(No Model.) 2 Sheets—Sheet 1.

G. GERDOM.

GAS VENTED BREECH MECHANISM.

No. 582,469. Patented May 11, 1897.

FIG. 1.

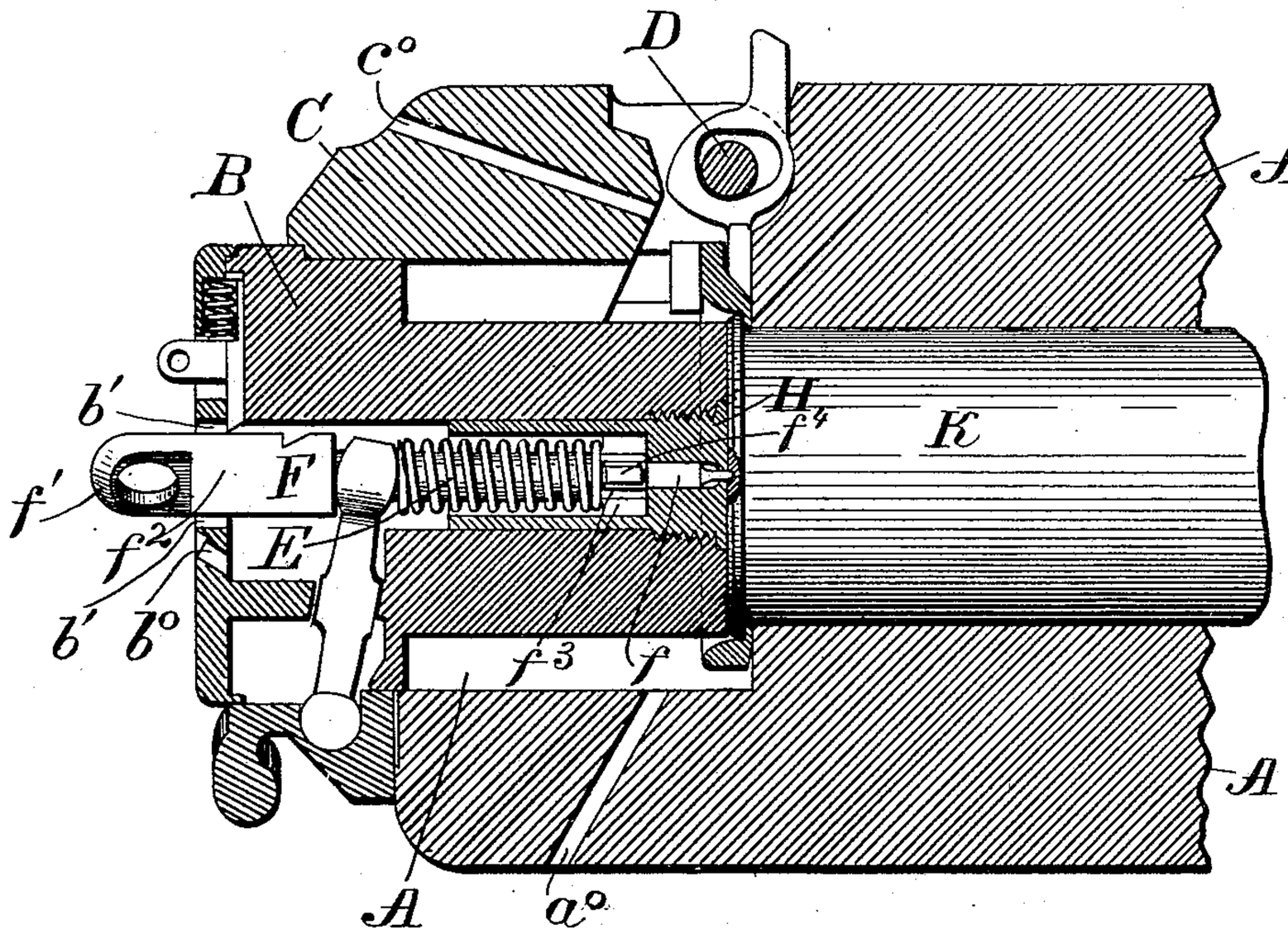
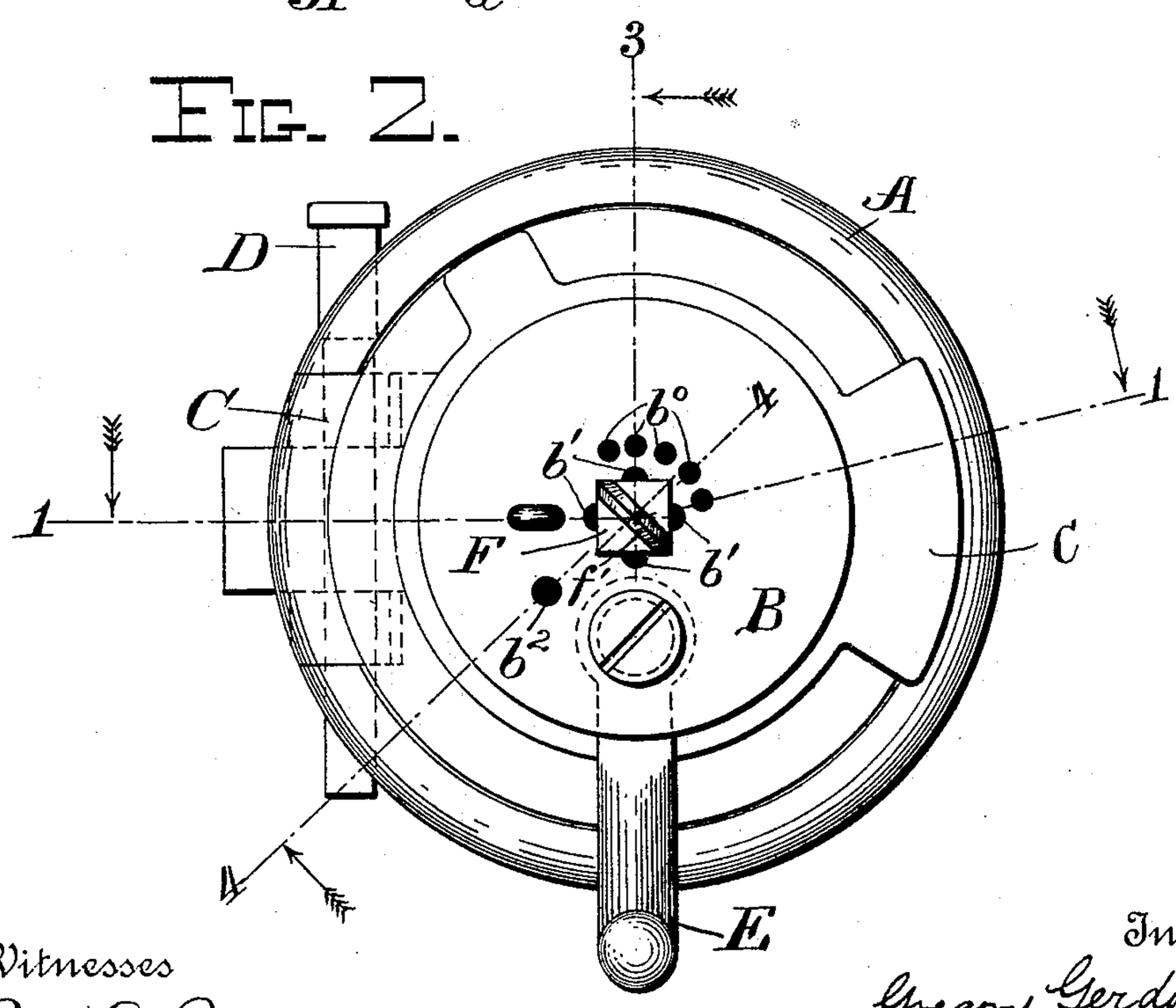


