

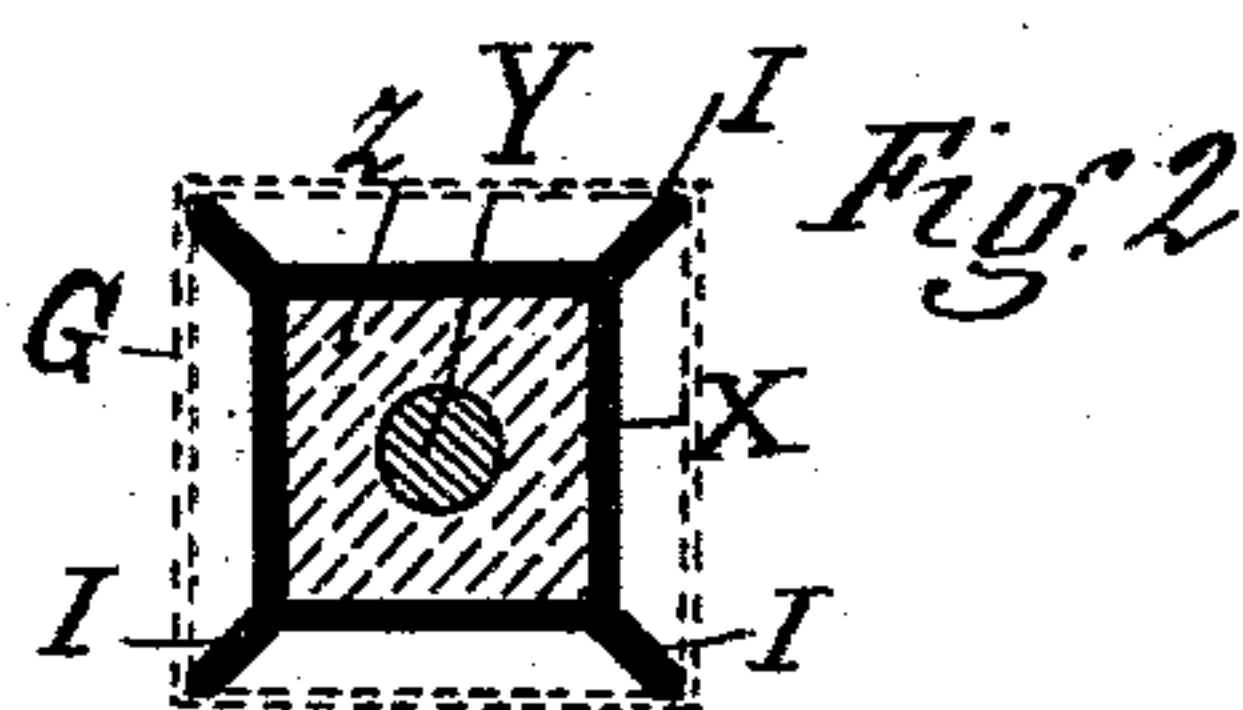
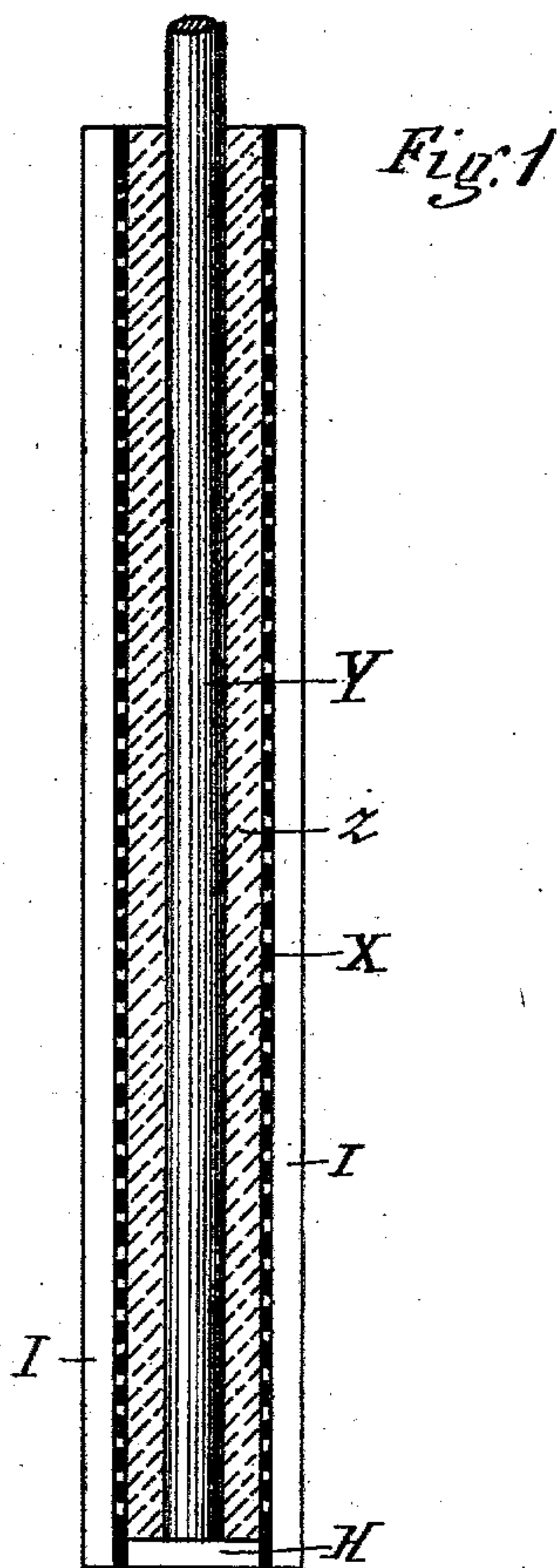
No. 704,859.

