

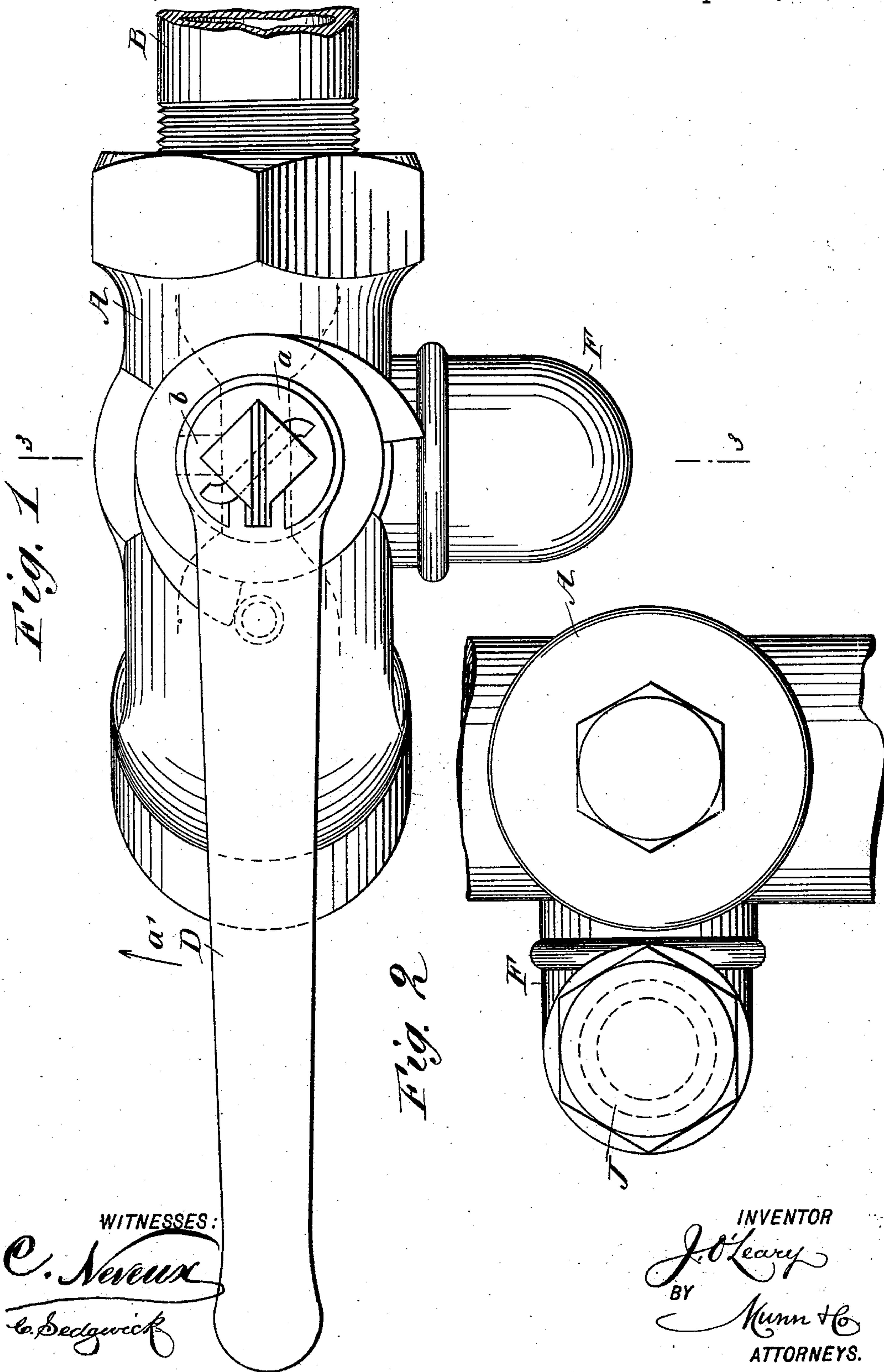
(No Model.)

2 Sheets—Sheet 1.

J. O'LEARY.
TRAIN PIPE STOP COCK.

No. 517,707.

Patented Apr. 3, 1894.



