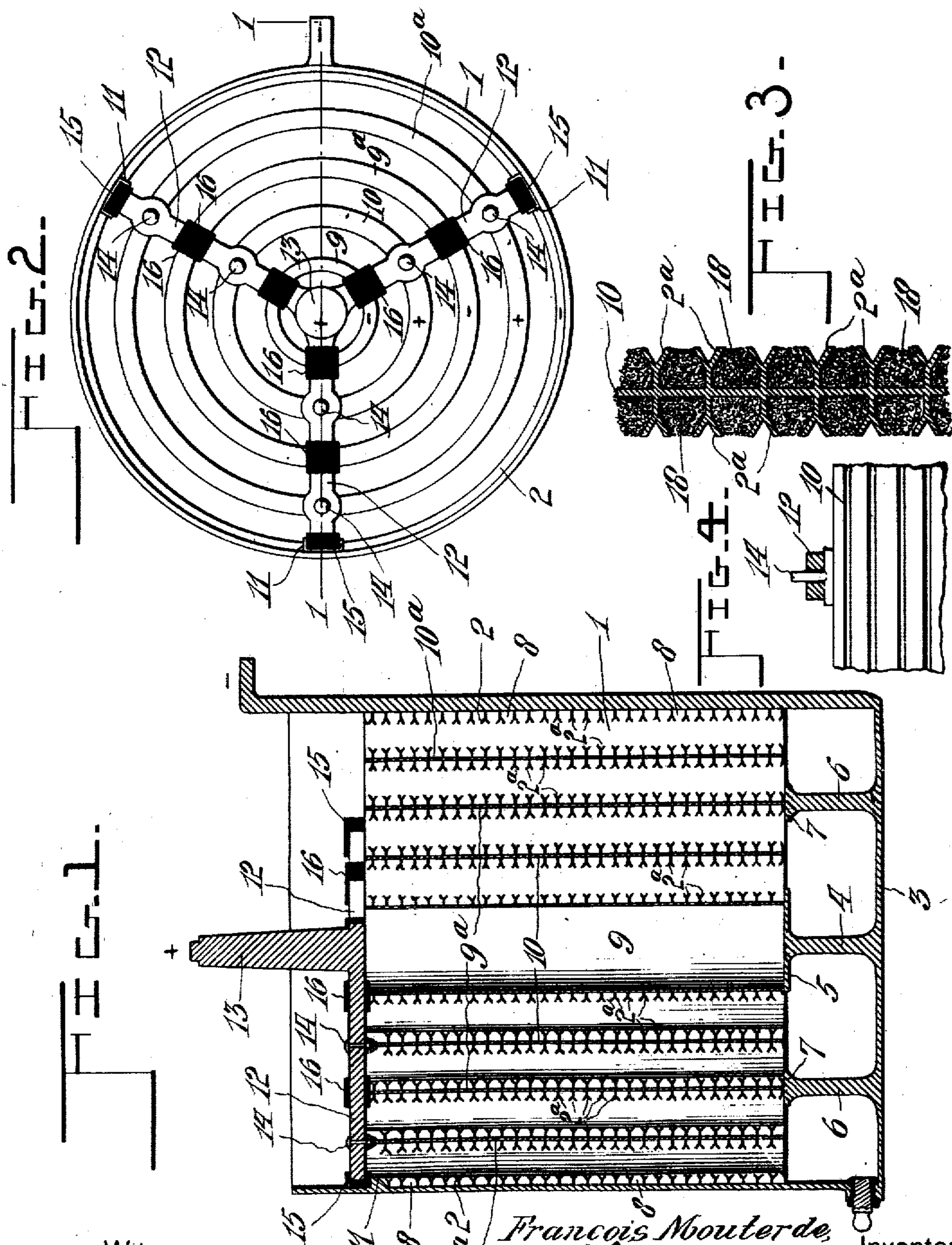


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PATENTED MAR. 6, 1906.

F. MOUTERDE.
STORAGE BATTERY.

APPLICATION FILED JULY 24, 1905.



Witnesses:

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FRANCOIS MOUTERDE, OF LYON, FRANCE.

STORAGE BATTERY.

No. 814,064.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed July 24, 1905. Serial No. 270,946.

To all whom it may concern:

Be it known that I, FRANCOIS MOUTERDE, a citizen of the Republic of France, residing at Lyon, France, have invented certain new and useful Improvements in Storage Batteries; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in storage batteries; and it consists in certain features of novelty in the detail construction thereof, all as hereinafter more fully described.

The object of the invention is to produce a simple, convenient, and easily-accessible device of the character described which is self-contained and in which the shell in which are located a plurality of the positive and negative pole-pieces of the battery constitutes one of the series of negative sections of the pole thereof.

The invention consists in the combination and arrangement of parts which are shown in the accompanying drawings, all as hereinafter more fully described, and particularly pointed out in the claims, it being understood that said drawings illustrate the preferred construction, which may be departed from in the form, proportion, and minor details of parts therein shown within the scope of the claims without sacrificing any of the advantages of the invention.

