

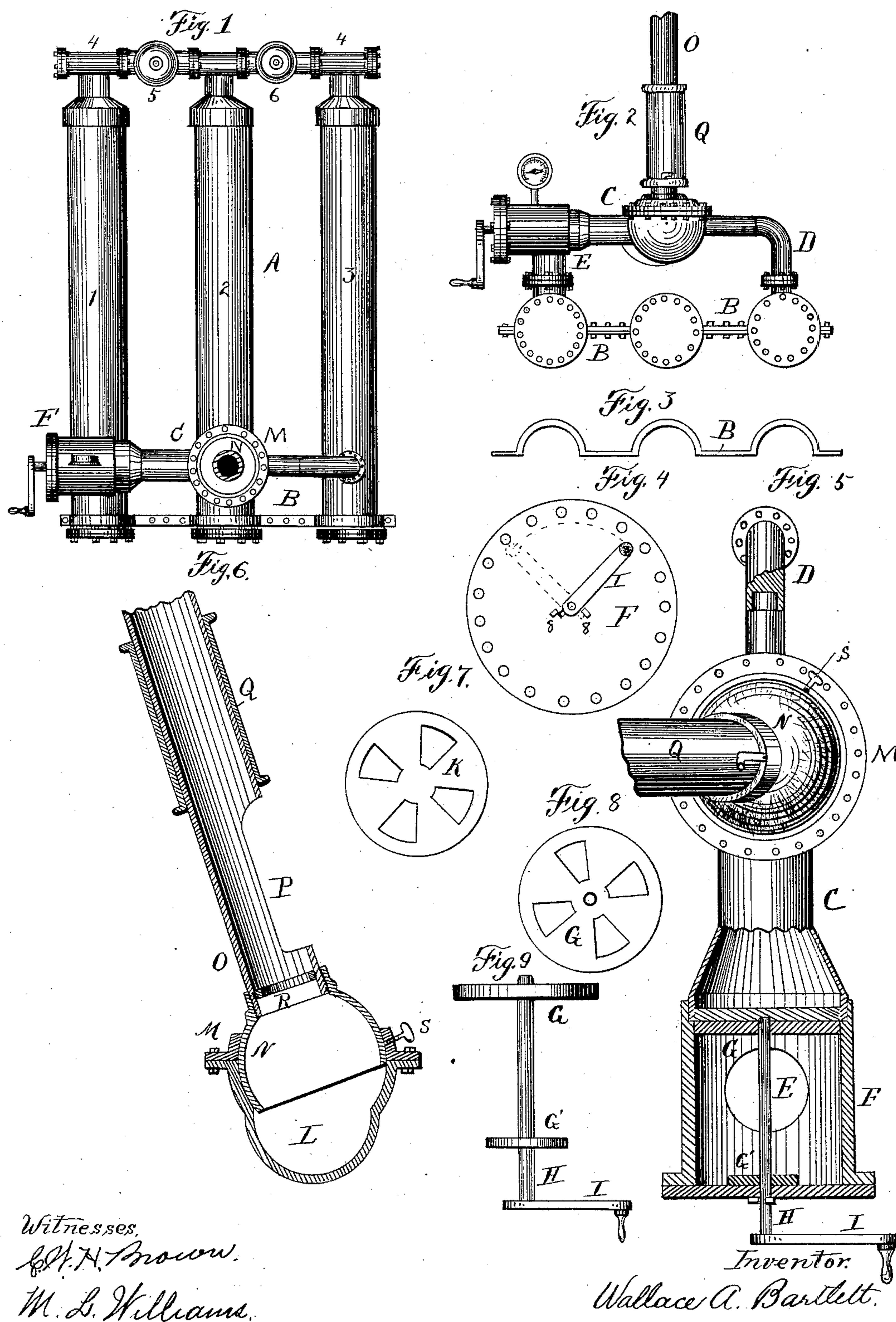
(No Model.)

2 Sheets—Sheet 1.

W. A. BARTLETT.  
PNEUMATIC CANNON.

No. 429,595.

Patented June 10, 1890.



