

(No Model.)

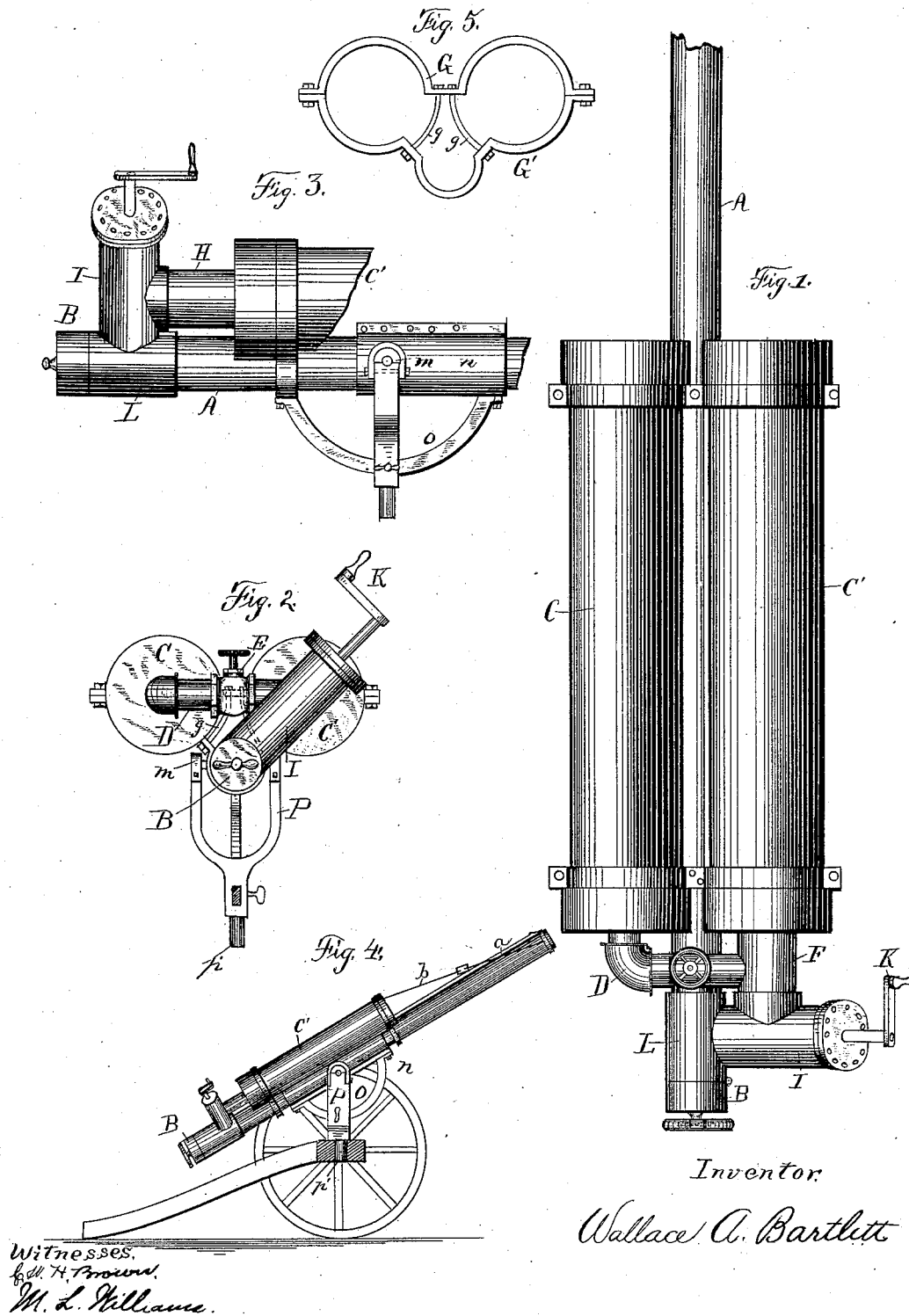
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PNEUMATIC CANNON.

No. 381,901.

Patented May 1, 1888.

