

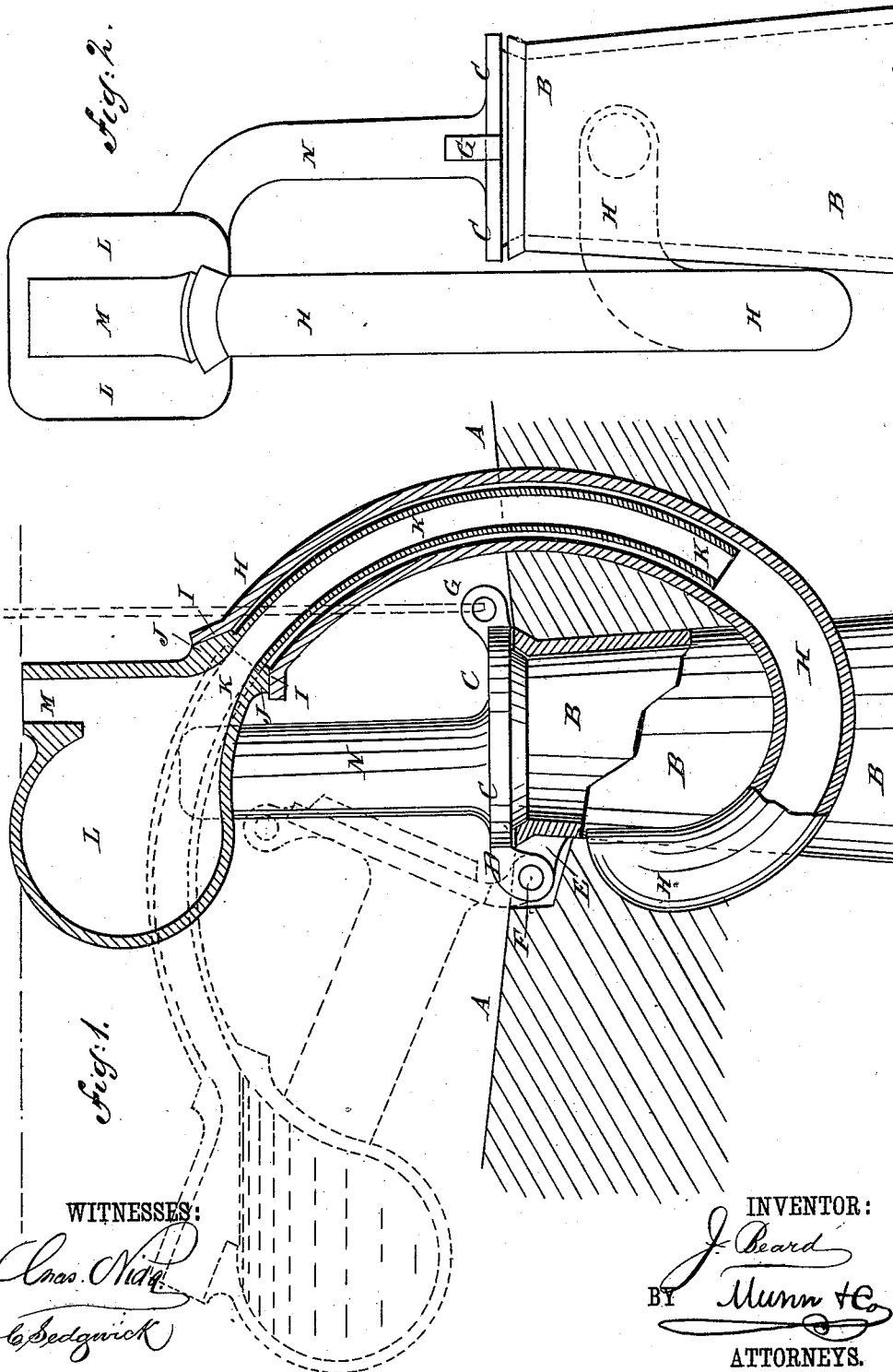
(No Model.)

J. BEARD.

DISCHARGE PIPE FOR VAULTS.

No. 345,023.

Patented July 6, 1886.



# UNITED STATES PATENT OFFICE.

JOSEPH BEARD, OF BOSTON, MASSACHUSETTS.

## DISCHARGE-PIPE FOR VAULTS.

SPECIFICATION forming part of Letters Patent No. 345,023, dated July 6, 1886.

Application filed February 18, 1886. Serial No. 192,347. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH BEARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful  
5 Improvement in Discharge-Pipes for Vaults, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in  
10 which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation, partly in section and part being broken away, of my improved discharge-pipe. Fig. 2 is a front ele-  
15 vation of the same.

