

No. 775,629.

PATENTED NOV. 22, 1904.

F. LIPPART & H. C. WARREN.

POWDER CHARGER.

APPLICATION FILED NOV. 3, 1903.

NO MODEL.

Fig. 1.

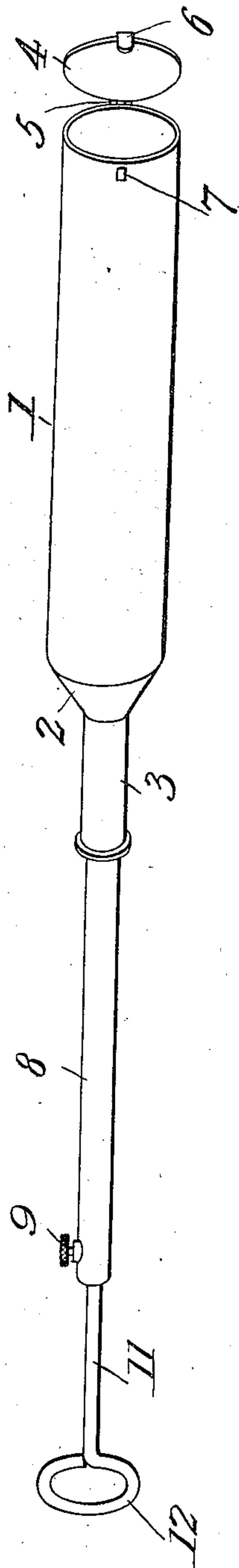
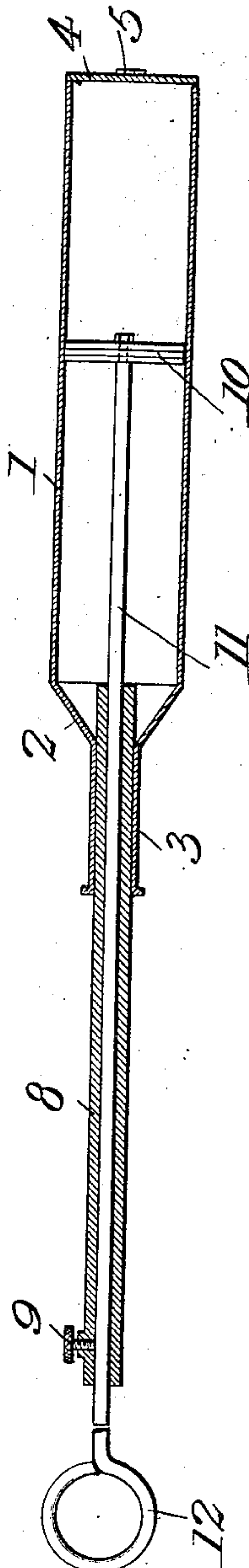


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK LIPPART AND HIRAM C. WARREN, OF CLEARFIELD,
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POWDER-CHARGER.

SPECIFICATION forming part of Letters Patent No. 775,629, dated November 22, 1904.

Application filed November 3, 1903. Serial No. 179,747. (No model.)

To all whom it may concern:

Be it known that we, FRANK LIPPART and HIRAM C. WARREN, citizens of the United States, residing at Clearfield, in the county of Clearfield and State of Pennsylvania, have invented a new and useful Powder-Charger, of which the following is a specification.

This invention relates to devices such as are employed for charging blast-holes, and has for its objects to provide a simple inexpensive device of this character in which the charging material will be retained in the magazine until the latter arrives at the proper position in the drill-opening and will then be positively discharged and one in which the material may be delivered at any desired point within the opening.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a charger embodying this invention. Fig. 2 is a central longitudinal section through the same.

Referring to the drawings, 1 designates the magazine of the device, consisting of a tube of suitable length composed, preferably, of sheet metal and having a rear conical end 2 terminating in a reduced tubular portion or extension 3, the forward end of the magazine being provided with a cap or closure 4, hinged or otherwise pivoted to the magazine, as at 5, and adapted to be locked in its closed position by a spring or frictional catch 6, which engages a keeper 7 in the form of a lug or projection provided upon the outer wall of the magazine.

8 is a tubular handle consisting, preferably, of a length of metal piping having its forward end securely seated within the reduced tubular extension 3 of the magazine. The handle 8 has tapped transversely through its wall, adjacent to its rear end, a thumb-screw or other suitable fastening device 9, the purpose of which will hereinafter appear.

The tubular magazine 1, which is preferably circular in cross-section, has situated therein a longitudinally-movable head or plunger 10, preferably fixed upon the forward end of and

movable by a plunger-rod 11, which extends through and is slidable back and forth within the handle 8, this rod being provided at its rear end with a ring or other suitable hand-piece 12.

In practice the powder or other blasting material is filled into the magazine 1, the size of the charge being regulated by the plunger 10, which after adjustment for this purpose is fixed by manipulating the thumb-screw 9 to engage and hold the rod 11 against movement. After the proper charge has been placed in the magazine cap 4 is closed and its latch 6 engaged with keeper 7, the blasting material being thus prevented from accidentally escaping from the magazine-tube. The magazine is then inserted into the blast hole or opening, and when it arrives at the proper point therein the rod 11 is released and shoved forward, which action unlatches the cap and forces the same open and discharges the powder from the magazine. It is here to be particularly noted that because of the cap or closure being operable through the medium of the plunger the powder may be discharged at any point within the blast-opening and that its accidental discharge before reaching the proper point is wholly precluded by latching the closure and securing the plunger against movement. In withdrawing the device from the blast-hole the rear conical end 2 serves to permit the magazine to freely pass obstructions.

From the foregoing it is apparent that a simple inexpensive device is produced which is admirably adapted for the attainment of the ends in view; but it is to be understood that minor changes may be made in the construction herein set forth without departing from the spirit of the invention.

Having thus described our invention, what we claim is—

1. In a device of the class described, the combination with a magazine, of a closure therefor adapted to lock in its closed position, and a movable plunger within the magazine, said closure being releasable by forward movement of the plunger.

2. In a device of the class described, the combination with a magazine, of a closure

therefor adapted to lock in its closed position, a movable plunger within the magazine, said closure being releasable by forward movement of the plunger, and means for locking the
5 plunger against movement.

3. In a device of the class described, the combination with a magazine, of a closure for the forward end thereof, means for locking the closure in closed position, and a movable
10 plunger within the magazine, said closure being releasable by rearward pressure initiated by forward movement of the plunger.

4. In a device of the class described, the combination with a magazine, of a tubular handle extending rearward therefrom, a closure for the forward end of the magazine adapted to lock in its closed position, a movable plunger within the magazine, said closure being
15 releasable by forward movement of the plunger, and a plunger-operating member extending through the handle.

5. In a device of the class described, the combination with a magazine, of a tubular handle extending rearward therefrom, a closure
25 for the forward end of the magazine adapted

to lock in its closed position, a movable plunger within the magazine, said closure being releasable by forward movement of the plunger, a movable plunger-operating member extending through the handle, and means for
30 locking said member against movement.

6. In a device of the class described, the combination with a magazine, of a tubular handle extending rearward therefrom, a closure for the forward end of the magazine adapted
35 to lock in its closed position, a movable plunger within the magazine, said closure being releasable by forward movement of the plunger, a reciprocatory plunger-operating rod extending through the handle, and a set-screw
40 tapped through the handle for engaging the rod to lock the same against movement.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

FRANK LIPPART.
HIRAM C. WARREN.

Witnesses:

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