

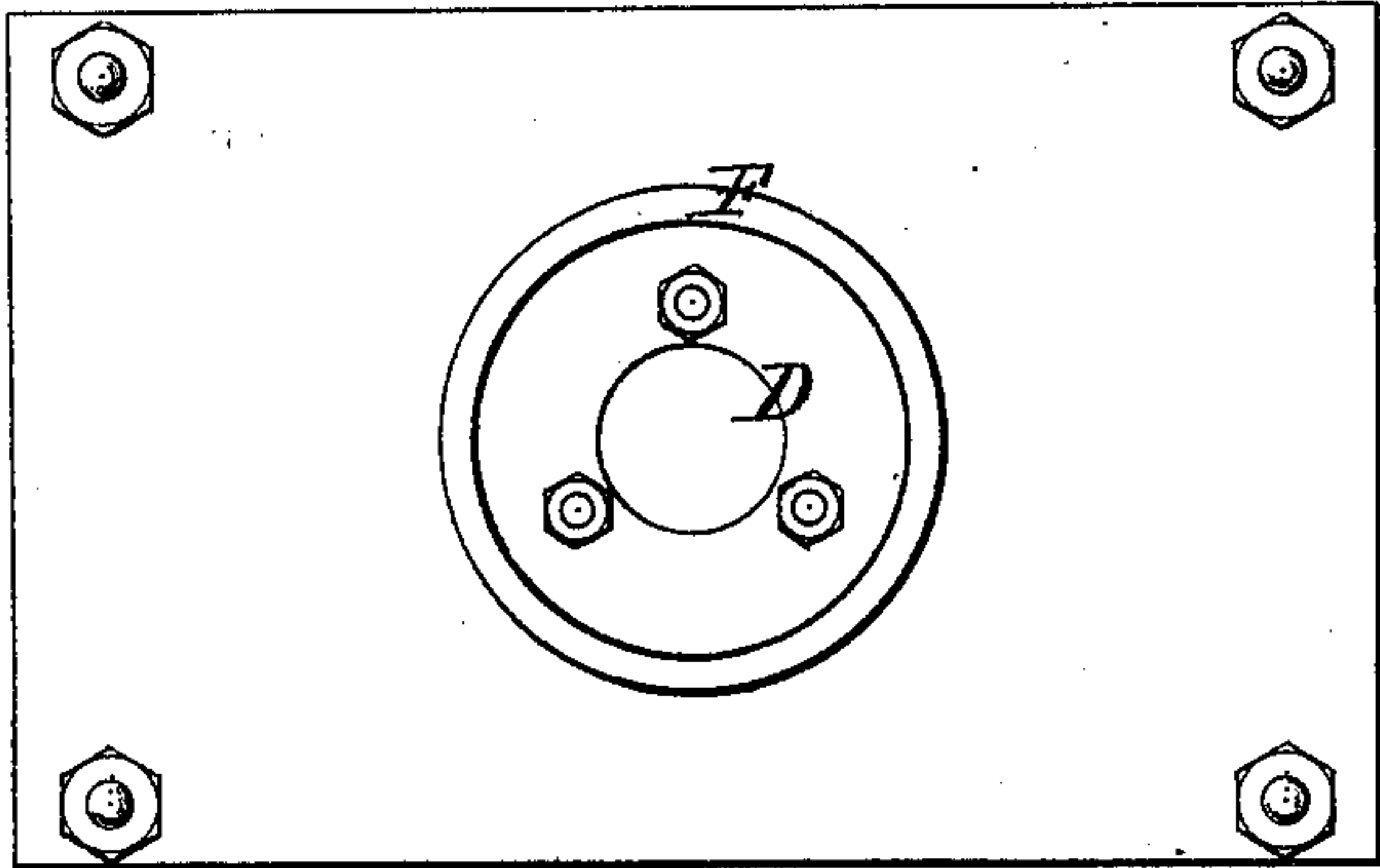
ALLAN STIRLING.

Improvement in Balanced Slide-Valves.

