

No. 715,278.

Patented Dec. 9, 1902.

G. A. LOEBEN.
RECOIL CHECK FOR ORDNANCE.

(Application filed July 5, 1901.)

(No Model.)

Fig. 1.

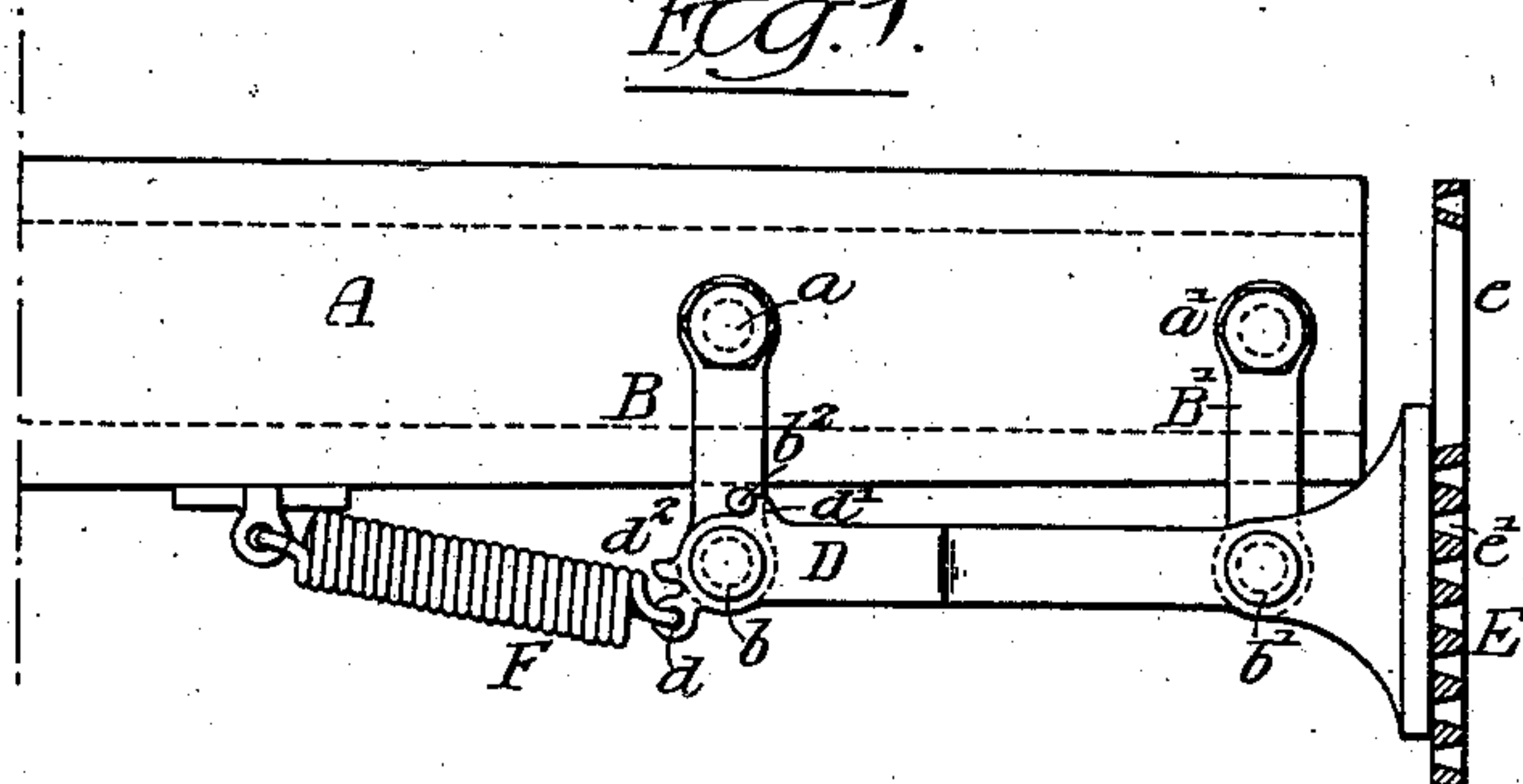


Fig. 2.

