

(No Model.)

G. C. THAYER.
TELL TALE FOR INJECTORS.

No. 452,811.

Patented May 26, 1891.

Fig. 1.

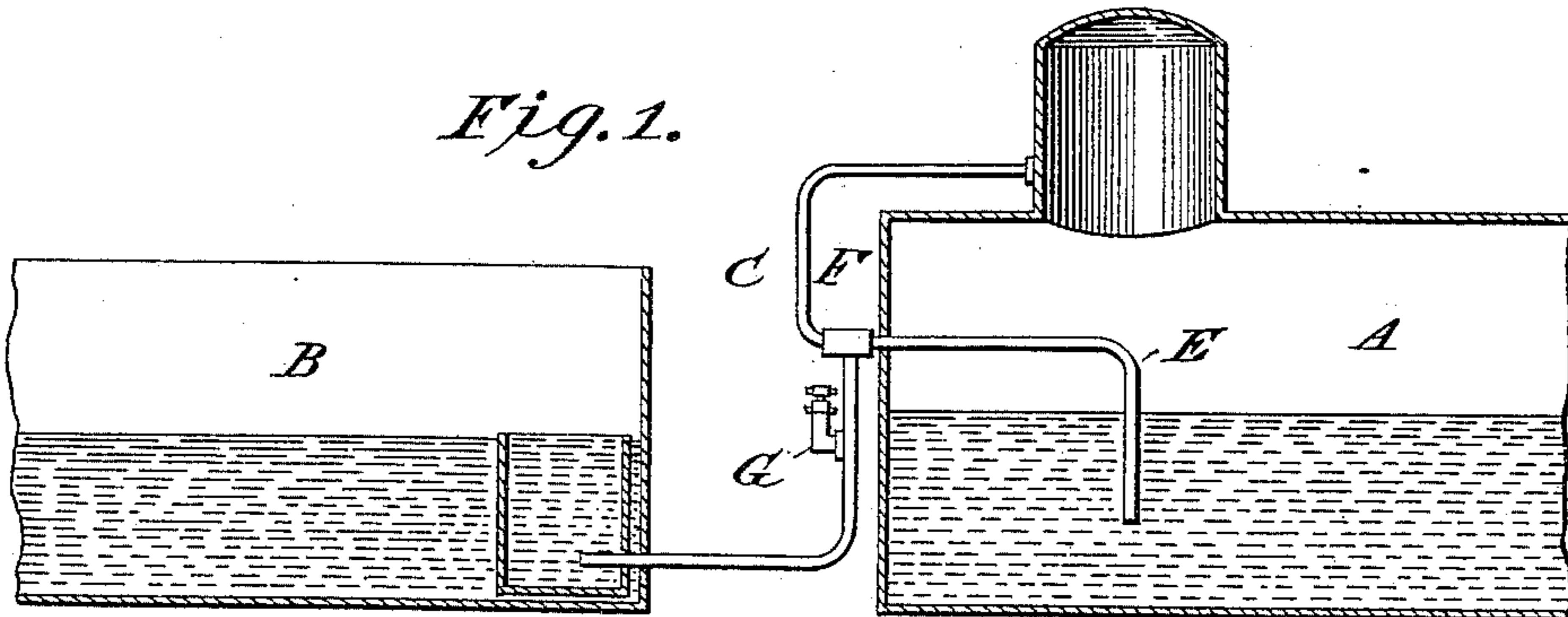


Fig. 2.

