

April 29, 1924.

H. T. HIPWELL

1,492,297

BATTERY

Filed May 24, 1922

2 Sheets-Sheet 1

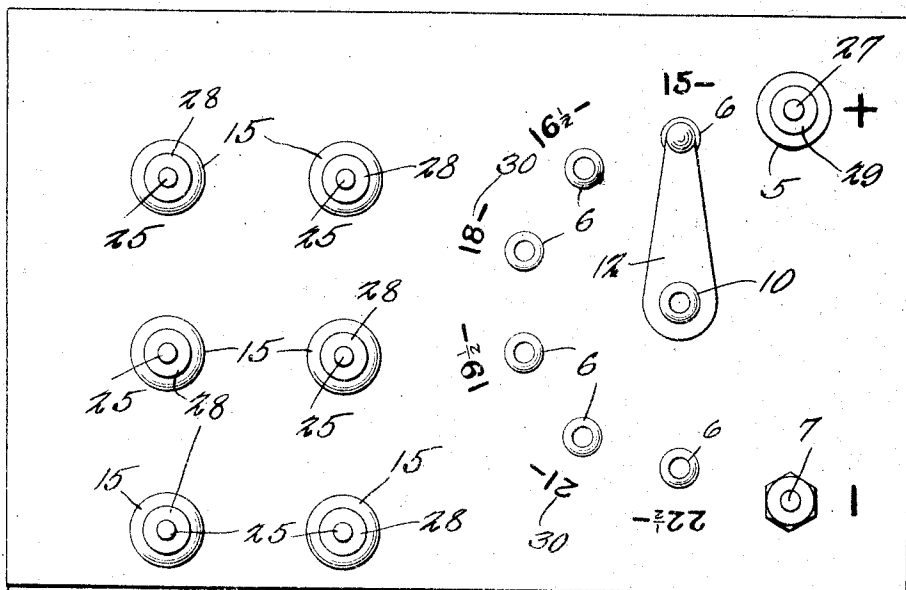


Fig. 1.

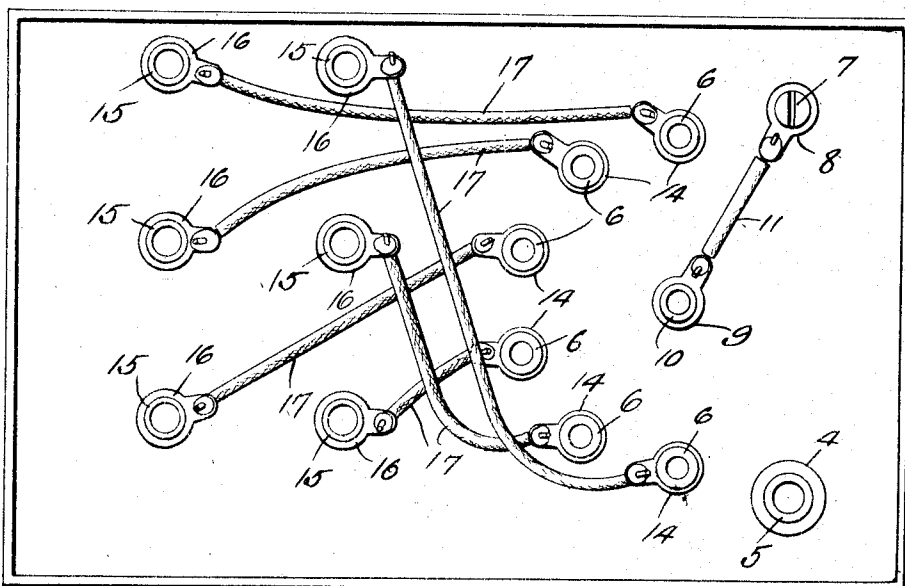


Fig. 2.

