L. H. CLARKE & J. H. DORTON.

BATTERY CHUTE OR WELL.

APPLICATION FILED APR. 3, 1911.

1,012,246.

Patented Dec. 19, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

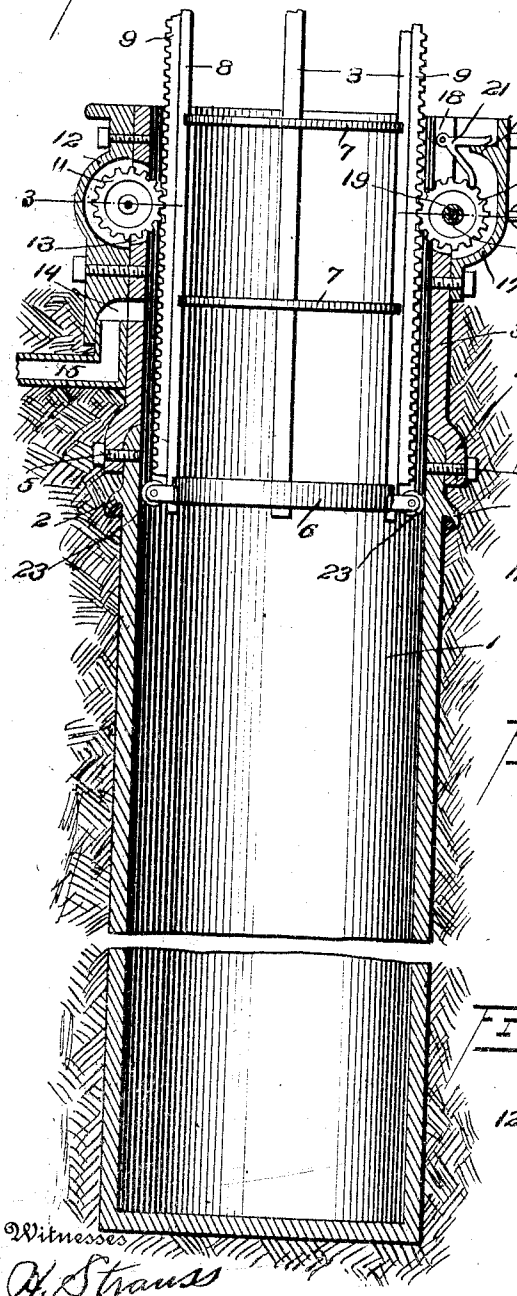


Fig. 2.

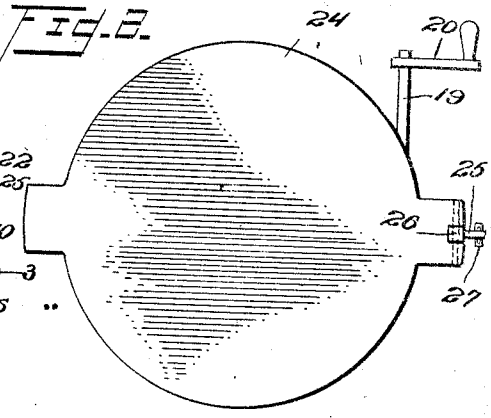


Fig. 3.

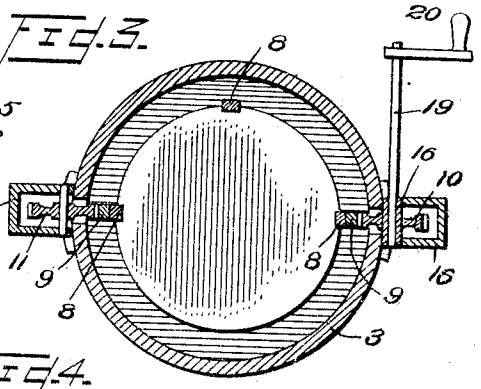


Fig. 4.