In the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views, Figure 1 is a transverse vertical sectional view taken approximately on line 1 1 of Fig. 2. Fig. 2 is a plan view of the device. Fig. 3 is a detached detail view showing the manner of forming and building up the electrodes of the battery, and Fig. 4 is a detached fragmentary detail showing specific details hereinafter referred to.

Referring to the parts, 1 is a containing vessel formed of lead, from which project inwardly the Y-shaped receptacles or containers 2. Projecting vertically upwardly from the bottom portion 3 of the container 1 is a centrally-disposed post 4, terminating at its upper end in the laterally-extending disk 5, which serves as a supporting-plate. Between the post 4 and the outer shell of the receptacle 1 are columns 6, either connected integrally with the base portion 3 or otherwise

electrically connected therewith. The columns 6 are provided with laterally-extending flanges 7, extending outwardly and inwardly therefrom, as best shown in the sectional view Fig. 1. Formed in or upon the inner face of the receptacle 1 are pockets or receptacles 8, which occupy the space between the obliquely-extending V-shaped portions of the Y branches 2.

Disposed approximately centrally of the device is a cylinder 9, which rests upon the disk 5 of the supporting-post 4, and approximately concentric with the cylinder 9 are other cylinders 10, 9^a, and 10^a, which are also concentric, preferably, with the containing-casing 1, the cylinders 9 9^a being supported, respectively, by the post 4 and the columns 6 before referred to, and constituting, with the casing, the negative electrodes of the battery, while the cylinders 10 and 10^a constitute the positive electrodes of the battery.

Projecting inwardly from the containing-case 1 are shoulders 11, which serve as supporting means for the radially-extending arms 12, which are in electrical circuit with or integral with the positive-pole member 13 of the battery, and the electrodes 10 and 10^a are connected with the arms 12, which, with the pole 13, constitute a supporting-spider. By means of the rivets 14 the electrodes 10 and 10^a are connected with said arms 12 and are supported upon the inwardly-projecting shoulders or lugs 11, which are formed, preferably, integral with the containing-case 1, suitable insulation 15 being placed upon said shoulder and surrounding the ends of the arms 12, as shown in Figs. 1 and 2, to insulate the arms 12 from the containing-case. Other insulating blocks or means 16 are provided to insulate the electrodes 9 and 9^a from said spider arms 12.

The number and dimensions of the cylinders which compose the accumulator or storage battery are indeterminate and depend upon the electrical capacity which it is desired to give to the apparatus. In the present instance the battery is represented as composed of five cylinders 9 10 9^a 10^a and the casing 1.

Placed in the receptacles 8, which are formed by the Y-shaped extensions which project from the members 9 to 10^a, inclusive, and inwardly from the casing 1, are hair-like fibers 18, which are formed of entwined and embedded masses of lead or hair-like fibers of other suitable metal suitably formed and

matted, as shown in the sectional view, Fig. 3, which is supposed to be taken approximately central vertically of one of the electrodes—as, for example, the electrode 10—
 5 and shows the manner in which the Y-shaped lateral extensions which project from said electrode serve to form pockets or receptacles in which this hair-like mass may be forced and locked therein by means of the V-shaped
 10 extensions 2^a of said laterally-extending Y branches.

With the battery formed as herein shown and described there is a sufficient clearance between the electrodes, and owing to the
 15 manner in which the electrodes are formed and filled with the hair-like mass 18 it is evident that a battery of great capacity is produced.

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

1. A storage battery comprising a lead vessel having columns integral with its bottom and provided with flanges, a plurality of open-
 25 ended electrodes supported by the flanges, a plurality of other electrodes disposed in the vessel, and a spider supporting said electrodes and terminating in a central pole, and said electrodes and said vessel being provided
 30 with Y-shaped projections adapted to receive lead fibers deposited therein.

2. A storage battery comprising a cylindrical lead vessel having lugs on its inner sur-

face and having integral supporting members projecting upward from its bottom, a
 35 plurality of concentric open-ended electrodes disposed on said supporting members, a spider supported by said lugs and terminating in a central pole, a plurality of concentric
 40 open-ended electrodes supported by the spider, said latter electrodes being removable, and said vessel and said electrodes being provided with Y-shaped projections adapted to form pockets, and a body of lead fiber dis-
 45 posed in said pockets.

3. A storage battery comprising a cylindrical vessel adapted to form one pole of the
 battery, a plurality of concentric open-ended electrodes provided on both sides with Y-
 50 shaped pockets, disposed in said vessel, a plurality of other concentric open-ended electrodes provided with Y-shaped pockets on both sides removably disposed in said vessel,
 55 a spider provided with a central pole supported by the walls of said vessel, rivets connecting said latter electrodes with the spider, Y-shaped projections on the walls of said vessel, and a body of lead fiber carried by said pockets and between said projections.

In witness whereof I have hereunto set my
 60 hand in the presence of two witnesses

FRANCOIS MOUTERDE.

Witnesses:

T. MYNARD,
 V. COCHIEL.