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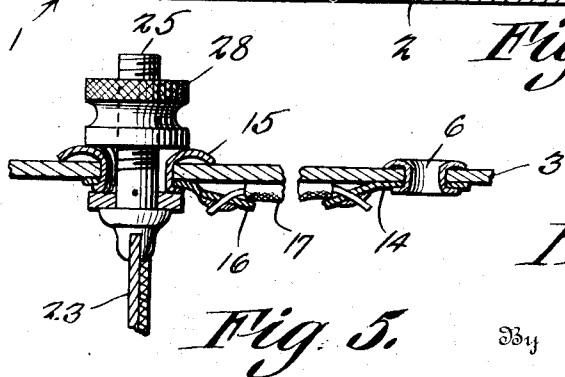
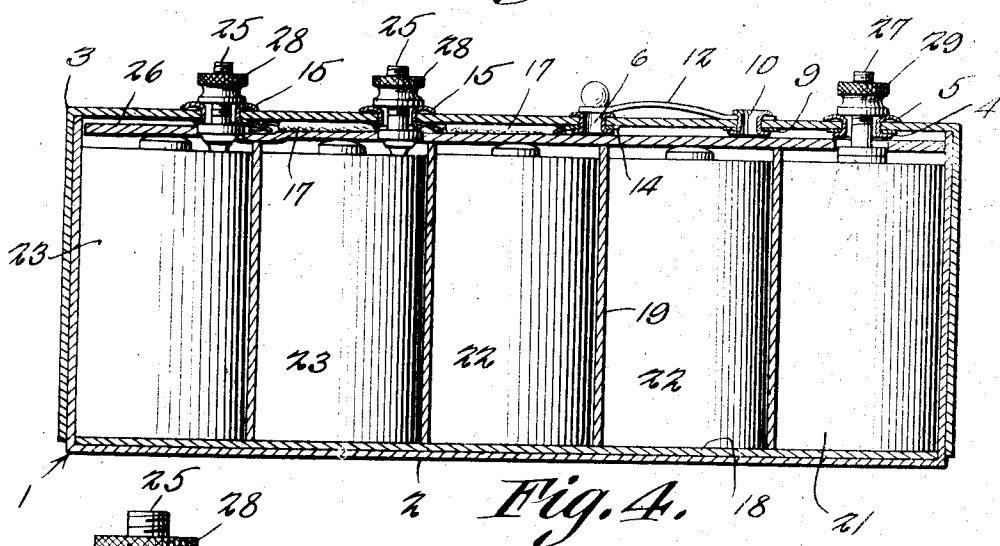
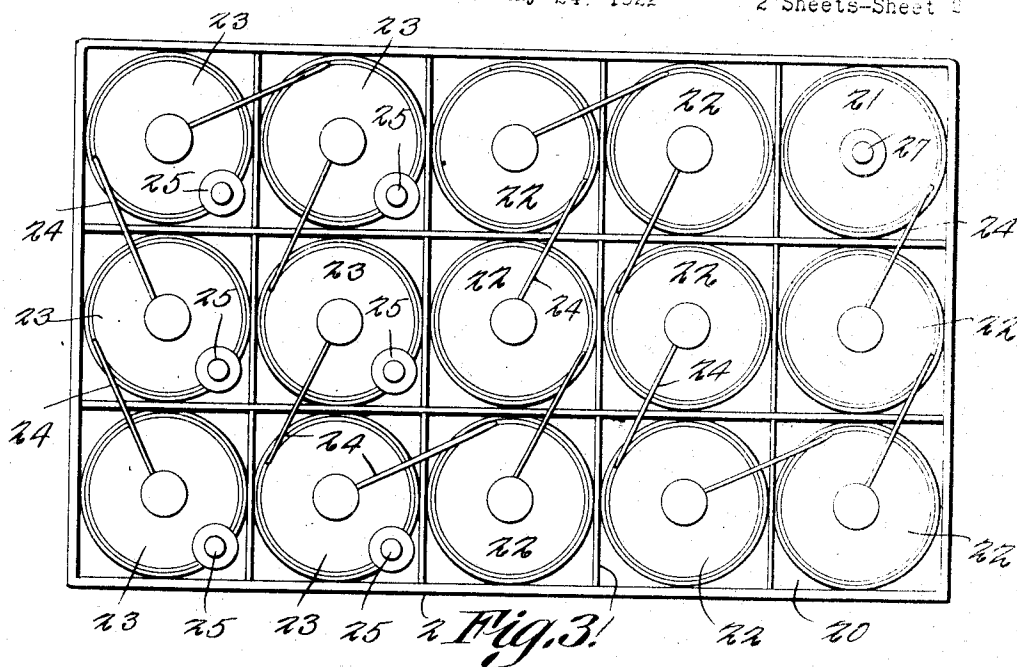
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2 Sheets-Sheet 2



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Patented Apr. 29, 1924.

1,492,297

UNITED STATES PATENT OFFICE.

HARRY T. HIPWELL, OF PITTSBURGH, PENNSYLVANIA.

BATTERY.

Application filed May 24, 1922. Serial No. 563,261.

To all whom it may concern:

Be it known that I, HARRY T. HIPWELL, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Battery, of which the following is a specification.

By way of explanation it may be stated that small dry cells, of the sort used in connection with wireless outfits, commonly are sold in a container which may be a paste board box, a number of such cells being mounted in the container. One object of the present invention is to provide a novel switch mechanism which may be mounted securely on a frail container, such as a paste board box, it being possible to manufacture the switch cheaply, another object of the invention being the provision of novel means for connecting the points of the switch electrically with the posts of the cells, which are cut in one after another, by the switch.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that sort to which the invention appertains.

Within the scope of what is claimed, a mechanic may work changes in the specific structure depicted and described, without departing from the spirit of the invention.

In the accompanying drawings:—Figure 1 shows in top plan, a device constructed in accordance with the invention; Figure 2 is a bottom plan of the cover; Figure 3 is a top plan of the body of the casing, the cells being mounted therein; Figure 4 is a longitudinal section; Figure 5 is an enlarged sectional detail wherein parts are broken away.

