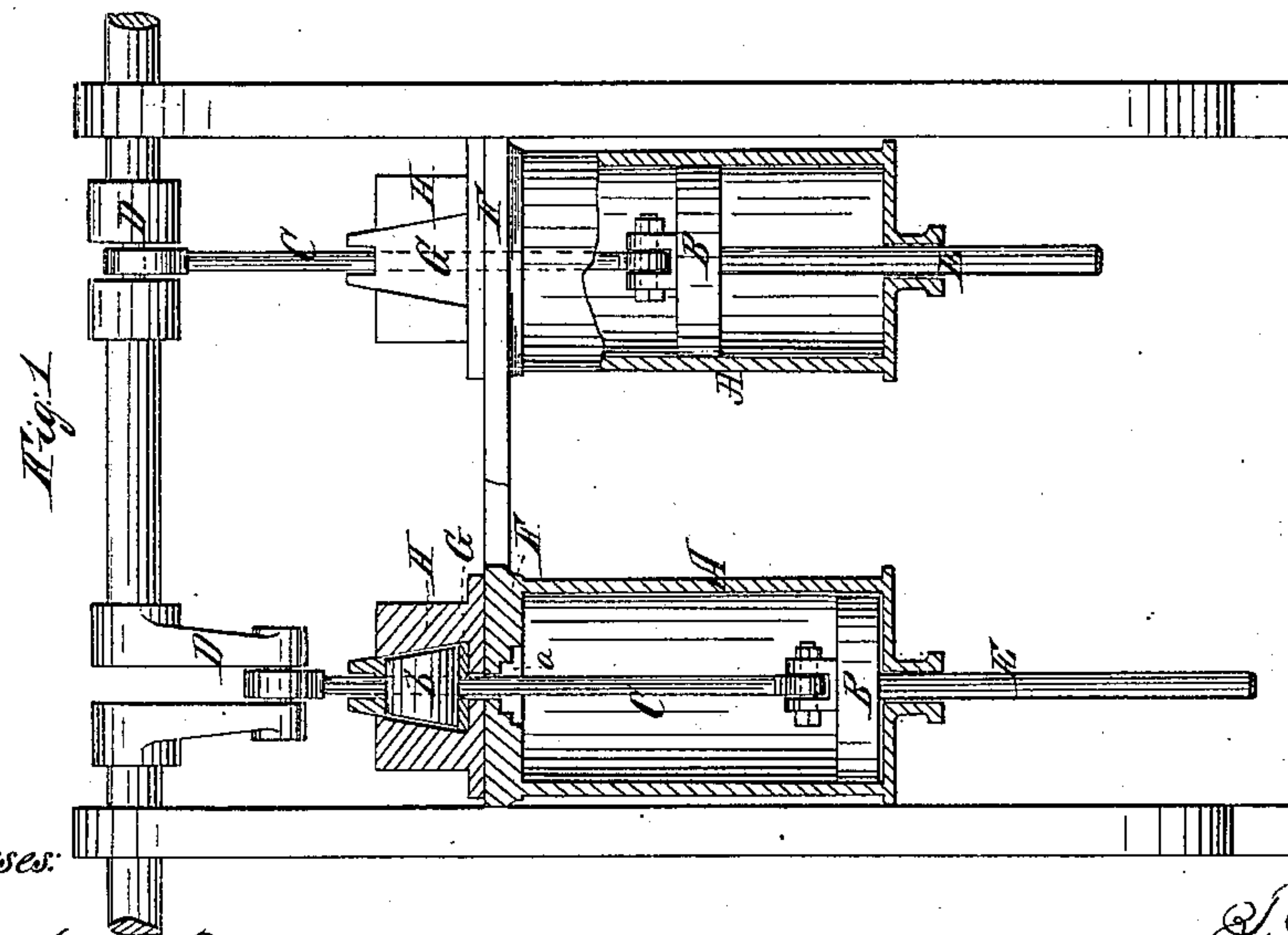
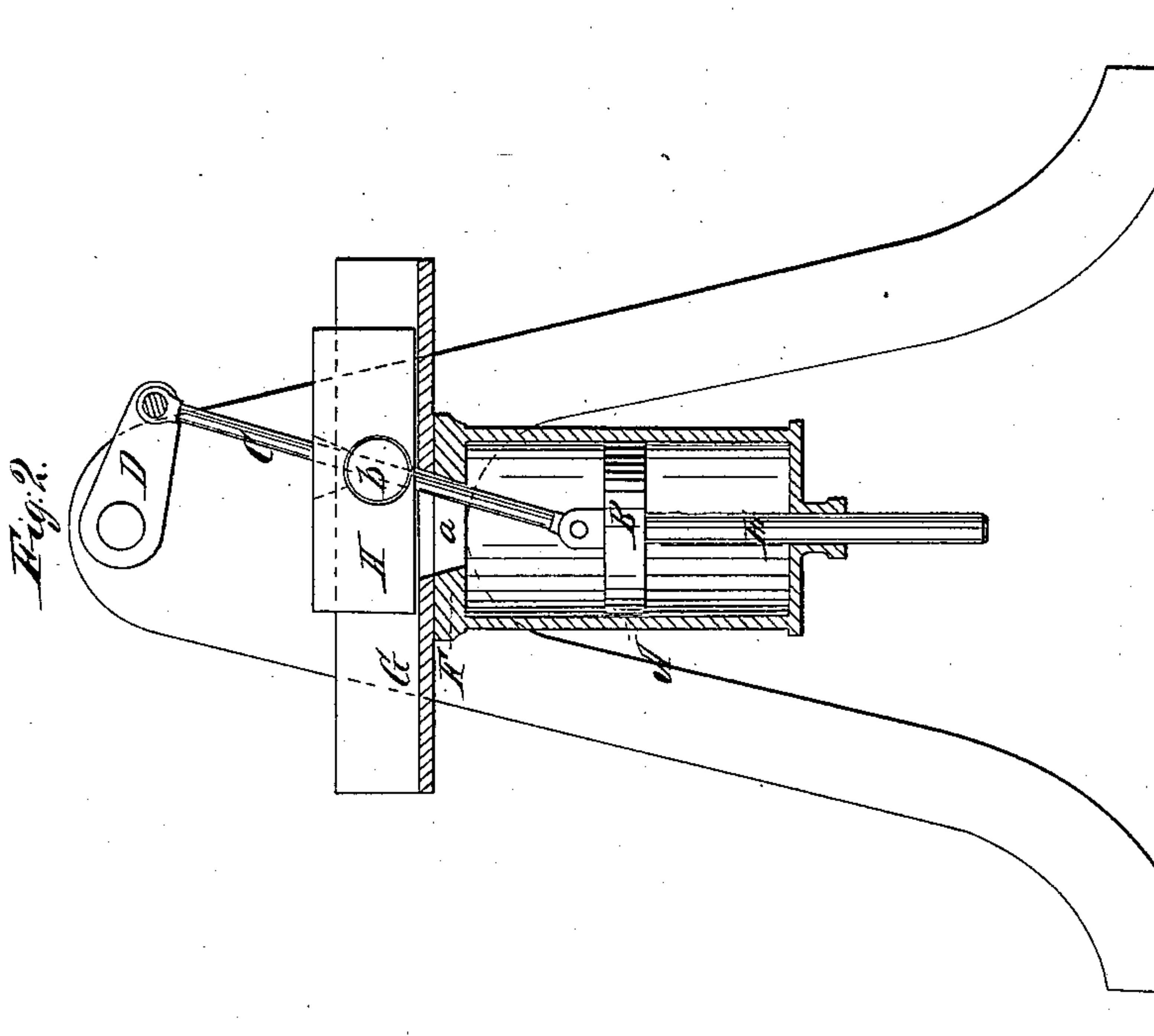


