No. 661,180. Patented Nov. 6, 1900.

W. D. LABADIE.

EJECTOR.

(Application filed May 17, 1900.)

(No Model.)

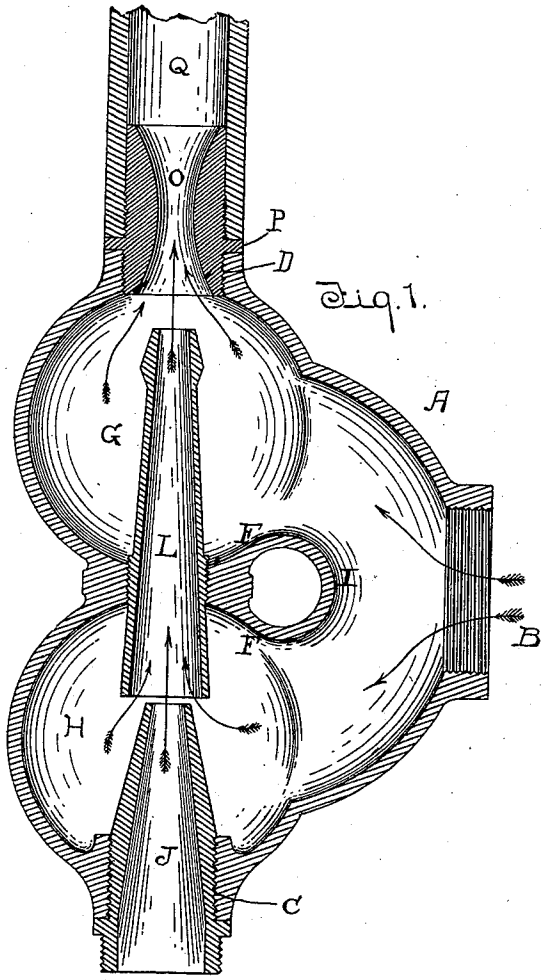


Fig. 1.

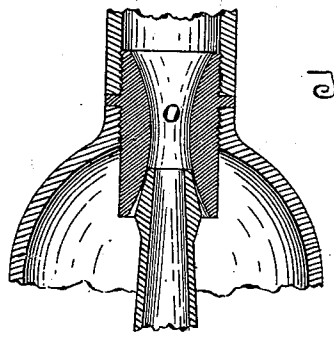


Fig 2

Witnesses:
George Oltsch
Hugo Oltsch

Inventor
W. D. Labadie

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM D. LABADIE, OF SOUTH BEND, INDIANA.

EJECTOR.

SPECIFICATION forming part of Letters Patent No. 661,180, dated November 6, 1900.

Application filed May 17, 1900. Serial No. 17,044. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. LABADIE, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Ejectors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in steam-ejectors, and has for its object the production of an ejector which will raise the water to a height proportioned to the pressure of the steam and in which the quantity of water raised can be regulated without changing the pressure of the steam.

My invention consists in, first, a body which is divided horizontally in a line with the inlet for the water into two chambers, from both of which the water is ejected by the pressure of the steam; second, in a reversible nozzle by means of which the discharge from one chamber can be entirely stopped, and thus only one-half of the volume of water raised, and, third, in the arrangement and combination of parts, which will be more fully described hereinafter.

In the accompanying drawings, Figure 1 is a vertical section. Fig. 2 is a detail view showing the discharge-nozzle reversed from what it is shown in Fig. 1.

A represents the body or frame of my ejector and which is provided with the inlet B for the water, an inlet C for the steam, and a discharge D for both water and steam. This body is divided horizontally by the partition F into two separate and distinct chambers G H, and this partition F extends horizontally in a line with the center of the water-inlet B. The inner end I of the partition is made globular or rounding, so as to divide the incoming stream of water equally between the two chambers G H. These chambers are made entirely separate and distinct, so that the water may be ejected from both simultaneously or from only one, according to the quantity of water that is to be raised or the height to which it is to be forced. Screwed into the steam-inlet C is the pipe J, which has its inner end contracted, as shown, and which inner end approaches the end of the tube L, which is screwed through the partition F, as shown. The two tubes J L are placed in a straight line with each other, and that end of the tube which is adjacent to the inner contracted end of the tube J is made largest, while the upper end of the tube L is contracted, so as to have about the same or a slightly smaller area than that of the tube J. The space between the lower end of the tube L and the upper contracted end of the tube J is sufficient to allow the water to be drawn into the tube L and forced therethrough by the pressure of the steam which is admitted through the pipe J.

Screwed into the upper end of the casing or body A is the nozzle O, which has the opening therethrough enlarged at both ends and contracted at its center, and which nozzle is provided with the flange P a short distance from one end. The outer surface of the nozzle O upon both sides of the flange P is screw-threaded, so that it can be screwed both into the body A and into the pipe Q, through which the water is raised or forced in any desired direction. The flange P is placed nearer to one end of the nozzle O than the other, because when it is desired to shut off the flow of water from the upper chamber G this nozzle is reversed in position, as shown in Fig. 2, and then it catches over the upper end of the tube L and prevents any water from being forced from the chamber G. By thus shutting off the discharge of water from the chamber G only one-half of the volume of water is ejected by the steam, and it can be raised to a correspondingly higher elevation.

Having thus described my invention, I claim—

1. In an ejector, a body or frame provided with a horizontal partition which divides the frame or body into two separate and distinct chambers upon one side of the body or frame only and from each of which the water is ejected, substantially as shown.

2. In an ejector, a body or frame provided with a horizontal partition F, which extends substantially in a line with the center of the water-inlet, and which partition divides the body or frame into two separate and distinct chambers upon one side of the body or frame

only and from both or only one of which the water is ejected by the pressure of the steam, substantially as described.

3. In an ejector, a body or frame provided with a partition which divides it into two separate and distinct chambers, combined with a tube which is screwed into and through the partition, a steam-ejector tube, and a discharge-nozzle, substantially as set forth.

4. In an ejector, a reversible discharge-nozzle, combined with the tube through which both the water and steam are forced, substantially as specified.

5. In an ejector, a reversible discharge-nozzle, and the body or frame into which one end of the nozzle is screwed and which is provided with a horizontal partition, combined with the tube L, and the steam-ejector tube J, substantially as shown.

6. In an ejector, a discharge-nozzle, provided with a flange near one end, and screw-threaded its entire surface upon each side of the flange, the pipe Q into which one end of the nozzle is screwed, and the frame provided with a horizontal partition which divides the frame into two separate and distinct chambers, from one or both of which the water may be ejected, and which partition extends in a line with the inlet for the water, and the tube L which extends through and is supported by the partition, combined with the steam-tube J, substantially as set forth.

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

WILLIAM D. LABADIE.

Witnesses:
F. A. LEHMANN,
L. S. BLACK.