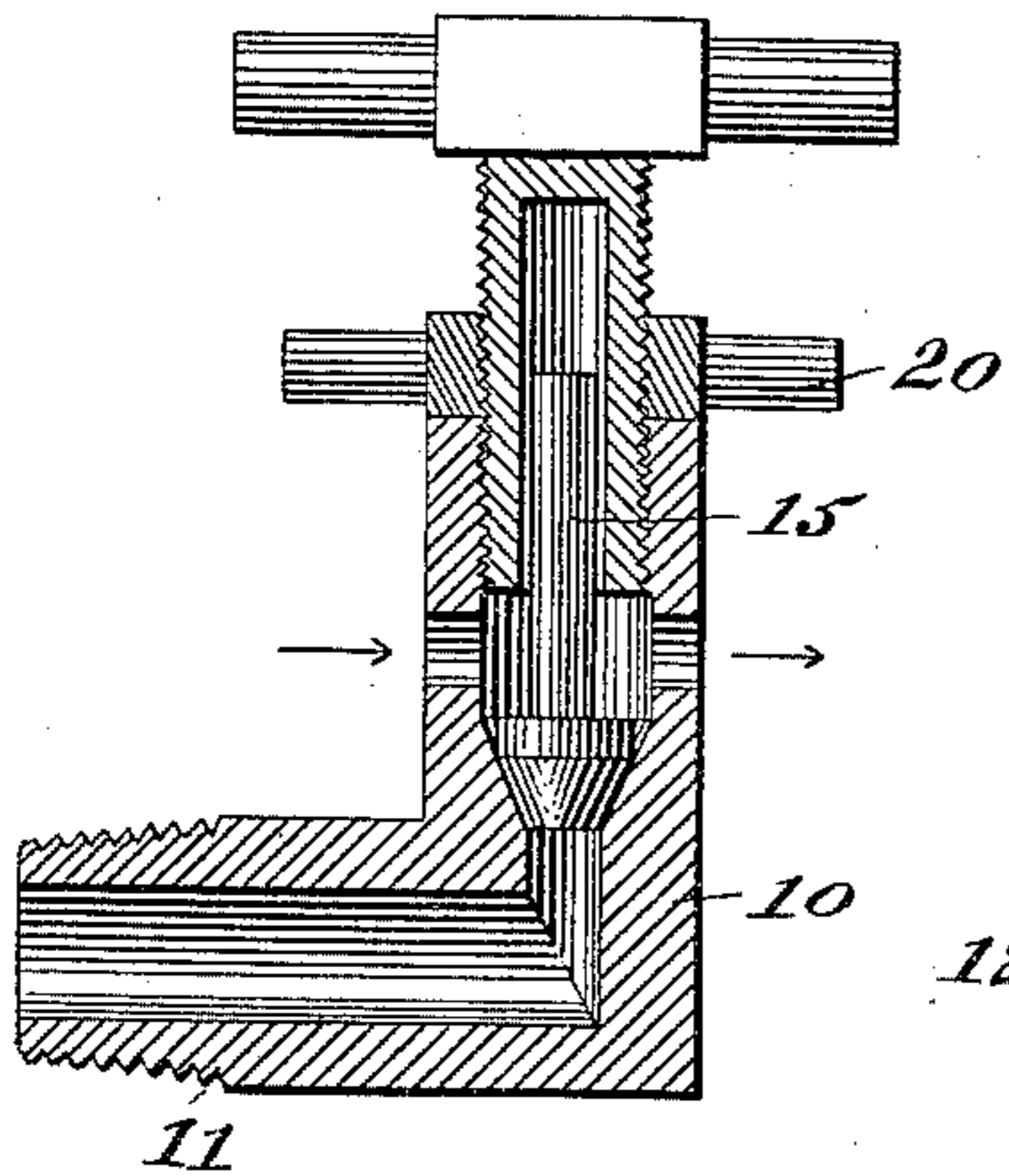


Fig. 4.

