

(No Model.)

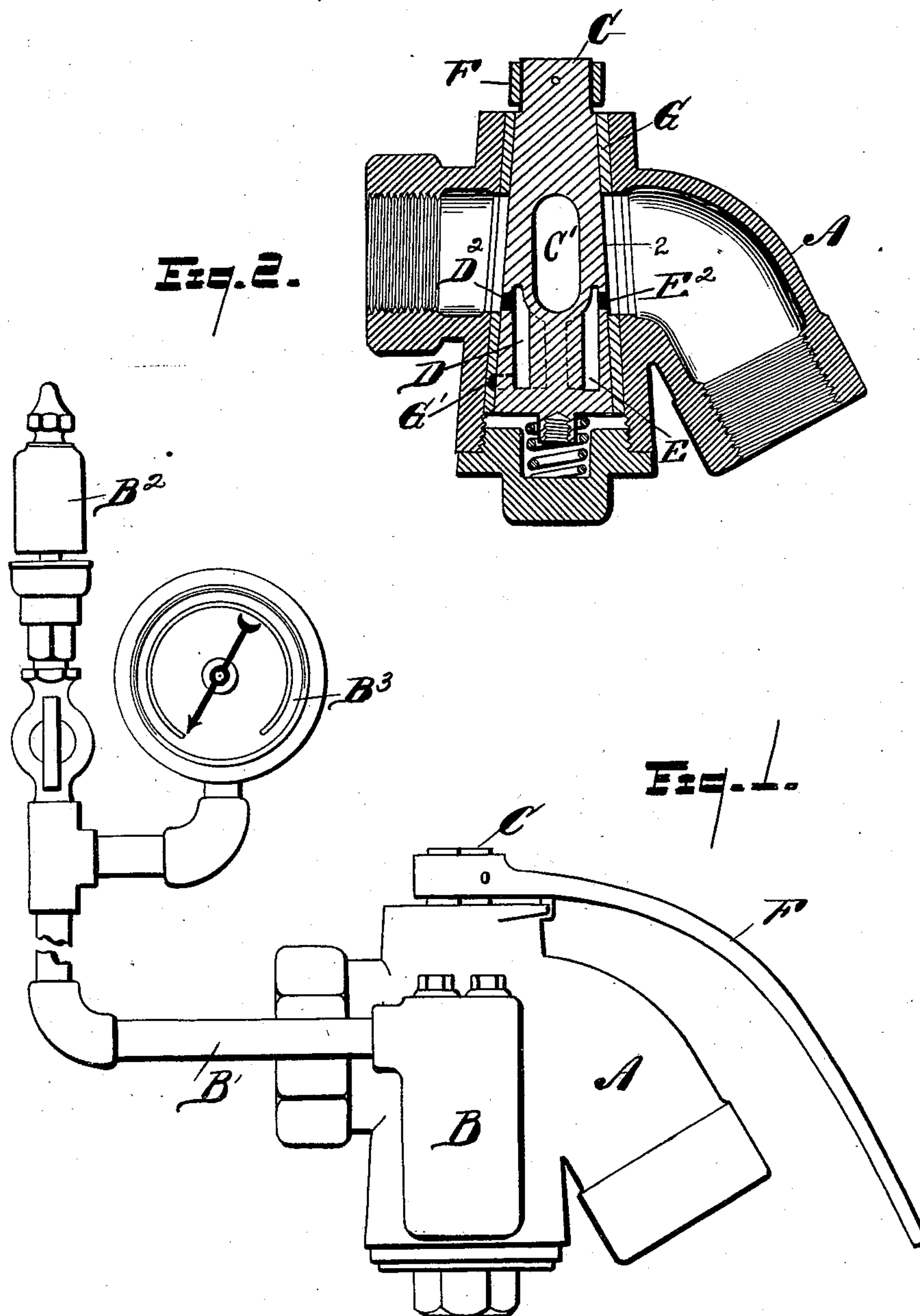
2 Sheets—Sheet 1.