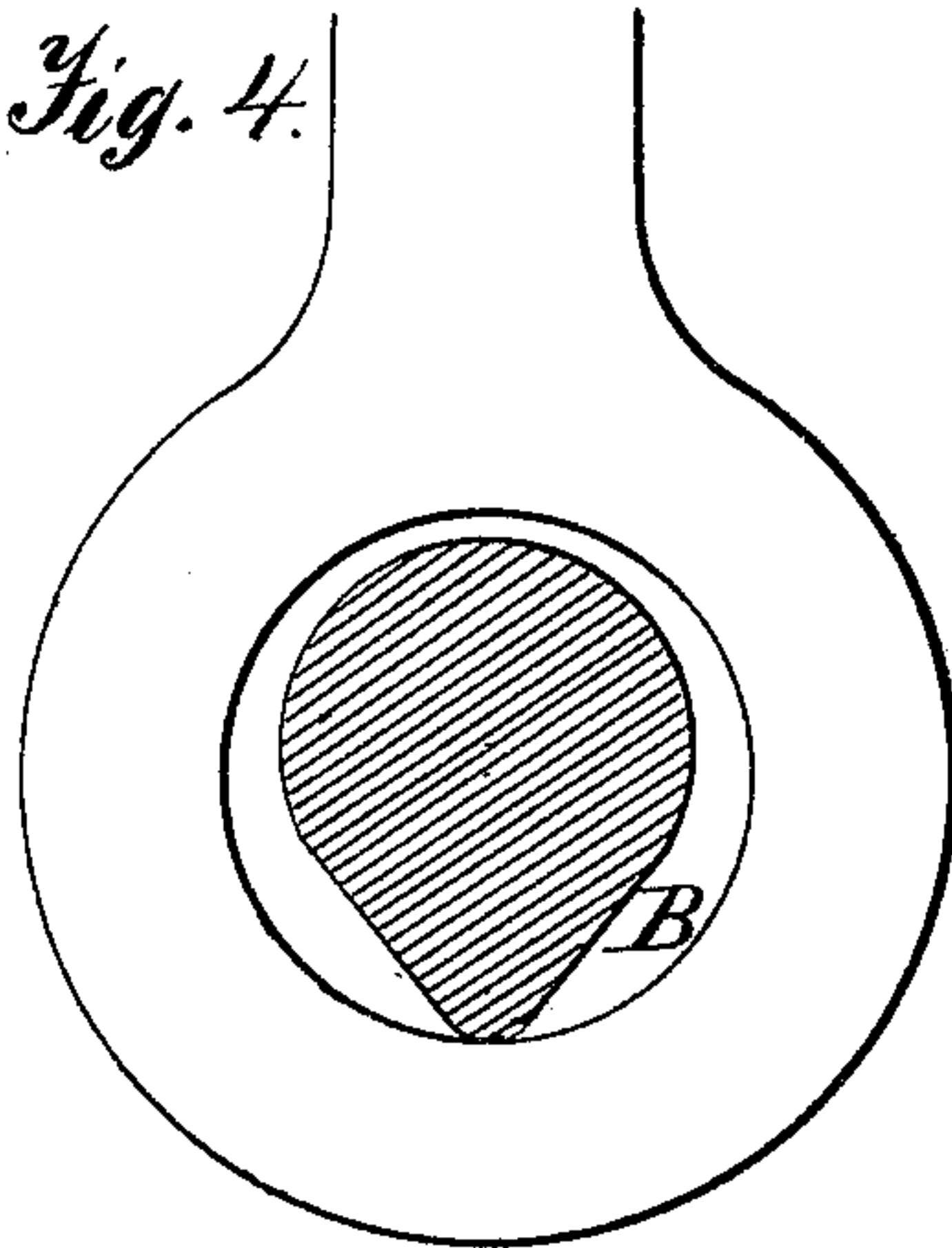
No. 126,589.

Patented May 7, 1872.