Witnesses,  
J. H. Brown.  
M. L. Williams.

Inventor.  
Wallace A. Bartlett.

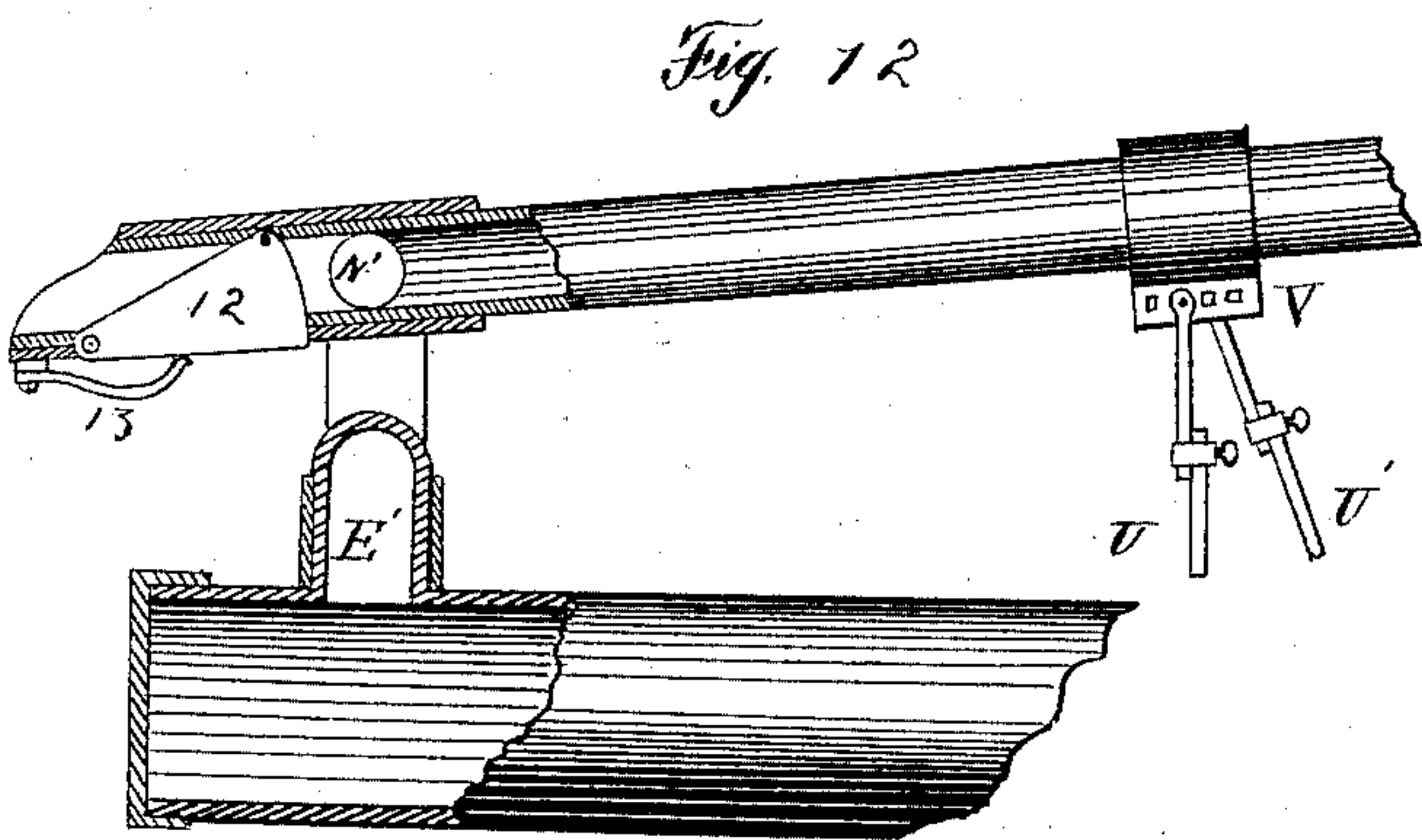
