

(No Model.)

2 Sheets—Sheet 1.

H. T. J. THRONSEN.  
GUN CARRIAGE AND SUPPORT.

No. 422,324.

Patented Feb. 25, 1890.

Fig: 1.

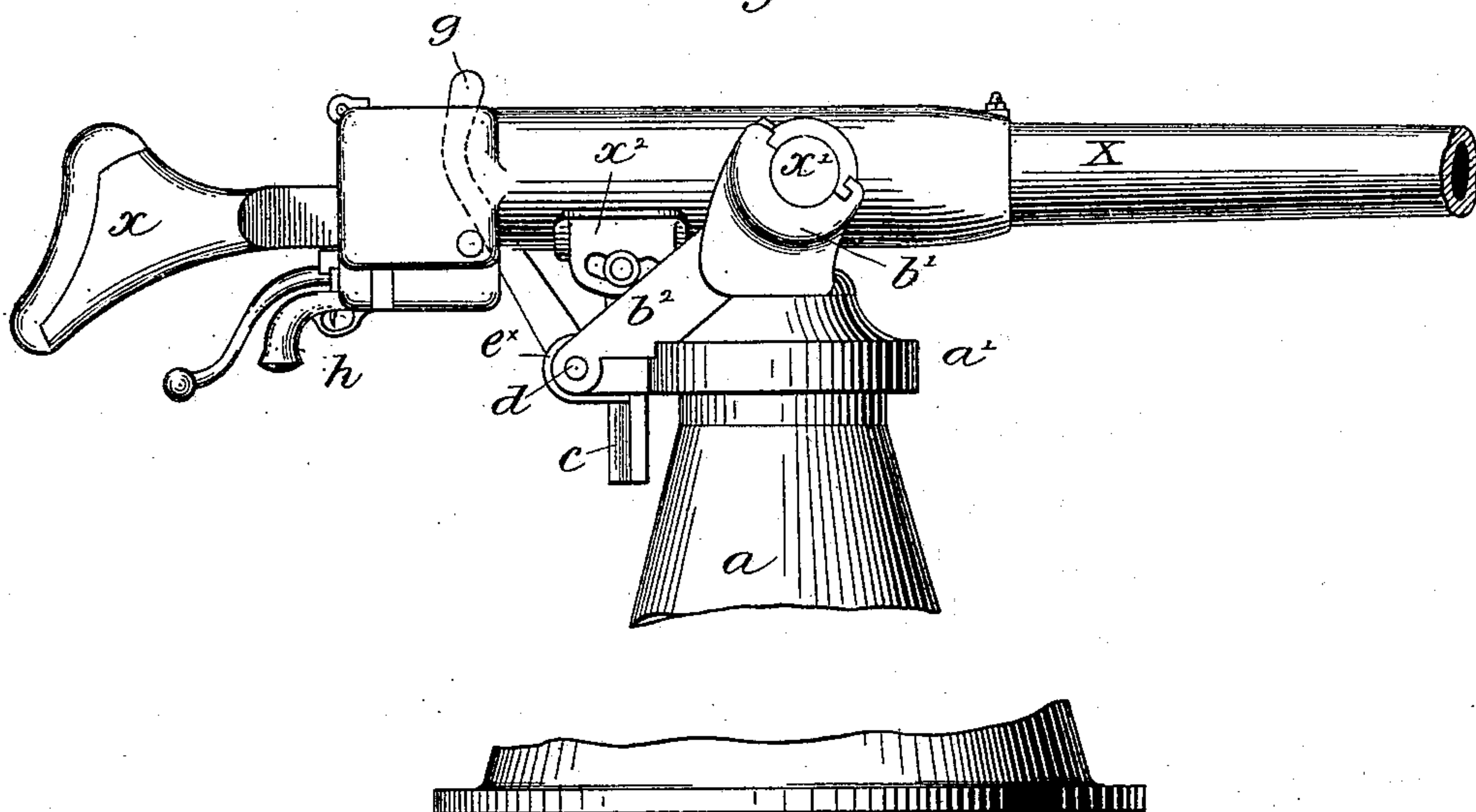
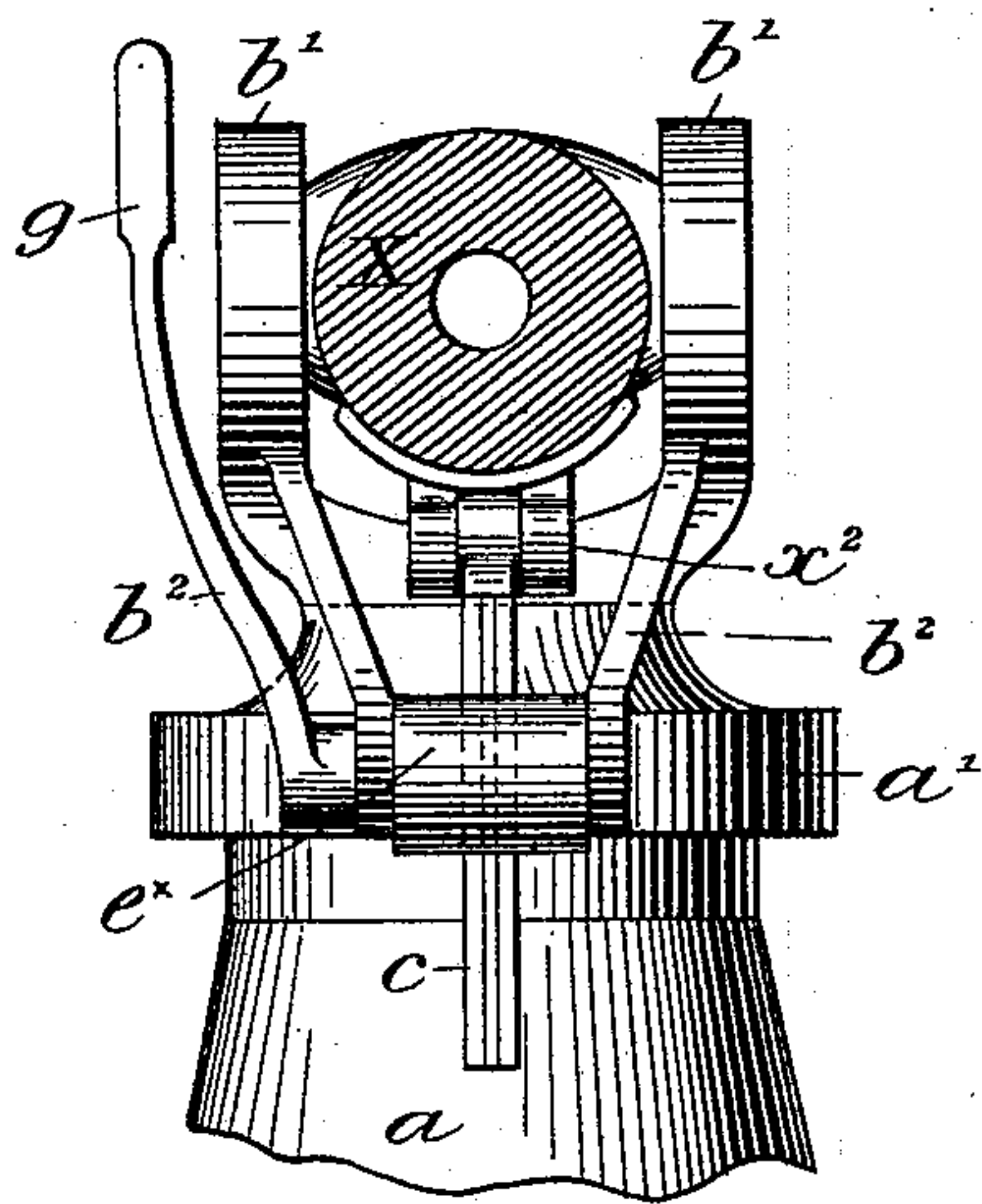


Fig: 4.



