W. BURGHART.

Breech-Loading Fire-Arm.

No. 19,068

Patented Jan. 12, 1858.

Fig: 4.

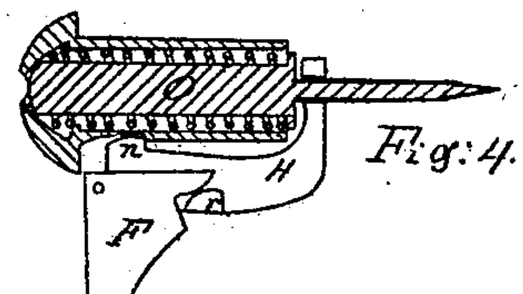


Fig: 7.

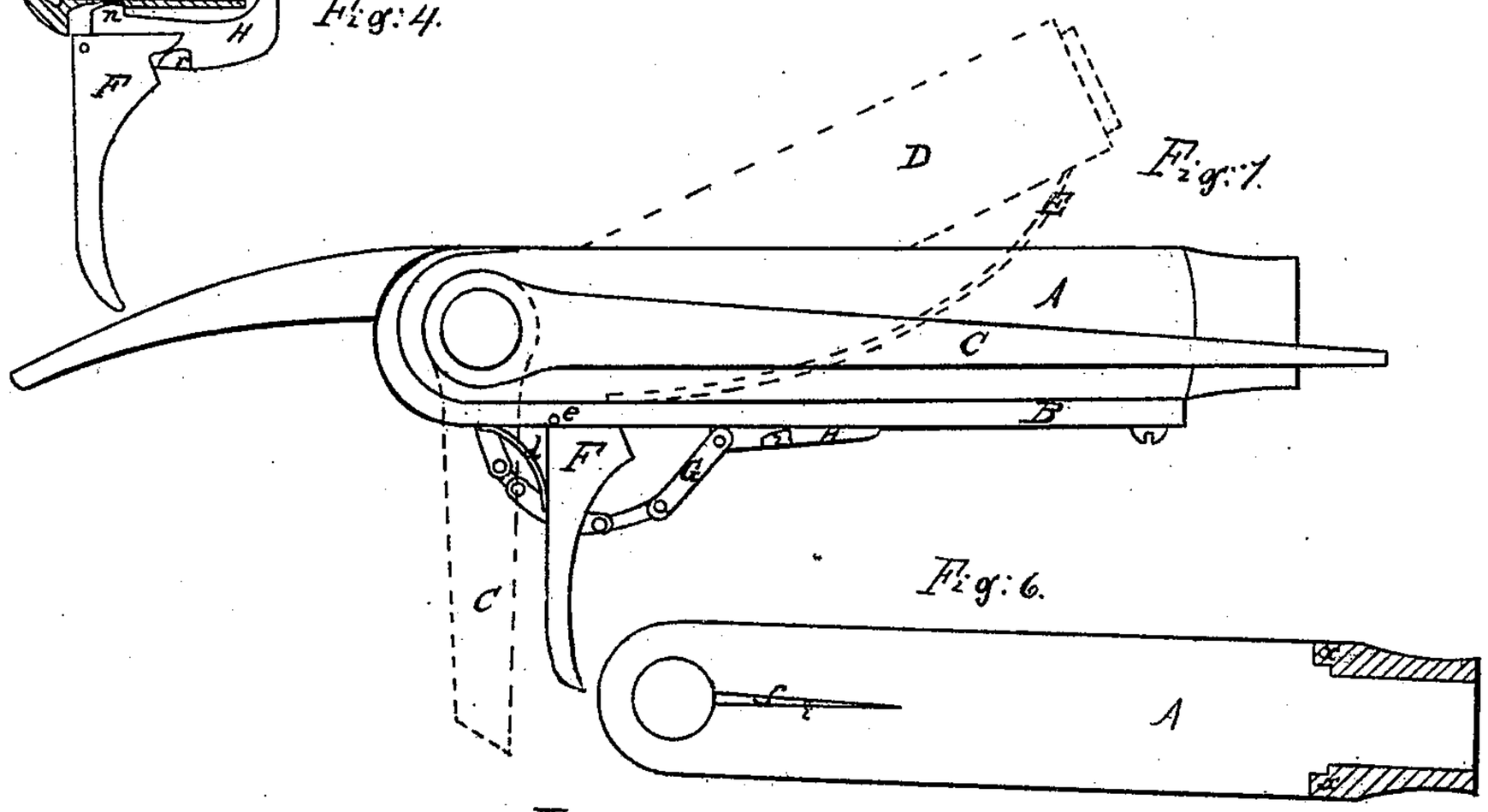


Fig: 6.