The object of this invention is to provide discharge-pipes for water-closet vaults and other receptacles designed to receive liquid and solid refuse, constructed in such a man-  
20 ner that they can be readily emptied and that the entrance of sewer-gas through the overflow-pipe will be prevented.

The invention consists in the construction and combination of the various parts of the  
25 discharge-pipe and its attachments, as will be hereinafter fully described.

A represents the bottom of a vault, in the discharge-opening of which is secured the upper end of the discharge-pipe B in such a  
30 manner that the mouth of the said discharge-pipe will be flush with the said bottom. The discharge-pipe B is flared slightly toward its lower end, so that whatever enters its mouth will readily pass through it. The mouth of  
35 the discharge-pipe B is provided with a cap, C, to serve as a valve, and which has a perforated downwardly-projecting lug, D, formed upon one edge. The lug D is connected with a perforated lug, E, formed upon the side of  
40 the upper end of the discharge-pipe B by a rivet, F, so as to hinge the said cap to the said discharge-pipe.

Upon the edge of the cap C, opposite the lug D, is formed an upwardly-projecting lug,  
45 G, which is perforated to receive the hook or eye of a rod for opening and closing the said cap C, and which extends up into such a position that it can be readily reached and operated from the water-closet or other place above  
50 the vault.

Upon the side of the upper part of the dis-

charge-pipe B is formed, or with it is connected, the end of a pipe, H, the end of which opens into the said discharge-pipe B. The pipe H curves downward, forward, and up-  
55 ward, to form a U-shaped trap, and extends upward through the bottom A of the vault and to any desired height above the said bottom. The upper part of the pipe H is curved upon the arc of a circle having its center at the axis  
60 of the rivet F. The end of the curved pipe H is flared, to form a seat, I, for the conical collar J, formed upon the upper part of the pipe K, to make a close joint with the upper end of  
65 the pipe H. The pipe K is curved in the arc of the same circle as the pipe H, and is made of such a size that it can be readily slipped into and out of the said pipe H.

Upon the upper end of the pipe K is formed a chamber, L, to receive water or other liquid  
70 from the vault, as and for the purpose hereinafter described.

Upon the upper part of the receiver or chamber L is formed a pipe, M, opening into the  
75 said chamber and arranged in such a position as to be vertical when the pipe K is in place in the pipe H. The pipe M may be of such a length as the depth of the vault may require, so that it will serve as an overflow-pipe, the  
80 overflowing liquid passing down through the pipes M K H into the discharge-pipe B, and thence through the drain-pipe into the sewer.

The chamber L is formed upon or rigidly attached to the upper end of a standard, N,  
85 the lower end of which is rigidly attached to, or formed solid with the cap C. With this construction, when the vault is to be emptied, the cap C is turned back upon its hinge, which draws the pipe K outward within the pipe H and lowers the chamber L beneath the surface  
90 of the liquid above the solid refuse in the said vault, so that the chamber L will become filled with the said liquid through the pipe M, as indicated in dotted lines in Fig. 1, and will retain  
95 the said liquid when the vault is emptied. After the vault has been emptied and washed out the cap C is closed, which brings the pipes K M and chamber L back to the position shown in full lines in Fig. 1, and causes the liquid in  
100 the chamber L to flow into and fill the U-shaped trap of the pipe H, so as to prevent the passage of sewer-gas from the discharge-pipe into

the vault in case the liquid in the said trap had been drawn out by the outflow of the contents of the vault through the discharge-pipe B.

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

1. The combination, with the discharge-pipe B and the trapped overflow-pipe H, having its upper part curved upon the arc of a circle, of  
10 the curved pipe K, placed within the said pipe H, and provided at its upper end with the chamber L and pipe M, the cap C, hinged to the discharge-pipe, and the standard N, rigidly connecting the pipe K, chamber L, and pipe  
15 M with the said cap C, substantially as herein shown and described, whereby enough of the liquid contents of the vault will be retained when the said vault is emptied, to fill the trap of the overflow-pipe, when the cap of the dis-  
20 charge-pipe is again closed, as set forth.

2. In a vault, the discharge-pipe having a cap and a trapped overflow-pipe connected at its lower end to the upper part of the said discharge-pipe and its upper part curved upon the arc of a circle and projecting upward into  
25 the interior of the vault, in combination with the curved pipe placed within the aforesaid pipe and provided at its upper end with a chamber and a pipe, the cap hinged to the discharge-pipe, and the standard rigidly con-  
30 necting the curved pipe and the chamber at the upper end of the said latter pipe with said cap, substantially as and for the purpose set forth.

JOSEPH BEARD.

Witnesses:

WILLIAM M. GRANT,  
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