INVENTOR:

Harald J. J. Thronsen,

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WITNESSES:

John A. Rennie  
J. B. Springer

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Fig. 2.

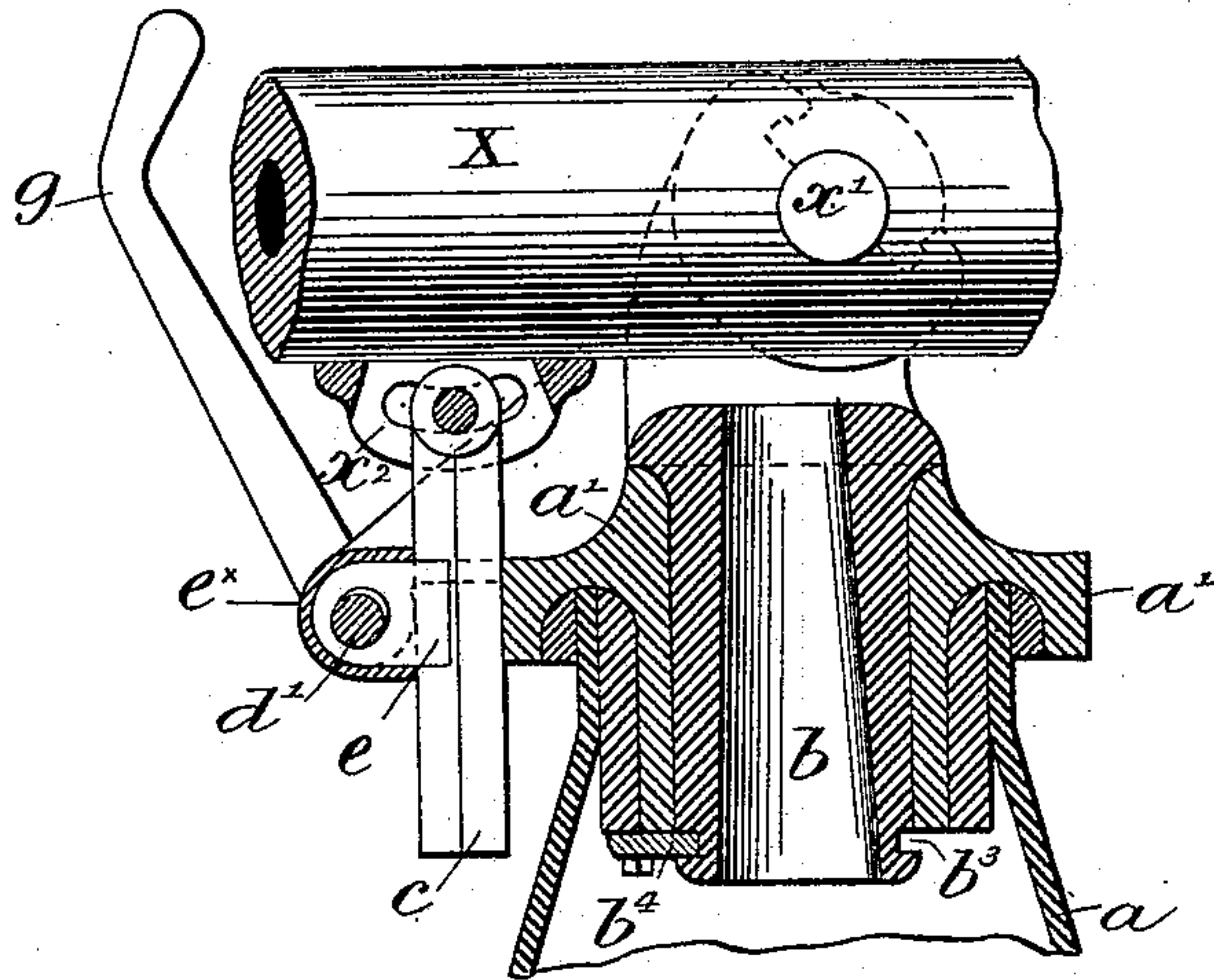


Fig. 3.