Patented July 15, 1902.

V. CHEVAL & J. LINDEMAN.
ELECTRIC ACCUMULATOR ELECTRODE.

(Application filed Nov. 21, 1901.)

(No Model.)



WITNESSES:

F. W. Wright.
S. C. Connor.

INVENTORS
VICTOR CHEVAL
JOSEPH LINDEMAN
BY *Howland Howland*
HIS ATTORNEYS.

UNITED STATES PATENT OFFICE.

VICTOR CHEVAL AND JOSEPH LINDEMAN, OF BRUSSELS, BELGIUM.

ELECTRIC ACCUMULATOR-ELECTRODE.

SPECIFICATION forming part of Letters Patent No. 704,859, dated July 15, 1902.

Application filed November 21, 1901. Serial No. 83,108. (No model.)

To all whom it may concern:

Be it known that we, VICTOR CHEVAL and JOSEPH LINDEMAN, subjects of the King of Belgium, residing at Brussels, Belgium, have
5 invented a new and Improved Electrode for Accumulator-Batteries, of which the following is a specification.

Our invention relates to that form of accumulator-battery in which the negative-pole
10 electrode is a single mass of active material having cylindrical, prismatic, or other suitably-shaped openings disposed throughout its mass into which cartridge-like positive-pole electrodes may be loosely fitted, the intervening
15 space being filled with the electrolyte. These openings in the common negative-pole electrode in the type of accumulator shown in our United States Patent No. 658,235 were formed of cylindrical perforated shells, the
20 positive-pole electrodes being fitted into the center of these shells.

The object of our present invention is to improve the construction of the positive-pole electrode and to provide means for always
25 keeping it central in its opening, while at the same time so placing it as to permit of its ready removal. By this means all danger of short-circuiting is overcome, and we are enabled to use shells for the openings of the
30 negative-pole electrode of conducting material, greatly enhancing the action of the accumulator and reducing resistance and cost of manufacture.

In the accompanying drawings, Figure 1 is
35 a sectional side elevation of one of our improved positive-pole electrodes, and Fig. 2 is a sectional plan of the same.

Y is the central conducting-rod, to be secured to the positive terminal of the accumulator.
40

X is a perforated envelop, which may be of any suitable section, but preferably rectangular, as shown, and it is preferably of insulating material.

Z is the active material packed between the envelop and the rod. 45

I I are insulating radial arms secured to the envelop X, and if the envelop be also of insulating material they may be formed of one piece with it. We prefer to leave the
50 bottom of the envelop open, as shown at H.

When placing this electrode into position in a shell, the radial arms insure the proper centralization of the electrode in the shell. While the opening or shell for the electrode
55 may be of any suitable outline or cross-section, it may conveniently be of square cross-section, as indicated by dotted lines at G in Fig. 2.

We claim as our invention— 60

1. An improved electrode for accumulator-batteries comprising a mass of active material, a perforated envelop, inclosing the mass, and radial insulating-arms projecting from the envelop, substantially as described. 65

2. An improved electrode for accumulator-batteries, comprising a central conducting-rod, a mass of active material packed around it and a perforated envelop around the mass with radial insulating-arms secured to the
70 envelop, said envelop being open at the top and bottom, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

VICTOR CHEVAL.
JOSEPH LINDEMAN.

Witnesses:

GUSTAVE PIERRY,
EMILE NUYTS.