T. A. De Blois,

Reciprocating Steam Engine.

N^o 51,565.

Patented Dec. 19, 1865.



Witnesses:

Wm. H. H. H. H.
Wm. H. H. H.

Inventor:

T. A. De Blois.
per Munn & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

T. A. DEBLOIS, OF ANNAPOLIS, MARYLAND.

IMPROVEMENT IN STEAM-ENGINES.

Specification forming part of Letters Patent No. 51,565, dated December 19, 1865.

To all whom it may concern:

Be it known that I, T. A. DEBLOIS, of Annapolis, in the county of Anne Arundel and State of Maryland, have invented a new and useful Improvement in Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention. Fig. 2 is a transverse vertical section of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement in such engines in which the connecting-rod is attached directly to the piston, and which are generally known by the term "trunk-engines." Such engines usually are single-acting, one end of the cylinder being left open to permit the connection-rod to perform its motion; and the object of this invention is to improve the construction of a double-acting trunk-engine, which is effected by passing the connecting-rod through a slide fitted in suitable ways over the open end of the cylinder in such a manner that by said slide the cylinder is closed, and at the same time the connecting-rod is free to follow the motion of the crank.

A represents a steam-cylinder provided with a piston, B, constructed in any suitable manner. This piston connects by a rod, C, directly with the crank D, and in order to guide it in its up-and-down motion, a rod, E, ex-

tends from the same in a direction opposite to that in which the connecting-rod runs.

In order to permit the connecting-rod to follow the motion of the crank, the head F of the cylinder through which it passes is provided with a slot, *a*, and this slot is covered by a slide, G, through which the connecting-rod passes. This slide is fitted into suitable ways, H, and it closes, steam-tight, the slot in the cylinder-head. It is provided with a swivel-box, *b*, which facilitates the sliding and the oscillating motion of the connecting-rod, leaving the latter perfectly free to follow the motion of the crank without permitting the escape of steam from the upper part of the cylinder.

In practice two such cylinders will be connected to one and the same shaft, which is provided with two cranks, set at angles of ninety degrees, so that the fly-wheel can be dispensed with, and an engine is obtained which is very compact and easily transported.

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

The slide G, fitted on the slotted head F of the cylinder A, in combination with the connecting-rod C, attached directly to the piston B, substantially as and for the purpose set forth.

The above specification of my invention, signed by me this 29th day of September, 1865.

T. AMORY DEBLOIS.

Witnesses:

M. M. LIVINGSTON,
W. HAUFF.