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W. C. & C. F. MacDONALD.

POCKET LIGHTER.

APPLICATION FILED JAN. 22, 1906.

Fig. 1

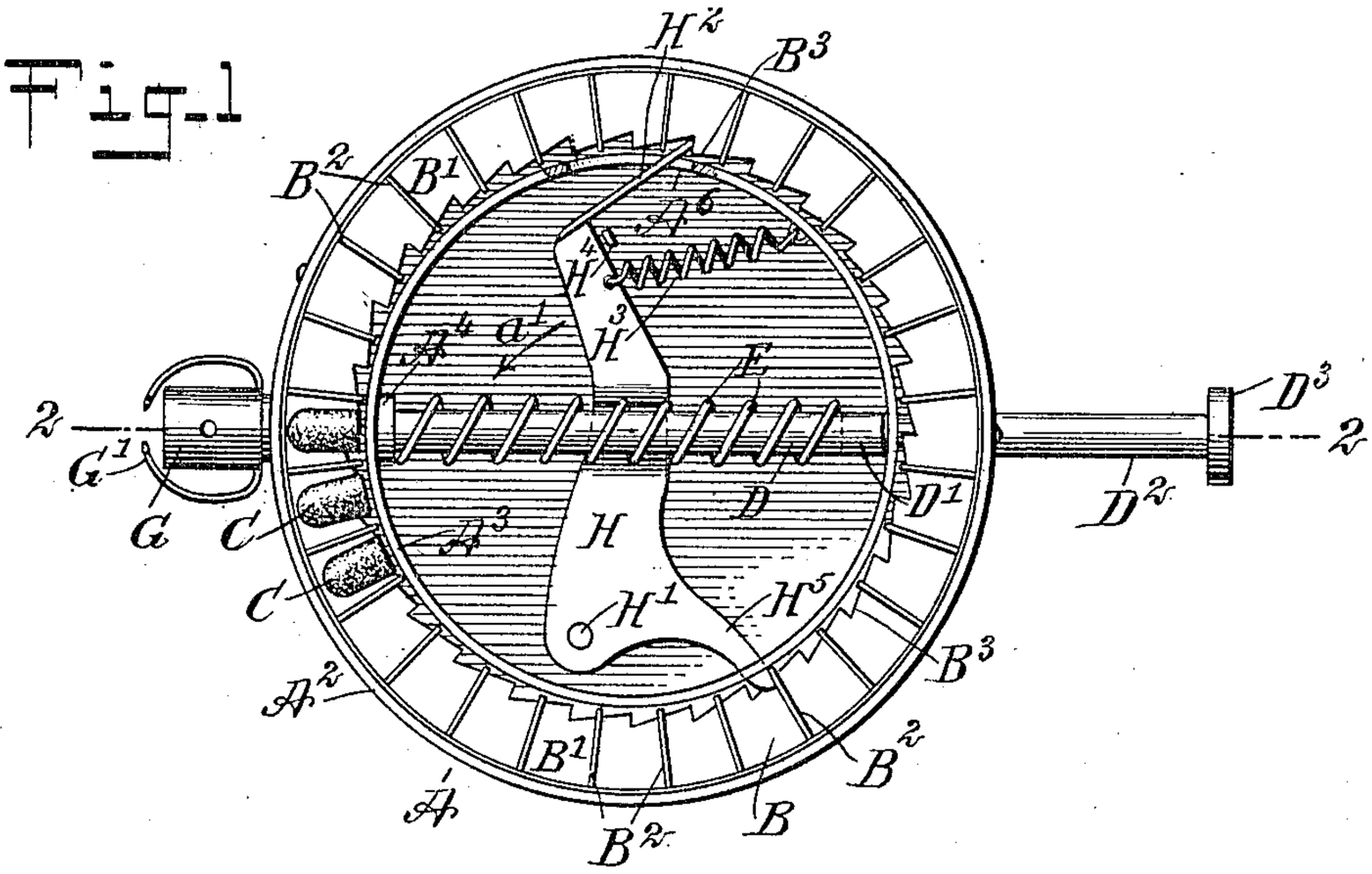


Fig. 2

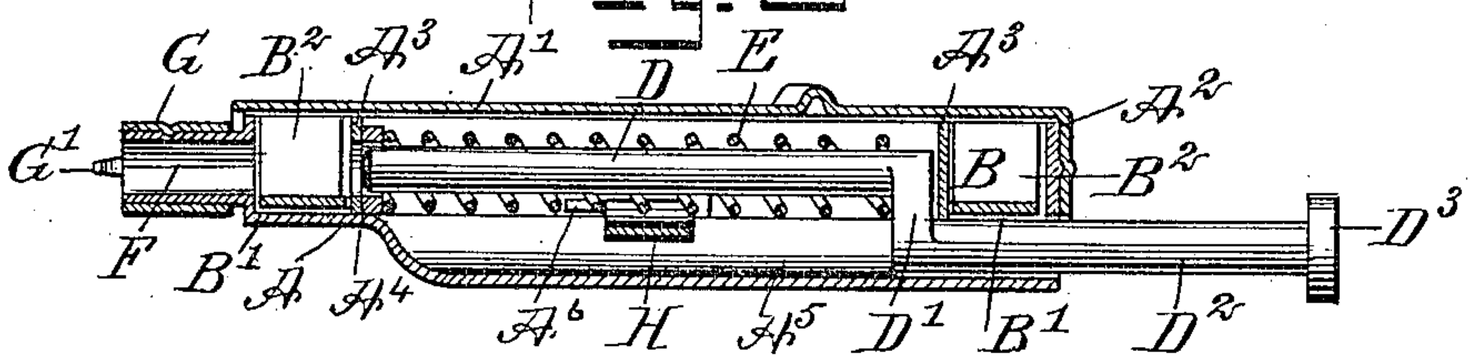
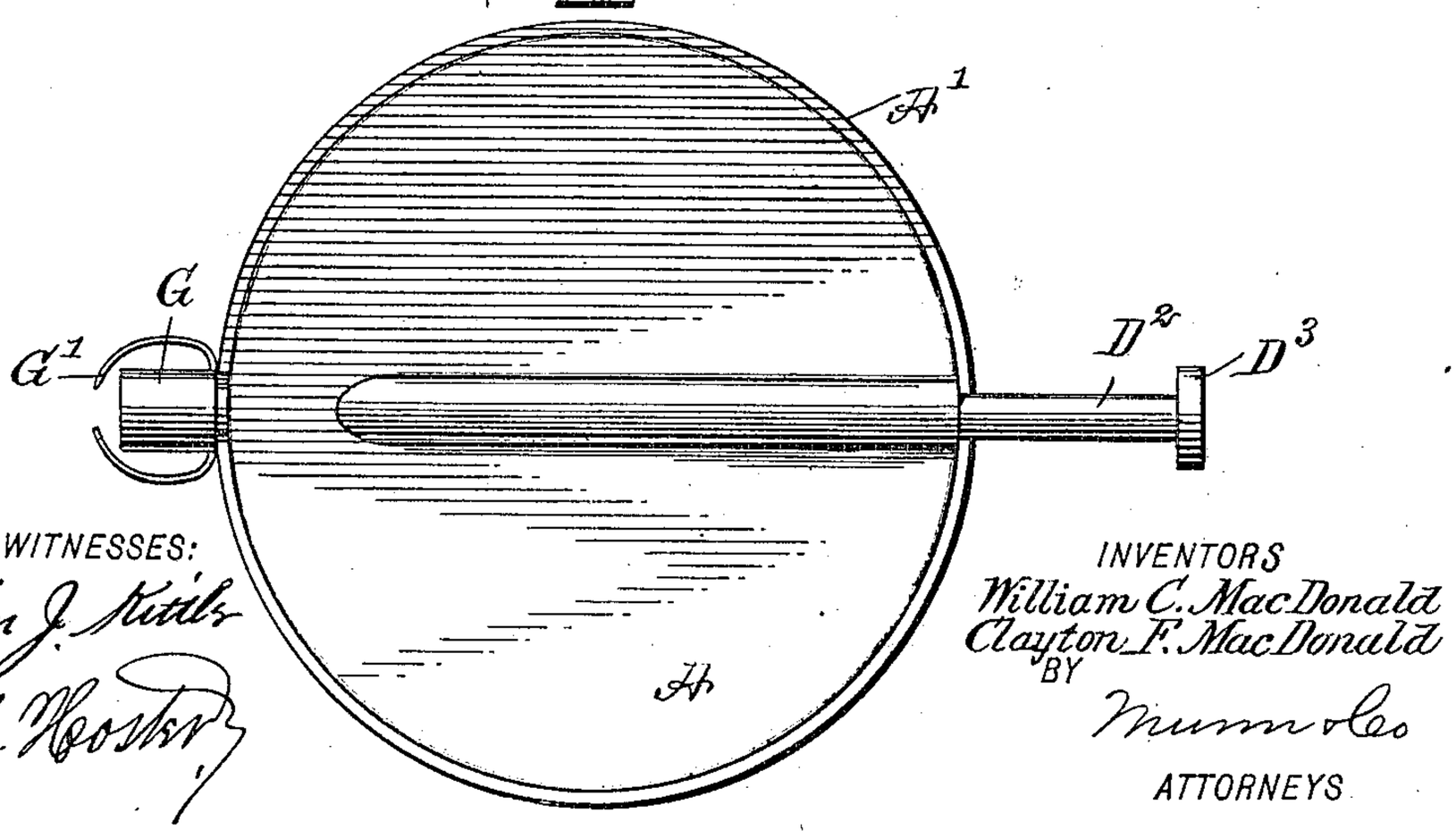