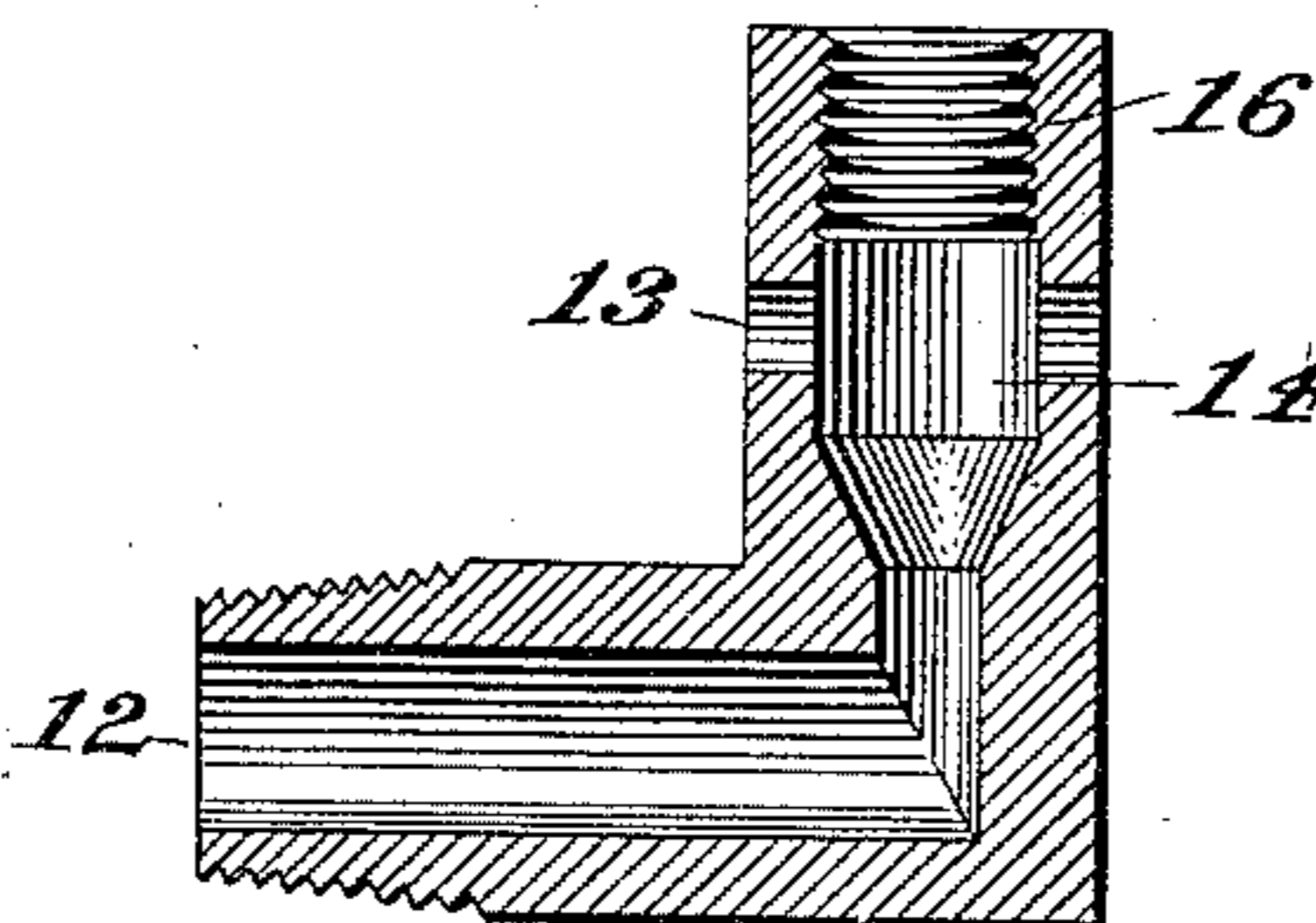


Fig. 5.