FIG. 2.



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(No Model.) 2 Sheets—Sheet 2.

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No. 582,469. Patented May 11, 1897.

FIG. 3.

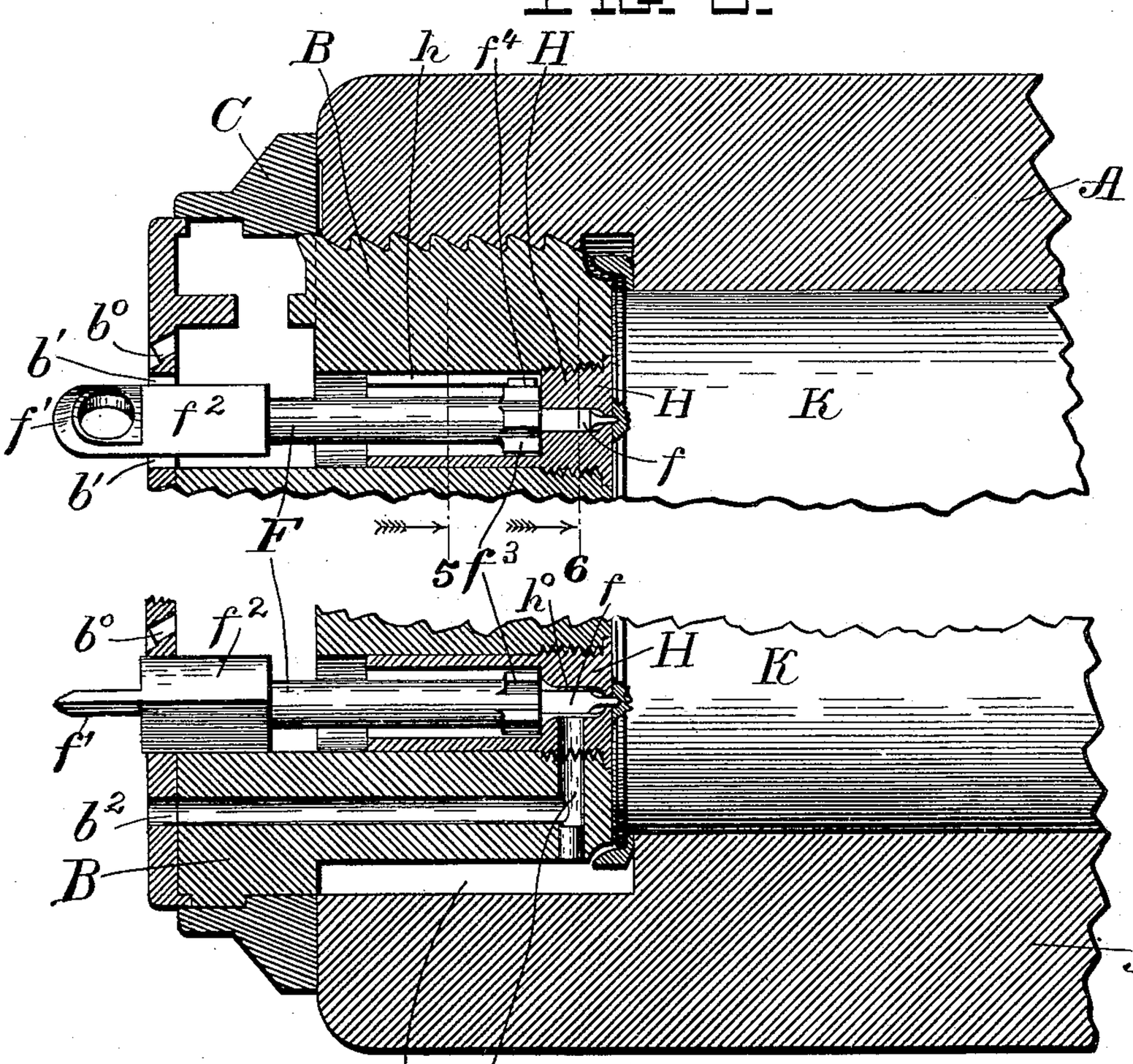

FIG. 4.

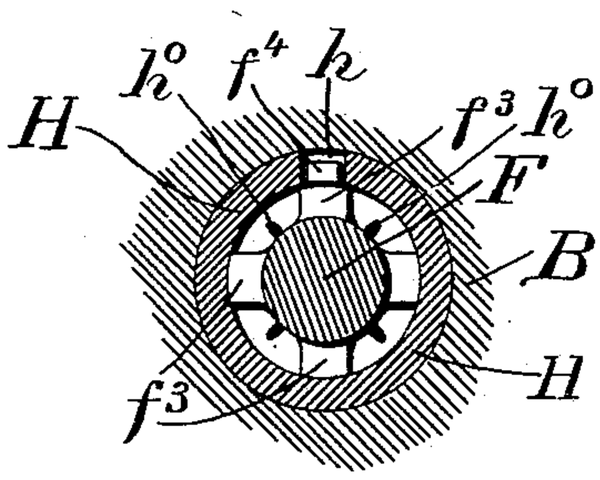

FIG. 5.

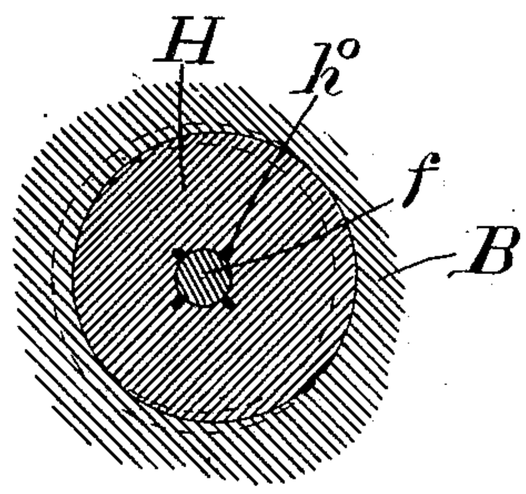

FIG. 6.

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UNITED STATES PATENT OFFICE.

GREGORY GERDOM, OF SANDY HOOK, NEW JERSEY.

GAS-VENTED BREECH MECHANISM.

SPECIFICATION forming part of Letters Patent No. 582,469, dated May 11, 1897.

Application filed September 3, 1896. Serial No. 604,746. (No model.)