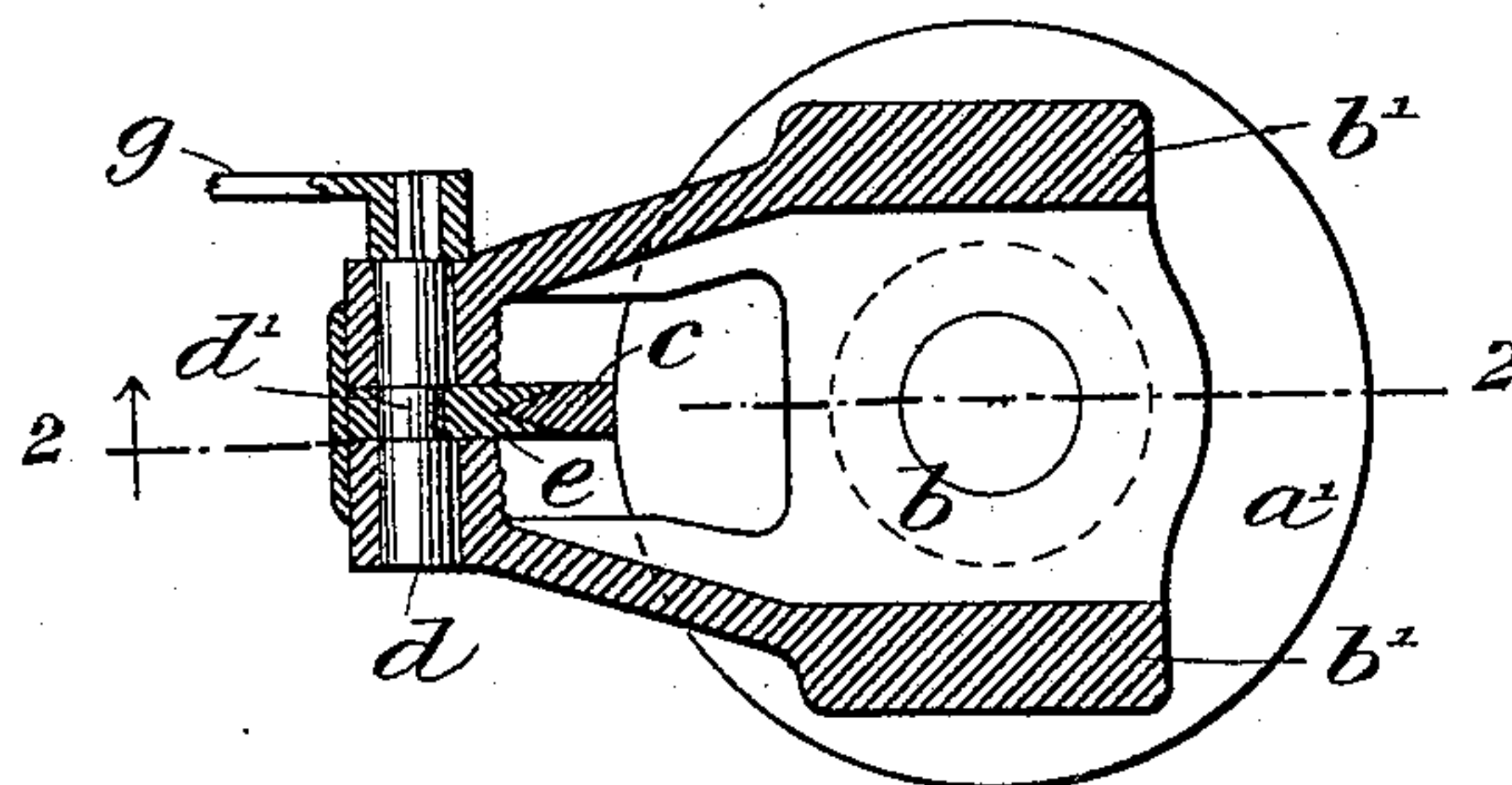