Fig: 2.

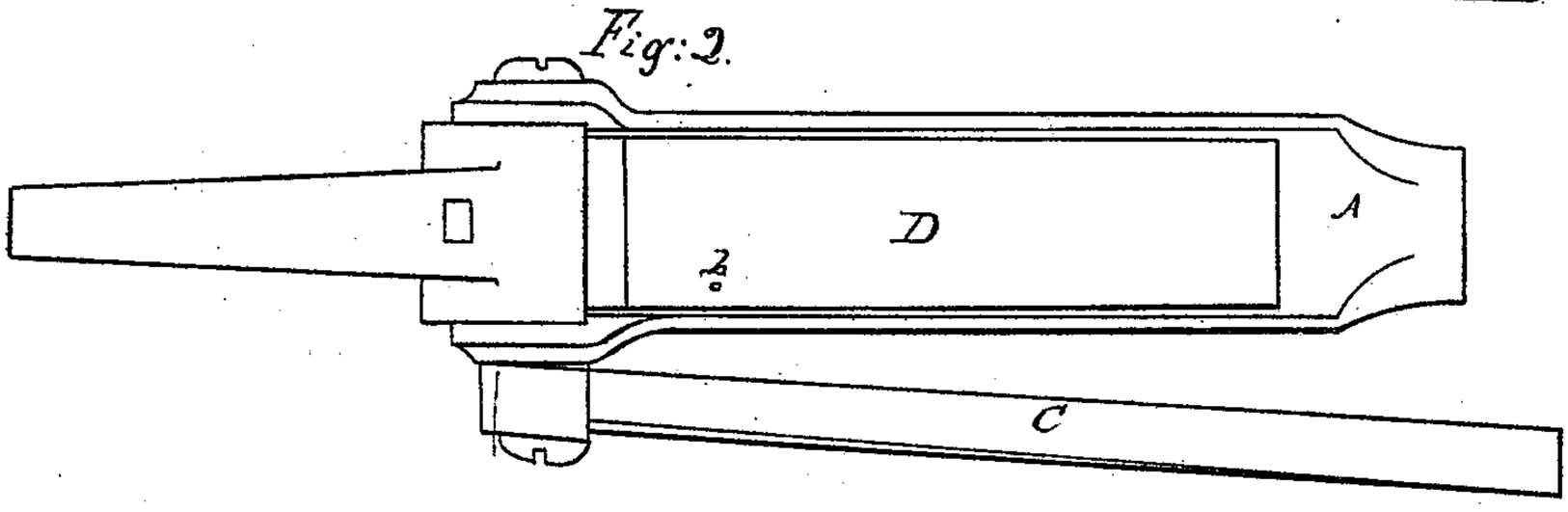


Fig: 5.

