

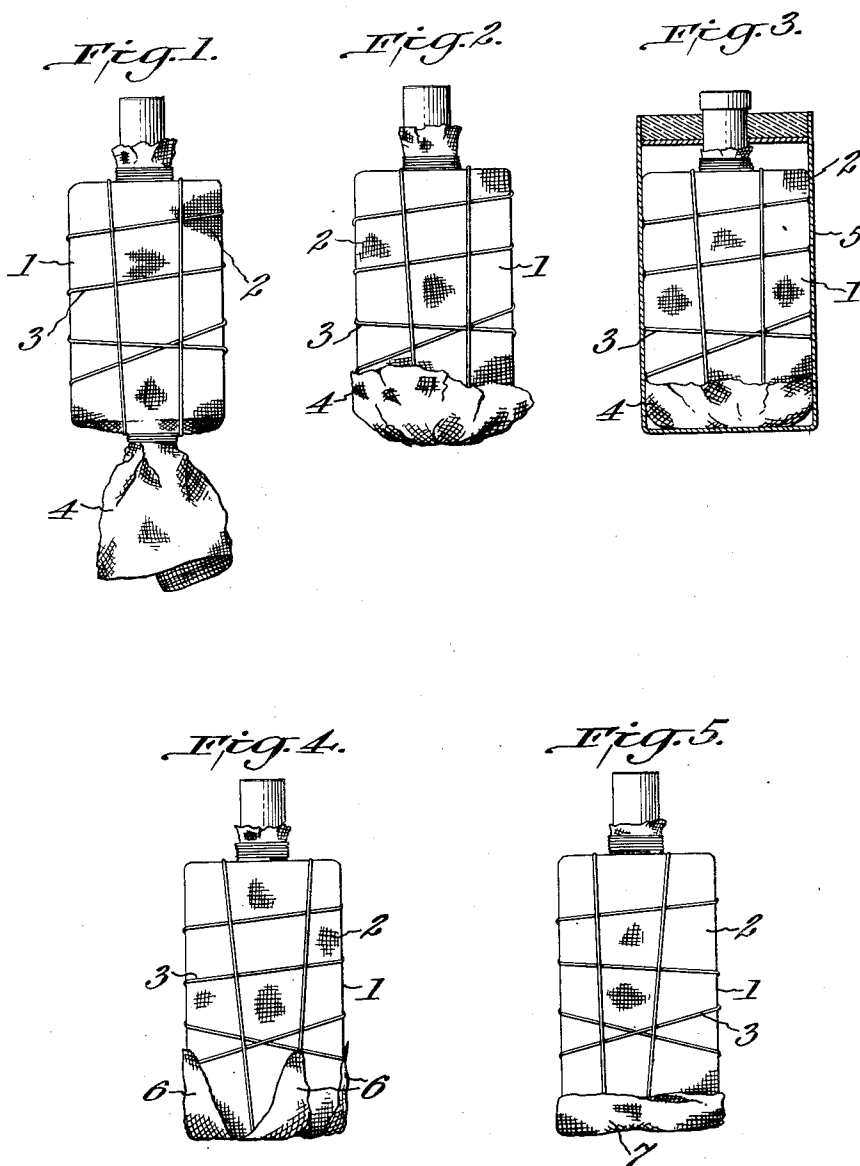
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DRY CELL AND DEPOLARIZER THEREFOR

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UNITED STATES PATENT OFFICE.

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DRY CELL AND DEPOLARIZER THEREFOR.

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This invention relates to improvements in the wrapping of depolarizing bodies for galvanic cells, particularly dry cells comprising a container electrode. In general, the invention comprises the utilization of a portion of the wrapping as a centering means.

It is well recognized that the depolarizing body should be centrally positioned with respect to the walls of the container electrode. If this is not the case serious reduction of shelf life and service capacity may result. For example, off-center mix bobbins in dry cells are liable to cause irregularity in zinc corrosion and other defects that may injure the cells. Various means have been proposed to avoid this difficulty. Ordinarily these comprise a member spacing the bottom of the bobbin from the container, one or more rubber bands about the bobbin, or the like.

