

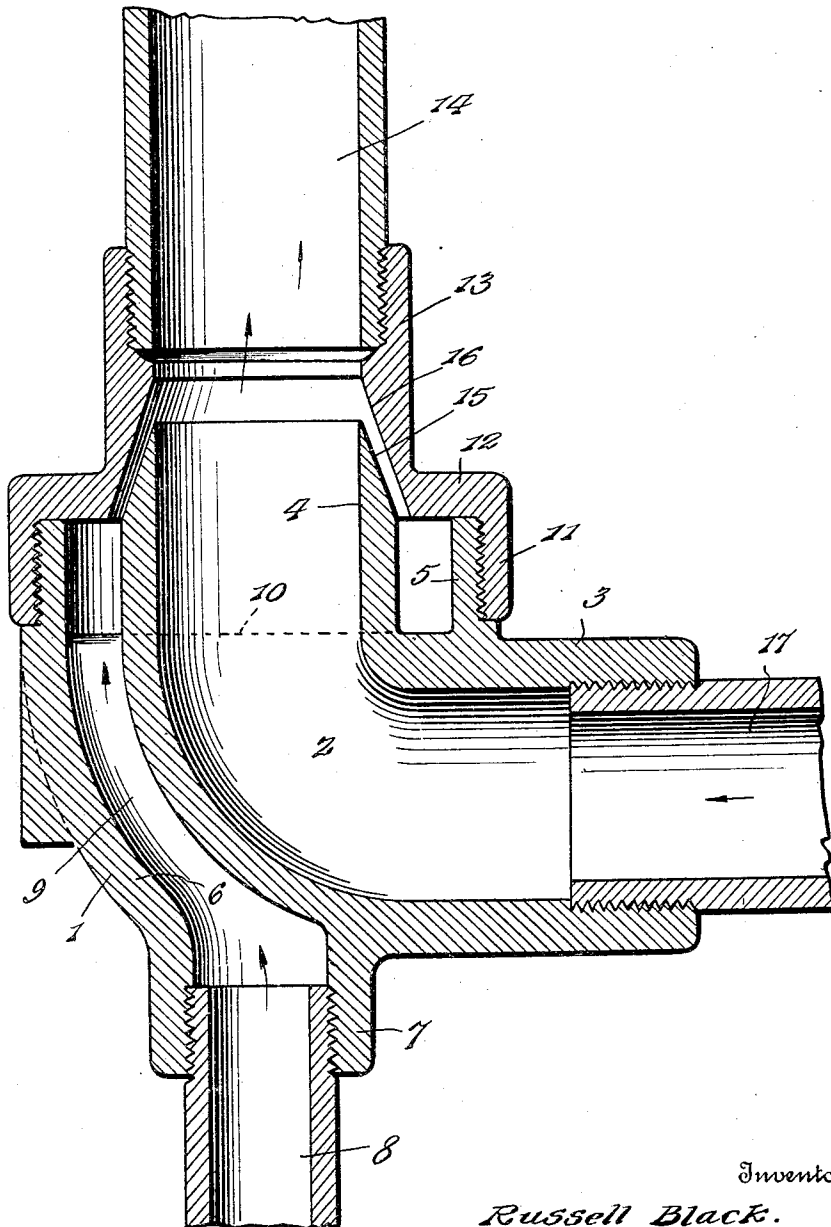
March 14, 1933.

R. BLACK

1,901,797

EJECTOR

Filed Sept. 15, 1931



Inventor

Russell Black.

By

Lacey, Lacey,

Attorneys

UNITED STATES PATENT OFFICE

RUSSELL BLACK, OF HUNTINGTON, WEST VIRGINIA, ASSIGNOR TO COMMERCIAL PATENTS DEVELOPMENT COMPANY, OF HUNTINGTON, WEST VIRGINIA, A CORPORATION OF WEST VIRGINIA

EJECTOR

Application filed September 15, 1931. Serial No. 562,966.

This invention is a siphon for use in withdrawing water from a boat, a caisson or other place, and the object of the invention is to provide a siphon which is efficient and simple in construction and which is of such form that it may be easily inspected in case of possible clogging. The invention is illustrated in the accompanying drawing and consists in certain novel features which will be hereinafter first fully described and then more particularly defined in the appended claim.