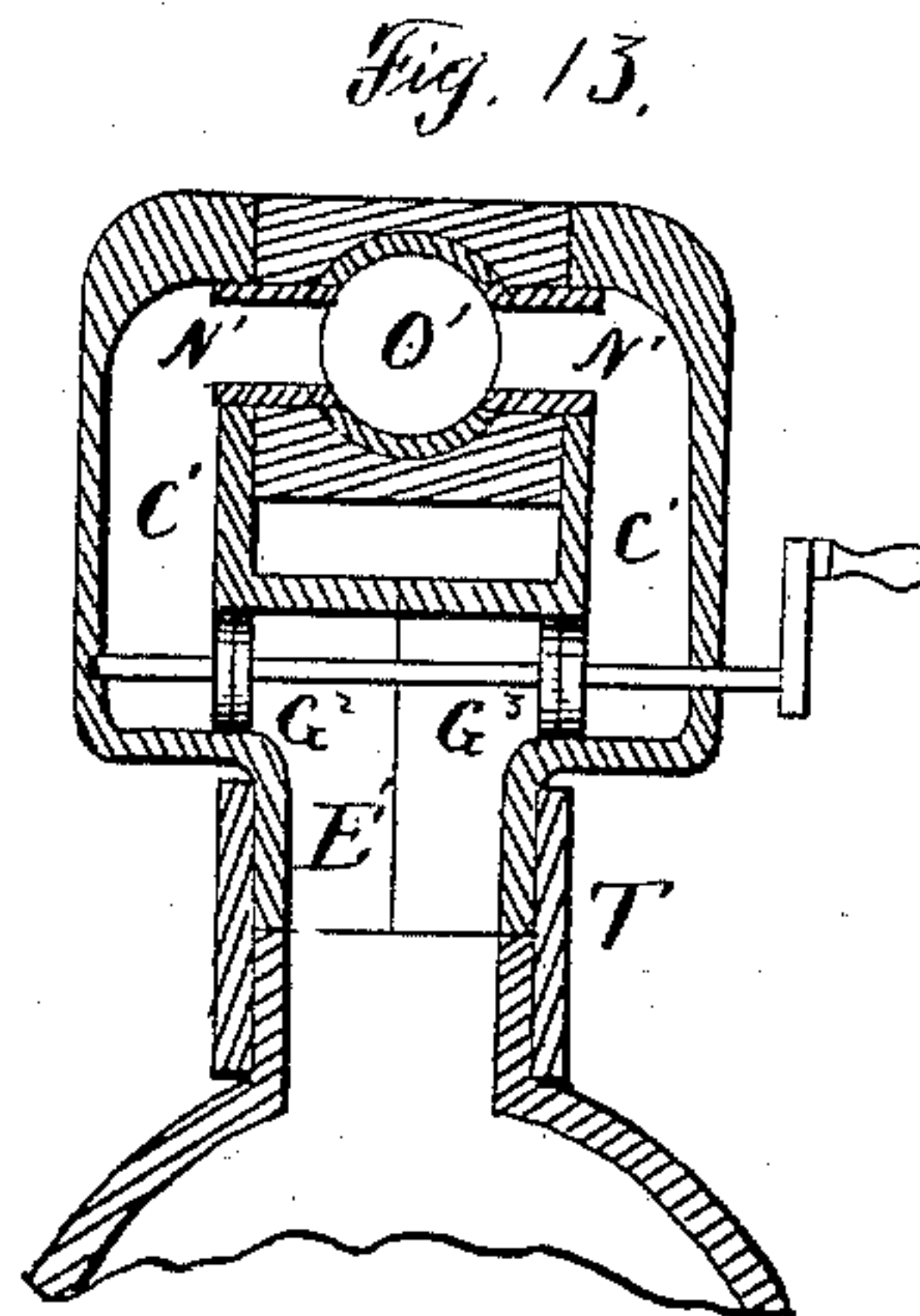
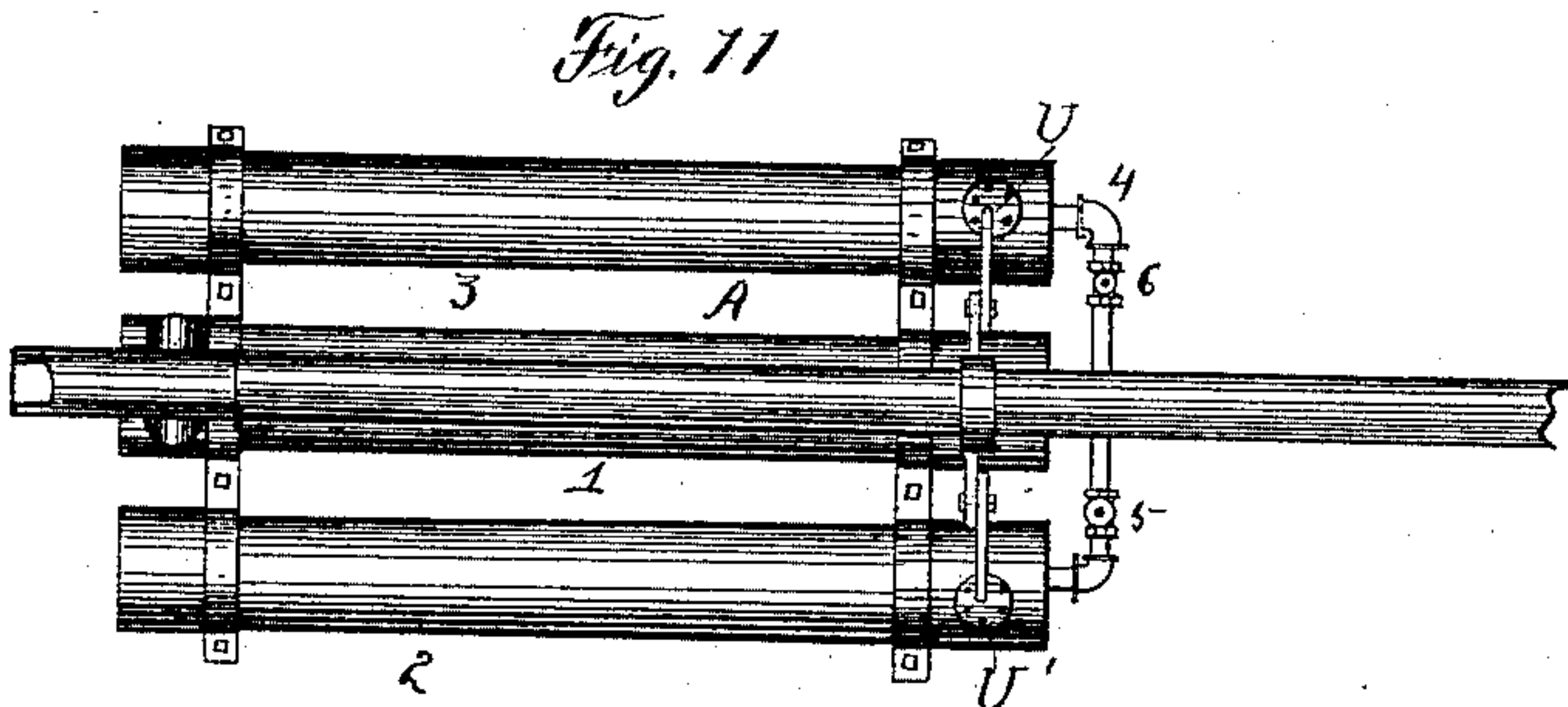
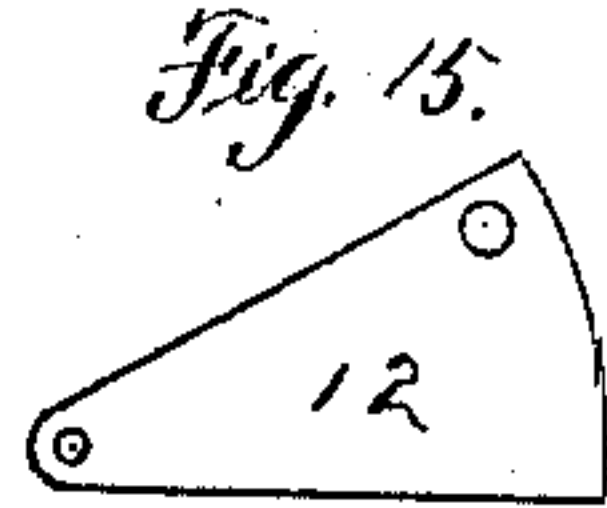