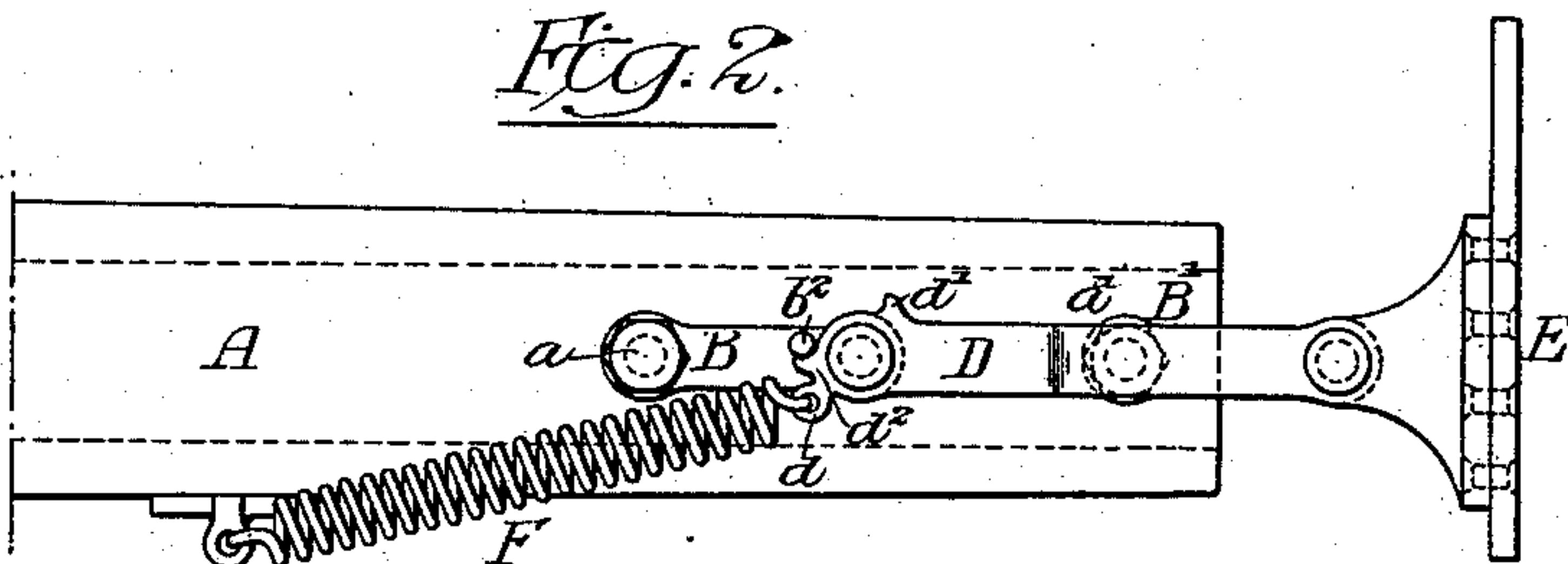


Fig. 3.