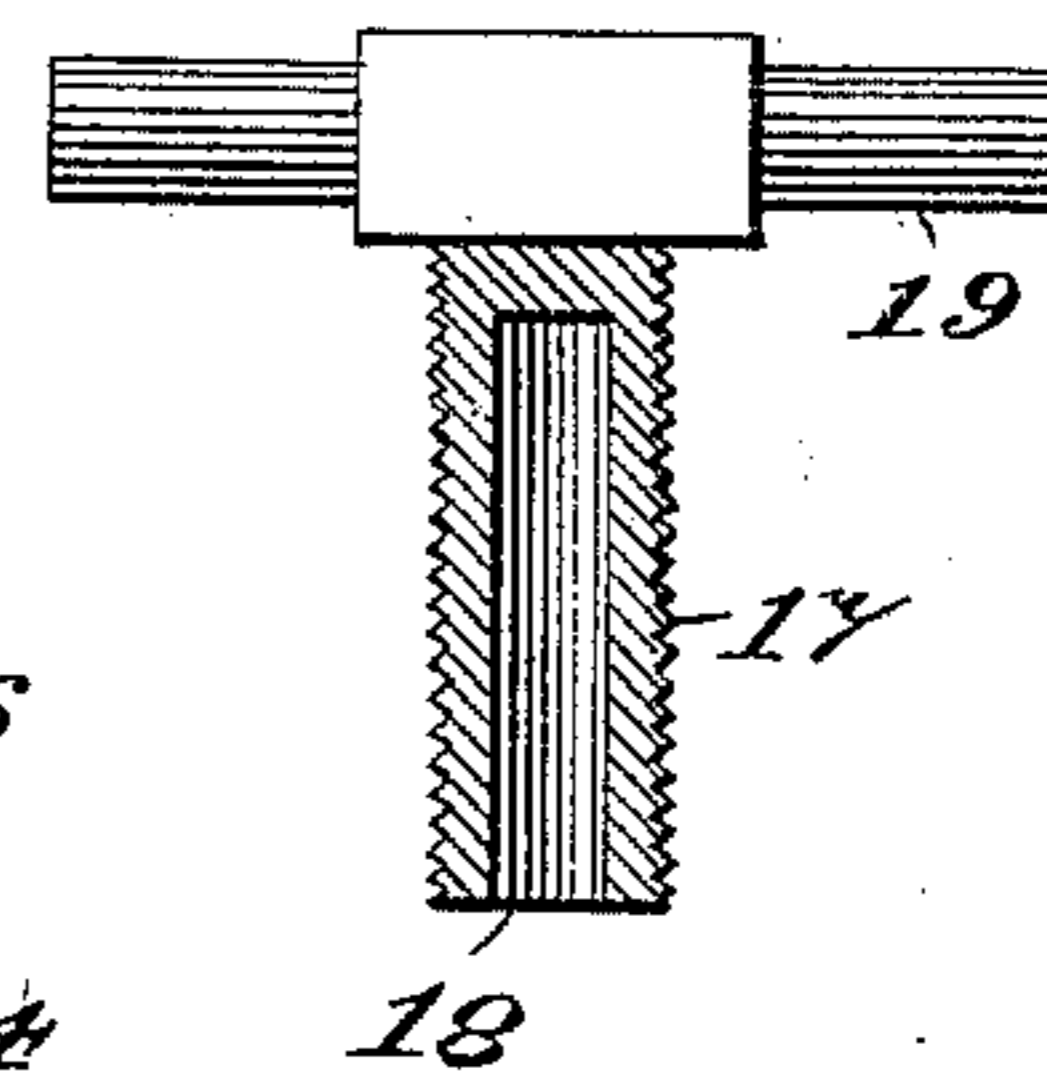


Fig. 6.



Fig. 3.