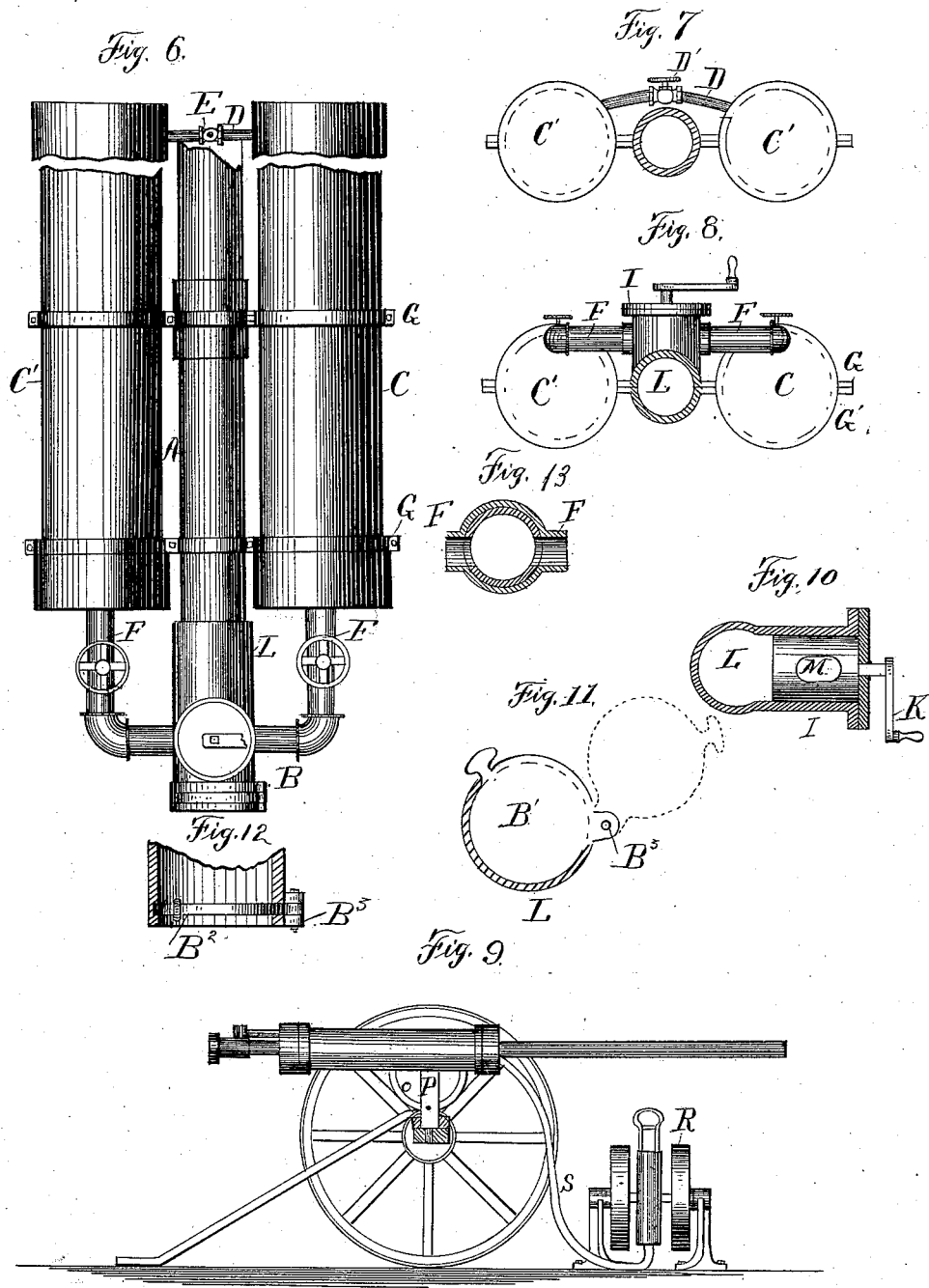


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Witnesses:  
E. W. H. Brown,  
M. L. Williams,

Inventor:  
Wallace A. Bartlett.

# UNITED STATES PATENT OFFICE.

WALLACE A. BARTLETT, OF WASHINGTON, DISTRICT OF COLUMBIA, AS-  
SIGNOR TO WASHINGTON G. BENEDICT, OF BOSTON, MASSACHUSETTS.

## PNEUMATIC CANNON.

SPECIFICATION forming part of Letters Patent No. 381,901, dated May 1, 1888.

Application filed September 24, 1884. Renewed September 29, 1887. Serial No. 251,055. (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  
5 Improvements in Pneumatic and Similar Cannon, of which the following is a specification, reference being had therein to the accompanying drawings.

The present invention relates to pneumatic  
10 or similar cannon; and it consists in certain details of construction and combinations of parts, as hereinafter pointed out and claimed.

The object of the invention is to produce a gun of small caliber to operate with moderate  
15 pressure, which shall be easy of manipulation, such a gun being specially intended to throw frangible projectiles filled with chemicals for fire-extinguishing purposes to lofty windows or other positions which cannot be reached by  
20 hand-grenades. The gun may also be used for throwing life-lines or for defensive purposes at short range, and should be mounted so as to be capable of elevation at an angle of rather more than forty-five degrees.

