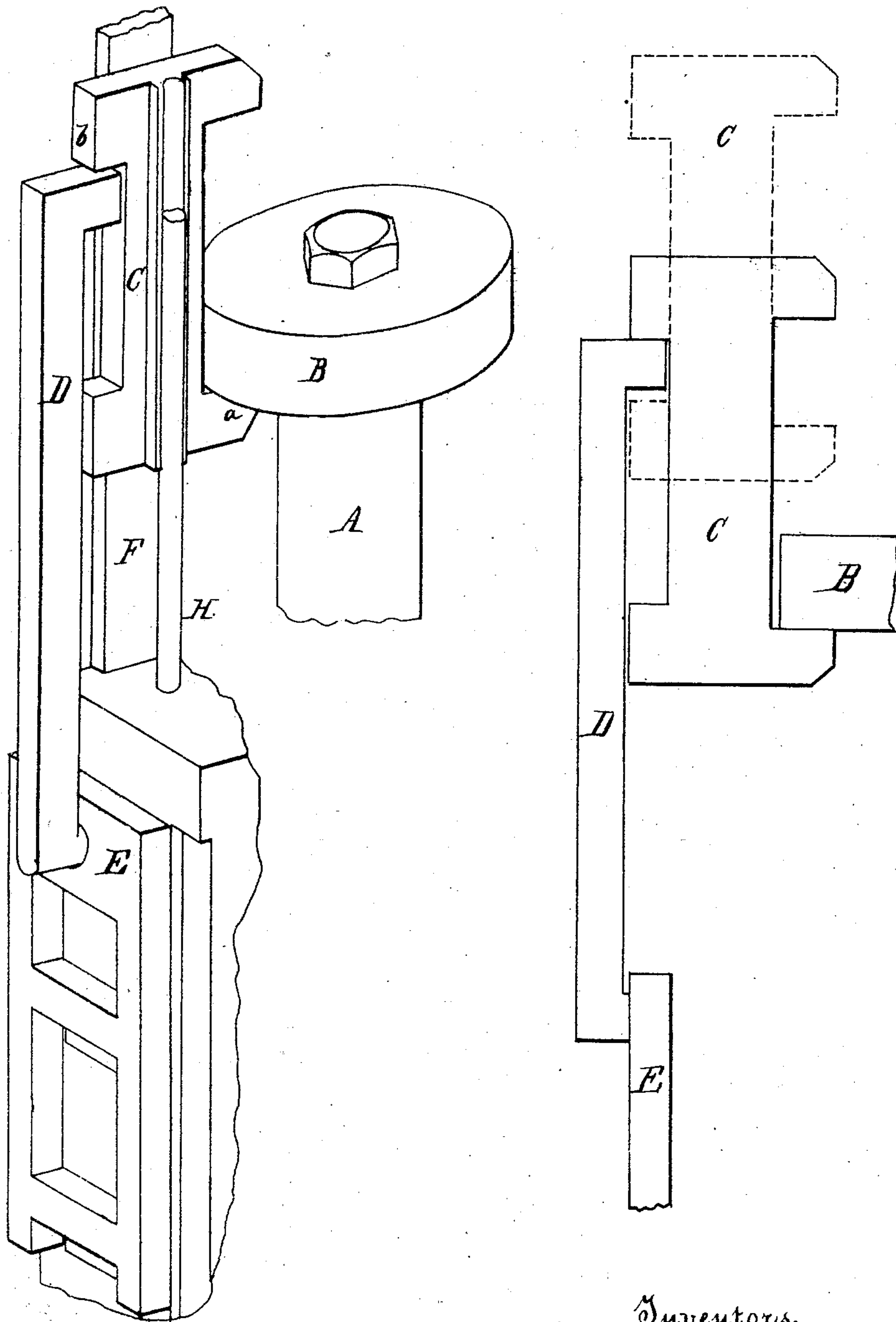


Wood & Robinson.
 Steam-Engine Valve-Gear.
 No 76131 Patented Mar. 31, 1868.



Witnesses.
 A. A. Robinson.
 A. Thomson.

Inventors.
 De Volson Wood.
 Stillman W. Robinson.

United States Patent Office.

DEVOLSON WOOD AND STILLMAN W. ROBINSON, OF ANN ARBOR, MICHIGAN.

Letters Patent No. 76,131, dated March 31, 1868.

IMPROVEMENT IN STEAM-ENGINE VALVE-GEAR.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that we, DE VOLSON WOOD and STILLMAN W. ROBINSON, both of the city of Ann Arbor, county of Washtenaw, and State of Michigan, have invented a new and improved Mode of Operating Valves under certain circumstances; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of our invention consists of a device for reversing the valve of an engine after the end of the stroke. It is useful in unbalanced engines, by which the work is done at or near the end of the stroke, and in which it is desirable to maintain the pressure behind the piston until the blow is struck.

To enable others skilled in the art to understand our invention, we will proceed to describe it.

In the figures, A is the piston-rod in an ordinary steam cylinder, which has a projection, B, to serve as a tappet. The piece C has projections on one side, between which the tappet B may move freely a short distance. During the advance stroke, the tappet B, coming in contact with the projection *a* on the piece C, forces the latter forward during the remainder of the stroke, after which the piece C moves on by virtue of the force which has been imparted to it by the forward movement of the tappet, and brings the projection *b* against the valve-rod D, and reverses the valve E. Instead of the piece C operating directly upon the valve-rod, it may operate upon a lever or other device, which is interposed between D and C, so arranged as to reverse the valve. The parts may be so arranged that the valve shall be partly reversed at the end of the stroke of the piston. Instead of the projections of the piece C between which the tappet moves, there may be two tappets on the piston-rod, between which the piece C may move.

The main feature of the invention consists in operating the valve-gear by a piece, C, which is free to move on after the end of the stroke of the piston, and to which a reciprocating movement is imparted by one or more tappets on the piston-rod. The same arrangement may be used for tripping a latch, so as to permit an extraneous force to reverse the valve.

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

The combination and arrangement of the piece C, tappet B, and piston-rod A, as and for the purposes described.

DE VOLSON WOOD,
STILLMAN W. ROBINSON.

Witnesses:

A. A. ROBINSON,
M. E. ROBINSON,