

(No Model.)

W. G. BENEDICT.

PNEUMATIC CANNON.

No. 314,991.

Patented Apr. 7, 1885.

Fig. 1

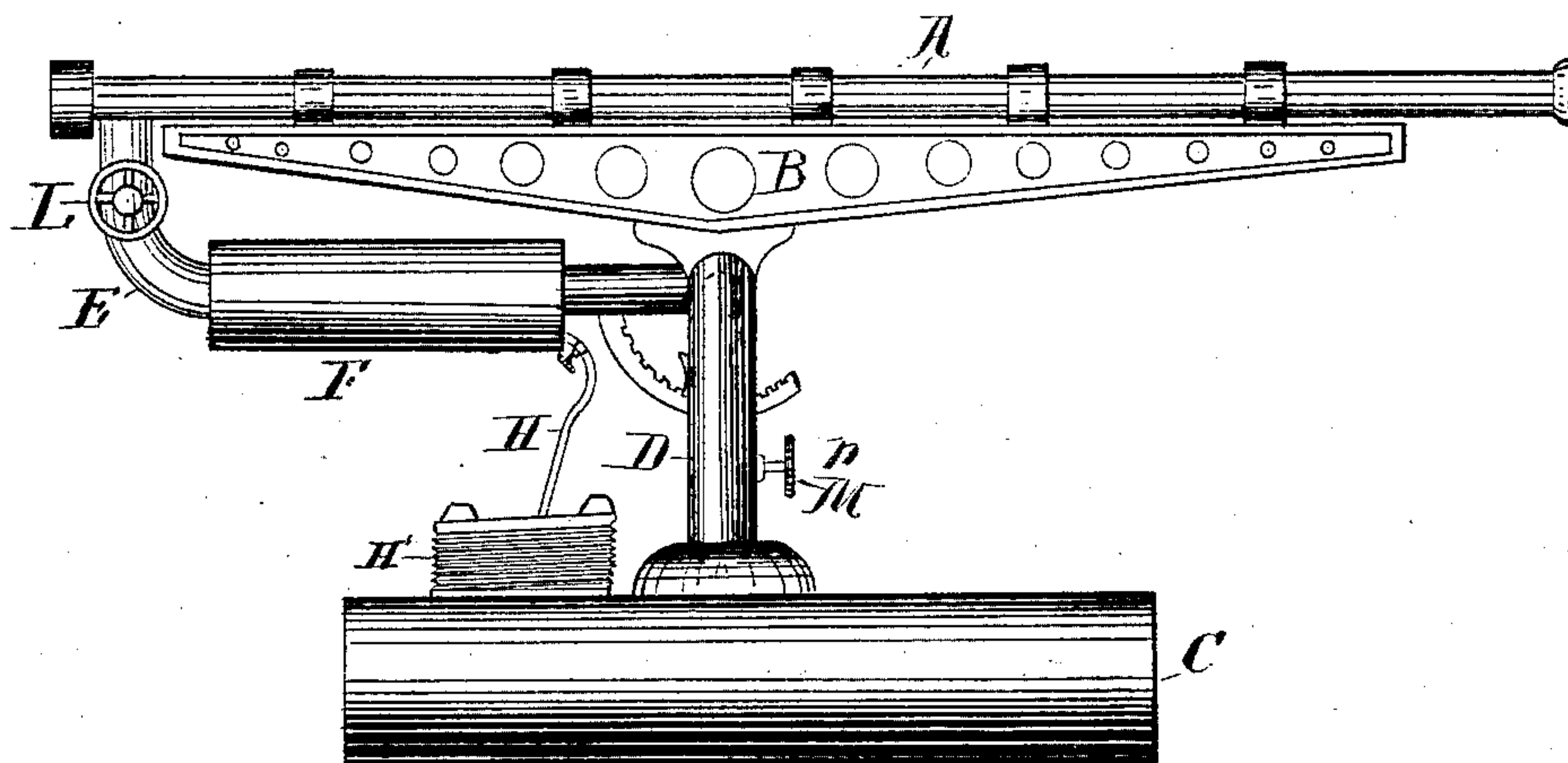


Fig. 2.

