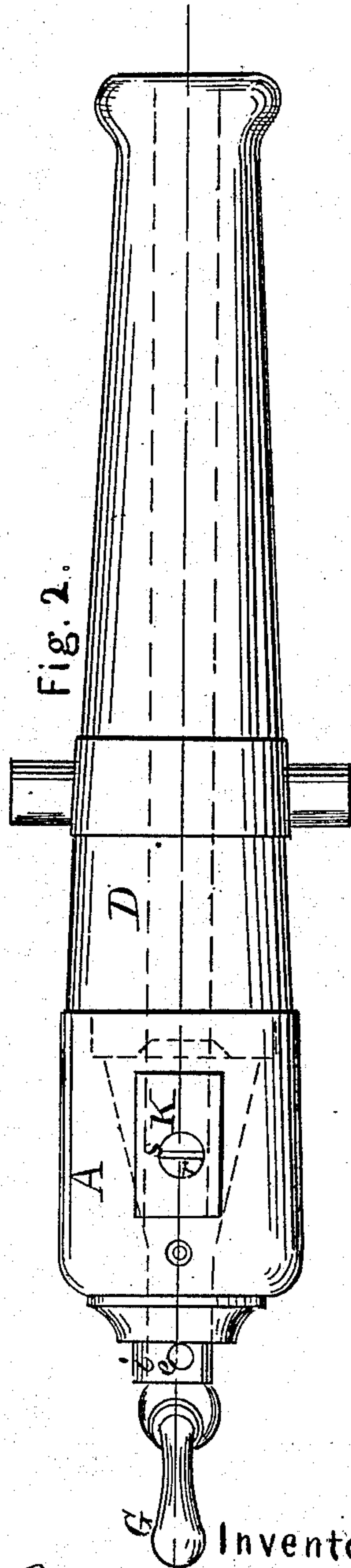
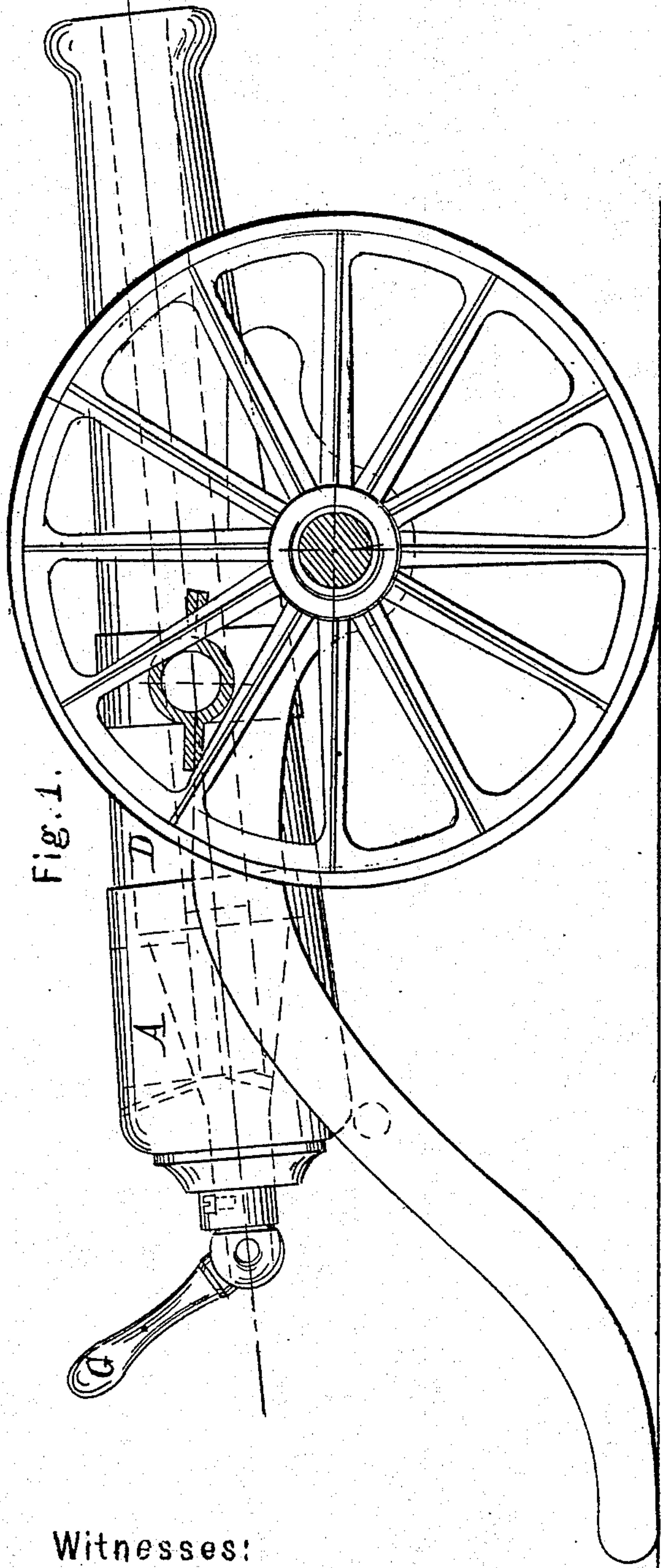


E. HAMILTON.

Breech-Loading Ordnance.