Fig. 3



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WILLIAM CHARLES MacDONALD AND CLAYTON FARR MacDONALD, OF ROCK ISLAND, ILLINOIS.

POCKET-LIGHTER.

No. 831,882. Specification of Letters Patent. Patented Sept. 25, 1906.

Application filed January 22, 1906. Serial No. 297,196.

To all whom it may concern:

Be it known that we, WILLIAM CHARLES MacDONALD and CLAYTON FARR MacDONALD, citizens of the United States, and residents of Rock Island, in the county of Rock Island and State of Illinois, have invented a new and Improved Pocket-Lighter, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pocket-lighter provided with a magazine containing fulminating-pellets adapted to be successively and safely ejected from the magazine to the outside of the casing to be ignited thereon for lighting purposes.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the improvement with the cover of the casing removed. Fig. 2 is a sectional plan view of the same on the line 2 2 of Fig. 1, and Fig. 3 is a rear face view of the improvement.

The casing A of the pocket-lighter is preferably made cylindrical and is adapted to be closed by a removable cover A′, and in the said casing A and spaced from the rim A^2 thereof is arranged a concentric ring A^3, forming, with the rim A^2, an annular bearing for a magazine-wheel B to turn in, the said magazine-wheel B consisting of a ring-shaped back plate B′ and radially-spaced partitions B^2, attached to the face of the said back plate B′. Thus by the arrangement described the magazine-wheel B is provided with cells, each of which is adapted to receive a fulminating-pellet C of any approved construction, it being understood that when the cover A′ is removed the said magazine-wheel can be readily filled with pellets C.

The pellets C are adapted to be successively ejected from their cells by the use of a plunger D, extending diametrically through the casing and pressed on by a spring E to normally hold the free end of the plunger within a bearing A^4, formed on the ring A^3, as plainly illustrated in Figs. 1 and 2. The plunger D is provided with an offset D′ inside of the ring A^3, and from the offset D′ extends an arm D^2, mounted to slide in a bearing A^5, formed on the back of the casing A, the said arm D^2 passing underneath the magazine-wheel B to the outside of the casing, and on the outer end of this arm D^2 is arranged a knob D^3, adapted to be pressed by the operator whenever it is desired to eject a pellet C from the magazine-wheel.

From the rim A^2 of the casing A extends a nozzle F in axial alinement with the bearing A^4 and the plunger D to permit the latter to push a pellet from its cell into the nozzle F and onto the prongs G′ of an igniting device G, secured to the nozzle F. The prongs G′ are preferably made of spring-steel, and when a pellet C is pushed by the plunger D out of its cell and through the nozzle F in contact with the points of the said prongs G′ then the frictional contact of the pellet with the prongs causes ignition of the pellet, which burns outside of the nozzle F, and thus forms a convenient means for lighting purposes. When the operator releases the pressure on the plunger D, then the spring E immediately returns the plunger to an inactive position, (shown in Figs. 1 and 2,) the return movement of the plunger being limited by the offset D′ abutting against the ring A^3.

In order to bring the cells of the magazine-wheel B successively in register with the bearing A^4 and the nozzle F, the following device is provided: A pawl H is fulcrumed at H′ to the back plate of the casing A, and on the free end of the pawl H is secured a spring-arm H^2, adapted to engage ratchet-teeth B^3, formed on the inner edge of the ring B′ of the magazine-wheel B. A spring H^3 presses the pawl H, and the latter is actuated by the offset D′ at the time the plunger D is pressed, so that the pawl H in swinging in the direction of the arrow *a′* causes its arm H^2 to glide over the ratchet-teeth D^3. When the plunger D is returned by its spring E, as above described, then a return movement is given to the pawl H by its spring H^3, and the arm H^2 now turns the magazine-wheel B, so as to bring the next cell into register with the bearing A^4 and the

nozzle F. The return swinging motion of the pawl H is limited by a stop H^4 (see Fig. 1) attached to the back of the casing A. The arm H^2 of the pawl H extends through a slot A^6 in the ring A^3, as indicated in Figs. 1 and 2.

