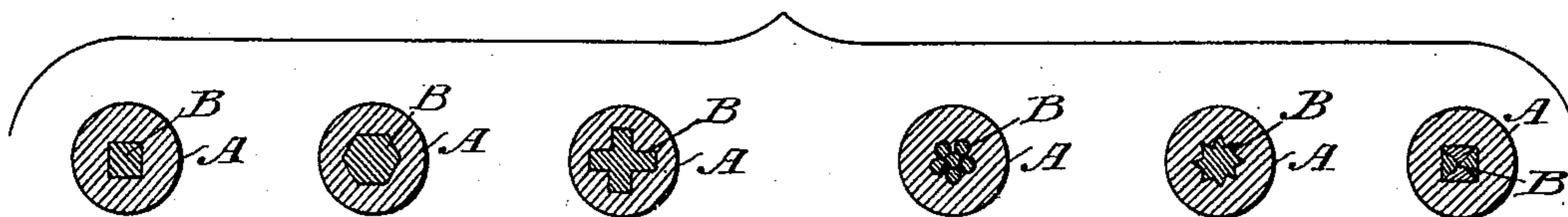


Fig. 6.

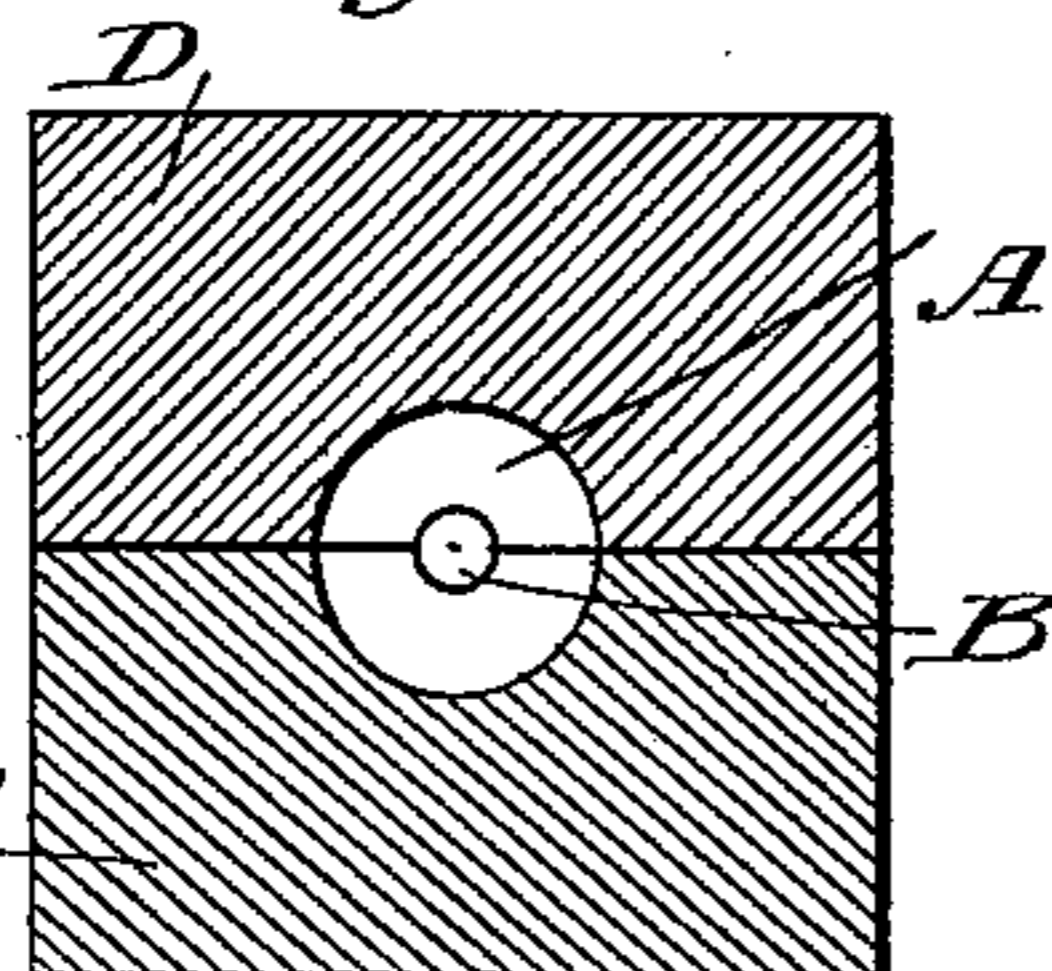
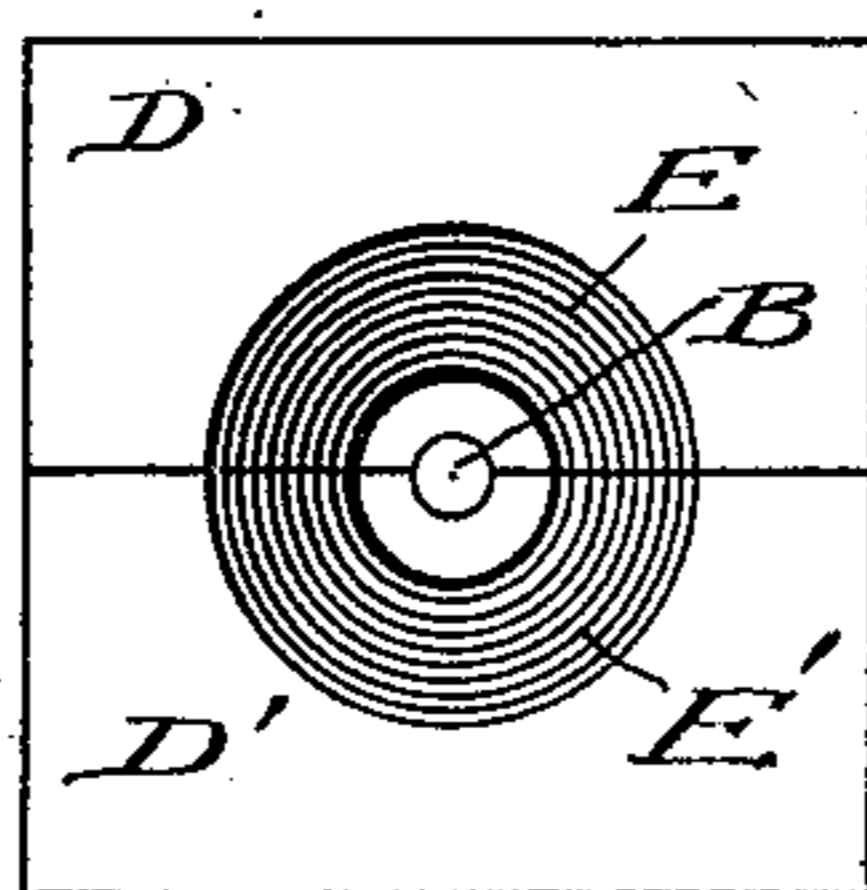