No. { 1,764. }
 { 32,768. }

Patented July 9, 1861.



Witnesses:

Joseph Grevatt
W. L. Benson

Inventor:

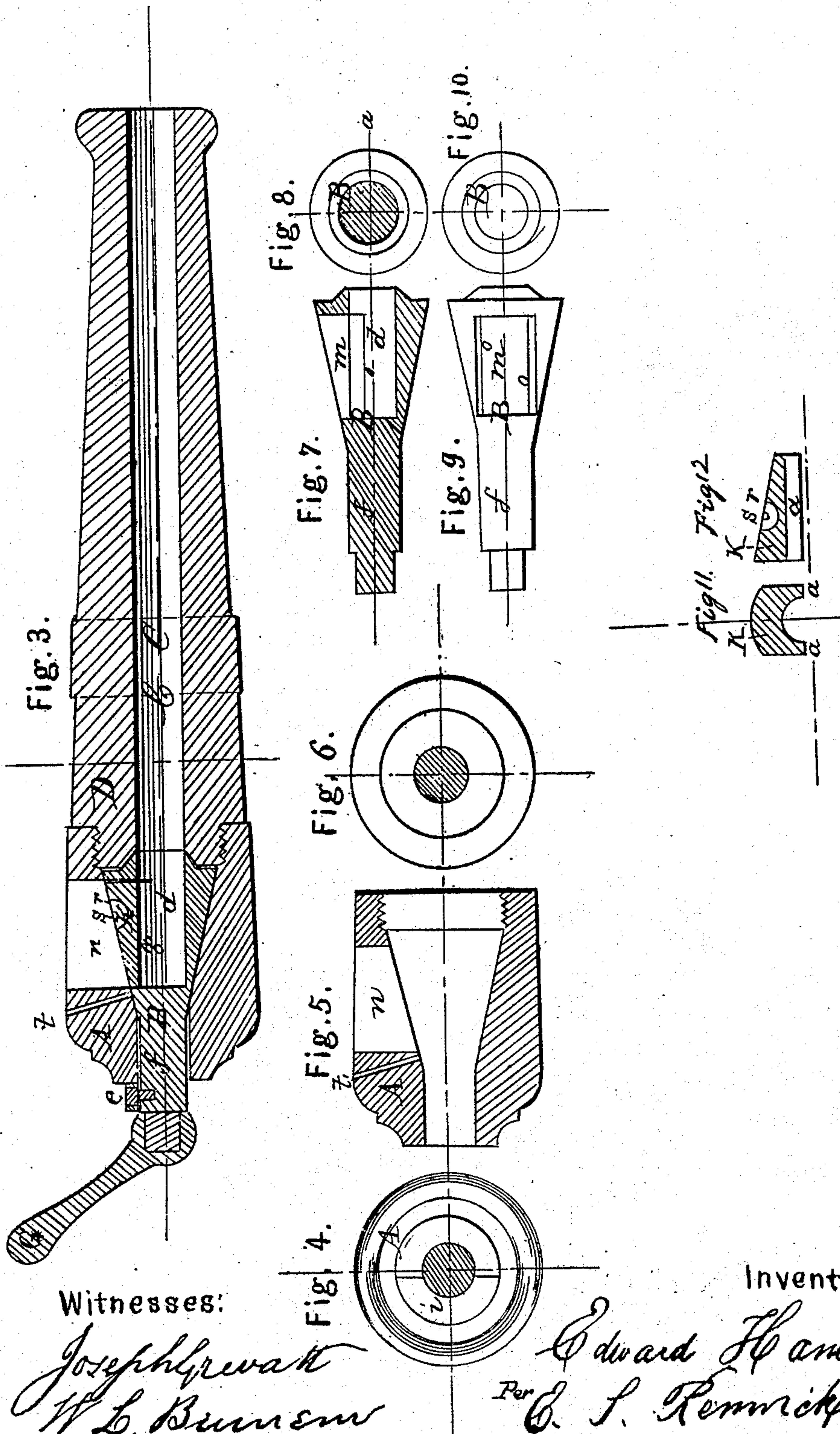
Edward Hamilton
For *C. S. Remick* Atty's

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Witnesses:

Joseph Brewster
W. L. Brunson

Inventor:

Edward Hamilton
Per C. S. Remick Atty

UNITED STATES PATENT OFFICE.

EDWARD HAMILTON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

Specification forming part of Letters Patent No. 32,768, dated July 9, 1861.

To all whom it may concern:

Be it known that I, EDWARD HAMILTON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Breech-Loading Cannon; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of a cannon constructed according to the principles of my invention. Fig. 2 is a plan of the cannon detached from its carriage. Fig. 3 is a vertical longitudinal section of the cannon through the central line of the bore. Figs. 4, 5, and 6 are views of the fixed breech detached. Figs. 7, 8, 9, and 10 are views of the movable breech detached, and Figs. 11 and 12 are views of the breech-stopper detached.