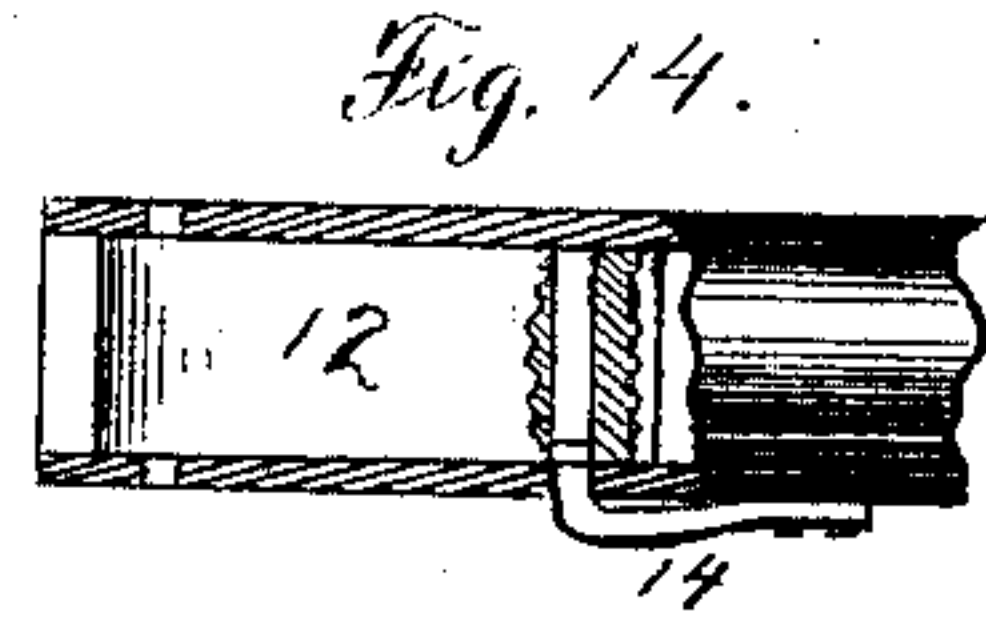
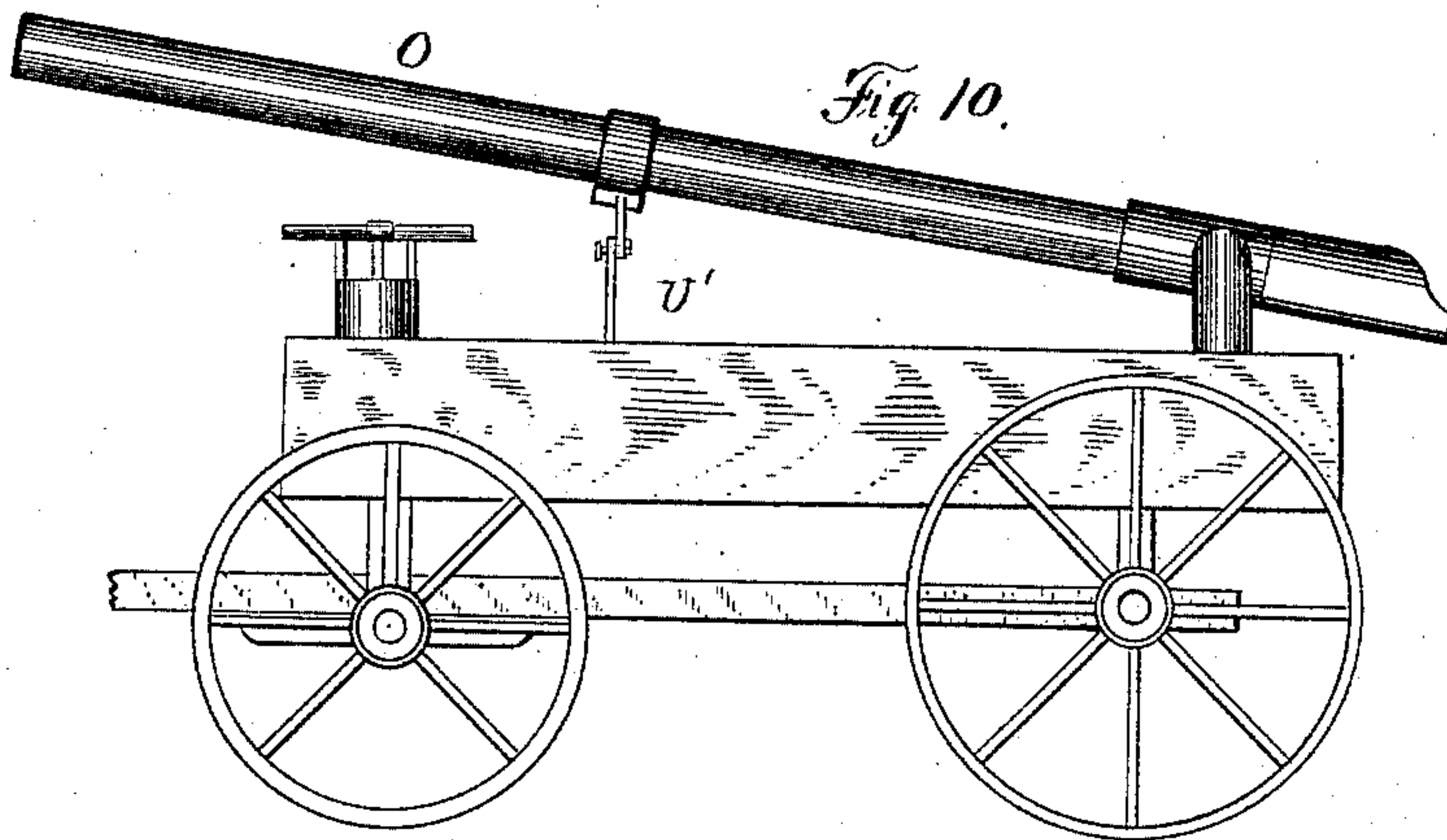
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W. A. BARTLETT.  
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M. L. Williams,