The drawing is a vertical section through a siphon embodying the present invention.

In carrying out the present invention, there is provided a body 1 having a bore 2 therethrough of substantially L-shaped outline, the inlet end of the bore being within a side arm 3 of the body and the outlet end of the bore being through a boss or nipple 4 formed on the upper side of the body. The nipple 4 may be said to be an inner continuation of the side arm 3 and the walls of the bore are spaced from the upper annular wall 5 of the body and from the depending side wall 6, the depending side wall having an internally threaded nipple 7 formed at its lower end to receive a steam inlet pipe 8, as shown. A passage 8 leads upwardly from the inlet nipple 7 and opens through a web 10 formed around the boss or nozzle 4 and constituting, in effect, a lateral enlargement of the upper portion of the side arm 3. The outer wall 5 of the upper portion of the body is concentric with the nozzle 4 and is externally threaded to be engaged by the internally threaded rim 11 of a cap member 12 from which rises a collar 13 which is internally threaded to receive the end of an outlet pipe 14 which is preferably of the same internal diameter as the bore 2, as clearly shown in the drawing. The outer circumferential surface of the nozzle 4 is tapered or beveled, as shown at 15, and the taper follows a straight line while the inner circumference of the collar 13, at its lower end, is downwardly flared, as shown at 16, to occupy a position concentric and parallel with the tapered end of the nozzle. A water inlet pipe 17 is threaded into the end of the side arm 3 and may be

of any desired length so that its outer end may be disposed within the body of water which is to be ejected while the outlet pipe 14 may be also of any desired length so as to carry the ejected water to a point of discharge. The members 14 and 17 may be hose or otherwise flexibly constructed so that they may be carried around corners and obstructions.

In use, the steam pipe 8 is connected to a source of steam supply and the steam flowing therethrough will pass through the passage 9 and will issue therefrom with considerable force inasmuch as the passage is somewhat constricted. From the passage 9, the steam fills the chamber around the nozzle 4 and between the nozzle and the outer wall 5 and passes from said chamber through the passage between the tapered end of the nozzle and the flared wall of the collar 13 in an obvious manner. Inasmuch as the parallel surfaces 15 and 16 are relatively close together, the steam will pass therefrom and enter the outlet pipe 14 with considerable velocity so that a strong suction between the bore and the water inlet pipe will be created and the water will be drawn through the inlet pipe and the bore 2 and carried through the outlet pipe 14 in a highly efficient manner. The cap member 12 may be very easily assembled with the body of the siphon and should the flow through the outlet pipe cease for any reason, thereby indicating some clogging, the cap member may be readily removed so that an inspection of the bore 2 and the body member may be had and the obstruction, if any, removed. The surfaces 15 and 16 may, if preferred, be machined, and the detachable connection between the body member and the cap member permits the members to be separately finished so that the desired smooth surfaces may be provided and the flow of steam be free of any surface obstructions, however small, so that the desired strong suction will be always created.

Having thus described the invention, I claim:

An ejector comprising a body member having a side arm to receive a water inlet pipe

and provided with a nipple on its under side to receive a steam inlet pipe, the body being further formed with a concentric nozzle in the upper side through which the indrawn
5 water may flow, the body having an L-shaped bore extending through the side arm and through the nozzle, the upper end of the nozzle being exteriorly tapered downwardly along straight lines, the body having a steam
10 passage rising from the nipple on the bottom of the body and terminating at the base of the nozzle exteriorly thereof, the body having an annular outer wall exteriorly threaded and disposed concentric with the nozzle to form
15 an annular steam passage at the base of the nozzle, and a cap member threaded on to said annular outer wall and closing the upper open end of said annular steam passage, said cap having a collar rising therefrom in align-
20 ment with the nozzle to receive an outlet pipe, the inner circumference of said collar being downwardly tapered along straight lines to present a tapered surface concentric and parallel with the tapered end of the nozzle.
25 In testimony whereof I affix my signature.
RUSSELL BLACK.

30

35

40

45

50

55

60

65