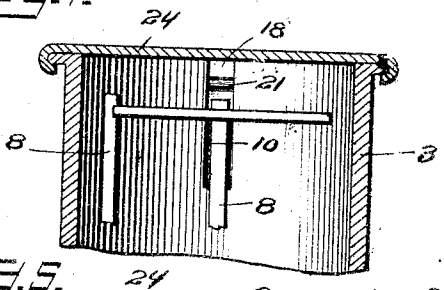
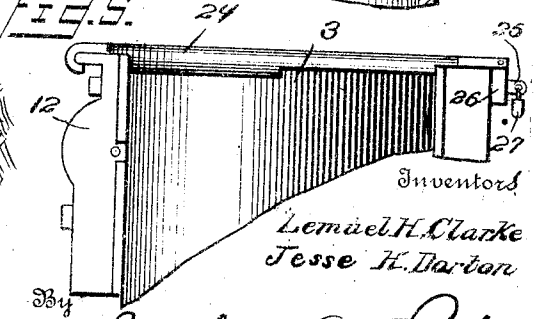


Fig. 5.



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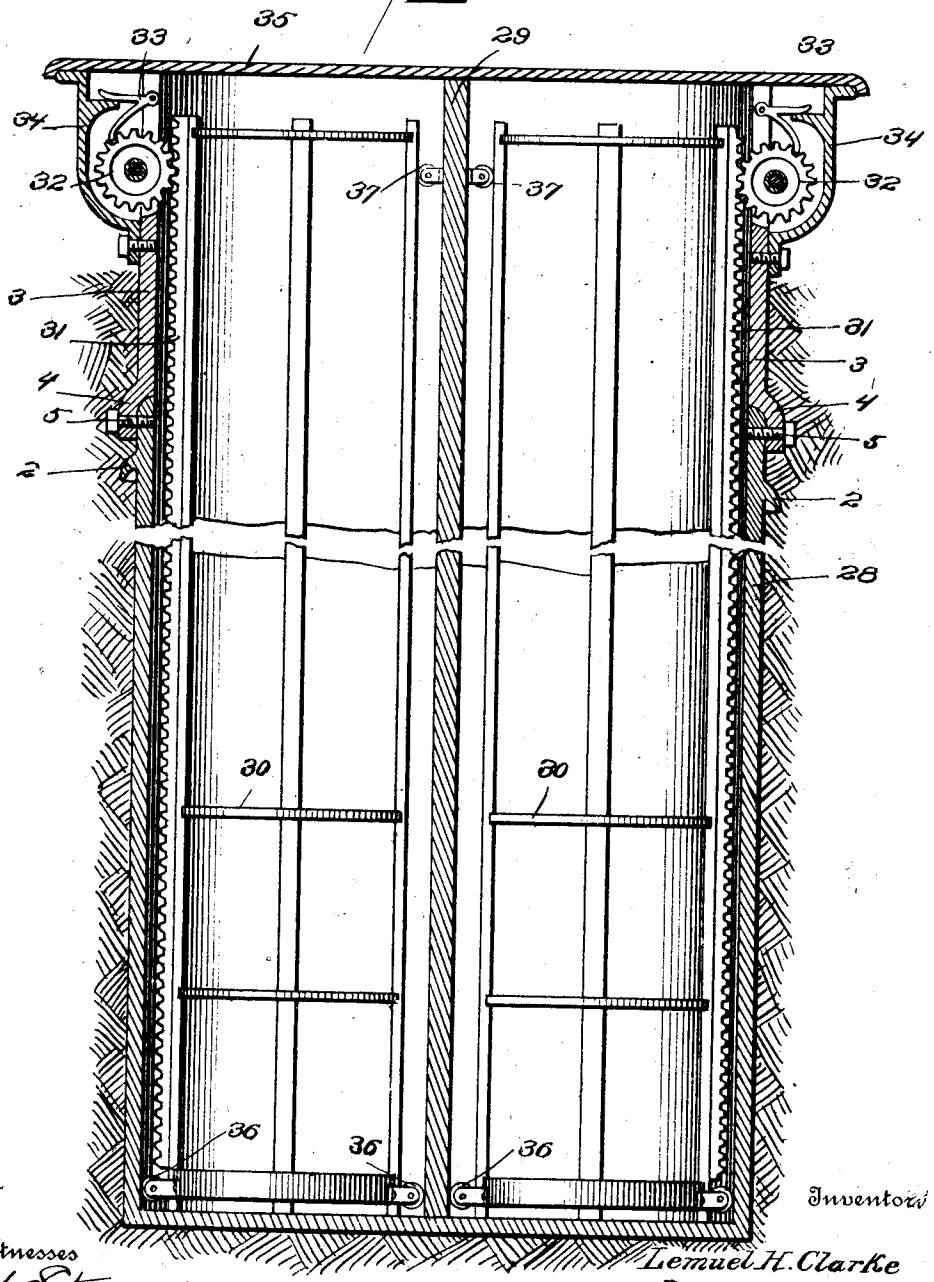
2 SHEETS—SHEET 2.

