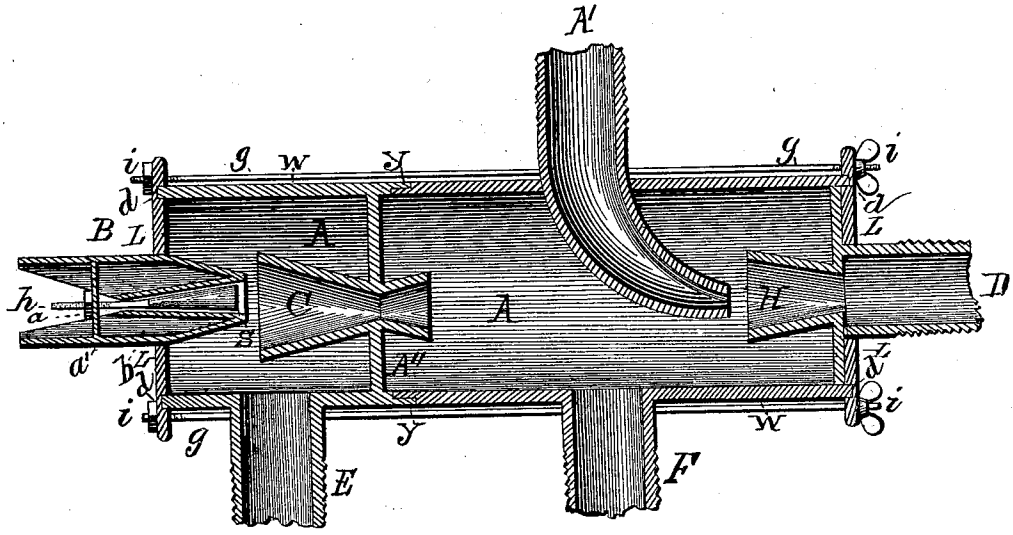
(Model.)

J. DESMOND.

STEAM INJECTOR.

No. 270,937. Patented Jan. 23, 1883.



WITNESSES:

Fred. G. Dieterich.

Jno. H. Stockett.

INVENTOR.

John Desmond

By Myers & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN DESMOND, OF JACKSON, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO WALTER A. BENNETT AND THEODORE G. BENNETT, OF SAME PLACE.

STEAM-INJECTOR.

SPECIFICATION forming part of Letters Patent No. 270,937, dated January 23, 1883.

Application filed October 31, 1882. (Model.)

To all whom it may concern:

Be it known that I, JOHN DESMOND, a citizen of the United States of America, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Steam-Injectors, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a new and useful improvement in steam-injectors; and it consists in rendering the several parts thereof separable by means of screw-rods and thumb-nuts, or their equivalent, and in the combination and arrangement of parts, as will be more fully set forth in the specification and claims.

In the accompanying drawing, the figure illustrates a longitudinal section of my improved injector.

In carrying out my invention I employ a chamber or casing, A, preferably rectangular in shape.

A′, B, D, E, and F are pipes communicating with the chamber A, which is partitioned by the wall A″. Pipe A′ supplies steam from the boiler to the said chamber to effect an injection through the funnel H of pipe D, which constitutes a forcing tube or pipe. The inner end of the pipe A′ tapers and is disposed in line with funnel H of the pipe or tube D. In the opposite end of the chamber A is the pipe B, which injects steam into said chamber to lift the water through the pipe E from the well by condensation of the steam. The pipe B is tapered where it opens into chamber A, and it has rigidly secured therein the bushing or walls *b*, to form a funnel-shape mouth for reception of the steam-spreader S. The rod *h* of the steam-spreader is threaded to rotate in nut *a*, which is rigidly secured to the transverse bar *a′*, in order that the size of the orifice opening into chamber A may be adjusted, and the orifice closed when requisite by rotating the rod. The steam-spreader is designed to spread the steam against the walls of chamber A slowly in order to increase the condensation thereof, as when the steam flows out in too great quantity its caloric prevents the rapid and efficient condensation of the steam. As the steam is condensed a vacuum is formed, and the water flows through pipe E from a well connected therewith. In line with pipe B a funnel, C, is arranged, through which the injected steam passes into the other part of the chamber A. The pipe F carries off the overflow of water when the boiler is supplied.

The several sections of which the injector is constructed are connected separably together, preferably by the screw-threaded bolts or rods *g* and thumb-nuts *i*, or their equivalent, as it is obviously understood that the parts can be easily connected together by clamps or screw-threads.

The chamber A being in several pieces permits of the ready putting together of the injector, and of its being readily taken apart for cleaning, repairing, shipment, or other purpose.

The lateral walls L are provided with indentations *d* for reception of the longitudinal walls W, and the latter are formed in sections and jointed at Y Y.

In the pipes A′, B, D, E, and F are globe-valves, located a short distance from chamber A, but not shown in the drawing, for starting, stopping, and regulating the operations of the injector, as customary.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the walls secured by rods and thumb-screws, pipe B, steam-spreader S, and nut *a*, substantially as shown, and for the purpose described.

2. In a steam-injector, the pipe B, having bushing or walls *b*, steam-spreader S, rod *h*, adjustable in nut *a* and transverse bar *a′*, and partitioned chamber A, substantially as shown, and for the purpose described.

3. The combination of steam-spreader S, pipes A′, B, D, E, and F, funnels C and H, and partitioned chamber A, substantially as shown, and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN DESMOND.

Witnesses:

J. NOTA MCGILL,

H. A. HALL.