W. R. BEDELL.

COMBINATION ANGLE COCK AND WARNING SIGNAL.

No. 542,404.

Patented July 9, 1895.



WITNESSES

J. E. Thomas
George H. Pennington

INVENTOR

William R. Bedell
by Elliott & Fitch
his attorney

(No Model.)

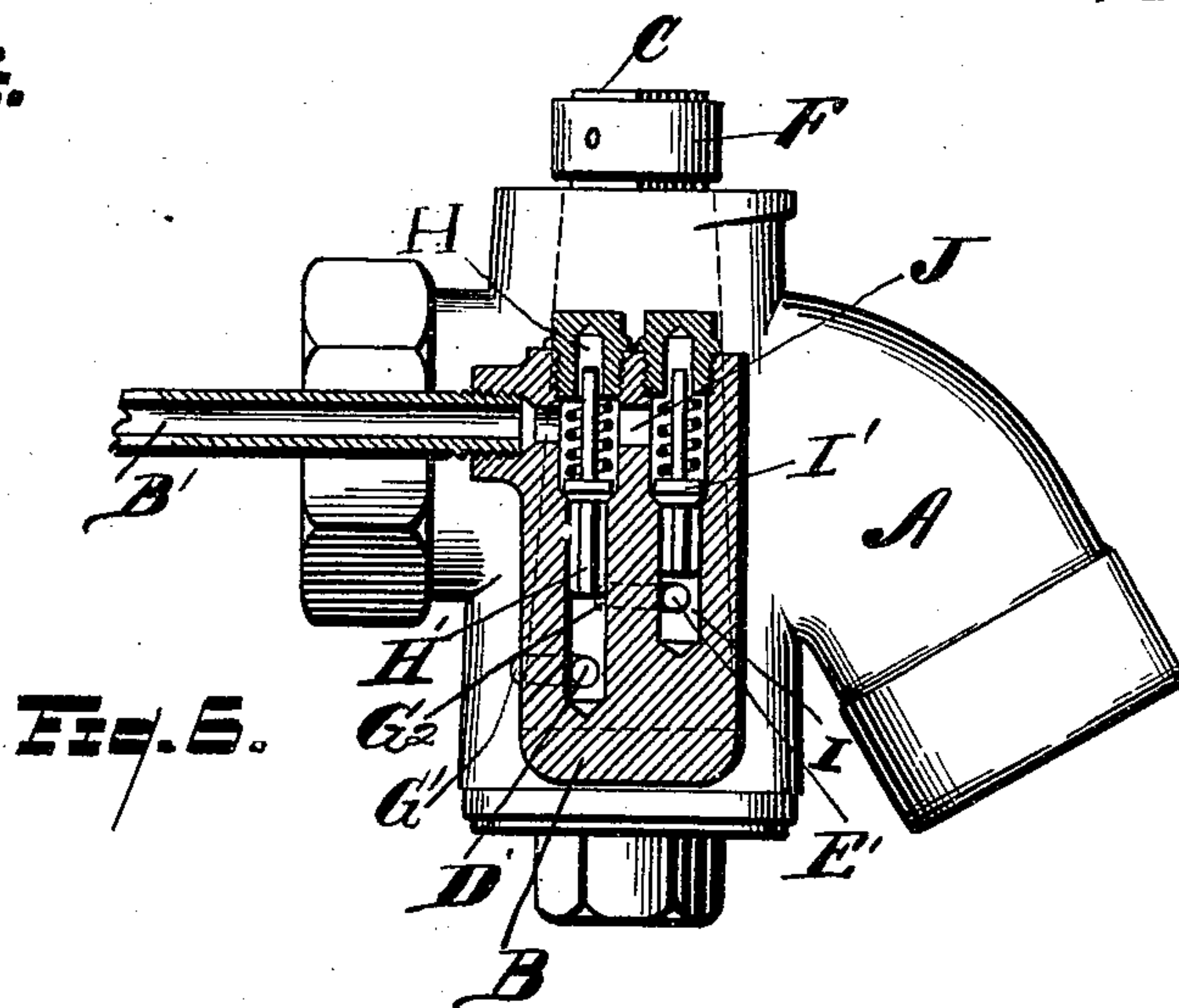