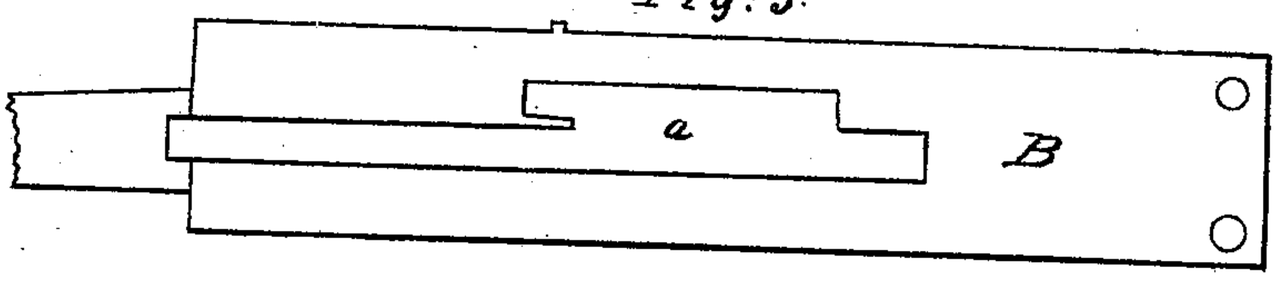
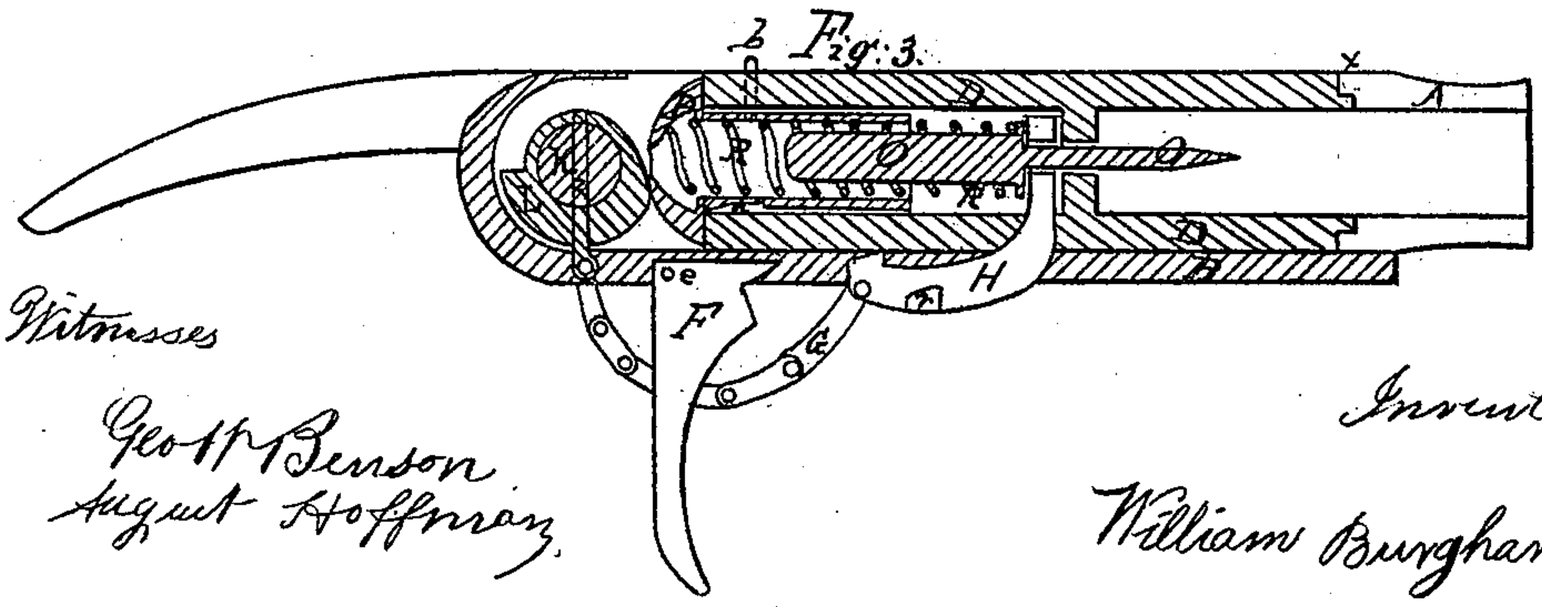


Fig: 3.



Witnesses

Geo. H. Benson

August Hoffman.

Inventor:

William Burghart.

UNITED STATES PATENT OFFICE.

WILLIAM BURGHART, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN NEEDLE-GUNS.

Specification forming part of Letters Patent No. **19,068**, dated January 12, 1858.

To all whom it may concern:

Be it known that I, WILLIAM BURGHART, of the city of Lawrence, in the State of Massachusetts, have invented new and useful Improvements on the Darting-Needle Gun, (Zündnadelgewehr;) and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, in which—

Figure 1 is a longitudinal elevation; Fig. 2, a top view; Fig. 3, a longitudinal section of the said improvements. Fig. 4 is a longitudinal section of the darting needle, the tubular casing, the coiled spring, and the trigger and carrier, showing their respective positions when the gun is loaded. Fig. 5 is a horizontal projection of the breech-seat. Fig. 6 is a longitudinal section of the principal casing.

The dotted lines in Fig. 1 show the position of the chamber, spring, and lever when prepared to receive the charge.

Similar letters of reference indicate corresponding parts in these several figures.

The darting-needle gun is admitted to be a superior firm-arm; but it is subject to several disadvantages, which my construction is designed to remove.

To enable others skilled in the art to make and use my invention, I will proceed to describe the construction and operation of the same.

The principal casing A, resting on the breech-seat B, contains a breech piece or chamber, D, a spring, E, and a cam attachment, K L, which is operated by the lever C. The chamber D contains the darting needle O, the coiled spring R, the tubular casing P, and the carrier H, which passes out of the chamber and the breech-seat through the slot *a*. The carrier H is connected by means of the chain G and the pin N with the cam L. The tubular casing P, (of the coiled spring and the darting needle,) abutting with its collar against the cam, has a notch, *n*, in which the carrier rests when the gun is cocked, and in that position the head of the trigger F rests on the projection *r* of the carrier H. The trigger F is connected with the breech-seat B by means of a small spring, *d*, and a pivot, *e*. The chamber has a small pin, *i*, sliding and turning in the slot *s* of the principal casing, so that the chamber may slide forward or backward. The tubular casing P of the coiled spring is connected with the chamber D by a pin, *b*. By this arrangement I am enabled to act upon the chamber and the darting needle simultaneously.