Fig. 6.



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UNITED STATES PATENT OFFICE.

LEMUEL H. CLARKE AND JESSE H. DORTON, OF CAMDEN, NEW JERSEY.

BATTERY CHUTE OR WELL.

1,012,246. Specification of Letters Patent. Patented Dec. 19, 1911.

Application filed April 3, 1911. Serial No. 618,657.

To all whom it may concern:

Be it known that we, LEMUEL H. CLARKE and JESSE H. DORTON, citizens of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Battery Chutes or Wells, of which the following is a specification.

Our invention relates to improvements in battery chutes or wells.

The object of the invention is to provide improvements upon devices of this character in general use, which enable the elevator cages to be raised and lowered at will, and held at any desired elevation to permit recharging of the cells whenever desired.

A further object is to provide improvements of this character which are adapted for use in connection with single or double elevator cages, and which improvements may be installed on devices now in use with but slight modification.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a broken view in longitudinal section illustrating our improvements. Fig. 2, is a top view of the device with the cover in place. Fig. 3, is a view in horizontal section on the line 3—3 of Fig. 1. Fig. 4, is a fragmentary view in longitudinal section taken at right angles to Fig. 1, but with the elevator cage in its lowered position, and showing the cover in position on the casing. Fig. 5, is a fragmentary view in side elevation of the upper end of the device. Fig. 6, is a broken view in vertical longitudinal section illustrating our improvements in connection with two elevator cages.

Referring to the single elevator cage structure illustrated in Figs. 1, 2, 3, 4, and 5, 1 represents a cylindrical casing which is sunk into the ground the desired depth, and is provided near its upper end with enlargements or hand holds 2 to facilitate the carrying of the device and the withdrawing of the casing from the ground if desired. On the upper end of the casing 1, a casing extension 3 is secured, and this casing extension 3 has an outwardly flared annular flange 4 at its lower end inclosing the upper end of casing 1, and secured thereto by screws 5. 6, represents an elevator cage which is of skeleton form, and provided with any number of shelves 7 for the reception of battery jars (not shown), and these shelves 7 are connected by longitudinal bars 8. To the outside of opposite longitudinal bars 8, rack bars 9 are fixed, and these rack bars 9 mesh with gears 10 and 11 respectively, the former constituting a moving means, and the latter an idler. The idle gear 11 is mounted in a bracket 12 fixed to the side of extension 3, said extension having an opening 13 through which the gear 11 projects into mesh with rack 9. This bracket 12 is made with an outlet 14 for the electric wires (not shown), which pass through a pipe 15 to the connections. The drive gear 10 is supported upon a shaft 16, which is mounted in a bracket 17 secured to extension 3, and said extension at said bracket, made with a longitudinal slot 18, through which gear 10 projects into mesh with rack 9. The shaft 16 is hollow, and is made with an angular bore to receive an angular shaft 19 forming a part of a crank 20, said crank being removable and normally out of the shaft. The bracket 17 is open in its top. In other words, this bracket is hollow, and not only accommodates gear 10, but also accommodates a locking pawl 21. This pawl 21 is of general V-shape, one member normally engaging the teeth of gear 10, while the other is supported upon a shoulder 22 integral with the bracket. It will be noted that pawl 21 is so positioned that it does not interfere with the lifting of the elevator cage, but holds the same at any height desired. At the lower end of the elevator cage, at opposite sides, guide rollers 23 are located, and run against the inner face of casing 1, so as to prevent wabbling of the elevator cage during its upward and downward movement. A suitable cap plate 24 is secured in position over the upper end of the extension 3, and bracket 17, by means of a lock 27 which is positioned through a perforated lug 25, over which a pivoted hasp 26 on cap 24 is located.