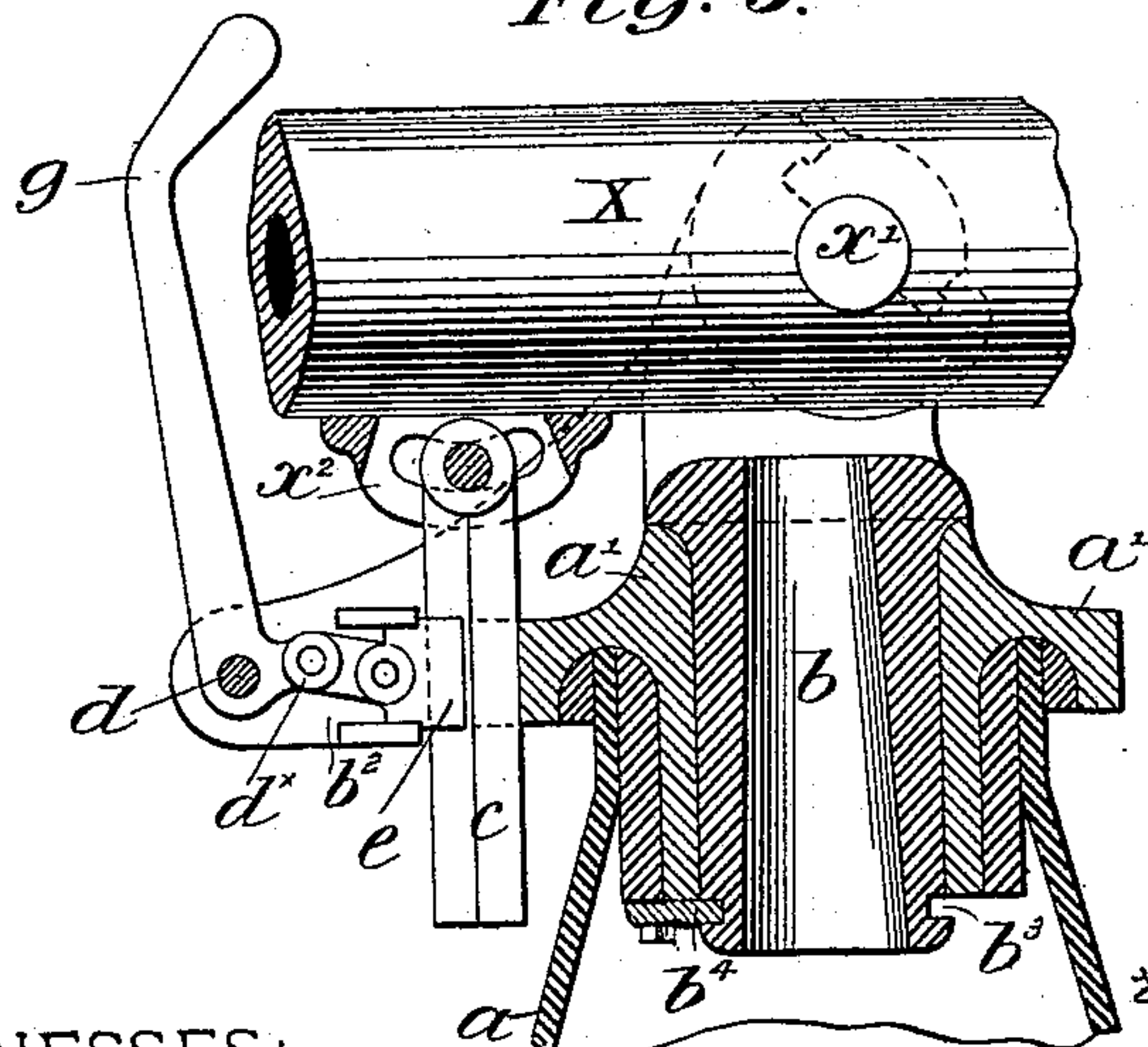