The chain G is an entirely new feature in the construction of darting-needle guns. It ends in a pin, N, which passes through the cam L and through the pivot K of the lever C.

The principal casing A is made of one piece; but it consists of two cheeks and a barrel-like heading, which serves to hold the projection of the chamber X as well as the barrel of the gun.

The darting needle O is made very strong, more than half of its length being as stout as the coils of the spring will allow, and it always abuts with its collar against the carrier H.

The spring E is bedded in a groove of the breech-seat, (not shown on the drawings,) and held in that position, as long as the head of the chamber rests in the groove *x* of the casing A.

The carrier H is so constructed as to catch with its projection *r* the trigger F whenever the said carrier is held in the notch *n* of the tubular casing P.

The cartridge used for this gun is similar to those of the existing darting-needle guns.

My gun is loaded and fired in the following manner: The lever C, which is originally in the position shown in Fig. 2, is first thrown back until it is in line with the gun, and then thrown forward until it forms about a right angle with its original position, (as represented by the dotted lines in Fig. 1.) By the first movement of the lever the cam is turned, the chain tightened, the chamber is carried backward, (being guided by the pin *i* in the slot *s*,) and the downward pressure of the principal casing A on the chamber being thus removed, the spring E will force the chamber upward in the position shown by the dotted lines in Fig. 1. By the same movement of the lever the carrier is drawn back and held in the notch of the casing, and thereby the darting needle if forced back and the coiled spring pressed together, as shown in Fig. 4. The second part of the movement of the lever loosens the chain without altering the position of the carrier, and elevates the chamber still more, bringing it thereby in a convenient position to receive the charge. After the charge is inserted, the chamber is pressed back by hand to the breech-seat and the lever is brought back to its origi-

nal position. This latter movement of the lever throws the chamber forward, incloses the head in the groove *x* of the principal casing, and thereby produces a tight and fire-safe joint, the tightness and fire-safety of which is not endangered by friction in the working of the same. The pressing back of the chamber D will cause the head of the trigger F to rest on the projection *r* of the carrier, as shown in Fig. 4, and thereby the self-cocking of the gun is achieved simultaneously with its loading.

In order to fire the gun, the trigger is drawn backward, and thereby the carrier is released from the notch, causing the coiled spring to push the darting needle into the charge, and effecting the explosion of the same.

This gun being an improvement on the darting-needle gun generally, and especially on the "Zündnadelgewehr" used in the Prussian army, I will state the advantages which it possesses over all the darting-needle guns at present in use.

First. The opening of the chamber is easier, the loading is simpler, and requires less time.

Second. The friction produced by turning the chamber to the right and left in the darting-needle guns now in use, for the purpose of loading, loosens the joints, and thereby injures the fire-safety of the gun. In the Prussian army the frequent repairs arising from that cause have been felt as a serious drawback in the use of these guns. My joint will remain tight and close as long as the gun lasts.

Third. My darting needle is stronger, and therefore less liable to breakage.

Fourth. The construction of my gun is less intricate, stronger, and cheaper than that of any existing darting-needle gun.

Being well acquainted with the construction of darting-needle guns, I am of course aware that darting needles with coiled springs, casings, and carriers have been used before for the purpose of loading and firing of guns. I am also aware that breech-loading guns have been constructed in which the drawing back and the elevating of the chamber is effected by means of lever-and-cam attachment. I therefore do not claim either of these devices as my invention. Neither do I claim the operation of the spring E on the chamber, nor the construction of the principal casing, nor the construction of the darting needle; but

I do claim as new, and desire to secure by Letters Patent of the United States—

1. Elevating the chamber, drawing back the darting needle, and pressing back the coiled spring simultaneously by one and the same movement of the lever, substantially as described.

2. The chain G, with its pin N, and also their combination with the cam, pivot, and carrier, substantially as described.

3. Connecting the tubular casing P with the chamber D, substantially as described.

4. The peculiar construction of the carrier, in combination with the chain, the trigger, and the coiled-spring casing, substantially as described.

WILLIAM BURGHART.

Witnesses:

GEO. W. BENSON,

AUGUST HOFFMAN.