It will be noted particularly by reference to Figs. 4 and 5, that the cap plate 24 has an inwardly projecting flange which locks over the flanged upper end of the casing, and this flange of the cap only extends half way around the cap as clearly shown in Fig. 5.

In operation, the elevator cage may be

raised and lowered by turning gear 10, and said elevator cage will be securely held at any height by means of the pawl 21, thus enabling the jars on any of the shelves to be re-charged or the wiring repaired, or any other work performed that is incident to devices of this kind without the necessity of drawing the elevator cage, entirely out of casing 1, as is common with devices in general use.

In the construction shown in Fig. 6, we illustrate our improvements in connection with a casing 28 having a vertical partition 29 dividing the casing into two compartments, in each of which elevator cages 30 are located. These elevator cages have rack bars 31, with which gears 32 mesh, and are controlled by pawls 33. These gears 32 and pawls 33 are similar to the gear 10 and pawl 21 above referred to, and are mounted in brackets 34 corresponding to brackets 17, and said casing is normally closed by a cap 35. The elevator cages are held against lateral movement by means of rollers 36 at the lower ends of the elevator cages, and rollers 37 secured to partition 29, hold the racks 31 in engagement with gears 32. With this double form of elevator cage, each elevator cage may be raised and lowered separately, and may be held at any desired height by means of the gears 32 and pawls 33. This double elevator cage structure in many respects is precisely like the single elevator cage structure above described, and we have used the same reference characters to indicate like parts.

Various other slight changes might be made in the general form and arrangement of parts described without departing from our invention, and hence we do not limit ourselves to the precise details set forth, but consider ourselves at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A battery chute or well, comprising a casing, an elevator cage in the casing, racks at opposite sides of the elevator cage, gears supported on the casing and meshing with the racks, one of said gears constituting a driver to move the elevator cage, a pawl normally engaging said driving gear, said pawl comprising two members, one member engaging the teeth of said gear, a shoulder against which the other member of said pawl engages, limiting its pivotal movement, and rollers mounted on the lower end of said elevator cage and bearing against the inner face of said casing, substantially as described.

2. A battery chute or well, comprising a casing, lugs projecting outward from the sides of the casing near its upper end, a casing extension overlapping the upper end of said casing, screws securing said extension on said casing, brackets secured to said extension, gears supported in said brackets and projecting into the extension, an elevator cage movable vertically in said casing and extension, racks on opposite sides of said elevator cage, engaging said gears, and means for turning one of said gears, substantially as described.

3. A battery chute or well, comprising a casing, lugs projecting outward from the sides of the casing near its upper end, a casing extension overlapping the upper end of said casing, screws securing said extension on said casing, brackets secured to said extension, gears supported in said brackets and projecting into the extension, an elevator cage movable vertically in said casing and extension, racks on opposite sides of said elevator cage, engaging said gears, a pawl engaging one of said gears, means for turning said pawl-engaged gear, and a removable cap normally covering said casing extension and said brackets, substantially as described.

4. A battery chute or well comprising a casing, a casing extension overlapping the upper end of said casing, screws securing said extension on said casing, an elevator cage in the casing, a rack secured to the cage and extending longitudinally thereof, a gear supported in the casing extension and meshing with the rack, said gear constituting a driver to move the elevator cage, a pawl normally engaging said gear, and means on said cage preventing lateral movement thereof in the casing, substantially as described.

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

LEMUEL H. CLARKE.
JESSE H. DORTON.

Witnesses:
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S. W. FOSTER.