

No. 709,701.

Patented Sept. 23, 1902.

G. EHRHARDT.

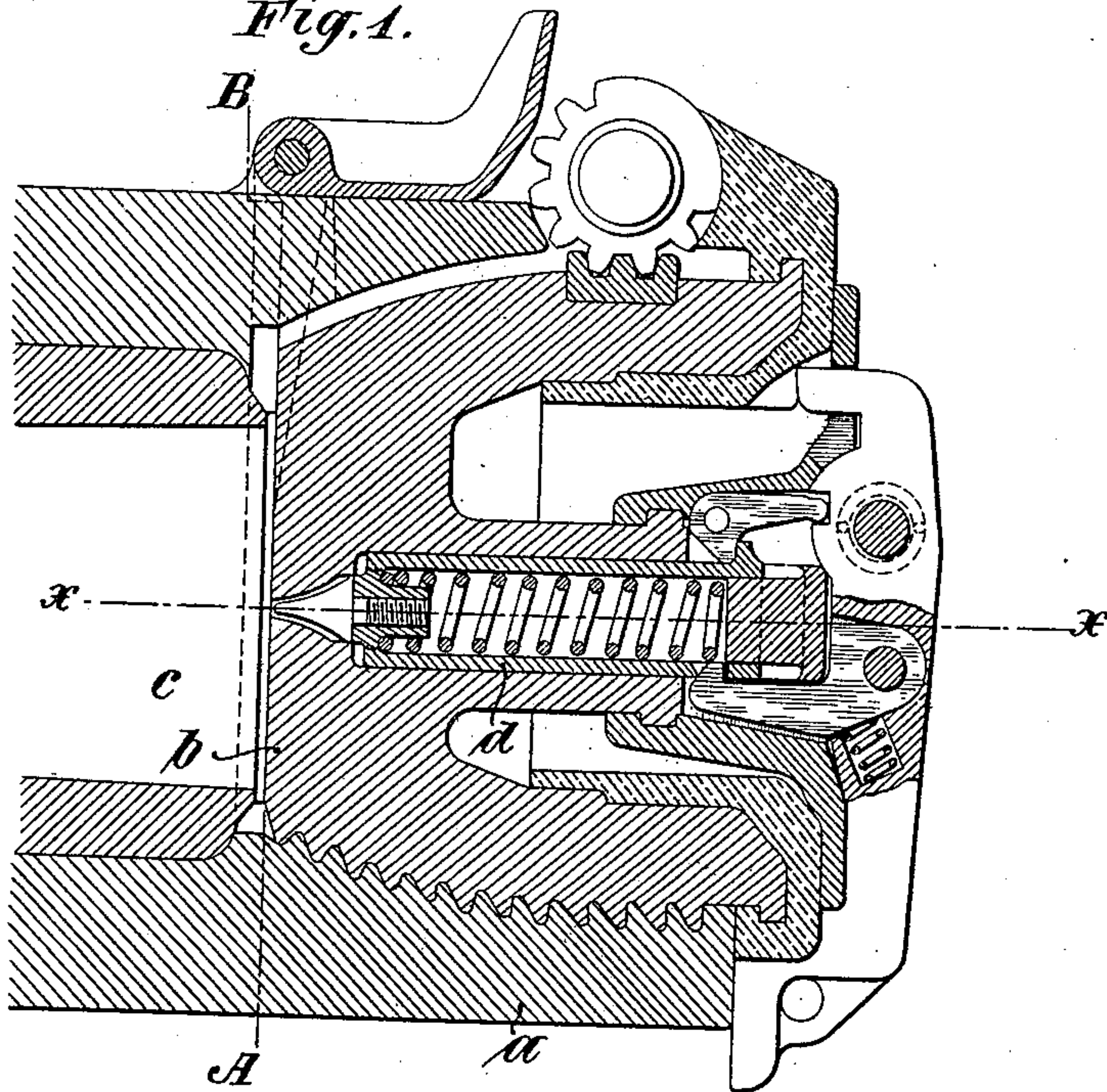
FIRING PIN ARRANGEMENT FOR BREECH LOADING ORDNANCE.

(Application filed Apr. 3, 1902.)

