

(No Model.)

L. FREYRE.

GAS CHECK FOR BREECH LOADING ORDNANCE.

No. 270,299.

Patented Jan. 9, 1883.

Fig. 3

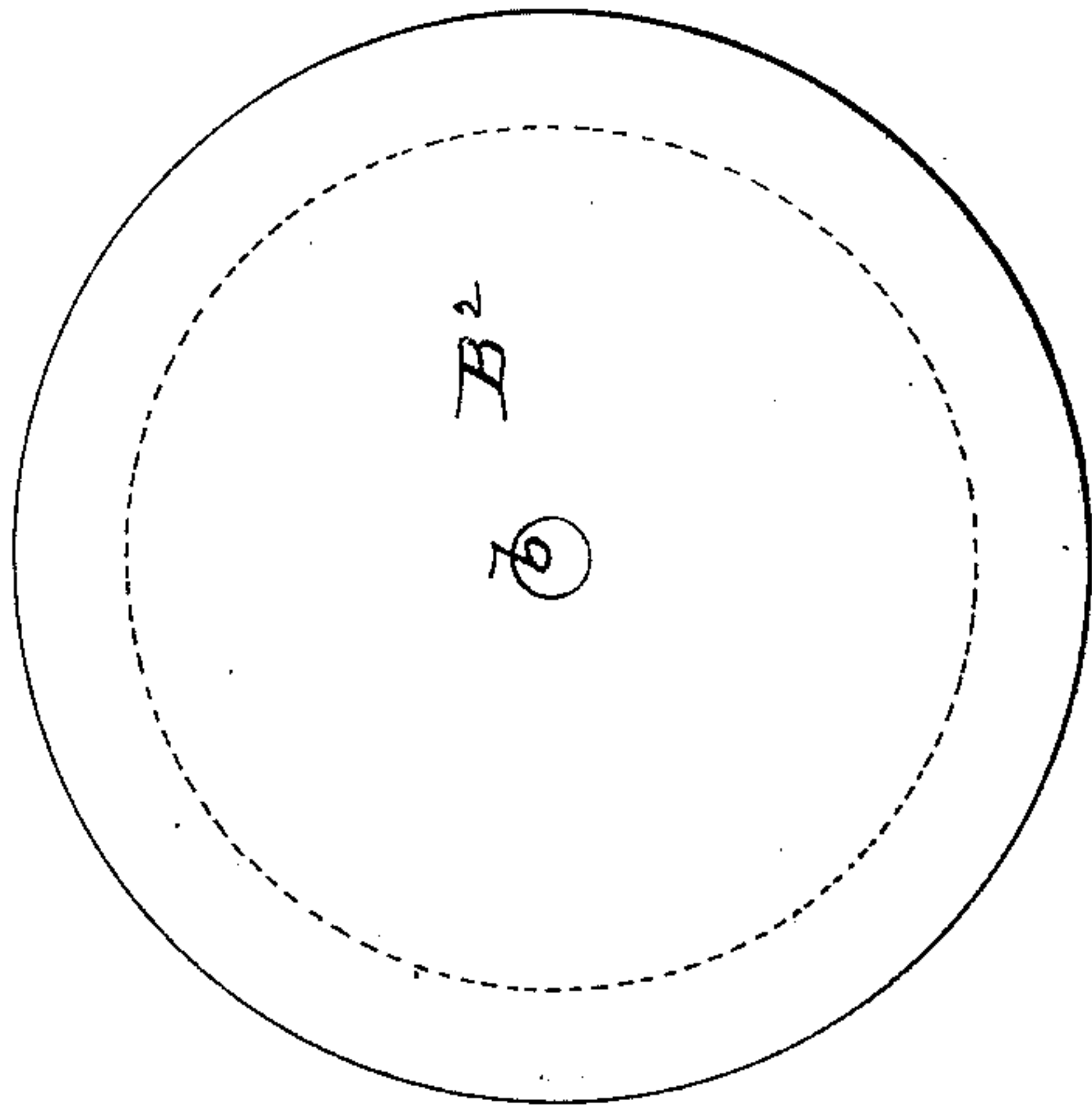


Fig. 1

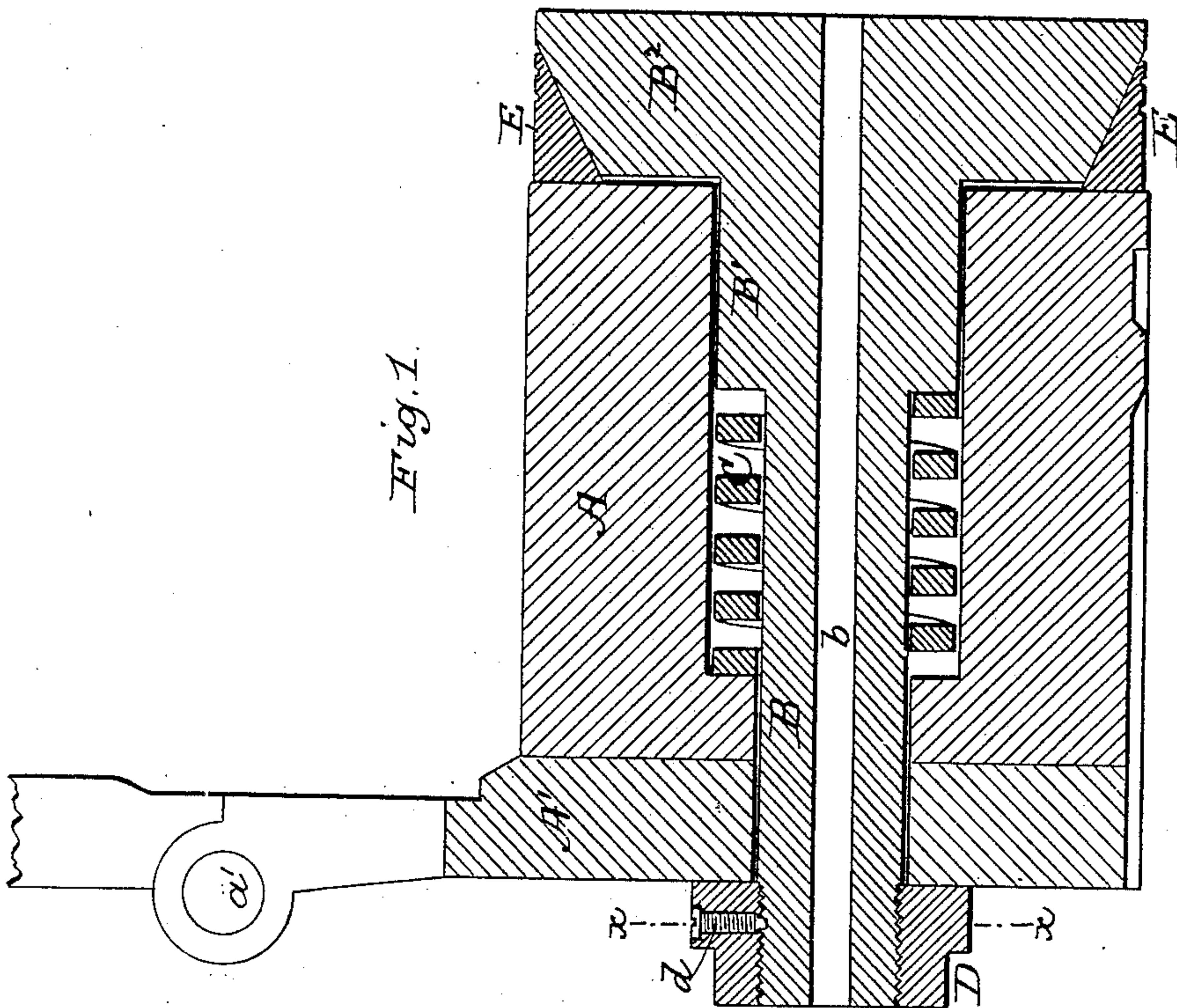
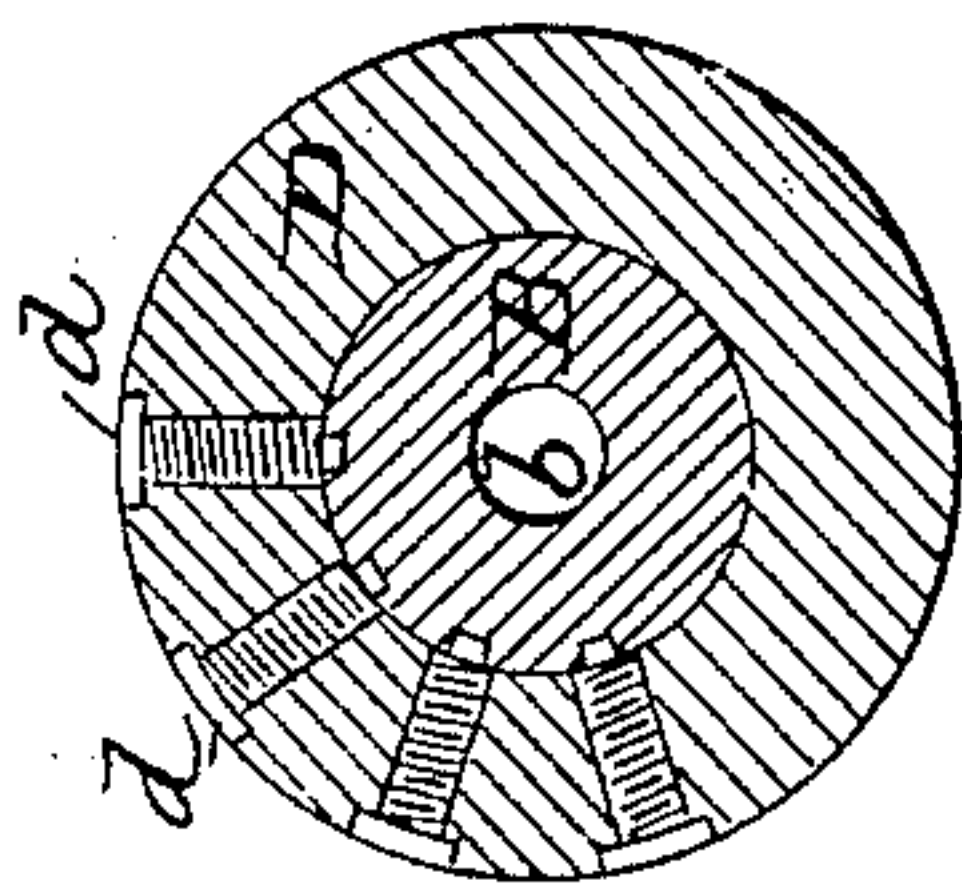


