G. B. STEVENSON.

Steam-Engine.

No. 168,803. Patented Oct. 11, 1875.

Fig. 1

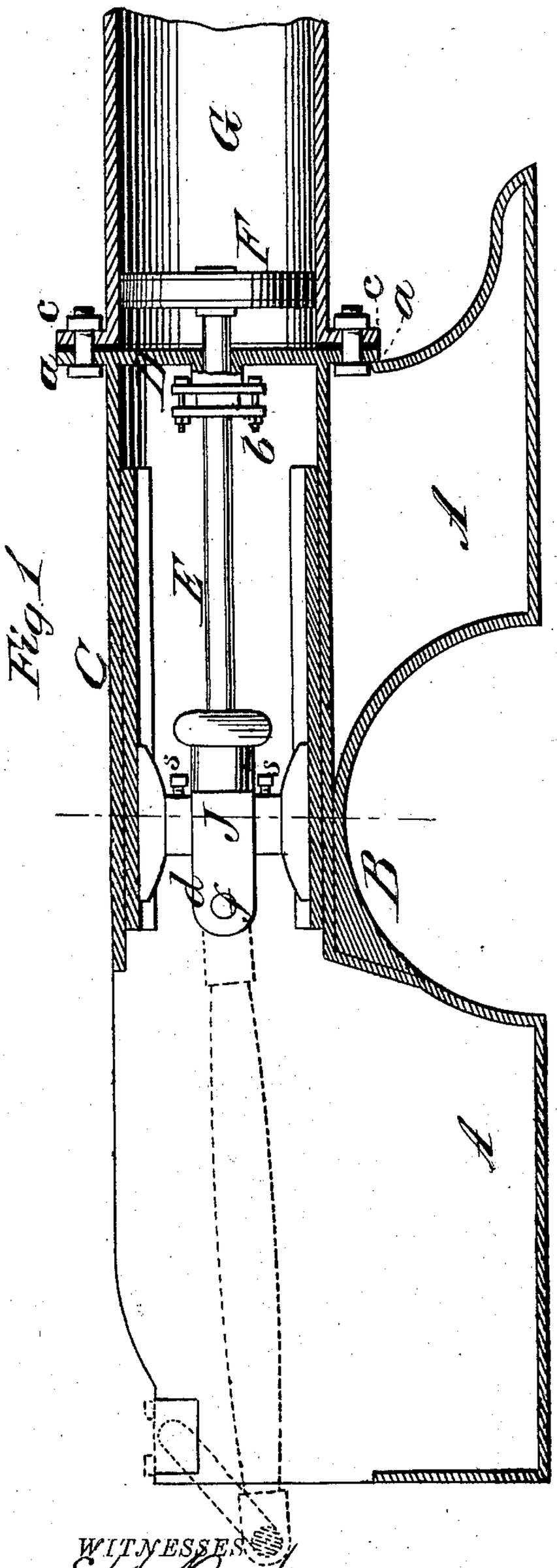


Fig. 3

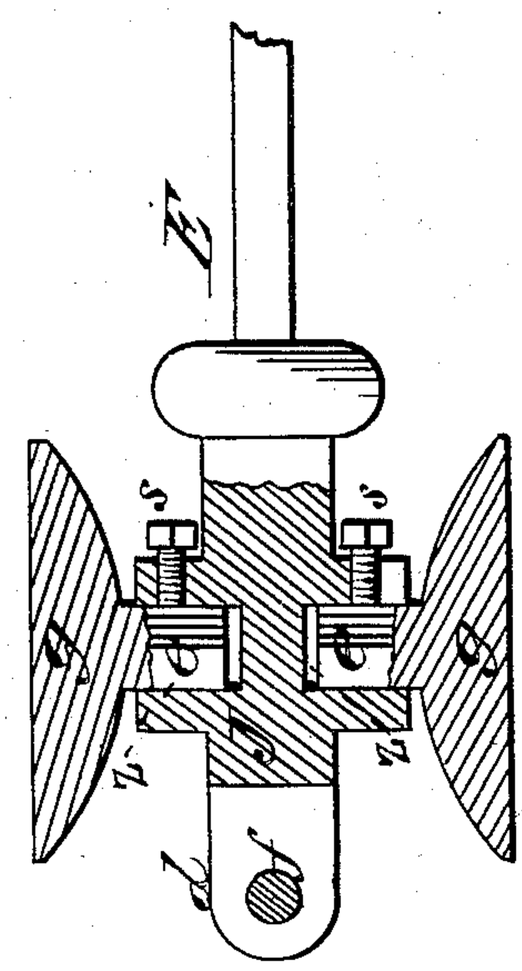
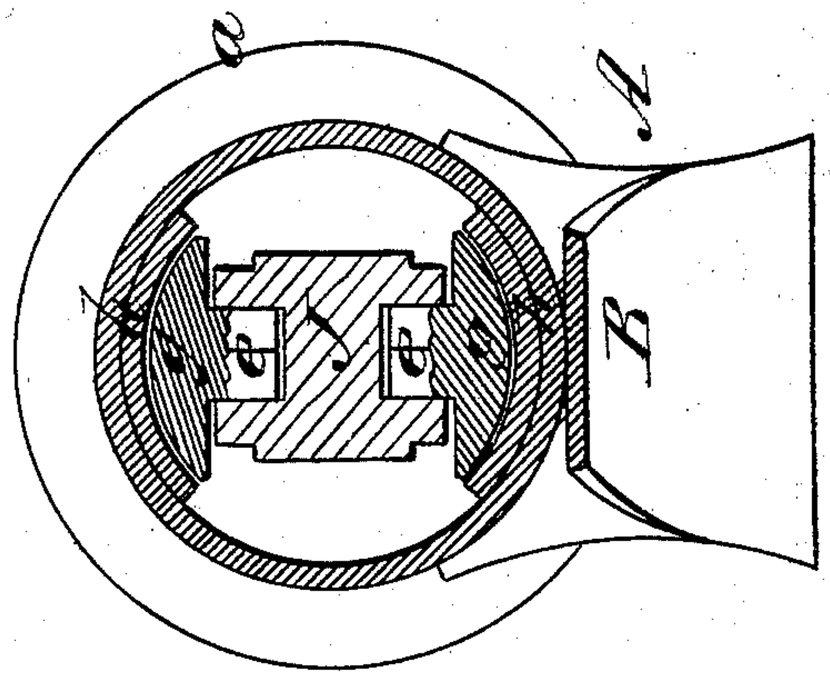


Fig. 2



WITNESSES:

E. A. Bates

George E. Upham

By

INVENTOR

Geo. B. Stevenson,

Chipman Freund & Co

Attorneys

UNITED STATES PATENT OFFICE.

GEORGE B. STEVENSON, OF UPPER SANDUSKY, OHIO.

IMPROVEMENT IN STEAM-ENGINES.

Specification forming part of Letters Patent No. **168,803**, dated October 11, 1875; application filed August 21, 1875.

To all whom it may concern:

Be it known that I, GEORGE B. STEVENSON, of Upper Sandusky, in the county of Wyandot and State of Ohio, have invented a new and valuable Improvement in Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my steam-engine, and Fig. 2 is a transverse vertical sectional view of the same. Fig. 3 is a transverse vertical sectional view of the slides and their attachments.

This invention has relation to the construction of steam-engines, whereby I obtain lightness and strength, at the same time cheapness and solidity; and the novelty consists in the construction of the parts, as will be hereinafter more fully set forth.

In the annexed drawings, A A designate the two legs which constitute my engine-bed, which legs are connected together by an arch, B. This bed is made up of flanges and a web, preferably cast entire. Upon this bed is formed a horizontal cylinder, C, terminating at one end in a head, D, having a flange, *a*, and a stuffing-box, *b*, which latter receives through it a piston-rod, E. This piston-rod has a piston, F, on one end, which works in a steam-cylinder, G, bolted by its flange *c* to the