

(Model.)

G. MARTY.
STEAM INJECTOR.

No. 473,010.

Patented Apr. 19, 1892.

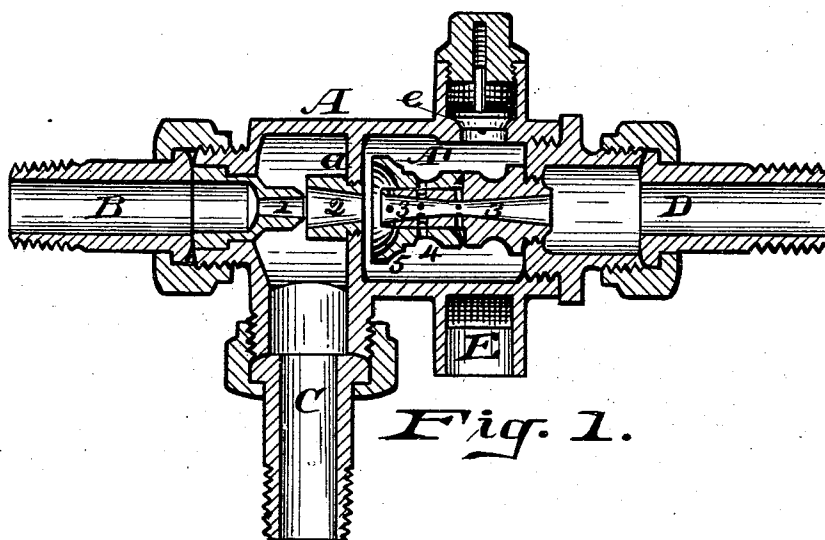


Fig. 1.

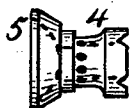


Fig. 3.

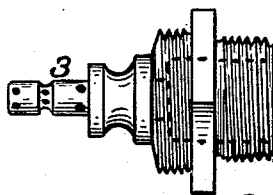


Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE MARTY, OF CLEVELAND, OHIO.

STEAM-INJECTOR.

SPECIFICATION forming part of Letters Patent No. 473,010, dated April 19, 1892.

Application filed February 29, 1892. Serial No. 423,119. (Model.)

To all whom it may concern:

Be it known that I, GEORGE MARTY, a citizen of the United States, residing at Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Automatic Steam-Injectors, of which the following is a specification.

This invention relates to steam-injectors; and it consists in the new construction and combination, as hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal section of an injector embodying my invention; Figs. 2 and 3, details of combining-tube and sleeve.

A represents the shell, in which are contained the working parts, and is divided into two chambers by a partition *a*.

B is the steam-inlet; C, the suction; D, the discharge, and E the overflow-ports. The overflow consists of an annular chamber surrounding the shell, and is provided with an opening communicating with the top part of the chamber A', controlled by a check-valve *e*.

1 is the steam-jet.

2 is the lifting-jet, and 3 is the combining-tube. 4 is a sleeve playing upon said combining-tube. This combining-tube and sleeve comprise the subject of my improvement, described as follows: The tube 3 has a shoulder against which the sleeve 4 rests when in its normal position, and the tube has three sets of perforations—one set near the shoulder, one set midway between the shoulder and its outer end, and one set near its outer end. The midway perforations are connected with an annular groove made in the circumference of the tube. The sleeve 4 is also provided with a row of perforations in communication with the aforesaid midway perforations in the tube. The said annular groove may be made inside of the sleeve instead of on the tube, or both the tube and sleeve may have a groove. The sleeve 4 also has a convex flange, which stands facing the partition *a*.

The working of this device is as follows: In starting, the steam issuing from jet 1 into lifting-jet 2, passes into the combining-tube and also through the narrow space between the partition *a* and the flange 5 of the sleeve. Steam also escapes through the midway perforation into the chamber A'. The water, which instantly follows the steam, will also issue through the perforations at the shoulder into the space at the junction of said sleeve with the shoulder and thereby force the sleeve forward, so that its flange 5 will impinge against the partition *a* and close the space between them. This movement of the sleeve also covers the midway perforations and point perforations in the tube, thus setting the injector working.

The principal advantages of this improvement are economy of construction of the parts and simplicity and ease of repair. The steam-jet 1, lifting-jet 2, and combining-tube 3, being the only parts liable to wear, are readily replaced by new ones, thereby saving all the other parts for continued use. This improvement also is capable of working with a lower steam-pressure.

Having described my invention, I claim—

1. In an injector, the perforated combining-tube 3 and perforated adjustable sleeve 4, having convex flange 5, in combination, as and for the purpose set forth.

2. In an injector, the perforated combining-tube 3 and perforated adjustable sleeve 4, provided with convex flange 5, in combination with steam-jet 1, lifting-jet 2, and the chamber A' of the case A, provided with steam-inlet B, suction C, discharge D, and overflow E, substantially as and for the purpose set forth.

GEORGE MARTY.

Witnesses:

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