

G. F. SHERMAN & C. N. PETESCH.

FOOT-VALVE FOR ENGINE.

No. 172,057.

Patented Jan. 11, 1876.

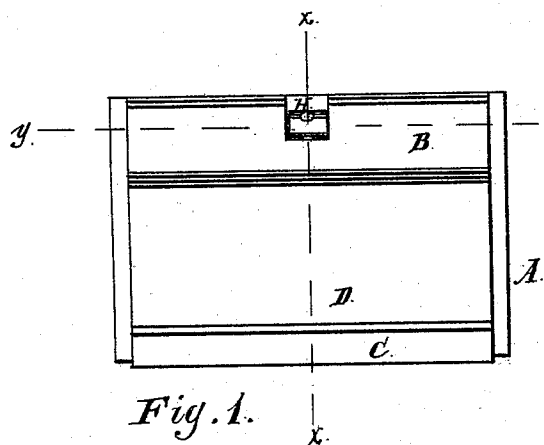


Fig. 1.

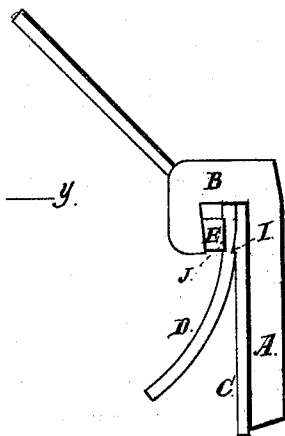


Fig. 2.

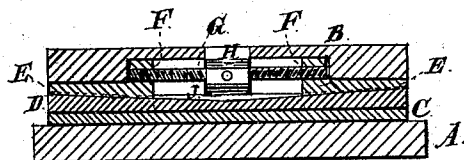


Fig. 4.

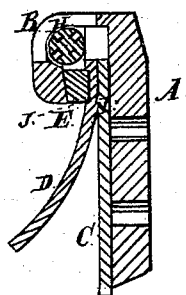


Fig. 3.

Witnesses:
L. A. Bunting.
Heinrich J. Burns.

Inventors:
G. F. Sherman
C. N. Petesch
per Lewis L. Peterson
att.

UNITED STATES PATENT OFFICE.

GEORGE F. SHERMAN AND CHARLES N. PETESCH, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN FOOT-VALVES FOR ENGINES.

Specification forming part of Letters Patent No. **172,057**, dated January 11, 1876; application filed July 26, 1875.

To all whom it may concern:

Be it known that we, GEORGE F. SHERMAN and CHARLES N. PETESCH, both of Chicago, in the county of Cook and State of Illinois, have invented a Foot-Valve for Engines, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

Our invention relates to that class of valves which is used in low-pressure engines; and consists in casting the ledge which holds the edge of the valve-guard solid with the grating; and it also consists in the combination of tapering wedges and screws for holding and tightening the valve-guard and valve in place, all as hereinafter fully described.

In the accompanying drawings, Figure 1 represents a top or plan view of our invention; Fig. 2, an end view, showing the lever for turning the screws applied; Fig. 3, a transverse section at the line *xx* in Fig. 1; and Fig. 4, a longitudinal section at the line *yy* in Fig. 1.

A represents the grating or bed-plate, which is perforated by holes. (Shown in Fig. 3.) B is a ledge or lug, which is cast solid with the bed-plate A. C is the valve-clapper, made of the ordinary material; and D is the valve-guard. E E are two tapering sliding wedges, that rest upon the edge of the guard and under the projecting edge of the ledge B. These sliding wedges have projecting lugs or ears F, through which the screw G passes. G is a right-and-left-hand screw, one end of which passes through one sliding wedge, and the other end through the other sliding wedge. This screw is turned for tightening and loosening the wedges by inserting a lever in the hole H at the center of the screw. The wedges are moved outwardly from each other to tighten the valve-clapper and guard by turn-

ing the screw in one direction, and drawn inwardly to each other to loosen them by turning it in the other direction. The sliding wedges rest in grooves J made in the upper surface of the valve-guard D. This groove is made the deepest at the center, and goes shallow toward the edges of the valve-guard, as shown in Fig. 4. The inclination of the bottom of this groove causes the pressure of the wedges upon the valve-guard to increase and tighten the valve-guard and clapper as they are slid outwardly by turning the screws G. The wedges are removed by bringing them together at the center. I are notches or shoulders in the under surface of the edge of the valve-guard, or in the upper surface of the bed-plate or grating A, to hold the valve-clapper more securely in place.

The valve, as above constructed, requires no bolts to hold it together. It is readily adjusted and repaired. It is not liable to need repairing, and is free from any objections common to the foot-valves in which the ledge or lug B is bolted to the bed-plate.

I claim—

1. The grating or bed-plate A and lug or ledge B, cast in one solid piece, as and for the purposes specified.
2. The combination of the sliding wedges E, lugs or ledge B, the bed-plate A, and screw G, for holding the valve-guard and clapper in place, as shown.
3. The inclined groove J and shoulder I, for making a pressure upon and more securely holding the valve-clapper in place, as specified.

GEORGE F. SHERMAN.
CHARLES N. PETESCH.

Witnesses:

HEINRICH F. BRUNS,
L. A. BUNTING.