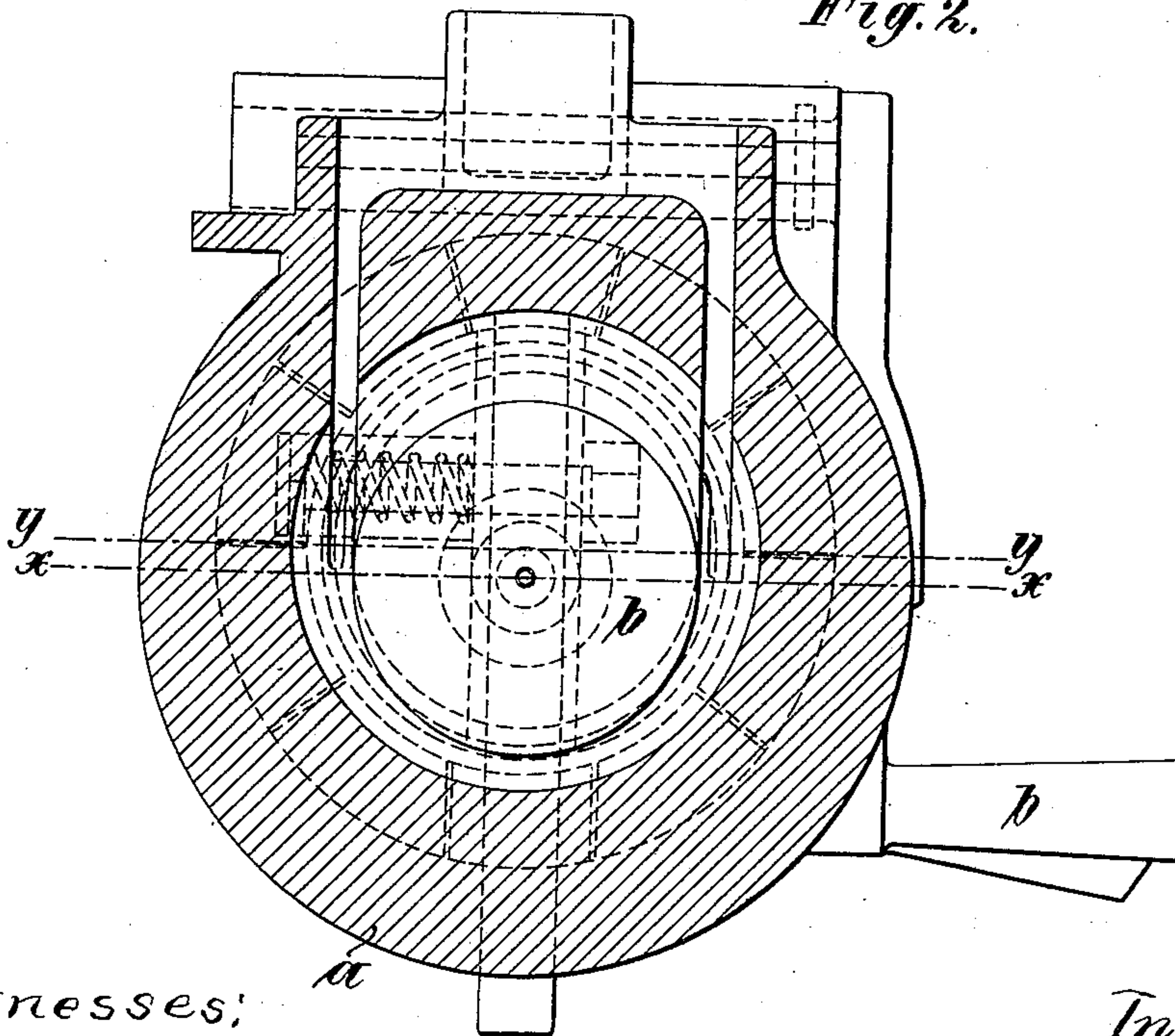
(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



*Fig. 2.*



Witnesses:

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E. F. Eversen.

Inventor:

Gustav Ehrhardt  
by Max Georgii  
his Attorney.

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Fig. 3. 2 Sheets—Sheet 2.