WITNESSES:

C. Noveux
C. Sedgwick

INVENTOR

J. O'Leary
BY *Munn & Co*
ATTORNEYS.

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Fig. 4

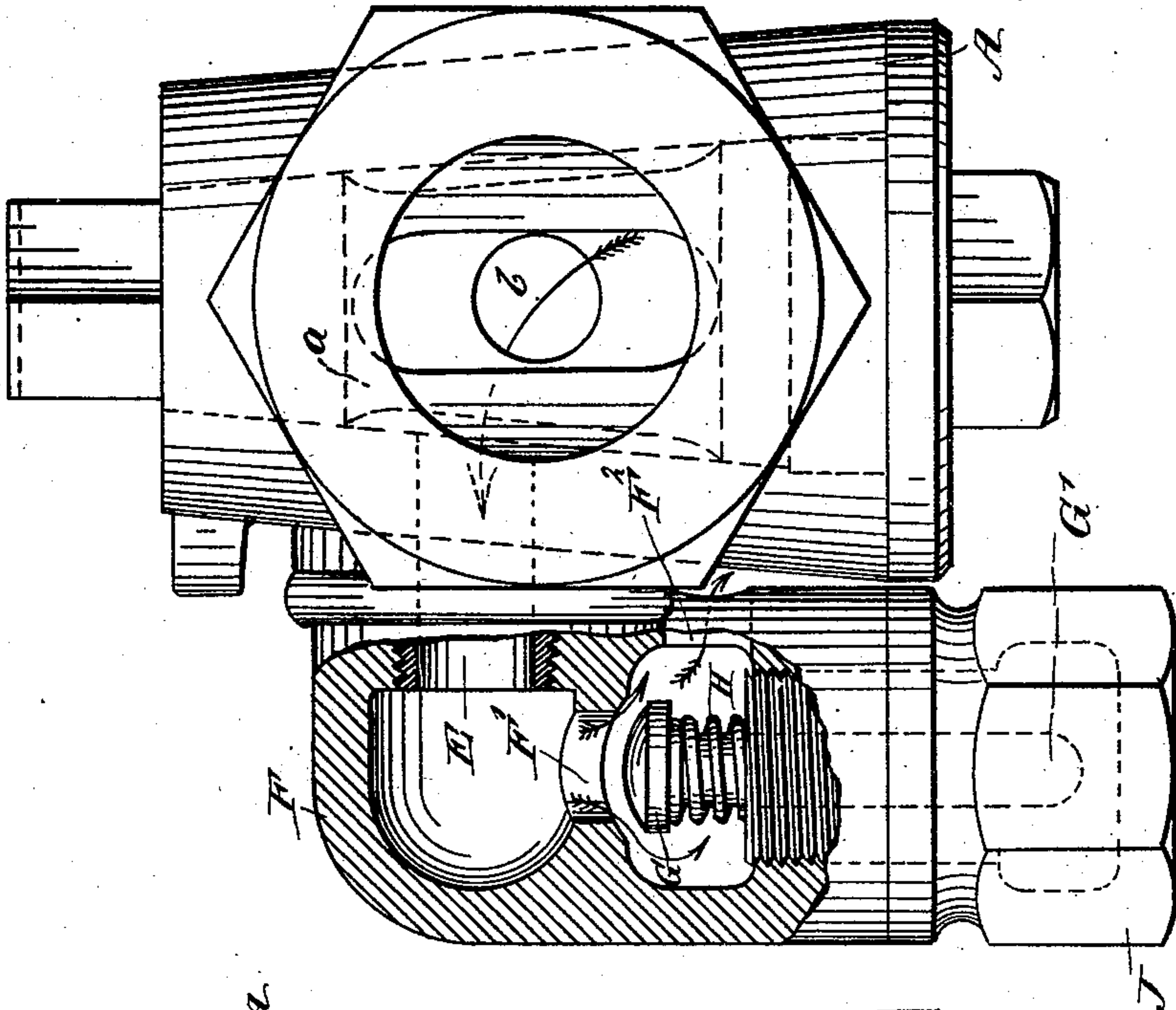
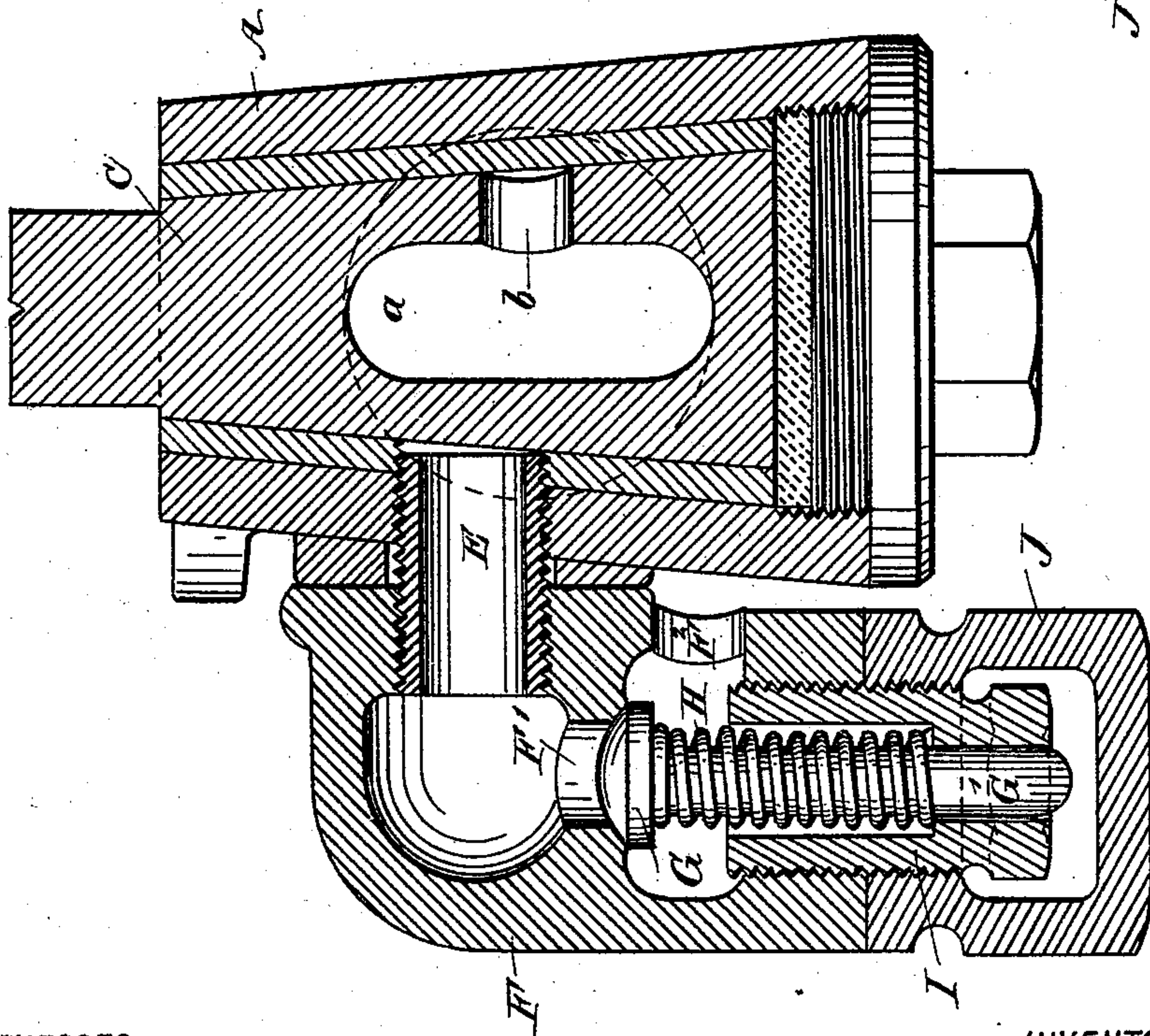