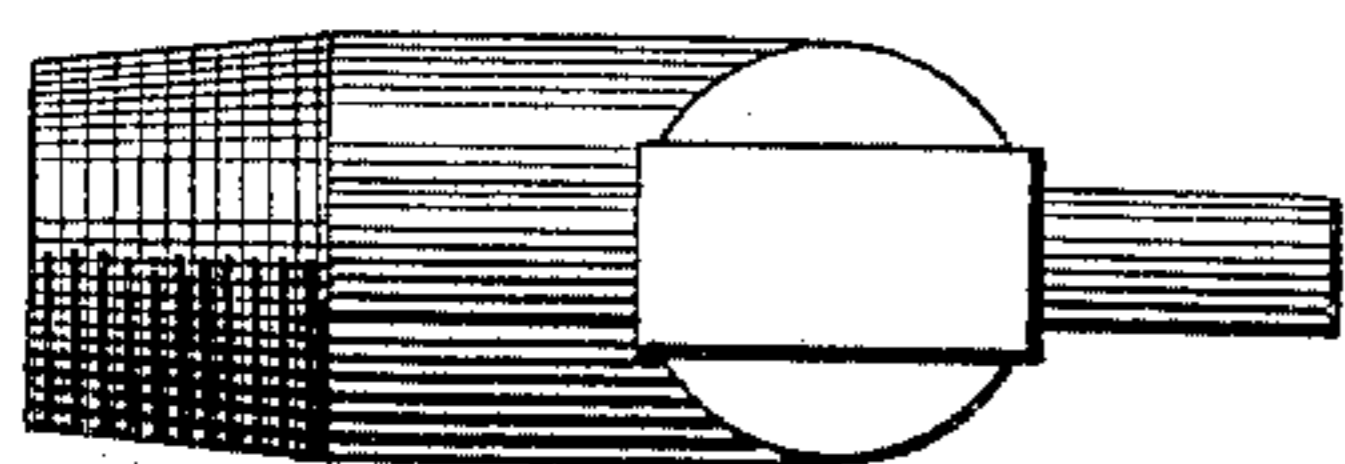


Fig. 7.

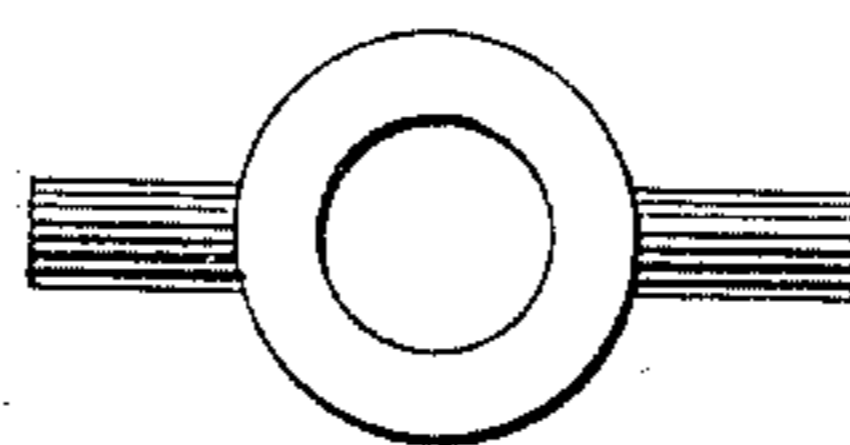
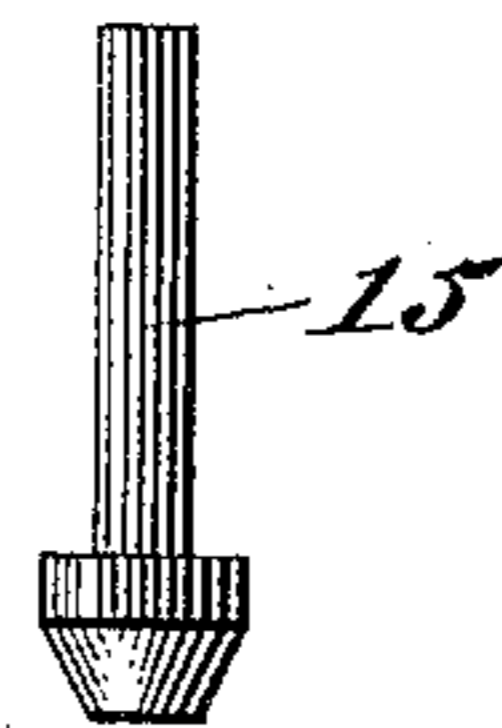


Fig. 8.