Inventor.

Wallace A. Bartlett



# UNITED STATES PATENT OFFICE.

WALLACE A. BARTLETT, OF WASHINGTON, DISTRICT OF COLUMBIA,  
ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE PNEUMATIC DYNA-  
MITE GUN COMPANY, OF NEW YORK, N. Y.

## PNEUMATIC CANNON.

SPECIFICATION forming part of Letters Patent No. 429,595, dated June 10, 1890.

Application filed November 29, 1884. Renewed April 24, 1890. Serial No. 349,206. (No model.)

*To all whom it may concern:*

Be it known that I, WALLACE A. BARTLETT, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Pneumatic Cannon, of which the following is a specification, reference being had therein to the accompanying drawings.

The present invention relates to pneumatic cannon intended for short range, as for throwing frangible projectiles filled with chemicals for extinguishing fires.

The invention consists in certain details of construction and combinations of parts, as hereinafter set forth and claimed.

In the drawings, Figure 1 is a plan of the gas-flask, showing the gun-tube in section. Fig. 2 is an end elevation of the flask and connections, the gun-tube being partly broken away. Fig. 3 is a view of one of the connecting-yokes. Fig. 4 is an end view of the valve-box. Fig. 5 is a plan, partly sectioned, of the supply-pipe, gun-tube, and universal coupling or joint by which the gun may be trained. Fig. 6 is a longitudinal section of the gun-tube, sleeve, and universal coupling. Figs. 7, 8, and 9 are details of the valve. Fig. 10 is an elevation of a modification of a gun mounted in a wagon. Fig. 11 is a plan of same gun. Fig. 12 is a partial section and partial elevation of same. Fig. 13 is a cross-section of the connections from flask to gun. Figs. 14 and 15 are details showing breech-closing block.