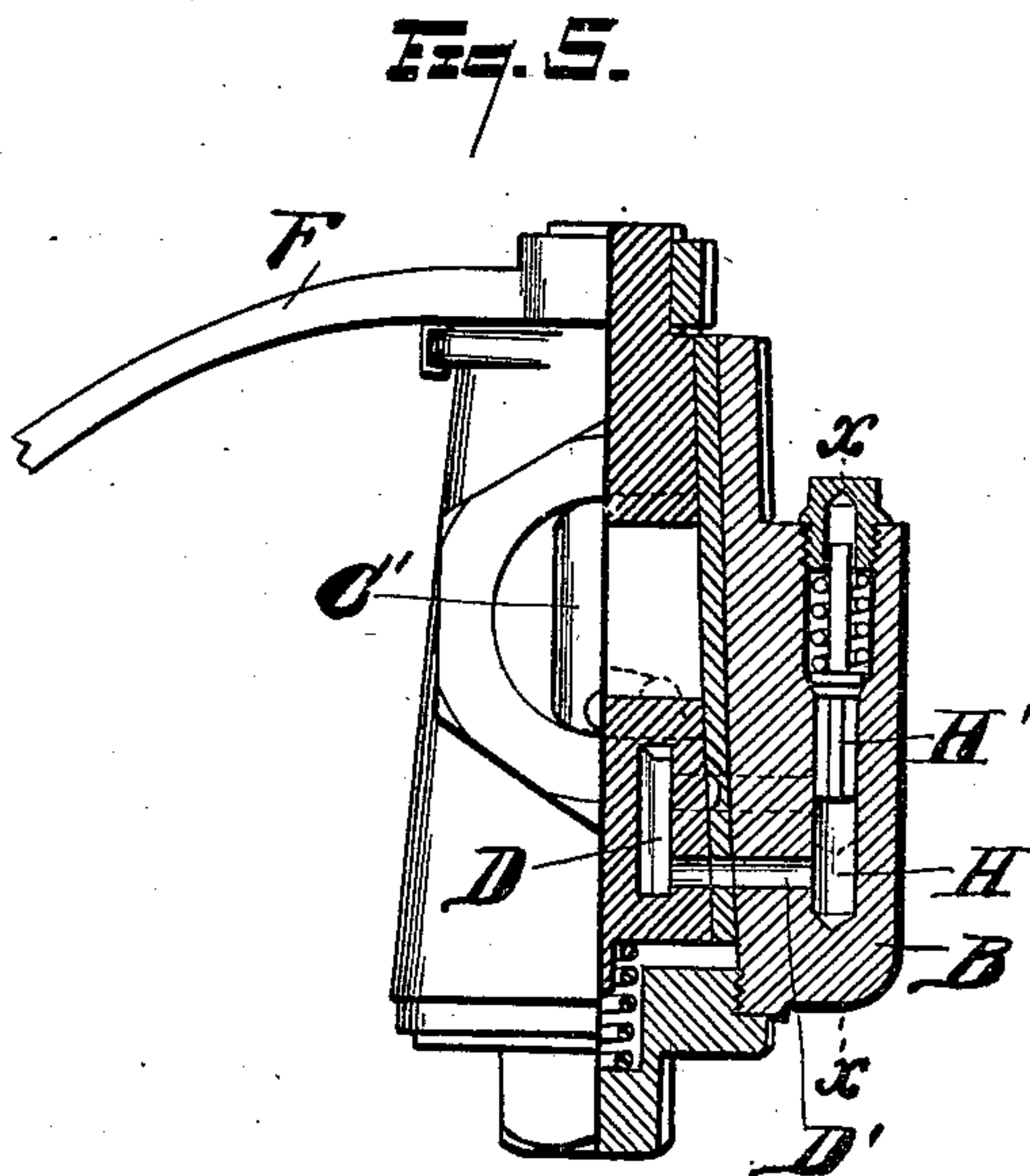
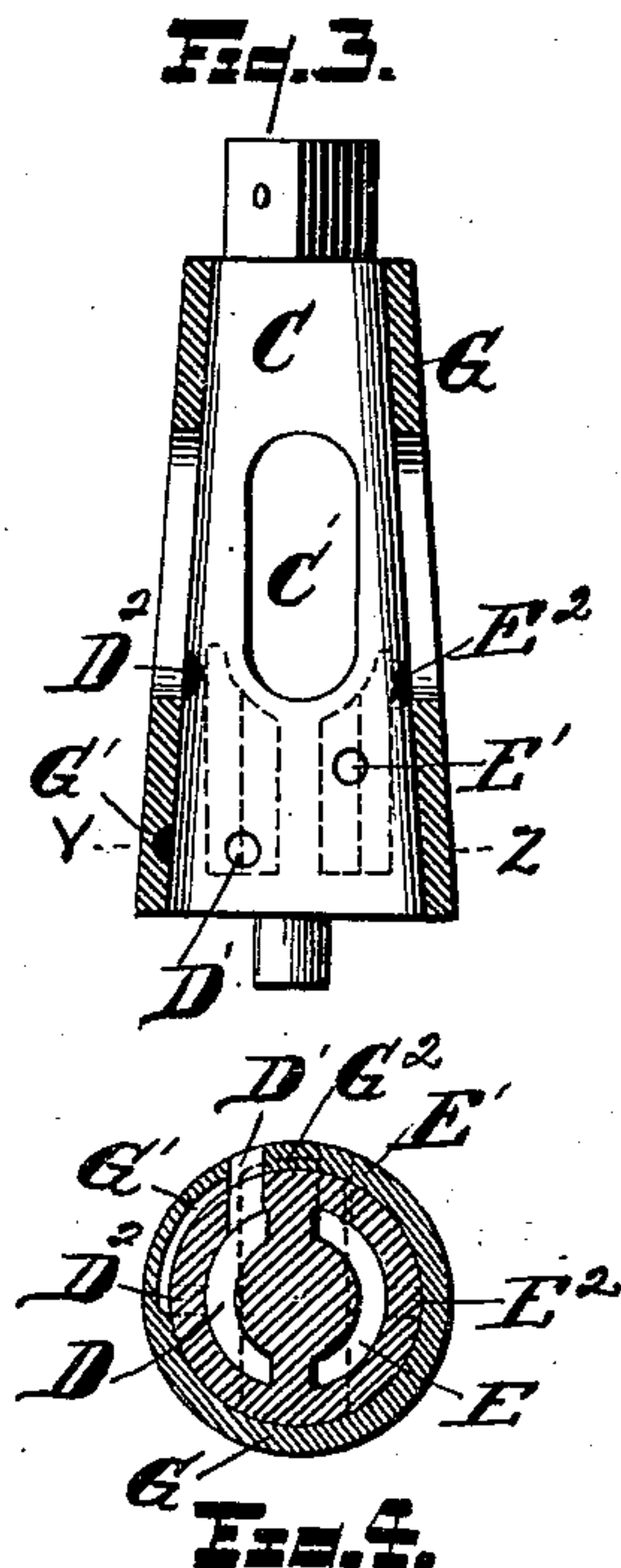
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No. 542,404.