In accordance with a preferred embodiment of the present invention, the desired result is attained by turning back a portion of the fabric wrapping of the bobbin to form a centering ring about its base. There is produced in this way a simplified construction having positive advantages more fully referred to hereinafter.

Reference is to be made to the accompanying drawing in which:

Fig. 1 is a side elevation of a wrapped bobbin;

Fig. 2 is a similar view, showing the wrapping turned back on the bobbin;

Fig. 3 is a vertical section through a cell containing the improved bobbin; and

Figs. 4 and 5 are side elevations of bobbins having a modified form of wrapping.

In Figs. 1 to 3 of the drawing reference numeral 1 denotes a bobbin having a wrapping 2 of porous material. This is illustrated as a fabric of the type of cheesecloth, but other materials may be used. The wrapping may be secured by a cord 3. Adhesives or other securing means are also applicable.

The wrapping has a portion 4 extending below the bobbin and adapted to be turned back, as shown in Figs. 2 and 3. The length of the portion 4 may be varied but that illustrated gives good results with bobbins for dry cells of the flashlight type.

The bobbin may be assembled in a cell, as 5, Fig. 3, in any suitable manner. For example, after the wrapping is turned up as described, the bobbin may be dipped in electrolyte paste. It is advantageous to allow

the paste to set before inserting the bobbin in the cell. When this is done the paste solidifies in a ring adjacent the bottom of the bobbin and cooperates with the centering portion of the wrapper.

The formation of a paste ring is by no means necessary, however, and the bobbin may be immersed in paste contained in the zinc electrode or otherwise suitably assembled.

Aside from its centering action, the turned back portion of the wrapper is further advantageous in that it may take the place of the usual insulating washer placed in the bottom of the cell. The double fold of cloth or the like at the base of the bobbin is ample to prevent contact of the mix and zinc. Electrolytic action may take place through the cloth and the effective zinc area of the cell is therefore materially larger than in cells of the same size having the zinc bottom covered with an insulating member. The resulting increase in service capacity is especially important when the cells are to be subjected to relatively heavy current drain, for example in flashlight usage.

The invention resides broadly in the utilization of a portion of the wrapper as centering means. While the embodiment shown in Figs. 1 to 3 is generally preferred, other forms are suitable. For example, in Fig. 4 is illustrated a wrapper cut to provide streamers which may be turned back upon the bobbin to form centering tongues 6. Another illustrative form is shown in Fig. 5, in which elongated portions of the wrapper are wound about the bobbin to form a centering band 7. Separate pieces of cloth or the like may of course be used in the formation of the centering means, but it is ordinarily most convenient to utilize a portion of the main wrapping for this purpose.

The improved wrapper facilitates manufacture and is a material aid in securing the uniform production of cells having excellent service and shelf life characteristics.

I claim:

1. A body of depolarizer having a wrapping provided with a portion adapted to project beyond the peripheral surface of the wrapped body so as to center it in a container.

2. A body of depolarizer having a fabric wrapping comprising a portion forming an enlargement adjacent to the base of the bob-

bin and adapted to center the bobbin in a container.

3. A dry cell depolarizing bobbin having a wrapping comprising a portion turned back upon the bobbin to form a centering band.

4. A dry cell depolarizing bobbin having a fabric wrapping extending at the bottom and adapted to be turned back upon the bobbin to form a centering band.

5. A dry cell depolarizing bobbin having a wrapping provided with an enlarged portion adapted to center the bobbin in a container, and paste adherent to the wrapped bobbin.

6. A galvanic cell comprising a container electrode, a body of wrapped depolarizing mix therein, a portion of the wrapping being

adapted to project beyond the peripheral surface of the wrapper body so as to center it in the cell.

7. A dry cell comprising a zinc cup, a mix bobbin therein, and a wrapping on the bobbin comprising an enlarged portion adapted to center the bobbin in the cup.

8. A dry cell comprising a zinc cup, a mix bobbin therein, a wrapping on the bobbin comprising an enlarged portion adapted to center the bobbin in the cup, said enlarged portion spacing the bobbin from the bottom of the cup but permitting electrolytic action thereon.

In testimony whereof, I affix my signature.
GEORGE W. HEISE.