In the drawings, Figure 1 is a plan of the gun. Fig. 2 is a rear elevation of the gun and yoke or swivel. Fig. 3 is a side elevation of the rear portion. Fig. 4 is an elevation of such a gun mounted, details being omitted. Fig. 5  
30 is a side view of the coupling-bands. Fig. 6 is a plan view of a slightly-modified form of gun, the gun-tube being between instead of beneath the flasks. Fig. 7 is a front elevation of same. Fig. 8 is a rear elevation, partly sectioned. Fig. 9 is a sectional elevation of gun mounted, showing compressor in position. Figs. 10, 11,  
35 12, and 13 are detail views hereinafter referred to.

A indicates the gun-tube, which is closed at  
40 breech B by a screw cap or plug, or by a side-swiveling block, B', which swings into a mortise, B<sup>2</sup>, being hinged at B<sup>3</sup>, or in any of the other well-known ways for closing the breech of a gun.

C C' are flasks, which communicate with  
45 each other by a pipe, D, which has a closing-valve, E. This pipe connecting the flasks may be placed at the front or rear of the flasks, or in any other convenient position. A supply-pipe, F, leads from one of the flasks to the  
50 valve-chamber I, and the air or gas therefrom

passes through the valve to the chamber of the gun. The valve-chamber I is preferably a single casting with the sleeve L, which forms the breech portion of the gun, and into which the tube A is screwed or otherwise secured. The  
55 valve is preferably over the gun-tube, to avoid torsional strains, and for this reason the arrangement of Fig. 6 is preferred to that in Fig. 1.

In the modification shown in Fig. 6 a supply-pipe, F, leads from each of the flasks C and C' to the valve chamber I; but either one of  
60 these pipes can be closed by a valve, so that the firing-charge can be drawn from either flask.

In the form of valve shown in Fig. 10 the air-supply is supposed to pass through one or  
65 both of the pipes F to the rotary plug M, which plug has a three-way passage, and this plug being turned by handle K, through one-fourth of a revolution, permits the supply to pass  
70 through to the chamber of the gun.

The flasks C C' are connected together by the straps or yokes G G, which clasp all the parts and secure them firmly together. Where  
75 the tube is below the level of the flasks the yokes may be coupled by bolts g g.

A sleeve, n, surrounds the tube A and carries the trunnions m. This sleeve n may also support one end of the arc bar o, the other end of said bar being suitably secured in rear thereof, or the sleeve may be long enough to hold  
80 both ends of the arc bar, or of course the arc bar may be secured to separate sleeves. The trunnions m rest in the forked arms of a swiveled yoke, P, the pintle p' of which turns in a socket of the gun carriage or support. The  
85 arc bar o passes through or alongside of the standard of this yoke, and may be held against the standard by a set-screw, wedge, or key. The gun may be elevated to any desired position, and fixed there by securing the arc bar  
90 where it passes the yoke. The gun may be traversed by swinging the yoke on its pivot.

The gun and flask may be mounted on any suitable carriage or support. If necessary, the barrel may be stiffened by a top rib, a, and the  
95 tie-rods b, leading from a sleeve near the muzzle to the upper part of the flasks. This construction avoids a bridge for the tie-rod.

When the gun is mounted on a carriage, as shown in Figs. 4 and 9, the air-compressor R  
100

may be conveniently connected with one of the flasks by a flexible pipe, s. The compressor R can be lifted and placed on the carriage when moving from place to place, but had best be removed when the gun is in firing position, so that the compressor may be worked without jarring the gun. The flask may be filled with compressed air by means of the compressor while the carriage is moving, the flexible pipe permitting the operation of the compressor in any position, and when the compressor is dismantled it may be worked while the gun is firing.

Some features necessarily shown in this application are shown in my former application, No. 136,119, filed June 27, 1884. I do not claim herein anything of a patentable nature shown in that application, as all such matter is or will be properly claimed therein.

What I claim herein is as follows:

1. The combination, with the gun-tube and its supporting mechanism, of a sectional flask secured to said tube, a valve interposed between the sections of said flask, and a flexible connection from one section of the flask to the source of air-supply, as set forth.

2. The combination, with a sectional flask of a gun-tube, of a single operating-valve, a plu-

rality of supply-pipes leading from the separate compartments of the flask to the valve, and a closing-valve in one of the supply-pipes, substantially as set forth.

3. The combination, with the gun-tube, of a sectional flask secured thereto, a plurality of supply-pipes leading from said sections to the operating-valve, and an operating-valve placed in a vertical plane drawn through the axis of the gun, as set forth.

4. The combination, with the gun-tube, a trunnioned sleeve thereon, and the supporting-yoke, of an arc bar attached to the tube, and a clamp to secure said arc bar against the yoke.

5. The combination, with the gun-tube, of a sectional flask secured thereto, valves between the sections, by which each section may be separated from and rendered independent of the others, a supply-pipe leading from each section to the operating-valve, and a closing-valve in at least one of the supply-pipes.

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

WALLACE A. BARTLETT.

Witnesses:

M. L. WILLIAMS,

E. L. WHITE.