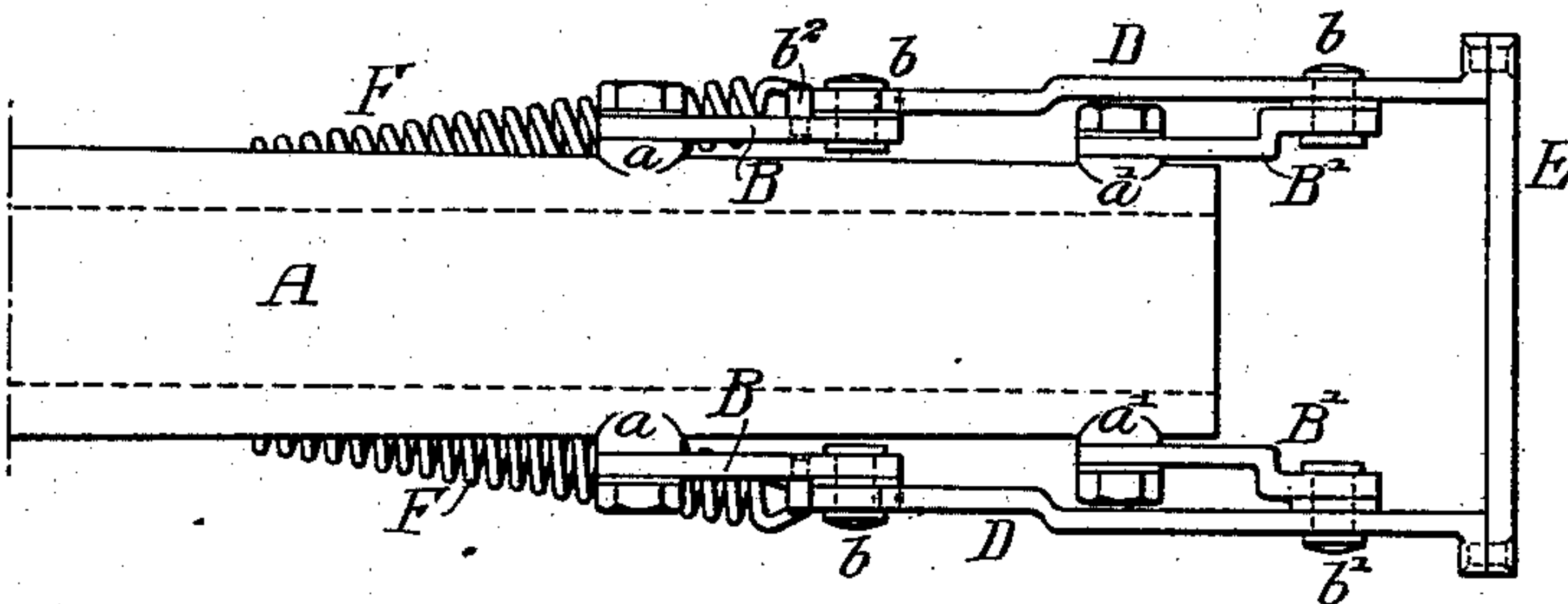
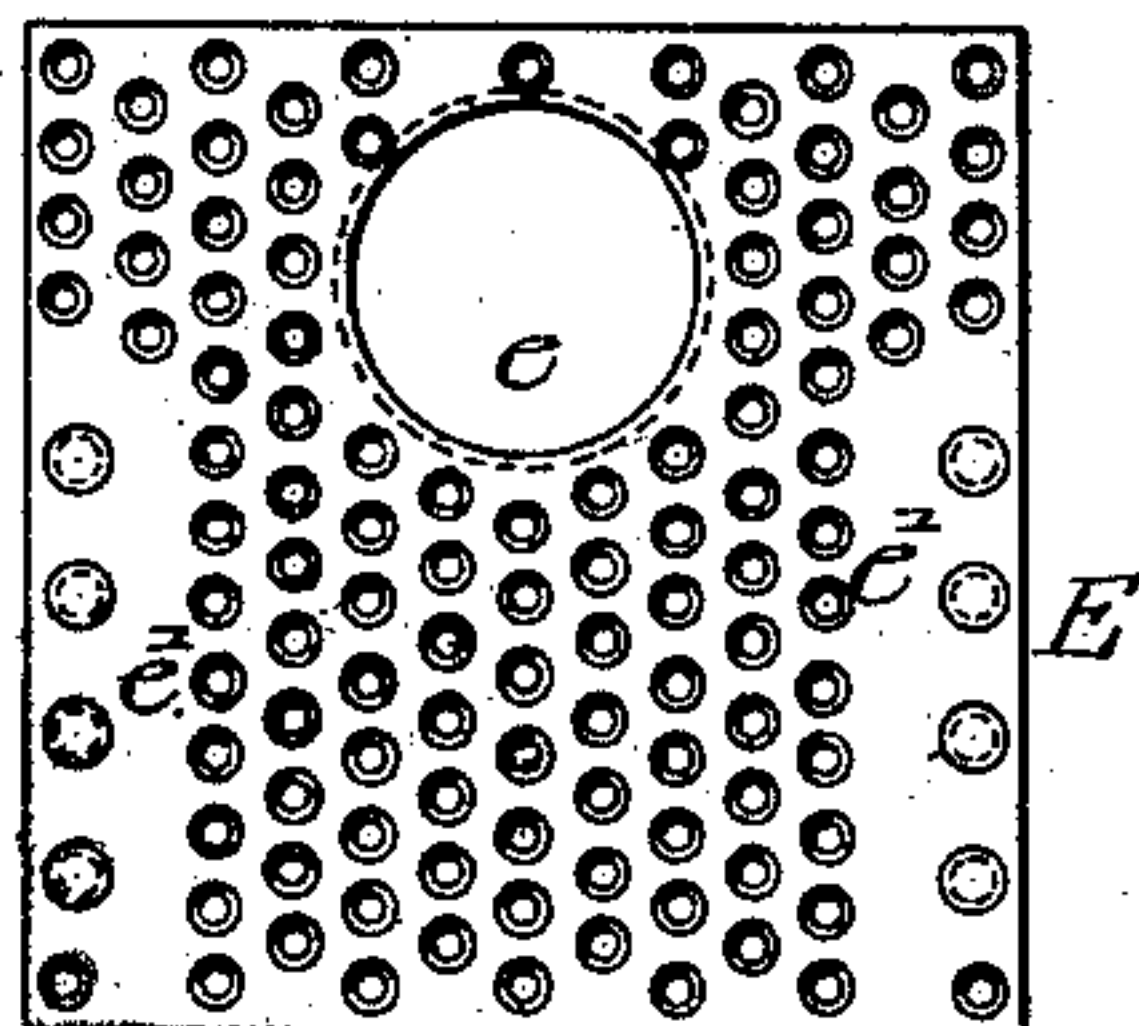


