(No Model.)

T. M. EYNON.

TELLTALE AND INDICATOR FOR INJECTORS.

No. 566,154. Patented Aug. 18, 1896.

Fig. 1.

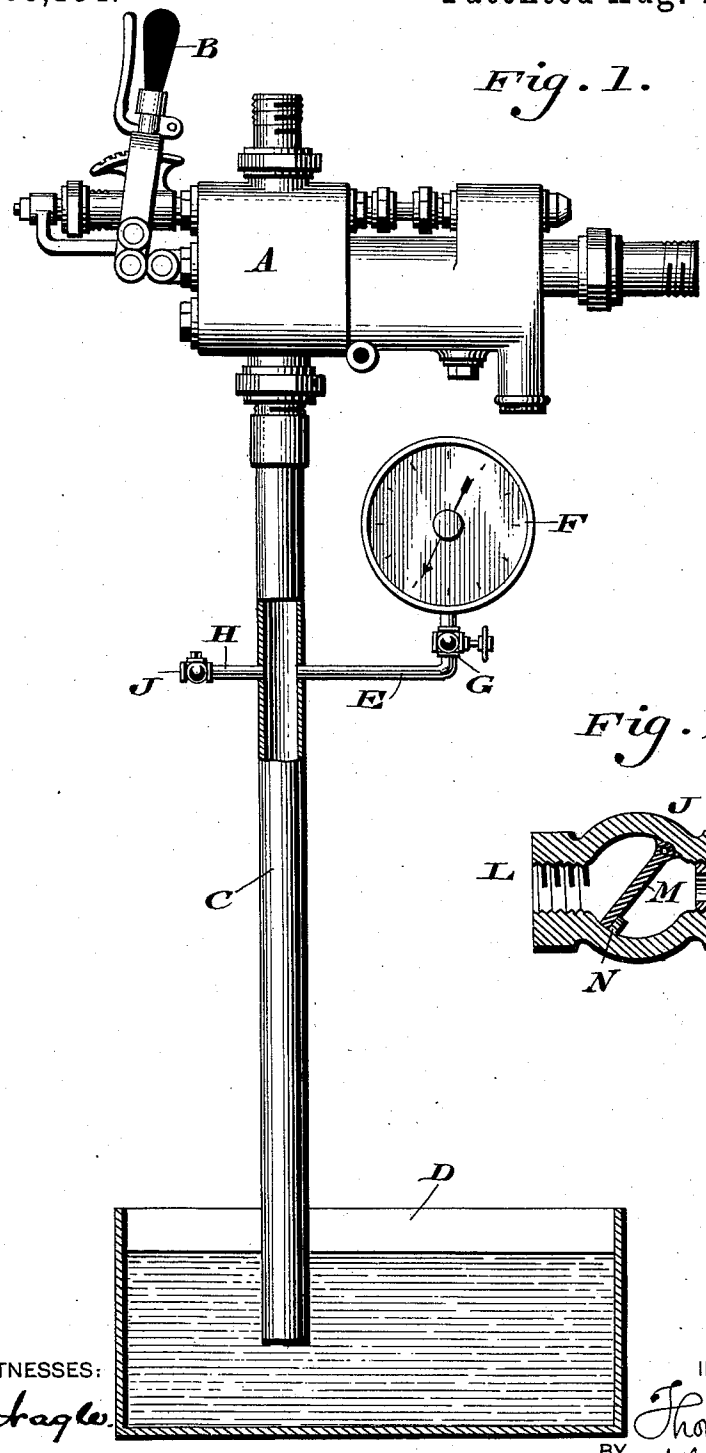

Fig. 2.

WITNESSES:

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TELLTALE AND INDICATOR FOR INJECTORS.

SPECIFICATION forming part of Letters Patent No. 566,154, dated August 18, 1896.

Application filed December 27, 1895. Serial No. 573,539. (No model.)

To all whom it may concern:

Be it known that I, THOMAS M. EYNON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Telltales and Indicators for Injectors, which improvement is fully fet forth in the following specification and accompanying drawings.

My invention consists of the novel combination of the suction-pipe of an injector with a gage or indicating device therefor, whereby the height of the suction will be at all times indicated, thereby enabling the attendant to ascertain the height of the water-level when the injector is drawing its supply from a closed tank, said gage also serving to show when the injector has ceased to operate, if from any cause the supply of water has been cut off from the injector, and furthermore enabling the overflow to be piped off, thereby avoiding any disfigurement due to the splashing of water on the engine, &c., all as will be hereinafter set forth.

Figure 1 represents a side elevation, partly in section, of a telltale and indicator for an injector embodying my invention. Fig. 2 represents a sectional view of a check-valve to be hereinafter referred to.

Referring to the drawings, A designates an injector, the same being provided with an operating-lever B and a steam-inlet, overflow, and discharge pipes of the usual construction.

C designates the suction-pipe of the injector, the same terminating in a tank D.

E designates a connection leading to a suitable portion of the injector, and having mounted thereon a sensitive vacuum-gage F, a valve G being interposed between said gage and pipe E.

H designates a connection leading from said suction-pipe C, and having a check-valve J mounted therein, said valve being provided with an inlet L, in communication with the atmosphere, and a valve M, provided with a seat N, said valve being adapted to seat as indicated in Fig. 2.

The operation is as follows: When the injector is operating properly, the check in the valve J is held to its seat by the vacuum in the suction-pipe C, but if from any cause the injector ceases to operate the vacuum will be destroyed and steam will be blown back through the suction-pipe. The check-valve will open and steam will appear in the orifice, thus giving notice that the injector has ceased to operate. The vacuum-gage serves the purpose of indicating the height of the suction, thus enabling the attendant to ascertain the height of the water-level when the injector is drawing its supply from a closed tank, said gage thus serving to show when the injector has ceased to operate, if from any cause the supply of water has been cut off therefrom, and it furthermore enables the overflow to be piped off, thus avoiding any disfigurement due to the splashing of water from the boiler, engine, &c.

The check-valve J and the gage F may be used in combination or independently, the same being intended chiefly for use in locomotive service, where the noise of the moving train makes it necessary for the engineer to tell by his eye whether the injector is working, it being evident that they may be applied whenever it is essential to have warning of the failure of the injector to operate.

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

1. In an injector, a suction-pipe therefor, a branch pipe leading from said suction-pipe, and a vacuum-gage mounted upon said branch pipe and adapted to be visible to the engineer, whereby the latter is enabled to see at all times whether the injector is operating and performing its proper function, substantially as described.

2. In an injector, a suction-pipe therefor, a connection leading from said suction-pipe to the atmosphere, and a check-valve mounted on said connection and opening outwardly, whereby in case of failure of the injector to operate, steam will be blown back through the suction-pipe, and will open said check-valve, and being visible to the attendant, will indicate that the injector has ceased to operate, substantially as described.

3. An injector having a suction-pipe connected therewith, a branch leading from said suction-pipe to the atmosphere and having a check-valve mounted thereon, said check-valve opening to the atmosphere, a second branch connected with said pipe and having a vacuum-gage mounted thereon, whereby the engineer is enabled to ascertain if the injector is working properly, substantially as described.

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