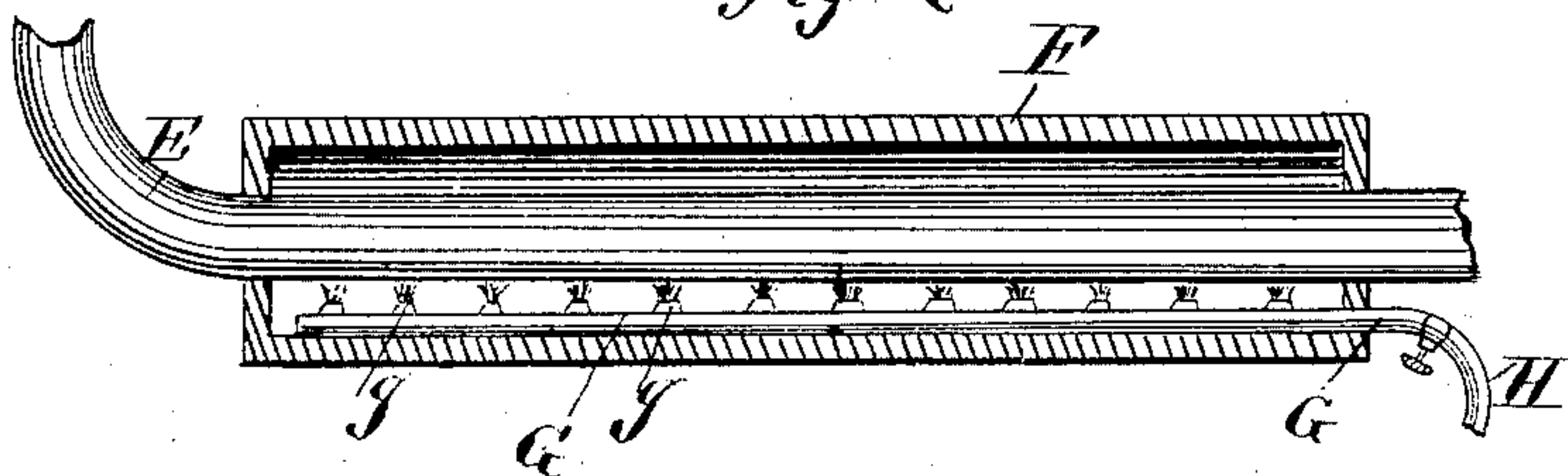


Fig. 3



Witnesses.

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PNEUMATIC CANNON.

SPECIFICATION forming part of Letters Patent No. 314,991, dated April 7, 1885.

Application filed May 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON G. BENEDICT, residing at Boston, in the county of Suffolk and State of Massachusetts, 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.

This invention relates to pneumatic or similar cannon.

The object of the invention is to increase the power of such guns.

The invention consists in certain constructions, hereinafter pointed out and claimed.

In the drawings forming part of this specification, Figure 1 is a side elevation of a gun and attachments, illustrating the principles of my invention. Fig. 2 is a section of the heating-chamber and elevation of the supply-pipe passing through the same. Fig. 3 is a modification of same parts shown in Fig. 2.

A indicates the gun-tube, and B the supporting-truss. C is the gas-flask; D, a standard or pipe leading therefrom, which is in effect a part of the supply-pipe E. All these parts may be of any usual construction.

The supply-pipe E is surrounded by a heating-chamber, F, which contains mechanism for heating the pipe and the air or gas which passes through the same on the way to the gun-tube. In Figs. 2 and 3 this heating mechanism is represented as a series of gas-burners, *g g*, on a pipe or pipes, G. The gas is supplied to the pipe G through a pipe, H, from the gas-holder, H', made like a bellows, or in other manner to drive the gas under pressure through the flexible pipe H. The burners being in close proximity to pipe E will rapidly heat the same, and it may be advisable to enlarge the pipe E within the chamber, so as to present a greater heating-surface to the action of the flame.

Instead of a series of gas-burners, a petroleum-burner, I, may be placed inside the chamber F. This burner is a perforated tube

having a tank or source of supply, K K, at each end, from which the petroleum or other combustible fluid will escape through the small perforations and will maintain a flame about the supply-pipe. The supply of gas or petroleum will be cut off when desired by suitable cocks.

The operating-valve of the gun is indicated at L, and an intermediate valve between the supply-pipe and the gas-flask is provided, as at M, Fig. 1.

When the gun is about to be fired, the compressed air or gas will be admitted to the supply-pipe and the heating apparatus will be thrown into operation by igniting the combustible in the heating-chamber or by turning on steam. The air in the supply-pipe will be heated and its pressure correspondingly increased. In addition, the air passing through the supply-pipe when the operating-valve is opened will absorb heat rapidly and the pressure will be considerably increased in the gun.

I claim—

1. The combination, with the supply-pipe of a pneumatic cannon, of a heating-chamber surrounding the same, a series of burners inside the chamber in proximity to the pipe, and a fuel-supply reservoir communicating with the burners, all being so attached as not to interfere with the working of the gun, substantially as described.

2. The combination, with the supply-pipe of a pneumatic cannon, of a heating-chamber surrounding the same and flexible connections leading from the fuel-supply reservoir to the heating-chamber, whereby the heat-supply may be maintained without interfering with the training of the gun.

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

WASHINGTON G. BENEDICT.

Witnesses:

W. A. BARTLETT,
C. W. BROWN.