Fig. 4.



Witnesses:-

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UNITED STATES PATENT OFFICE.

GUSTAVE A. LOEBEN, OF PHILADELPHIA, PENNSYLVANIA.

RECOIL-CHECK FOR ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 715,278, dated December 9, 1902.

Application filed July 5, 1901. Serial No. 67,167. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE A. LOEBEN, a subject of the Emperor of Germany, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Recoil-Checks for Ordnance, of which the following is a specification.

The object of my invention is to prevent to a great extent the recoil of guns, particularly field-guns, which cannot be properly mounted on carriages or bases provided with means for taking up the recoil. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a view of sufficient of a field-gun to illustrate my invention in its normal position. Fig. 2 is a view similar to Fig. 1, showing my invention immediately after the discharge of the shell. Fig. 3 is a plan view of Fig. 2. Fig. 4 is an end view.

A is the barrel of the cannon of the usual construction, and on each side of the cannon are studs $a a'$, from which are hung links B B'. Bars D D are pivoted to the links at $b b'$. The bars D carry at their outer ends a plate E, having an opening e , somewhat larger than the bore of the cannon. The opening is in alinement with the bore of the cannon when the plate is in the normal position. (Shown in Fig. 1.) I preferably perforate the balance of the plate with small holes e' , so as to allow a certain proportion of the gas to escape through the perforations. Secured to a lug d on the rear of each bar D is a spring F, the opposite end of each spring being secured to a stud on the barrel of the cannon. On the link B is a stop-pin b^2 , and on each bar D are two lugs or projections $d' d^2$, which engage with the stop-pin. The lug d' engages the stop-pin when the device is in its normal position, as shown in Fig. 1, so as to prevent it moving back out of line, and the lug d^2 engages the stop-pin b^2 when the device is forced into the position shown in Fig. 2.

