

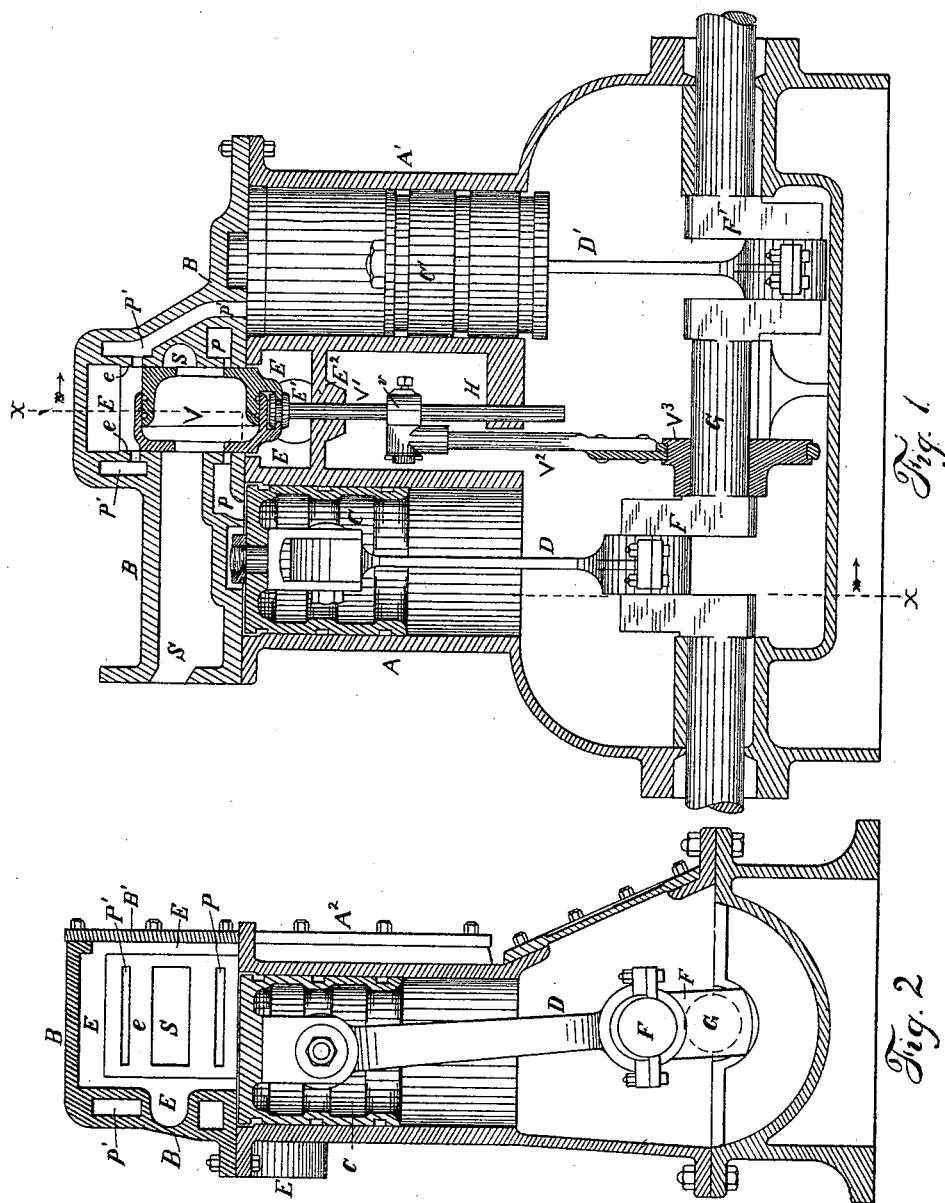
(No Model.)

G. D. GILBERT.

STEAM ENGINE.

No. 348,458.

Patented Aug. 31, 1886.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE D. GILBERT, OF CORRY, ASSIGNOR TO R. S. BATTLES, OF GIRARD,
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STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 348,458, dated August 31, 1886.

Application filed May 4, 1886. Serial No. 201,097. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. GILBERT, a citizen of the United States, residing at Corry, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Engines; 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.

This invention relates to duplex steam-engines; and it consists in certain improvements in the construction thereof, as will be hereinafter fully set forth, and pointed out in the claims.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 is a vertical section taken on the line of the main shaft. Fig. 2 is a vertical section taken on the line *xx* in Fig. 1, with the valve V omitted.

A A' are the cylinders, which are cast, together with part of the frame, in a manner common to this class of engines.

B is a casting, which forms the cap or cover to both cylinders, and has formed within it the live-steam passage S, part of the valve-chamber E, with the valve-seats *e*, and the steam passages or ports P and P'. The valve V is a double-faced hollow telescoping balanced slide-valve. The live steam enters the valve and passes from it to the ports, and the exhaust-steam enters the valve-chamber. Such valves are of common construction.

Between the cylinders A and A', near their top, is a partition-wall, E², which forms the lower end of the valve-chamber, and the exhaust-nozzle E' leads from this part of the chamber.

The ports or passages P and P' lead from each valve-seat to their respective cylinders, as follows: The port or passage P leads from the lower ends of the valve-seats to the cylinder A, and the port or passage P' from the upper ends of the valve-seats to the cylinder A'. The cap B has a cover, B', on the side over the valve-chamber, and there is a cover, A², on the side over the space between the two cylinders, which covers, also, that part of the valve-chamber which is below the cap and within the space between the cylinders above the partition E². The valve-stem V

passes through the partition E², and is guided in an arm, H, which extends out from the cylinder A', near its lower end in the space between the two cylinders. The eccentric-rod V² connects with the valve-stem through the means of a pivot-pin, *v*, which is clamped to the valve-stem, and, of course, by this means the adjustment of the valve is made. It will be observed that the live-steam passage S in the cap B lies parallel with the shaft G, and that the supply-pipe, when attached to the live-steam passage, will be directly over the shaft.

What I claim as new is—

1. In a duplex steam-engine, the combination, with the cylinders, of the cap B, covering both cylinders and having therein the live-steam passage S, part of the valve-chamber E, the valve-seats *e*, and the ports P P', leading from the opposite ends of the valve-chamber to the cylinders A and A', respectively.

2. In a duplex steam-engine, the cylinders A A', the cap B, covering said cylinders and having the steam-passage S, part of the valve-chamber E, with opposite vertical valve-seats *e e*, and the ports P P', leading from opposite ends of the valve-seats to the said cylinders A and A', respectively, in combination with the double-faced telescoping balanced slide-valve V.

3. In a duplex steam-engine, the cylinders A and A', having part of the valve-chamber formed between them, in combination with a cap covering said cylinders, having the other part of the valve-chamber and the proper steam-passages formed therein, substantially as set forth.

4. In a duplex steam-engine, the cylinders A and A', having part of the valve-chamber and the valve-stem guides formed between them, and a cap or cover having the other part of the valve-chamber and the proper steam-passages formed therein, substantially as set forth.

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

GEO. D. GILBERT.

Witnesses:

WM. P. HAYES,
JAS. U. HANFORD.