In order to prevent the magazine-wheel B from being turned too far by the pawl H, a dog H^5 is provided, extending integrally from the fulcrum end of the pawl H and engaging a partition B^2 of the magazine-wheel B at the time the pawl H reaches the end of its return movement. Thus the magazine-wheel B is locked against further turning by its own momentum to maintain register of a cell with the bearing A^4 and the nozzle F.

The pocket-lighter shown and described is very simple and durable in construction, can be readily charged with a large number of pellets, and the latter can be conveniently and successively pushed out of the magazine-wheel by the operator manipulating the plunger D, so that an ejected pellet is ignited at the igniting device G outside of the casing A.

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

1. A pocket-lighter comprising a casing, a magazine-wheel mounted to rotate in the said casing and having spaced cells for containing fulminating-pellets, an igniting device held on the outside of the casing and in communication with a cell at a time, and a plunger for forcing a pellet out of a cell and into the igniting device for igniting the pellet outside of the casing.

2. A pocket-lighter comprising a casing, a magazine-wheel mounted to rotate in the said casing and having spaced cells for containing fulminating-pellets, an igniting device held on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and into the igniting device for igniting the pellet outside of the casing, and means controlled by the said plunger for intermittently rotating the said magazine-wheel.

3. A pocket-lighter comprising a casing, a magazine-wheel mounted to rotate in the said casing and having spaced cells for containing fulminating-pellets, an igniting device held on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and into the igniting device for igniting the pellet outside of the casing, means controlled by the said plunger for intermittently rotating the said magazine-wheel on the return of the plunger, and means controlled by the said plunger for preventing the magazine-wheel from being turned too far by the said means for rotating the magazine-wheel.

4. A pocket-lighter comprising a casing, a magazine-wheel mounted to rotate in the said casing and having spaced cells for containing fulminating-pellets, an igniting device held on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and into the igniting device for igniting the pellet outside of the casing, a spring pressing the plunger for returning the same, ratchet-teeth on the said magazine-wheel, and a spring-pressed pawl adapted to engage the said ratchet-teeth and controlled by the said plunger.

5. A pocket-lighter comprising a casing, a magazine-wheel mounted to rotate in the said casing and having spaced cells for containing fulminating-pellets, an igniting device held on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and into the igniting device for igniting the pellet outside of the casing, a spring pressing the plunger for returning the same, ratchet-teeth on the said magazine-wheel, a spring-pressed pawl adapted to engage the said ratchet-teeth and controlled by the said plunger, and a dog on the said pawl for engaging the said magazine-wheel to prevent the same from moving too far.

6. A pocket-lighter comprising a casing having an internal annular bearing, a magazine-wheel mounted to turn in the said bearing and formed of a ring and radial partitions forming cells for the reception of individual pellets, the said ring having ratchet-teeth at its inner edge, a plunger mounted to slide diametrically in the said casing and adapted to pass through a cell at a time for ejecting the pellet therein, the plunger having an offset, a spring pressing the said plunger to normally hold the free end thereof out of engagement with a cell, an igniting device on the outside of the rim of the casing and in register with a cell at a time, the axis of the igniting device coinciding with the axis of the said plunger, and a spring-pressed pawl engaging the said ratchet-teeth and adapted to be engaged by the offset of the said plunger.

7. A pocket-lighter comprising a casing having an internal annular bearing, a magazine-wheel mounted to turn in the said bearing and formed of a ring and radial partitions forming cells for the reception of individual pellets, the said ring having ratchet-teeth at its inner edge, a plunger mounted to slide diametrically in the said casing and adapted to pass through a cell at a time for ejecting the pellet therein, the plunger having an offset, a spring pressing the said plunger to normally hold the free end thereof out of engagement with a cell, an igniting device on the outside of the rim of the casing and in register with a cell at a time, the axis of the igniting device coinciding with the axis of the said plunger,

a spring-pressed pawl engaging the said ratchet-teeth and adapted to be engaged by the offset of the said plunger, and a dog extending integrally from the said pawl and adapted to engage the said partitions on the magazine-wheel.

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

WILLIAM CHARLES MACDONALD.
CLAYTON FARR MACDONALD.

Witnesses:
HARRY M. MCCASKRIN,
MARTIN H. DANIELSON.