The operation is as follows: The normal position of the recoil-check device is as shown in Fig. 1, in which the opening e in the plate E is directly in line with the bore of the cannon, so that when the cannon is discharged the projectile will pass through the opening e of the plate without touching, and the gases that escape from the mouth of the cannon im-

mediately after the projectile will immediately expand and coming in contact with the plate E will force it up into the position shown in Fig. 2 against the pressure of the springs. Thus the plate will immediately receive almost the entire pressure of the gases escaping from the muzzle of the cannon and will direct the gases laterally and will retard the recoil of the cannon as the pressure is equalized.

The size of the plate and the number of perforations will depend materially upon the bore of the cannon and the size of the charge, and the perforations in the plate will be so proportioned as to prevent the recoil of the cannon as near as possible.

As soon as the pressure against the plate ceases the springs will return the plate and its bars to their normal position, as shown in Fig. 1, the plate thus being automatically returned ready for another discharge.

The plate can be arranged a sufficient distance from the muzzle of the cannon to prevent the gases escaping prior to the discharge of the projectile affecting the position of the plate.

I claim as my invention—

1. The combination of the barrel of a cannon or other piece of ordnance, and a plate having a rearwardly-extending bar or bars with a plurality of links held to said bar or bars and to the barrel of the cannon by pivots at right angles to the bore thereof, said plate being placed in front and out of the line of the bore of the cannon, substantially as described.

2. The combination of the barrel of a cannon, a plate in front and out of the line of said barrel provided with a rearwardly-extending bar or bars, links held to said bar or bars and to the barrel by pivots at right angles to the bore thereof, said plate having a perforation normally in line with the muzzle of the cannon, through which a projectile may pass, the links being of substantially equal length and hung from the barrel at different points, substantially as described.

3. The combination of a cannon, a plate mounted in front of the same, rearwardly-extending bars rigidly secured to the plate, links connecting said bars and the cannon and one or more springs tending to retain the plate

out of line with the muzzle of the cannon, said parts being so arranged that the gases which follow immediately after the discharge of the projectile will act directly upon the plate to
5 move it into line with the muzzle of the cannon, substantially as described.

4. The combination of a cannon, studs thereon, links hung from said studs, bars pivoted to the links, a plate secured to the outer
10 ends of said bars, said plate having a large opening in line with the muzzle of the cannon when the plate is in its normal position, springs attached to the rear ends of the bars and tending to hold the plate in its normal
15 position, stop-pins on one of the links, lugs on the bars, one lug engaging the stop-pin when the plate is in its normal position, the other lug engaging the bar when the plate is projected into line with the muzzle of the cannon, substantially as described.
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5. The combination of a cannon, links pivoted thereto, a plate having bars connected to said links, means tending to hold the plate in a definite position, said plate normally extending across the muzzle of the cannon so as
25 to be operated upon by gases escaping therefrom and being provided with an opening which is in line with the muzzle of the cannon when in its normal position and through which a projectile can readily pass, the remainder of the plate having a series of perforations substantially as described.
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6. The combination of a cannon, a plate

having means pivotally supporting it in front of the muzzle thereof and free to move in a direction other than that in the line of said cannon, said plate having means for holding it at all times at right angles to the said line of the cannon and extending across the muzzle, together with a perforation for the passage of a projectile and other perforations for the passage of gas following a discharge, substantially as described.

7. The combination of a cannon, bars pivoted to the same, a plate perforated for the passage of a projectile having fixed to it rearwardly-projecting pieces, said pieces being pivoted to said bars, said plate being moved in front of the muzzle of the cannon by the action of the gas following the discharge of a projectile, substantially as described.

8. The combination of a cannon, bars pivoted to each side of the same, a plate having rearwardly-projecting pieces fixed to its edges, said pieces being pivoted to said bars and normally supporting the plate so that it extends across and below the muzzle of the cannon, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAVE A. LOEBEN.

Witnesses:

WILL. A. BARR,
JOS. H. KLEIN.