Fig. 3



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THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH O'LEARY, OF MEMPHIS, TENNESSEE.

TRAIN-PIPE STOP-COCK.

SPECIFICATION forming part of Letters Patent No. 517,707, dated April 3, 1894.

Application filed August 8, 1893. Serial No. 482,652. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH O'LEARY, of Memphis, in the county of Shelby and State of Tennessee, have invented a new and Improved Train-Pipe Stop-Cock, of which the following is a full, clear, and exact description.

The invention relates to fluid pressure brakes, and its object is to provide a new and improved train pipe stop cock, which is simple and durable in construction, arranged to apply the brakes when the cock is shut off, and to retain part of the pressure in the train pipe to prevent reduction of air pressure in the train pipe to zero, to aid or assist in the proper release of the brakes when the stop cock is again opened.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improvement. Fig. 2 is an inverted plan view of the same. Fig. 3 is a transverse section of the same on the line 3—3 of Fig. 1; and Fig. 4 is an end view of the same with parts in section, and showing the plug shut off.

The improved train pipe stop cock is provided with the usual casing A, connected at its rear end with the train pipe B and at its forward end is connected with the usual coupling hose leading to the car ahead.

Within the casing A is mounted to turn the usual plug C provided with a main opening *a* adapted to connect the train pipe B with the coupling hose so as to permit the air to pass from the coupling hose, through the cock, to the train pipe B, in the usual manner. Into this main opening *a* leads a port *b* adapted to connect the main opening *a* with the train pipe B at the time the plug C is given a quarter turn by the operator manipulating the handle D attached to the plug in the usual manner. When this quarter turn is given to the plug C, the main opening *a* cuts off the train pipe and coupling hose, and at the same time moves the port *b* in register with the coupling hose the main opening then standing with one

end in register with an outlet pipe E arranged in one side of the casing A, as plainly shown in Figs. 3 and 4. This outlet pipe E connects with the interior of an auxiliary valve casing F secured on the said pipe, as plainly shown in Fig. 3, and in this auxiliary casing is arranged a valve seat F' adapted to be closed by a valve G held to its seat by a spring H. The stem G' of the valve G is fitted to slide in a screw I screwing in the casing F and supporting the cap J for the said casing, as plainly shown in Figs. 3 and 4. The lower end of the spring H also rests on the screw I, while the other end of the said spring presses against the under side of the valve G to hold the latter normally to its seat. In the auxiliary casing F is arranged an outlet F² leading to the outer air.

The operation is as follows: When the plug C is in an open position, as illustrated in Figs. 1 and 3, then the main opening *a* connects the coupling hose with the train pipe, and when the operator turns the handle D opposite to the direction of the arrow *a'*, then the port *b* is connected with the train pipe B and the main opening *a* connects with the outlet pipe E. Now air in the train pipe B can pass through the port *b* and main opening *a* into the outlet pipe E and from the latter into the auxiliary casing F to press against the valve G, so as to open the same, as illustrated in Fig. 4. The air can then pass through the open valve seat F' and the outlet F² to the outer air. By this arrangement air is released from the train pipe B so that the brakes are applied in the usual manner. As soon as a sufficient reduction of air in the train pipe B has taken place, to equalize the pressure of the spring H, then the valve G again closes, so as to retain a certain amount of air pressure in the train pipe B after the brakes have been applied. Now, when the operator again turns the handle D, to its normal position shown in Fig. 1, then the opening *a* again connects the coupling hose with the train pipe B, so that on a further charge of air, the brakes are released by the engineer manipulating the brake valve in the usual way. When the stop-cock is shut off, the brakes are automatically applied and a part of the train-pipe pressure is retained by the attachment before described, which assists in the release of the

brakes when the stop-cock is again opened, thus allowing a recharge of train-pipe from main reservoir, which will occur when engineer's valve is set in release position. The
5 release takes place sooner with part of train-pipe pressure retained than it would if pressure in the train-pipe were reduced to zero.

Having thus described my invention, I claim as new and desire to secure by Letters
10 Patent—

1. A train pipe stop cock, comprising a casing adapted to connect with the train pipe and with the coupling hose, an air outlet arranged in the said casing, a plug mounted to turn in the
15 said casing and provided with the usual main opening adapted to register with the train pipe and the coupling hose and also with the said air outlet, the said plug being also provided with a port adapted to register with the train
20 pipe at the time the said main opening registers with the air outlet, and an automatic releasing valve adapted to be opened by air pressure in train-pipe and closed when such

pressure has been reduced to a certain degree substantially as described. 25

2. A train pipe stop cock, comprising a casing adapted to connect with the train pipe and with the coupling hose, an air outlet arranged in the said casing, a plug mounted to turn in the said casing and provided with the usual
30 main opening adapted to register with the train pipe and the coupling hose and also with the said air outlet, the said plug being also provided with a port adapted to register with the train pipe at the time the said
35 main opening registers with the air outlet, an auxiliary casing connected with the said air outlet, provided with a valve seat and connected with the outer air, and a spring-pressed valve arranged in the said auxiliary casing
40 and normally held to the said seat, substantially as shown and described.

JOSEPH O'LEARY.

Witnesses:

J. GRANT MILLER,
FRANK BYRD.