In carrying out the invention, there is provided a casing 1, which, generally, is made of paste board or some other similar inexpensive material. The casing 1 includes a box-like body 2, upon which is telescoped a cover 3 of inverted box-like form. A washer 4 is placed against the under surface of the cover 3, adjacent to one corner of the cover, and is held thereon by a tubular rivet 5, passing through the cover and butt-ended on the washer and on the cover, the element 6 of Figure 5, although located on a different part of the cover, serving to illustrate the construction of the rivet 5. A terminal 7, which may be a binding post, is mounted on the cover 3, near to the tubular rivet 5, and retains, against the under surface of the cover 3, a washer 8. A washer

9 is held against the under surface of the cover 3 by a tubular rivet 10 which passes through the cover, the washer 8 being connected to the washer 9 by a conductor 11 disposed beneath the cover. A switch arm 12 is mounted to swing on the upper surface of the cover 3 and is carried by the tubular rivet 10.

Tubular rivets 6 pass through the cover 3 and hold washers 14 against the under surface of the cover, the rivets being butt-ended on the washers 14 and on the upper or outer surface of the cover. The rivets 6 are located in an arc, so that the switch arm 12 may be engaged with them, one after another, as Figure 1 will make manifest. Tubular rivets 15 extend through the cover 3 and are butt-ended upon washers 16 to hold them on the cover. Conductors 17 lie beneath the cover 3, the conductors being connected to the washers 16 and to the washers 14, and, consequently, to the switch points 6.

A false bottom 18, constituting a reinforcement, is disposed in the body 2, and in the body are placed ordinary egg-case partitions 19, forming compartments 20 wherein are located a plurality of dry battery cells, one of the cells being marked by the numeral 21, others of the cells being designated by the numeral 22, and still others of the cells being indicated by the numeral 23, for convenience in description. The cells are connected in series, as shown at 24. The cells 23 have supplemental holes 25, passing through an insulating plate 26 disposed beneath the cover 3, the cell 21 having a binding post or terminal which passes through the insulating plate. When the cover 3 is in place on the body 2, as shown in Figure 4, the post 27 of the cell 21 extends through the tubular rivets 5, the supplemental holes or binding posts of the cells 23 passing through the tubular rivets 15. Nuts 28 are threaded on the posts 25 of the cells 23 and bear upon the rivets 15, a nut 29 being mounted on the post 27 of the cell 21 and engaging the tubular rivet 5.

The general operation of the device is obvious to those skilled in the art, and may be dismissed with a brief explanation, it being obvious that the leads for the battery, considered as a whole, may be connected to the terminal or binding post 7, and to the binding post or terminal 27 which forms part of the cell 21, the conductor for the terminal

27 being bound between the nut 9 and the tubular rivet 5 through which the terminal 27 passes. By moving the switch arm 12 into contact with the rivets or points 6, one after another, the cells 23 may be cut in, one at a time, thereby to increase the voltage, the voltage available at each of the switch points 6 being marked on the outer surface of the cover 3, as shown at 30. In the present embodiment of the invention all of the cells 22 are always in the circuit.

The tubular rivets 15, cooperating with the nuts 28, constitute a convenient means for coupling the battery cells 23 with the respective switch points 6. The nuts 28 serve, further, to hold the cover 3 on the body 1. Recalling that the casing generally is fashioned from paste board, such parts as the tubular rivets 15, 6, 10 and 5 may be mounted in the casing readily and will have a firm and secure hold on the casing, notwithstanding the frail material out of which the casing is made. The rivet 10, in particular, is well adapted to hold the switch arm 12 for swinging movement, and the rivets or switch points 6 will not be torn out of the cover 3, notwithstanding the fact that the switch arm travels repeatedly into and out of engagement with them.

I claim:—

1. In a device of the class described, a casing comprising a body and a cover; a tubular conducting member extended through the cover; a switch point on the cover; a movable switch member on the cover and cooperating with the switch point; a conductor connecting the point with the tubular member; a cell in the casing and in-

cluding a post passing through the tubular member; and a binding element on the post and engaging the tubular member.

2. In a device of the class described, a casing; a tubular conducting member extended through the casing; a tubular rivet extended through the casing; a washer held on the casing by the rivet; a conductor connecting the washer with the tubular member; a movable switch member on the casing and cooperating with the rivet; a cell in the casing and including a post passing through the tubular member; and a binding element on the post and cooperating with the tubular member.

3. In a device of the class described, a casing; a first tubular rivet in the casing; a washer held on the casing by the rivet; a conductor connected to the washer; a second tubular rivet in the casing; a second washer held on the casing by the second tubular rivet; a switch arm pivoted on the first tubular rivet to swing into and out of engagement with the second tubular rivet; a third tubular rivet in the casing; a conductor connecting the third tubular rivet with the second washer; a cell in the casing and including a post passing through the third tubular rivet; and a binding element on the post and engaging the third tubular rivet.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY T. HIPWELL.

Witnesses:

FLORA L. WOLFF,
CHAS. J. KOCH.