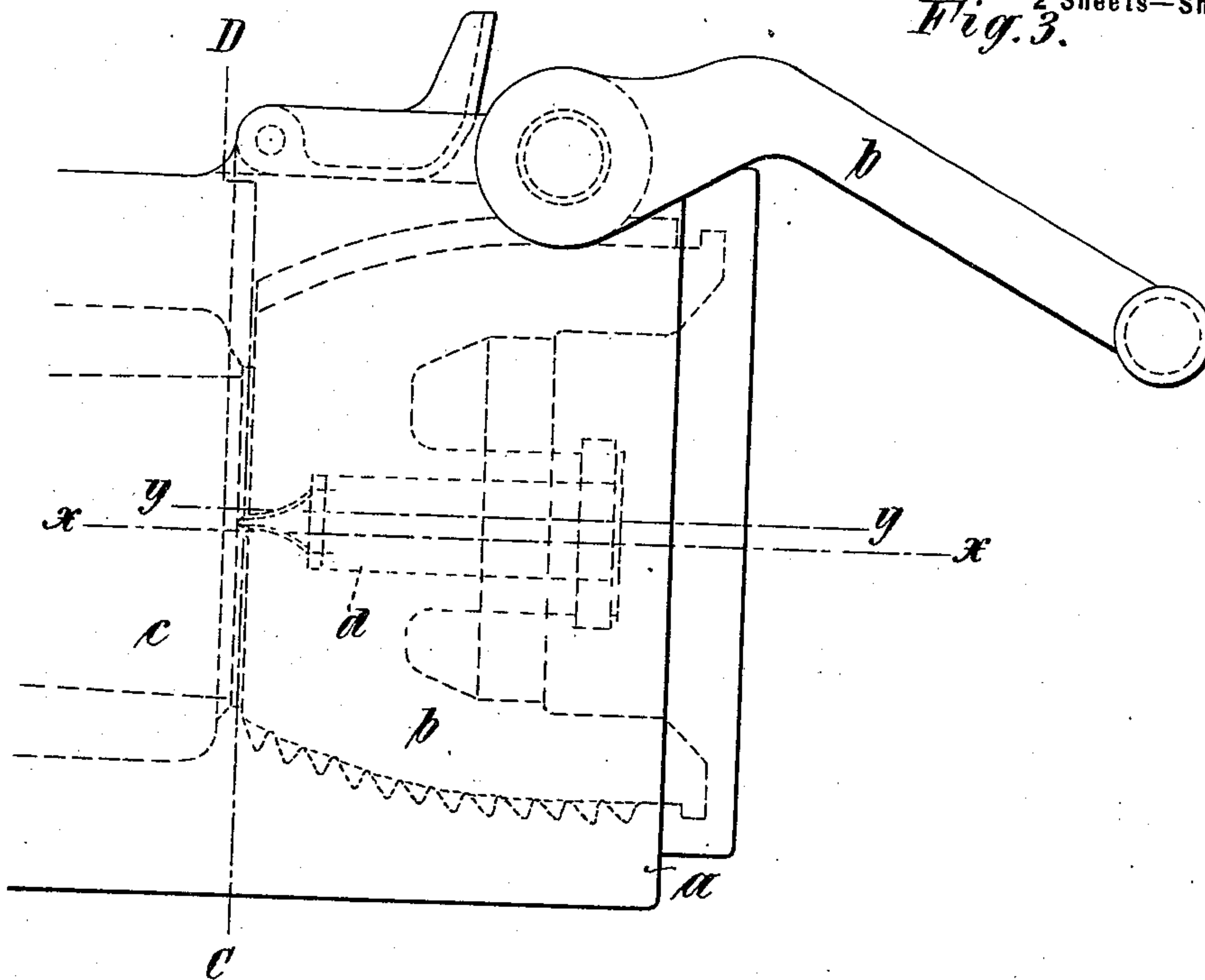