flange *a* of the cylinder C, as shown in Fig. 1. By these means the head D of the cylinder C serves as the head for one of the ends of the steam-cylinder G. J is the cross-head on the piston-rod, constructed with ears *d* and a wrist-pin, *f*, for the pitman-rod. This cross-head J is also constructed with square sockets *z* in its upper and lower sides, which receive square shanks *e e* formed on two slides, *g g*, the faces of which are convex transversely, as shown in Fig. 2, for the purpose of fitting the concave surfaces of slideways *h h* formed on the inside of the cylinder C. These ways *h h* extend the full length of the traverse of the cross-head, and in cross-section their surfaces are concentric to the axis of the piston-rod and cylinder C. This concentricity of the surfaces of the slideways and slides allows the cross-head to be adjusted about its longitudinal axis, so that proper connections of the pitman-rod with the cross-head and crank can be conveniently made and all binding of the parts prevented.

In order to compensate for the wear of the slides and slideways I make the slides adjustable by means of set-screws *s s*, which are accessible by means of an opening through the cylinder C. The open end of the cylinder C terminates in a receiver for the "brasses," which afford journal-bearings for the driven shaft.

What I claim as new, and desire to secure by Letters Patent, is—

The cross-head J, having the sockets *z*, the convex slides *g* with the shanks *e*, and the set-screws *s*, in combination with the horizontal cylinder C, having concave slideways *h*, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE B. STEVENSON.

Witnesses:

R. L. STEVENSON,

S. S. PETTIT.