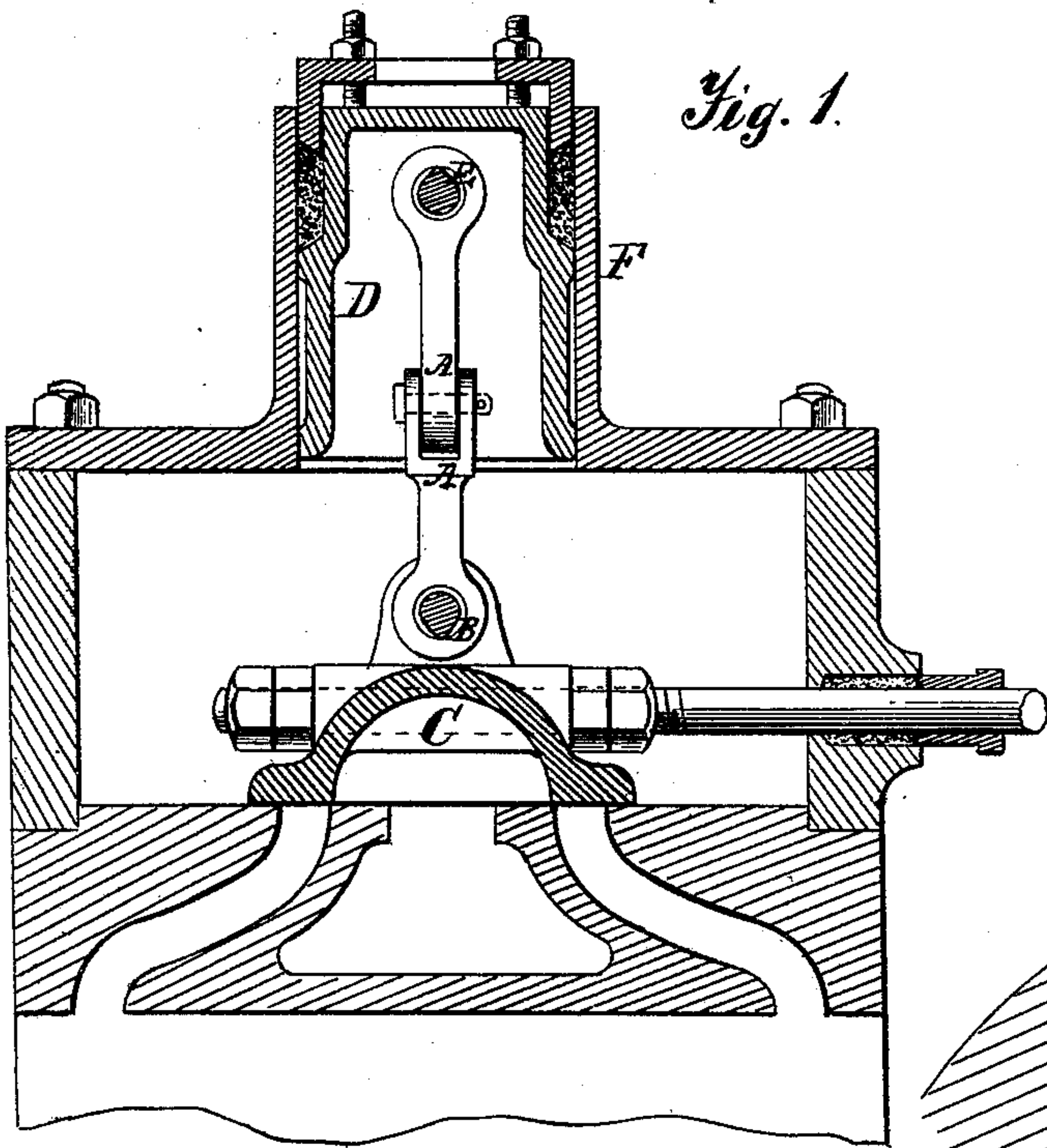
*Fig. 3.*



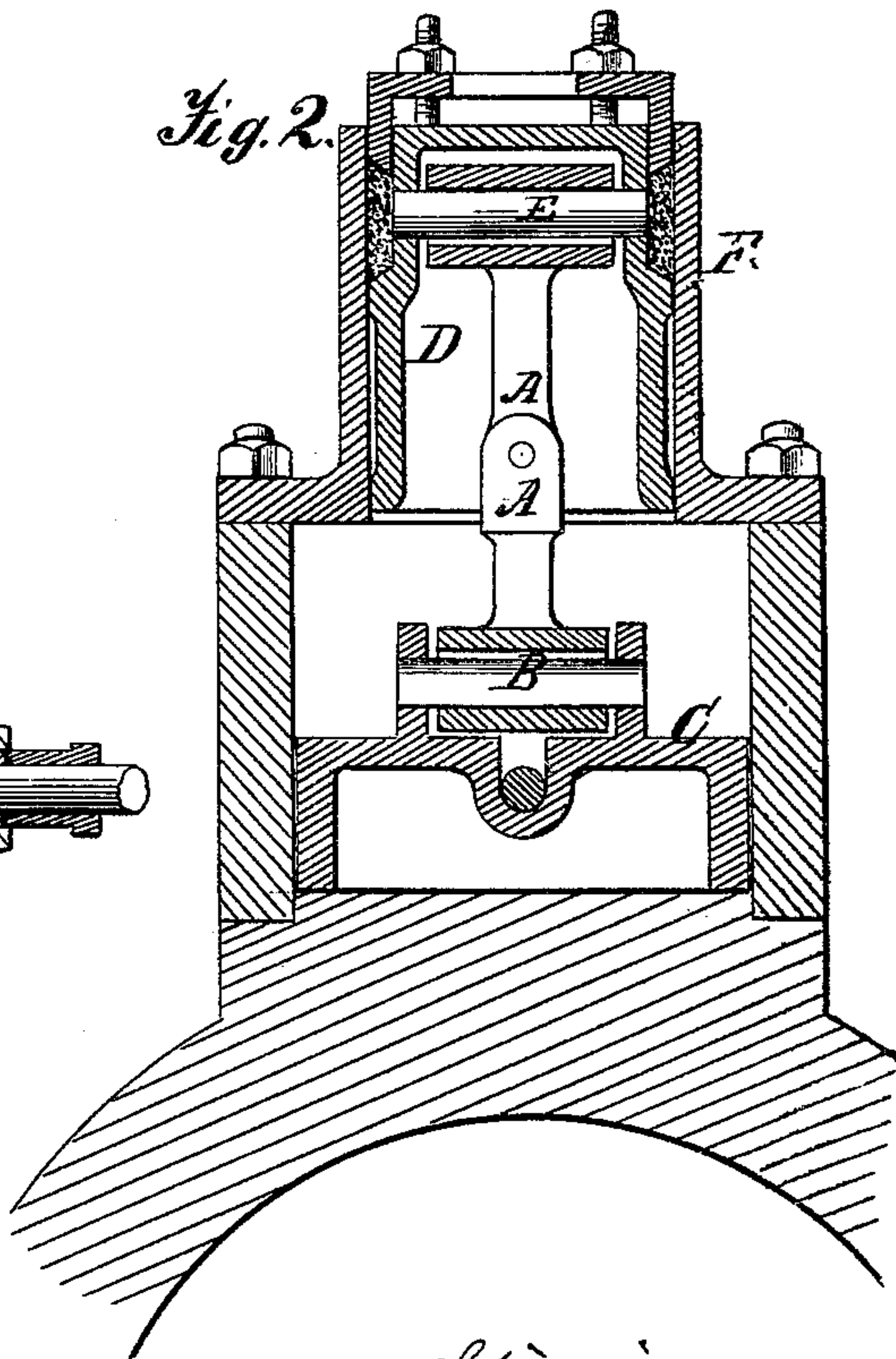
*Fig. 4.*



*Fig. 1.*



*Fig. 2.*



*Witnesses.*  
*C. E. J. C. J.*  
*A. Ruppert.*

*A. Stirling*  
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*Atty.*

# UNITED STATES PATENT OFFICE.

ALLAN STIRLING, OF TROY, NEW YORK.

## IMPROVEMENT IN BALANCED SLIDE-VALVES.

Specification forming part of Letters Patent No. 126,589, dated May 7, 1872.

*To all whom it may concern:*

Be it known that I, ALLAN STIRLING, of Troy, in the State of New York, have invented a new and useful Improvement in the Construction of Balanced Slide-Valves of Steam-Engines when the valve is balanced by a piston connected with it, operating in a cylinder at or near right angles with the face of the valve, the inner surface of the piston being exposed to the pressure of steam in the steam-chest.

My improvement consists, first, in constructing the rod connecting the valve with the piston in two parts, having a central joint, the pivot or pin of which is at right angles with the pins on either end, so as to secure a self-adjusting suspension to the valve and piston.

This arrangement for balancing the valves may be used with or without cut-offs.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a vertical longitudinal section. Fig. 2 is a vertical transverse section. Fig. 3 is a plan view. Fig. 4 is a detail view, on an enlarged scale, showing the connection between the slide-valve and the piston-rod.

I construct my valve C and balancing-piston D and cylinder F in the usual way; but, in order to allow the valve to adjust itself to the seat, I make the connecting-rod between the valve and piston in two pieces, jointed together by a transverse joint, as shown at A A; and in order to reduce the friction and wear of the journals, I make the pins and bushes at the ends of the connecting-rod, as shown at B or E, so that the connecting-rod rolls, but does not slide on the pins.

I do not claim the use of a balancing-piston in connection with a slide-valve, for the same has been in use before. My invention relates only to improvements thereon.

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

The valve C and balancing-piston D, connected by a rod which has a central joint, the pivot of which stands at right angles to its bearings E and B, at either end substantially as and for the purpose specified.

ALLAN STIRLING.

Witnesses:

RICHARD DAVIDSON,  
THOS. B. COOK.