Fig. 5.



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# UNITED STATES PATENT OFFICE.

HARALD THORVALD JOHANNES THRONSEN, OF FINSPONG, SWEDEN.

## GUN CARRIAGE AND SUPPORT.

SPECIFICATION forming part of Letters Patent No. 422,324, dated February 25, 1890.

Original application filed July 7, 1888, Serial No. 279,324. Divided and this application filed July 20, 1889. Serial No. 318,167. (No model.) Patented in Sweden May 3, 1888, No. 1,698; in France June 16, 1888, No. 191,273; in Norway June 16, 1888, No. 957; in Belgium June 18, 1888, No. 82,230; in England June 19, 1888, No. 8,974, and in Germany June 20, 1888, No. 46,694.

*To all whom it may concern:*

Be it known that I, HARALD THORVALD JOHANNES THRONSEN, a subject of the King of Norway, and a resident of Finspong, Sweden, have invented certain Improvements in Gun-Carriages, (for which patents have been granted in Sweden, No. 1,698, dated May 3, 1888; in Germany, No. 46,694, dated June 20, 1888; in France, No. 191,273, dated June 16, 1888; in Norway, No. 957, dated June 16, 1888; in England, No. 8,974, dated June 19, 1888, and in Belgium, No. 82,230, dated June 18, 1888,) of which the following is a specification.

My invention relates to gun-carriages provided with means for fixing the gun in position when it has been adjusted to the proper elevation; and my object is to provide the carriage with a convenient clamping device for effecting the purpose named above.

My improvements are especially well adapted to pivotally-mounted light guns adapted for quick firing, where the range and elevation are effected by the shoulder of the gunner, the hands being thus left free, the one to be employed for manipulating the clamping device or brake and the other for discharging the piece.

In the annexed drawings I have shown my improvements embodied in a carriage having a gun of this character mounted thereon. This gun is provided with breech-loading mechanism, such as that shown and described in my pending application, Serial No. 279,324, of which this application is a division.

In the accompanying drawings, illustrative of my invention, Figure 1 is a side elevation of the gun and its carriage on a small scale. Fig. 2 is a vertical axial section of the upper part of the gun-carriage on a scale double that of Fig. 1, the plane of the section being indicated by line 2 2 in Fig. 3. Fig. 3 is a horizontal section through the brake device. Fig. 4 is a rear view of the carriage, the gun being represented in transverse section. Fig. 5 illustrates a slight modification that will be hereinafter described.

The gun X is mounted on pivots in such a manner as to permit of getting both vertical and horizontal range, and is provided with

a shoulder-piece  $x$ , somewhat like the butt-piece of a musket, and with a brake device or clamp, whereby the gun may be instantly fixed or held against movement when once aimed or set. The base-piece or standard  $a$  of the carriage, which may have any suitable form or construction at its lower part, is provided with a fixed annular flanged cap  $a'$ . This cap is adapted to receive and form a bearing for a rotating cap-piece, in which the gun is mounted. This cap-piece comprises a vertically-arranged cylindrical pivot  $b$ , two cheek-pieces  $b'$ , which provide bearings for the lugs  $x'$  of the gun, and a radially-projecting bracket  $b^2$ . These parts may be integral in construction.

On the under side of the gun, back of the lugs, is a slotted piece  $x^2$ , which is directly over the bracket  $b^2$ , and pivoted in the slot in this piece at its upper end is a brake-bar  $c$ , which hangs suspended in a guide-slot formed in said bracket  $b^2$ . The front edge of this bar stands normally in rubbing contact, or nearly so, with the periphery of the circular flanged portion of the fixed cap  $a'$ , so that when the gun is turned on its vertical pivot said bar will move horizontally around the fixed cap and concentric therewith, and when the gun is elevated or depressed and turns on its lugs  $x'$  this brake-bar  $c$  will play longitudinally over the periphery of said fixed cap. Now, if the brake-bar  $c$  be pressed against the periphery of the flanged cap  $a'$  with considerable force, it will be obvious that it will act as a friction-brake to fix the gun in position and prevent it from moving in any direction. To press the brake-bar up to the cap, I provide a cam or eccentric to be applied to its rear edge, and this device is preferably constructed in the manner shown. In the bracket  $b^2$  is rotatively mounted a shaft  $d$ , which has an eccentrically-arranged pin or crank  $d'$  where it crosses the slot in said bracket. This pin passes through an aperture in a sliding block  $e$ , the front edge of which bears on the rear edge of the brake-bar  $c$ . The block  $e$  has by preference a V-shaped groove in its front edge to fit over a V-shaped edge on the brake-bar



