C. HERZFELDT, Jr.
Spring Air-Gun.

No. 208,016. Patented Sept. 17, 1878.

Fig: 1.

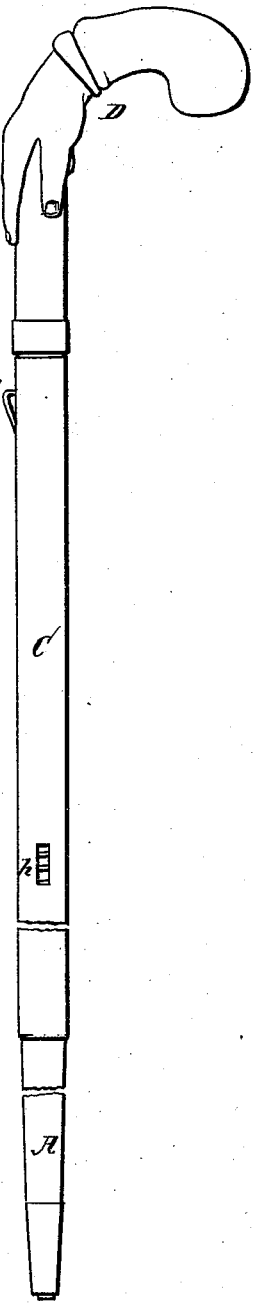


Fig: 2.

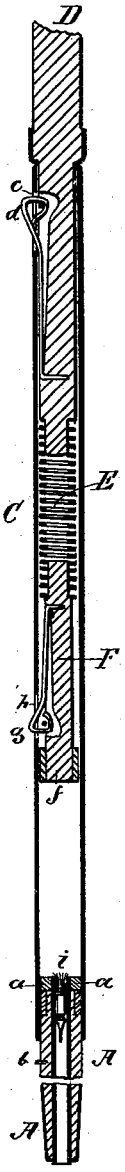
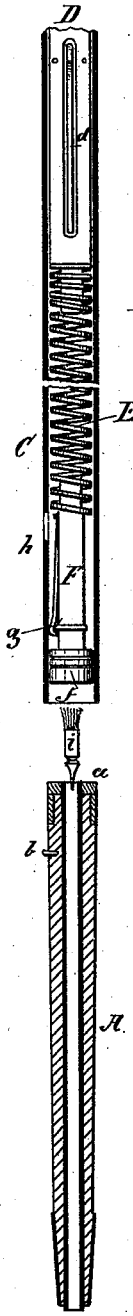


Fig: 3.



Witnesses.
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Ethel H. Drowmann

Inventor.
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UNITED STATES PATENT OFFICE.

CARL HERZFELDT, JR., OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO CARL HERZFELDT, SR., OF SAME PLACE.

IMPROVEMENT IN SPRING AIR-GUNS.

Specification forming part of Letters Patent No. **208,016**, dated September 17, 1878; application filed August 22, 1878.

To all whom it may concern:

Be it known that I, CARL HERZFELDT, JR., of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Air-Gun and Walking-Cane Combined, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

The nature of my invention relates to an air-gun resembling in shape a slender walking-cane.

The object of my invention is to produce an air-gun in which, by the action of a spring, a piston compresses a column of air, which propels the bolt or bullet, the whole to be composed of but very few pieces, simple in their construction.

My invention consists in the peculiar construction and arrangement of the operating mechanism in the air-gun, so as to perform its functions in the most simple manner, while the whole gun imitates in shape and enables its use as a walking-cane, as hereinafter more fully described and claimed.

In the drawing, Figure 1 represents an exterior view of the device; Fig. 2, a longitudinal section of the air-gun while cocked and loaded, ready for shooting, and Fig. 3 represents a longitudinal section of the same in condition after shooting, and with its barrel disconnected for loading.

A is the barrel, being a wooden tapering stick, bored out cylindrically and bushed by a metal tube. Both ends of this barrel are ferruled, and the thicker end, which connects with the air-cylinder, is provided with a rubber ring, *a*, at its extreme end for forming an air-tight packing with said cylinder, and has a stop, *b*. This end of the barrel A is removably coupled with the air-cylinder C by pressing its end into the end of said cylinder as far the stob *b* will permit.

The air-cylinder C consists of a piece of brass pipe, the bore of which is made true cylindrically, and the rear end of which is entered by the cylindrical shank of a hook-handle, D, forming the gun-stock, and being removably secured in said cylinder by a wire snap, *d*, vibrating in an oblong cavity of the handle-shank, and by its spring-action engaging with a slot, *c*, cut through the wall of cylinder C, similar to the locking device for the stretcher-sleeve in umbrellas.

The end of the handle-shank is reduced in diameter, so as to enter and hold one end of a coil-spring, E, twisted of flattened steel wire, the opposite end of which embraces and holds the pointed rear end of a cylindrical rod, F, having at its front end the plunger or piston *f*, which is of such a diameter that it will make an air-tight fit with the bore of the cylinder C. This plunger-rod F has a longitudinal cavity adapted to receive a wire snap, *g*, similar to the snap *d* on the handle-shank, but in a reversed position thereto, which snap *g* is to engage with a slot, *h*, in the wall of the cylinder C.

Both snaps *d* and *g* form shoulders with the slots *c* and *h*, by and between which the spring E is retained in a contracted condition, to be liberated by depressing the snap *g*, which acts as the trigger of the gun, when the plunger *f* will be propelled forward with great force, compressing the air interposed between it and the barrel end, and expelling the bolt or bullet *i*, inserted into the hind end of said barrel A, with great velocity.

For reloading the gun the snap *d* is depressed, so as to disengage from the slot *c* of cylinder C, when the handle-stock D is withdrawn until the snap *g* of the plunger-rod F enters again the slot *h* of said cylinder, after which the spring E is contracted by pushing the handle-stock D into the cylinder C far enough for the snap *d* to enter slot *c;* and now the barrel A is disconnected from the cylinder C, the bolt or bullet *i* is inserted in its hind end, and the barrel is replaced, ready again for the next shooting.

As will be noticed, this air-gun is very simple in its construction and is easily handled. The difference in diameter between the bore of the air-cylinder and the bore of the barrel causes the air to act with great rapidity upon the missile and to re-enforce the flight of the same, while the shape of the instrument and its accommodation as a cane does not indicate its double use as a weapon.

I am aware that guns and canes combined are old.

I am also aware that air-pistols have been constructed heretofore in which the air was compressed by the propulsion of a piston of larger diameter than the diameter of the barrel-bore; but these were complicated, and therefore expensive in their construction.

What I claim as new, and desire to secure by Letters Patent, is—

1. A cane and air-gun combined, and composed of the barrel A, the handle-stock D, with snap *d*, and an intermediate cylinder, C, with spring E, and plunger F *f*, having snap or trigger *g*, the same to be constructed and arranged to operate substantially in the manner set forth.

2. In combination with the cylinder C of an air-gun, having slots *e* and *h*, the stock D and plunger F *f*, with a coil-spring, E, interposed, and each arranged with a snap, *d* and *g*, to be alternately used as triggers for loading and shooting, substantially in the manner set forth.

CARL HERZFELDT, JR.

Witnesses:
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