Fig. 7.



Witnesses.

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# UNITED STATES PATENT OFFICE.

WILLIAM L. SILVEY, OF DAYTON, OHIO.

METHOD OF MAKING STIFFENED CONNECTORS FOR SECONDARY-BATTERY PLATES.

SPECIFICATION forming part of Letters Patent No. 523,949, dated July 31, 1894.

Application filed August 28, 1893. Serial No. 484,287. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. SILVEY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented an Improved Method of Making Stiffened Connectors for Secondary-Battery Plates, of which the following is a specification.

The object of my invention is to provide an easy and effective means of making stiffened connectors for secondary-battery plates, these comprising a hard-metal core of high electrical conductivity and a soft-metal envelope of low electrical conductivity entirely covering the core, it being essential that the ends as well as the other portions of the core should be covered, in order to entirely protect it from the action of the electrolyte.

My invention comprehends the casting of the connectors; and the gist of the invention resides in certain novel features of casting, whereby the difference in the specific gravity of the two metals enables me to center and wholly envelop the core.

In carrying out my invention I employ a suitable mold, such for instance as the one shown in Figures 4, 5, 6, and 7, to produce connectors, such as shown in Figs. 1, 2, and 3.

Fig. 1 is a side view of a completed screw-threaded connector having an integral head. Fig. 2 is a longitudinal sectional view of a connector similar to that shown in Fig. 1, but without screw-threads and having a separable head. Fig. 3 shows in transverse section a series of connectors with variously shaped cores. Fig. 4 is an interior view of one-half of a two-part mold applicable to casting screw-threaded connectors by my improved plan. Fig. 5 shows the other half of the mold, having a stiffening-core therein ready to be enveloped. Fig. 6 is a cross-section of the mold closed. Fig. 7 is a top-plan view of the closed mold, showing the funnel-shaped opening or gate through which the metal is introduced into the mold.

Referring to the drawings, A, B, and C represent the completed connector, of which A is the envelope, of soft metal of low electrical conductivity; B the stiffening-core, wholly covered by the envelope, as clearly seen in Fig. 2; and C is the head.

D D' represent the respective parts of a two-part mold; E E' the funnel-shaped mouth; and H I holes in the respective parts in which to place fastening devices for holding the parts together. In case it is desired to form the connector with exterior screw-threads, as shown in Fig. 1, intaglio threads will be formed in the cavity in the mold, as shown in Figs. 3 and 4.

When I desire to cast a connector, I close the mold, as shown in Fig. 7, and secure the parts together. I then drop the metal core B, which may be of any of the forms shown in Fig. 3, into the mold. This core may be of any suitable hard metal, as steel, copper, brass, or iron; but I prefer the former, as it gives more rigidity to the finished connector. After having thus loosely placed the core in the mold, I next pour in molten lead or lead alloy. As the cavity in the mold is comparatively small the molten metal must of necessity strike the wall of the cavity, and thus be given a rotary motion; and as the lead or lead alloy is of greater specific gravity than the metal of which the core is composed, it follows that the core will be carried to the center of the mold-cavity, and also that it will be buoyed upward by the envelope metal; but this upward movement of the core will be very slow, so that by the time the molten metal has covered the bottom of the mold-cavity it will have become sufficiently hard to hold the core from further vertical movement. It will thus be seen that when the mold is filled with the molten metal the core will be completely enveloped.

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

The method of making stiffened connectors for secondary-battery plates, consisting in loosely placing a rod or core of high electrical conductivity in a mold, the core resting on the bottom of the mold and then filling the mold with molten metal of low electrical conductivity and of greater specific gravity than the metal of the core.

WILLIAM L. SILVEY.

Witnesses:

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