Fig. 2



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# UNITED STATES PATENT OFFICE.

LUIS FREYRE, OF SEVILLE, SPAIN.

## GAS-CHECK FOR BREECH-LOADING ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 270,299, dated January 9, 1883.

Application filed May 22, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, LUIS FREYRE, a subject of the King of Spain, residing at Seville, in the Kingdom of Spain, have invented certain new and useful Improvements in Gas-Checks for Breech-Loading Ordnance, of which the following is a specification.

My invention relates to an ordnance gas-check which, conical in its interior, is expanded by means of a conical-headed bolt entering therein; and the objects of my improvements are to provide means for automatically forcing the conical head of the bolt out of the ring after a discharge of the gun, allowing said ring to contract, and thus facilitate the removal of the breech-block from the gun. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a breech-block carrying my improvement. Fig. 2 is a transverse section on line  $xx$  of Fig. 1. Fig. 3 is a front view of the ring-expanding bolt-head.

In the drawings, A represents the plug of the breech-block. It is in this case secured to a plate, A', provided with a hinge,  $a'$ , by which it may be retained connected with the breech of a gun.

Within the cavity of the plug A is placed a bolt, B, having a collar, B', nearly fitting within the outer end of this cavity, and a head, B<sup>2</sup>, in the form of a truncated cone, having its rear or smallest surface adjoining its collar B'. In the rear of this collar is placed upon the body B of the bolt a coiled spring, C, having one end bearing against the bottom of the cavity in the plug A and the other against the collar of the bolt to force the head of the latter from the front face of the plug. The bolt A is retained connected to the plug by means of a nut, D, screwed in such a position upon the end of the bolt as to allow it to move forward a short distance under the impulse of its spring C. The nut D is provided with set-screws  $d$ , having their point engaging with the surface of the bolt B to retain it immovably after it has been adjusted thereon.

The bolt B is bored centrally at  $b$  for the passage of the firing-pin. (Not shown.)

A ring, E, of steel or other suitable metal, is fitted to the truncated portion B<sup>2</sup> of the head of the bolt B, and rests against the front end of the plug A; but in its normal position the under side of the head B<sup>2</sup> is not in contact with the end of the plug A, but is retained at a short distance therefrom by the strong coiled spring C. When the explosion due to the discharge of the gun takes place, the gases, acting directly on the surface of the head B<sup>2</sup>, force said head until it comes in contact with the end of the breech-plug, and in so doing the gas-check ring E is expanded uniformly until every point in its outer periphery is pressed against the bore of the gun to close it hermetically. After the shot has been fired, the spiral spring C, which had been compressed by the force of the explosion, expands again and returns the bolt and its head B<sup>2</sup> to its original position, so that the ring E is allowed to contract to its original size and position.

As the play of the bolt is limited, the force brought to bear upon the ring E is always the same, no matter if the charge be light or heavy, and it is plain to be seen that the degree of expansion of the said ring may be nicely graduated by means of the nut D and its set-screws.

Having now fully described my invention, I claim—

1. The combination of a breech-plug bored centrally the whole length thereof with a bolt passing through said breech-plug and having its head in the form of a truncated cone, and a ring fitted to said head, substantially as and for the purpose described.

2. The combination of a hollow breech-plug, a spring, C, within said plug, and a bolt, B, passing therethrough and having a nut upon its rear end, and a conical head, B<sup>2</sup>, with a gas-check ring, E, substantially as and for the purpose set forth.

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Witnesses:

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