No. 614,531. Patented Nov. 22, 1898.

W. H. CALKINS & C. A. LINDBERG.

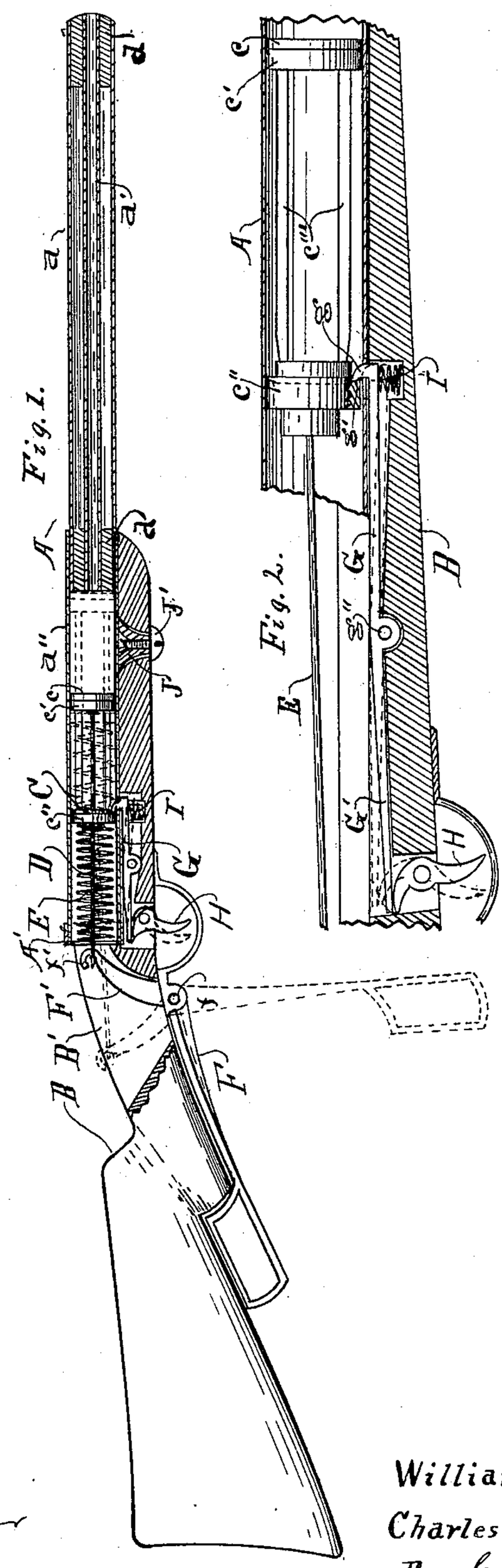
SPRING AIR GUN.

(Application filed Nov. 9, 1897.)

(No Model.)

Fig. 3.

Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM H. CALKINS AND CHARLES A. LINDBERG, OF GRAND RAPIDS, MICHIGAN, ASSIGNORS OF ONE-HALF TO AUSTIN K. WHEELER AND WILLIAM M. BUTTS, OF SAME PLACE.

SPRING AIR-GUN.

SPECIFICATION forming part of Letters Patent No. 614,531, dated November 22, 1898.

Application filed November 9, 1897. Serial No. 657,950. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. CALKINS and CHARLES A. LINDBERG, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Spring-Guns, of which the following is a specification.

Our invention relates to improvements in spring air-guns; and its objects are, first, to reduce the working parts of the gun to the least possible number, and, second, to so arrange the air-piston that the point of contact with the sear will be changed with each stroke of the piston. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the gun, showing the relative position of its several parts. Fig. 2 is an enlarged sectional view of a portion of the barrel and stock, showing the point of contact between the sear and the piston. Fig. 3 is an elevation of the cap, and Fig. 4 is an end view of the same.

Similar letters refer to similar parts throughout the several views.

The barrel A of our gun is constructed of a large tube *a*, having a small tube *a'*, supported within by the plugs *d*, said smaller tube being designed as the channel or bore of the barrel through which the shot is forced, and the air-chamber *a''*, to which the tube *a* is securely attached. Back of the air-chamber is a cap A', which is formed to slip over the end of the tube and bears against the end of the stock B. This cap is provided with a slot *b'* for the passage of the rod E, and has a sight *b* struck from its upper surface.

The piston C is constructed with a metallic head *c'*, to which is secured a leather or other suitable packing *c*, fitted to confine the air and force it through the air-chamber and the tube *a'*, a second head *c''*, and the two heads connected by the bars *c'''*.

The front surface of the head *c''* is made slightly concave or inclined backward, so that the hook *g* on the end of the sear G will engage it as a slightly-inclined hook and thus avert the danger of its becoming accidentally disconnected therefrom and prematurely discharging the gun. In Fig. 2 we have shown the lower portion of the head *c''* in section to illustrate this feature of our invention. (See *g'*.)

The sear is composed of the continuous lever G G', pivoted to the stock B, as at *g''*, and held to normal position by a spring, as I, at the front end, which forces the hook *g* into contact with the catch *g'* on the piston and is actuated to free the piston from this hook by the trigger or lever H in the usual manner, as indicated by the dotted lines in Figs. 1 and 2.

In Fig. 1 we have shown the air-piston as drawn back and secured by the sear in position to fill the air-chamber preparatory to discharging the projectile from the gun and the actuating-lever F thrown back to position to allow of the forward throw of the piston, which is actuated by the rebound of the spring D, as indicated by its dotted lines in Fig. 1.

The angle-lever F has an upwardly-projecting arm F' passing through the stock and is pivoted to the end of the trigger-guard below the stock, as at *f*, and the upper end of the arm F' is provided with a hook *f'*, designed to receive the end of the rod E to draw the piston back, which is accomplished by throwing the lever F down to the position indicated by the dotted lines in Fig. 1, and when the piston has engaged the sear the lever is thrown back to place and the rod E is carried forward through the piston, (see Fig. 1,) so that the entire forward throw of the piston is independent of and without effect upon the rod.

The catch on the head *c''* of the piston is formed entirely around the head, so that it makes no difference what portion of it is engaged by the sear, and the action of the coiled spring D upon the head is such as to invariably cause it to turn slightly with each stroke of the piston, so that the sear can never engage it twice consecutively in one place, thus averting the danger of serious wear upon this bearing.

To secure our barrel to the stock, we attach a lug J to the lower side of the barrel, which passes into a corresponding aperture in the

stock, (see Fig. 1,) and secure it by means of a broad-headed screw J′, as shown, so that to disconnect the two and take the gun to pieces it is simply necessary to remove this one screw, which constitutes by far the most simple means yet devised for assembling the parts in guns of this class.

B′ represents a mortise through the stock for the free action of the arm F′ of the actuating-lever.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a spring-actuated air-gun, a stock, barrel, piston, and lever, an actuating-rod slidingly attached to the piston and flexibly attached to the lever, and a single screw and stud for assembling the parts, an actuating-spring arranged to give a longitudinal and slightly rotary motion to the piston, a cap upon the breech of the barrel having a slot for the passage of the piston-rod and a strip cut and turned from one side of the cap to form a sight, substantially as and for the purpose set forth.

2. The combination, with the barrel, stock and actuating mechanism of a spring air-gun, of a detachable cap having a slot for the actuating-rod, and a sight cut and formed from the side of the cap, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, November 6, 1897.

WILLIAM H. CALKINS.
CHARLES A. LINDBERG.

In presence of—
ITHIEL J. CILLEY,
ANDREW ALLGIER.