Fig. 9.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE CHAPMAN THAYER, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE UNITED RAILWAY SUPPLIES COMPANY, OF NEW YORK.

TELL-TALE FOR INJECTORS.

SPECIFICATION forming part of Letters Patent No. 452,811, dated May 26, 1891.

Application filed January 5, 1891. Serial No. 376,809. (No model.)

To all whom it may concern:

Be it known that I, GEORGE CHAPMAN THAYER, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and Improved Indicator for Injectors, of which the following is a specification.

My invention relates to a device adapted to be applied to a feed-water pipe of an injector for the purpose of visibly indicating whether or not the injector is working. It frequently happens in practice that an injector upon a feed-pipe will fail to draw water from a source of supply without such failure being observed by the engineer in charge, and as a result the water in the boiler into which the injector delivers becomes so low as to permit the burning of the crown-sheet of the boiler.

In the accompanying drawings, which illustrate my invention, similar letters and figures of reference indicate like parts.

Figure 1 is a diagram illustrating the application of my tell-tale device. Fig. 2 is a vertical section through the tell-tale. Fig. 3 is a top view. Figs. 4, 5, 6, 7, 8, and 9 are details.

In the drawings, A represents a steam-boiler; B, a feed-water tank; C, an injector; D, feed-water pipe; E, delivery-pipe; F, steam-pipe from steam-dome of boiler, and G tell-tale device.

The tell-tale device consists of a body portion 10, provided with a screw-thread 11, by which it is connected to the feed-pipe D. The body portion 10 is perforated with the channels 12, and also through the vertical portion, as at 13. The vertical portion of the body portion has a conical seat 14, in which lies the valve 15. The upper part of the vertical portion is tapped, as at 16, to receive the adjusting-screw 17, which is provided with a circular channel 18 and thumb-piece 19. 20 is a set-screw.

The operation of my device is as follows: The body portion 10 being screwed fast to the feed-pipe, so that the channel 12 communicates with the channel of the feed-pipe, when the injector is set in operation the valve 15 assumes the position shown in Fig. 2—that is, upon the seat 14. This is due to

the gravital action of the valve plus the action of the injector, which tends to draw air through the perforations 13. The valve will maintain this position so long as the injector is in operation. As soon as the injector ceases to draw water steam from the pipe F will enter the channel 12 and lift the valve 15 to the position shown by the dotted lines, Fig. 2, and allow the steam to escape by the perforations 13. The movement of the valve may be limited by the adjusting-screw 17, the position of which can be fixed by means of the set-screw 20.

It is frequently desirable to pass the steam from the boiler into the feed-water, in order to heat it when the injector is not working. When it is desirable to do this, the adjusting-screw 17 is screwed down, so as to hold the valve in the position shown in Fig. 2.

Having thus described my invention, I claim—

1. The combination, with an injector, a steam-pipe, a feed-pipe, and a delivery-pipe, of an indicating device located on the feed-pipe and consisting of a tubular body having a perforation through the body thereof, and said body carrying a valve within it, which valve is adapted to permit the egress of steam from the perforation through the body when the injector is not performing its proper function.

2. In an indicator for injectors, the combination, with a tubular portion having a perforation through the body thereof, of a valve-seat in said tubular portion below said perforation, and a valve in said tubular portion adapted to seat itself upon said valve-seat and prevent the egress of steam from said perforation when the injector is working.

3. In an indicator for injectors, the combination, with a tubular portion provided with a perforation and an interior valve-seat, of a valve and the means for adjusting the movement of the valve, substantially as described.

In witness whereof I have hereunto set my hand this 5th day of December, 1890.

GEORGE CHAPMAN THAYER.

Witnesses:

GEO. H. BENJAMIN,
F. K. BUDD.