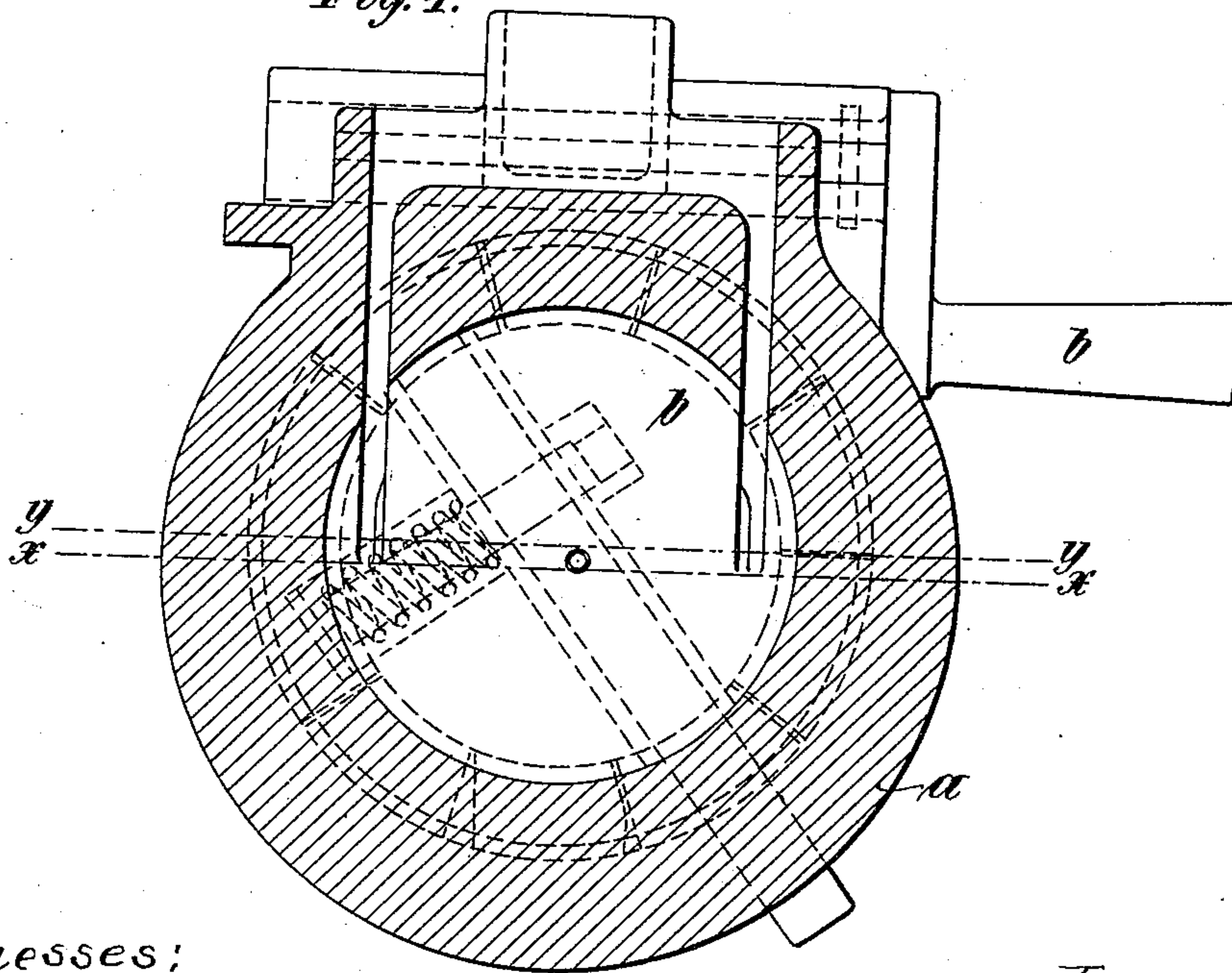