Patented July 9, 1895.



WITNESSES

S. C. Thomas
George H. Linneman

INVENTOR

William R. Bedell
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his attorney

UNITED STATES PATENT OFFICE.

WILLIAM R. BEDELL, OF JACKSON, MICHIGAN.

COMBINATION ANGLE-COCK AND WARNING-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 542,404, dated July 9, 1895.

Application filed August 10, 1894. Serial No. 519,923. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. BEDELL, of Jackson, in the county of Jackson and State of Michigan, have invented a new and useful Improvement in a Combination Angle-Cock and Warning-Signal, of which the following is a specification.

My invention relates to a combination angle-cock and warning-signal; and it consists in the improvements hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of a combined angle-cock and alarm-signal embodying my invention. Fig. 2 is a cross-section of the same, the valve being closed. Fig. 3 is a side elevation of the valve-plug, the bushing being shown in section. Fig. 4 is a section on the line Y Z, Fig. 3. Fig. 5 is an end elevation of the valve, one-quarter being cut away; and Fig. 6 is a view similar to Fig. 1, a section having been taken as represented by the line X X, Fig. 5.

A is the shell of an ordinary angle valve or cock as now in use in the air-brake system of railroad-trains, with the addition of the boss B.

C is the plug, in which are cored the holes or recesses D and E. Into these recesses lead the holes D' and D² into D and E' E² into E.

C' is the full valve-opening of the plug C.

F is the valve handle or wrench.

G is the valve-bushing, with grooves G' and G², so located as to correspond with D' and E', respectively.

H and I are holes into which lead the smaller holes D' and E', respectively, and in which are the valves H' and I'.

B' is a pipe leading from the holes H and I, which are connected above the valves by the opening J.

B² is an ordinary steam or air whistle, or in its place may be substituted any bell, gong, &c., which can be operated by a current of air.

B³ is a pressure-gage.

The operation of the above-described device is as follows: When the valve is open, so that the brakes can be governed by the engineer, the holes D² and E² are covered by the bushing G, so that no air escapes to the whistle; but when the plug is turned, so as to partially or entirely shut off the air in the main pipes, the holes D² and E² come into the

opening g, which extends through the bushing G. When in this position the air passes through the holes D² and E², down through the cavities or spaces D and E, and from there out through their respective openings D' and E'. Now, in the bushing G are the grooves G' and G², leading to the holes corresponding to those marked D' and E' in Fig. 4. This allows the air to pass through the openings in the bushing before the holes in the plug and the corresponding ones in the bushing come directly opposite each other. This is so that the alarm will begin to sound before the air is entirely shut off from the brakes. The air, after passing through the holes D' and E, passes into the holes H and I' and raises the valves H' and I' and then to the pipe B' and to the alarm, thus warning the trainmen that the valve is being meddled with and at the same time definitely locating which one it is, as each valve has its own alarm. The valves H' I' serve to prevent the air backing up in case the pressure comes from only one side.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the valve-case, A, provided with the passages, H, and, I, communicating with an alarm, B², and the plug, C, provided with the opening, C', recesses, D, and, E, and holes D², E², so located in said plug that they shall form connecting passages between the recesses, D, and E, respectively and the main passage in said case upon opposite sides of said plug, when the opening, C', is closed by the walls of said case, said plug being also provided with holes, D' E', so located in said plug that they shall form connecting passages between D, and, E, and the passages, H, and I, respectively when the opening, C', is closed by the walls of said case, substantially as shown and described.

2. The combination of the valve case, A, provided with the passages, H, and, I, communicating with an alarm, B², and the plug, C, provided with the opening, C', recesses, D, and, E, and holes, D², and, E², so located in said plug that they shall form connecting passages between the recesses, D, and, E, respectively and the main passage in said case, upon opposite sides of said plug, when the open-

ing, C', is closed by the walls of said case,
said plug being also provided with holes, D',
E', so located in said plug that they shall form
connecting passages between, D, and, E, and
5 the passages, H, and, I, respectively when the
opening, C', is closed by the walls of said case,
and non-return valves, H', I', opening toward

the alarm, B², said non-return valves being
located in the passages, H, and I, substantially
as shown and for the purpose described.

WILLIAM R. BEDELL.

Witnesses:

JOSIAH B. FROST,

CHAS. M. FROST.