The object of my invention is to enable cannon to be loaded at the breech with facility and to be fired with safety; and the first part of my invention consists in the combination of a movable conical breech with the fixed breech of a cannon in such manner that the axis upon which the movable conical breech turns is in line, or thereabout, with the central line of the bore of the cannon, the movable conical breech and the fixed breech being each perforated with a lateral opening for the insertion of the cartridge, which openings correspond when the movable breech is turned into the position for loading and do not correspond when the movable breech is in a position for firing. This construction and arrangement retains the advantages which accrue from the arrangement of a movable breech turning in line with the axis of the gun and at the same time obviates the disadvantages which are incident to the employment of a cylindrical turning breech, which becomes loose by wear and permits the escape of smoke and gas. As my turning breech is conical and is also in line (or thereabout) with the bore of the cannon, the wearing of the surfaces does not render it loose. The cone does, indeed, become smaller by wear; but as it is in line with the bore of the cannon it is forced back in its socket by the pressure within the gun when the charge is fired and bears closely against its seat notwithstanding the wear.

The second part of my invention consists in combining with the movable and fixed breeches of a cannon, as above described, a removable stopper for the lateral opening in the movable breech, this stopper being fitted in such manner that it is retained in place by the fixed breech when the movable breech is turned within the fixed breech.

Both parts of my invention are embodied in the cannon represented in the accompanying drawings. In this cannon the fixed breech A has a conical socket within it into which the movable conical breech B is fitted. The axis of the movable conical breech is in line with the axis of the bore C of the cannon, and the movable breech has a chamber *d* within it which is a prolongation of the bore of the cannon, and is of suitable size to receive the cartridge. The movable conical breech terminates at its hinder extremity in a shank *f*, which extends backward through an opening in the butt of the fixed breech and is fitted at its outer extremity with a lever G, by means of which the movable breech may be turned on its axis. The movable conical breech is perforated at one side with an opening *m* of sufficient size to admit the cartridge and the stopper hereinafter described, and a similar opening *n* is made in the upper side of the fixed breech, so that when the lever G is turned up, as shown in Figs. 1, 2, and 3, the two openings correspond, and when the lever is turned until it points down to the ground the two openings are diametrically opposite to each other. The shank of the movable breech has a stop-screw *e* secured to it, and a stop *i* is secured to the hinder face of the fixed breech. The relative positions of this stop-screw and stop are such that if the movable breech be turned in one direction by its lever G the stop-screw strikes the stop on the fixed breech and prevents the further turning of the movable breech in that direction when the opening in the movable breech corresponds with the opening in the fixed breech, and if the movable breech be turned in the opposite direction its further movement is stopped when the opening in it is diametrically opposite that in the fixed breech.

A stopper K is fitted to the opening in the movable breech, and as the opening in the movable breech is wider than the bore of the

chamber the sides or legs *a a* of the stopper rest upon shoulders *o o* in the breech. This stopper corresponds in form with the portion of the movable breech that was removed to form the opening, so that when the stopper is in place the periphery of the interior of the chamber is unbroken and the conical periphery of the exterior of the movable breech is also unbroken; hence when the stopper is in place and the movable breech is turned within the fixed breech the stopper passes round within the conical socket of the stationary breech which holds it in place when the cannon is fired.

The stopper has a cup-formed socket *r* in its outer side, which socket is crossed by a bar *s*, to which the hand or a hook can be applied to draw the stopper from its place or to replace it.

The fixed breech is perforated with a touch-hole *t*, and the butt of the movable breech is perforated with a similar touch-hole. The latter is in such position that when the movable breech is turned until the stop-screw *e* strikes the stop on the fixed breech the two touch-holes are in line, so that fire can be communicated through them to the charge; but when the movable breech is in any other position the touch-holes do not correspond, and hence all danger that would accrue from firing the charge before the lateral communication between the chamber in the breech and the exterior of the cannon is cut off is effectually prevented.

The fixed breech is firmly screwed fast to the barrel *D* of the cannon, and the latter is fitted with trunnions in the usual manner.

When the cannon thus described is to be loaded, the movable breech is turned by its lever to cause the two lateral charging-openings to correspond in position. The stopper is then withdrawn and the cartridge is inserted. After this the stopper is replaced and the movable breech is turned in the reverse direction by means of the lever until the stop-screw strikes the stop. Then the cannon is primed and fired in the usual manner.

Having thus described a cannon embodying my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a fixed breech and a movable conical breech, the two being constructed and arranged substantially as described.

2. The combination of a movable breech and a fixed breech constructed and arranged substantially as described, with a removable stopper for the charging-opening, substantially as described.

In testimony whereof I have hereunto set my hand this 1st day of March, A. D. 1861.

E. HAMILTON.

Witnesses:

BENJN. E. GALLUP,
EDWARD S. EVARTS.