Fig. 4.



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# UNITED STATES PATENT OFFICE.

GUSTAV EHRHARDT, OF EISENACH, GERMANY.

## FIRING-PIN ARRANGEMENT FOR BREECH-LOADING ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 709,701, dated September 23, 1902.

Application filed April 3, 1902. Serial No. 101,279. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAV EHRHARDT, director, a citizen of the United States of America, residing at 11 Barfüsserstrasse, Eisenach, in the Grand Duchy of Saxe-Weimar, German Empire, have invented certain new and useful Improvements in Firing-Pin Arrangements for Breech-Loading Ordnance; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In breech-loading ordnance hitherto employed, in which the firing-pins are mounted centrally in the breech-block, a drawback is found to be that in case the point of the firing-pin is cracked by the shock and the splinters become wedged in position, or in case the pin should remain fixed in consequence of fouling when the gun is fired, the fixed pin will penetrate directly into the percussion-cap when the gun is loaded even before the locking of the breech is completed, and thus cause a premature ignition of the charge. The danger to the men firing the gun resulting from this premature discharge is avoided by the arrangement hereinafter described.

The firing-pin in this improved form of construction is mounted eccentrically on the breech-block, so that in consequence of the turning of the breech-block upon its axis preparatory to the opening of the breech such an alteration of position occurs that the point of the firing-pin is removed from the center of the end of the charge and away from the percussion-cap. During the closing of the breech the firing-pin remains to one side of the center of the charge until the turning of the breech-block for bringing about the final securing of the same is completed. Even if from any of the reasons hereinbefore mentioned the point of the striking-pin or splinters of the same should project from the breech-block the said point of the striking-pin or splinters thereof cannot encounter the percussion-cap before the breech is completely locked, in consequence of the eccentric position of the firing-pin, but the pin will encounter the rear wall of the charge-casing at a point away from the center. The cap can thus only be struck or encountered when the breech-piece is quite secured, as

only then, as already mentioned, does the firing-pin, or rather its point, coincide with the longitudinal axis of the cartridge-chamber—that is to say, opposite the center of the charge. Such a screw breech-fastening is shown in the accompanying drawings.

Figure 1 is a horizontal section of the breech with the breech-block in the locked position; Fig. 2, a cross-section on the line A B of Fig. 1; Fig. 3, a plan view in which the closing-lever is turned horizontally through about sixty degrees and the breech-block is unbolted, and Fig. 4 a cross-section on the line C D of Fig. 3.

The breech-block *b*, which opens to the rear, is so located in the breech-block chamber *a* that its central line *y y* stands eccentrically to the central line *x x* of the cartridge-chamber *c*. The striking-pin bearing *d* is so arranged that when the locking is effected it stands in the prolongation of the central line of the cartridge-chamber *c*, Figs. 1 and 2. By the rotary movement of the breech-block the firing-pin bearing *d* is turned eccentrically to the middle line *x* of the cartridge-chamber.

Fig. 4 shows how the center of the firing-pin has been displaced from the center of the charge-chamber.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A breech-closing mechanism in which the breech-block is arranged eccentric of the bore and secured in operative relation thereto by an interrupted thread, and a firing-pin arranged eccentrically in the breech-block.

2. A breech-closing mechanism in which the breech-block is unlocked by a rotary movement and opened to the rear and in which the axis of the breech-block is arranged eccentrically to the bore and the firing-pin eccentrically to the breech-block, and in such relation that the firing-pin shall coincide with the axis of the bore when the breech-block is locked in operative position.

3. A breech-closing mechanism in which the breech-block is mounted for limited rotative and retractive movement eccentrically of the bore, and the firing-pin mounted eccentrically on the breech-block and in such relation

thereto that the arc of its rotative movement shall cut the longitudinal axis of the bore when the breech-block is in locked position.

4. In a breech-closing mechanism, a breech-  
5 block mounted eccentrically of the bore, means for locking and unlocking the breech by a limited rotative movement, means for retracting and advancing the breech-block, and a firing-pin arranged eccentrically in the  
10 breech-block in such relation thereto that the pin shall coincide with the bore when the breech-block is in the locked position.

5. In a breech-closing mechanism, an eccentrically-arranged breech-block adapted to be

locked and unlocked by a limited rotative 15 movement and to be opened and closed by swinging pivotally as upon a hinge, and a firing-pin arranged eccentrically in the breech-block in such relation thereto that the arc of movement of the pin shall intersect the lon- 20 gitudinal axis of the bore when the breech-block is in locked position.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAV EHRHARDT.

Witnesses:

H. WILHELM JUNIUS,  
JOHANNES REUTER.