adapted to fit into said groove; but this V formation is not absolutely essential. By rotating shaft  $d$  the pin  $d'$  is caused to drive the bar  $c$  up forcibly against the edge of the fixed cap, and to enable the operator to rotate said shaft the latter is provided with an operating-arm or brake-lever  $g$  of sufficient length to furnish the necessary leverage.

In serving the gun, the operator or gunner places his shoulder against the piece  $x$ , grasps the operating handle or lever  $g$  with one hand and the discharging-handle ( $h$  in Fig. 1) with the other hand. He aims the gun with his shoulder, and when the proper range and elevation are secured he clamps the gun in position by means of the handle  $g$  and then discharges the gun. The slot in the piece  $x^2$  permits the brake-bar  $c$  to hang perpendicularly adjacent to the cap  $a'$  at all times, whatever may be the inclination of the gun.

The sliding brake-block  $e$  is guided in a suitable keeper  $e^x$  on the bracket  $e^2$ , and its movement need not be very great. Indeed, the bar  $c$  may be in contact at all times with the cap  $a'$  on one side and the block  $e$  on the other side. My object in interposing this block between the eccentric and bar  $c$  is to avoid the tendency of the rotating eccentric to move the brake-bar longitudinally, and thus shift the position of the gun.

The crank or pin  $d'$  is in the nature of a rotary wedge or pusher, and in Fig. 5, which is a sectional view similar to Fig. 2, I have shown a modified form of this pusher, wherein a toggle  $d^x$  is interposed between the brake block or shoe  $e$  and the shaft  $d$ . The operation of such a toggle is too well known to require any explanation.

The vertical pivot  $b$  of the cap-piece has a flange or projecting rim at its top, which rests on the fixed cap  $a'$ , and at its lower end it has a circumferential groove  $b^3$ , which is engaged by a lug  $b^4$ , secured to the cap  $a'$ . The object

of this lug is to prevent the pivot from lifting in its bearing. To reduce the weight of the cap-piece I prefer to make the pivot hollow or tubular, as shown.

Having thus described my invention, I claim—

1. The combination, with the stationary support or carriage for the gun, provided with a fixed cap of circular form, the rotating cap-piece on the carriage, and the gun pivotally mounted in said cap-piece, of the brake device for fixing the gun in position on the carriage after it has been aimed, said device consisting of a brake-bar  $c$ , pendent from the gun back of the pivots thereof and suspended adjacent to the circular flange on the carriage, a sliding block mounted in guides in the cap-piece behind the brake-bar, a pusher, also mounted in the cap-piece behind said block and adapted to press said bar up to the face of the said circular flange on the carriage, and the lever  $g$ , by which said pusher is actuated.

2. The combination, with the circular cap, of the gun carriage or support, of the rotative cap-piece mounted thereon, the gun mounted in said rotative cap-piece the pendent brake-bar loosely coupled to the gun at its upper end and guided in a slot or way in the rotative cap-piece, the shaft  $d$ , rotatively mounted in the cap-piece and having a pin or crank  $d'$ , the brake lever or arm  $g$  on said shaft, and the brake-block  $e$  on said crank, the said brake-bar being arranged between said brake-block and the circular cap of the carriage, as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HARALD THORVALD JOHANNES THRONSEN.

Witnesses:

NERE A. ELFWING,  
ERNST SVANGVIST.