To all whom it may concern:

Be it known that I, GREGORY GERDOM, a citizen of the United States, residing at Sandy Hook, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Breech-Loading Ordnance; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in breech-loading guns intended for use with fixed ammunition, and it is intended to provide against injuries to the delicate parts of the breech mechanism, such as the firing-pin, firing-spring, and other delicate parts, due to the blow-backs arising from defective ammunition.

In practice it is found that the primer or cartridge-case is sometimes defective, and parts of the primer or cartridge-case blow back, allowing the gas to enter into the breech mechanism, either injuring the same by pressure or clogging up the same with the residual products due to the combustion of the powder, as also eroding the parts in contact with the erosive gases.

My invention will be understood by reference to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a section along the line 1 1 of Fig. 2 and looking in the direction of the arrow. Fig. 2 represents a rear view of the gun as detached from the gun-mount. Fig. 3 represents a section along the line 3 of Fig. 2 and looking in the direction of the arrow. Fig. 4 represents a section along the line 4 of Fig. 2 and looking in the direction of the arrow; and Figs. 5 and 6 are detail sectional views along the lines 5 and 6, respectively, of Fig. 3 and looking in the direction of the arrows.

A represents the body of the gun, constructed in the ordinary way and provided with one or more perforations a^0, opening through the walls of the gun into the air-space in the breech-opening.

B represents the breech-block, which may be of any accepted or desired type and which is mounted in any suitable carrier, such as C, hinged on the pivot-pin, such as D.

F represents the firing-pin, the front end of which is reduced, as at f, while the rear end terminates in the thumb-lug f'.

Near the rear end the body of the firing-pin is preferably made square, as at f^2, while the spring E is mounted over the central portion and engages the lugs f^3, which lugs are separated by indentations to allow the free passage of the gas to the rear.

The front end of the firing-pin passes through the bushing H, which is screwed into the nose of the breech-plug B and is provided with the guide-slot h, adapted to guide the lug f^4, projecting from one of the lugs f^3 on the firing-pin. Around the forward portion of the firing-pin this bushing H may be grooved, as shown at h^0 in Figs. 5 and 6, whereby sudden pressure may be relieved from the face of the firing-pin.

The breech-block is preferably provided with an opening b^3, extending from the cavity in the center of the bushing H either to the opening A^0 in the breech of the gun, or this connection to the opening A^0 may be plugged up, and a horizontal passage b^2, opening to the rear of the breech-plug, may be provided, if desired. One or more passages c^0 may also be provided in the carrier or carrier-ring, if desired. In order to allow the free passage of the blow-back gas to the rear, a plurality of openings b^0, b', and b^2 (see Figs. 1 and 2) are provided through the back of the breech-plug, several of which, such as b', are preferably arranged around the four sides of the squared portion of the firing-pin F, whereby the gases may escape directly to the rear. All of these several openings should be provided at such points of the gun or the breech mechanism as would not be materially weakened thereby.

I do not claim my invention as applied to any specific breech mechanism, as it may be used with almost any of the breech mechanisms now in use.

While I have referred herein to the "firing-pin," it will be obvious that the invention would be fully applicable to the electric firing apparatus now in use in breech-loading guns of the character described. Moreover,

I do not claim the exact construction and arrangement of the openings as herein shown, for they may be altered at will in a great variety of ways. Some of the passages may be conveniently closed with stoppers of cork or other suitable material, which will blow out when blow-backs occur and leave the passage clear for the passage of the gas.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A breech-loading gun provided with a breech-block and carrier for the same, the firing-pin and mechanism mounted in said breech-block, an air-passage opening from a cavity near the end of the firing-pin and passing through the breech-block to the rear of the gun, a second air-passage leading from the first passage into the air-space between the breech-opening and the breech-block, an air-passage leading from said air-space through the body of the gun, another air-passage opening from said air-space through the carrier toward the rear of the gun, and a plurality of air-passages surrounding the rear portion of the firing-pin and leading from the air-space surrounding the said firing-pin and passing through the rear of the breech-block, all of said passages communicating with the atmosphere external to the gun, substantially as and for the purpose herein specified.

2. A breech-loading gun provided with a hinged carrier and a breech-block mounted therein, a firing-pin having indentations near its forward end to admit the passage of air, and firing mechanism mounted in the said breech-block, of an air-passage opening from a cavity near the end of the firing-pin and passing through the breech-block to the rear of the gun, a second air-passage leading from the first passage into the air-space between the breech-opening and the breech-block, an air-passage leading from said air-space through the body of the gun, and a plurality of air-passages surrounding the rear portion of the firing-pin and leading from the air-space surrounding the said firing-pin and passing through the rear of the breech-block, all of said passages communicating with the atmosphere external to the gun, substantially as and for the purpose herein specified.

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

GREGORY GERDOM.

Witnesses:
ISIDOR J. POCHER,
J. E. FITZSIMONS.