A represents the gas-flask, which is made in sections 1 2 3. These flask-sections are connected by pipe 4, and one or two sections can be cut off from the operating-section 1, so that in case there is not time to work up the usual normal pressure in the whole flask a part only of the flask may be used, the remaining sections being cut off by the valves. The connection from the compressor may be made with the section 1, which is connected to the gun-tube, or with section 3, and the interposed valves may be reducing-valves.

The flask-sections 1 2 3 are held together by as many yokes B as may be necessary to

give firmness. Section 2 may on occasion be dispensed with.

The gun-tube is mounted on a cross-pipe C, one end of which is supported on a standard D, the other end resting on a pipe E, which communicates with section 1 of the flask.

One end of the supply-pipe C forms the valve-casing F, in which is the balanced valve G G', the perforated disk G being balanced by that of G' and finding its bearing against the perforated disk K. The valve may be oscillated by handle I on rod H, and the movement of said handle through a part of a revolution will both open and close the valve by bringing the holes in plate G alternately before the holes and the unbroken portion of plate K. Stops 8 8 on the head 9 will stop the valve in closed position. When the handle I is at the extremity of its movement in either direction, the valve may be opened and closed by swinging the lever in the other direction.

The supply-pipe C leads to a chamber L, which forms part of a universal joint, the cap M serving to retain the other joint-section N in position.

The globe-joint piece N serves as a support for the gun-tube O, which has an opening P in one side above the globe. The opening P may be closed by a sleeve Q, which moves on the tube, either longitudinally thereof, as shown, or by oscillating around the tube, in which case the sleeve, like the tube, will have an opening for the passage of the projectile.

A ring or cross-bar R serves to sustain the projectile when in the tube.

A set-screw S may be applied to the cap M and will hold the piece N and the barrel in adjusted position, or a wedge may be substituted for the screw.

The object of the construction described herein is to give universal movement to the gun-tube about a fixed point at the breech instead of at some point forward of the breech, so that the aperture for receiving the projectile will remain in practically one posi-



tion, both as to elevation and traverse, no matter what the training of the gun may be.

For throwing projectiles for extinguishing fires—such, for instance, as are described in my patent of December 9, 1884, for projectiles—the gunner may direct the gun-barrel as a fireman directs the hose of an engine, and can rapidly change direction, so as to throw into any window in the front of the building. The tube may of course have partial or entire support by rods, as shown in Fig. 10.

A modification of the supply-pipe and connections is shown in Fig. 13, in which E' is the connection from the flask to valve; G G<sup>2</sup>, the valve-disks; and C C' the supply-pipes leading to the gun-tube O', which is mounted on trunnion N', the elevation being effected by a movement on the trunnions, and the traverse by a swivel movement of the connecting-pipe E'. The side pipes C C' may be cast as a pair and united by passing sleeve 5' around them.

The breech-closing mechanism may be any well-known system, that illustrated being the Peabody system.

12 represents the breech-block, 13 a closing-spring, and 14 a retaining-catch.

The tube may be supported at front by extensible rods U U', which are pivoted to sleeve V on the gun-tube. These rods may be supported on the flask or other convenient support, but should be of light weight.

I claim—

1. In a pneumatic cannon, the combination, with the gas-flask and supply-pipe, of a breech-loading gun-tube having a universal joint to the supply-pipe forward of the recoil-abutment, and a controlling-valve in rear of said universal coupling, substantially as described.

2. The combination, with the gas-flask and gun-tube connected by a universal joint, of a clamping device, substantially as described, operating on the joint to sustain the tube in position.

3. The combination, with the gas-flask, of a gun-tube swiveled thereto at the breech, so as to have universal movement, and extensible supporting-rods connected to the barrel in front of the breech, substantially as described.

4. The combination, with a gas-flask, supply-pipe, and gun-tube connected to the supply-pipe by a universal joint and having a loading-opening in front of the joint, of a sleeve on the tube for closing said opening, as set forth.

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

WALLACE A. BARTLETT.

Witnesses:

M. L. WILLIAMS,  
PHILIP MAURO.