

(No Model.)

2 Sheets—Sheet 1.

T. W. SCOTT.
VALVE FOR STEAM ENGINES.

No. 596,624.

Patented Jan. 4, 1898.

Fig: 1.

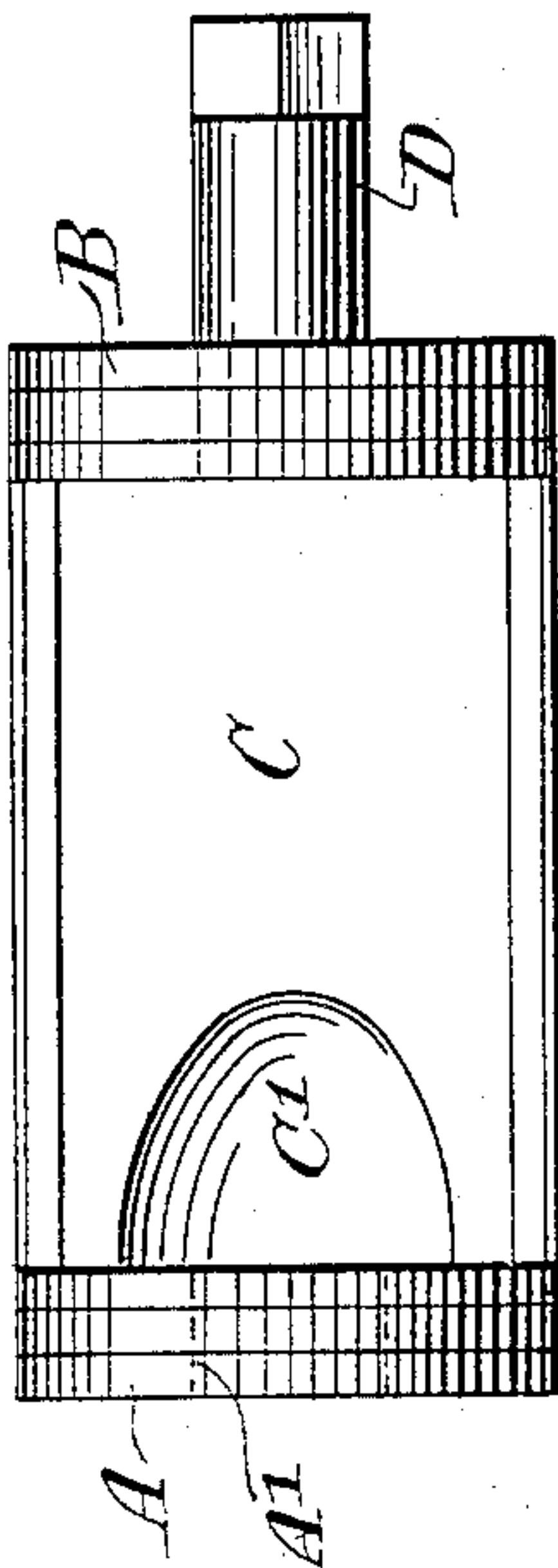


Fig: 2.

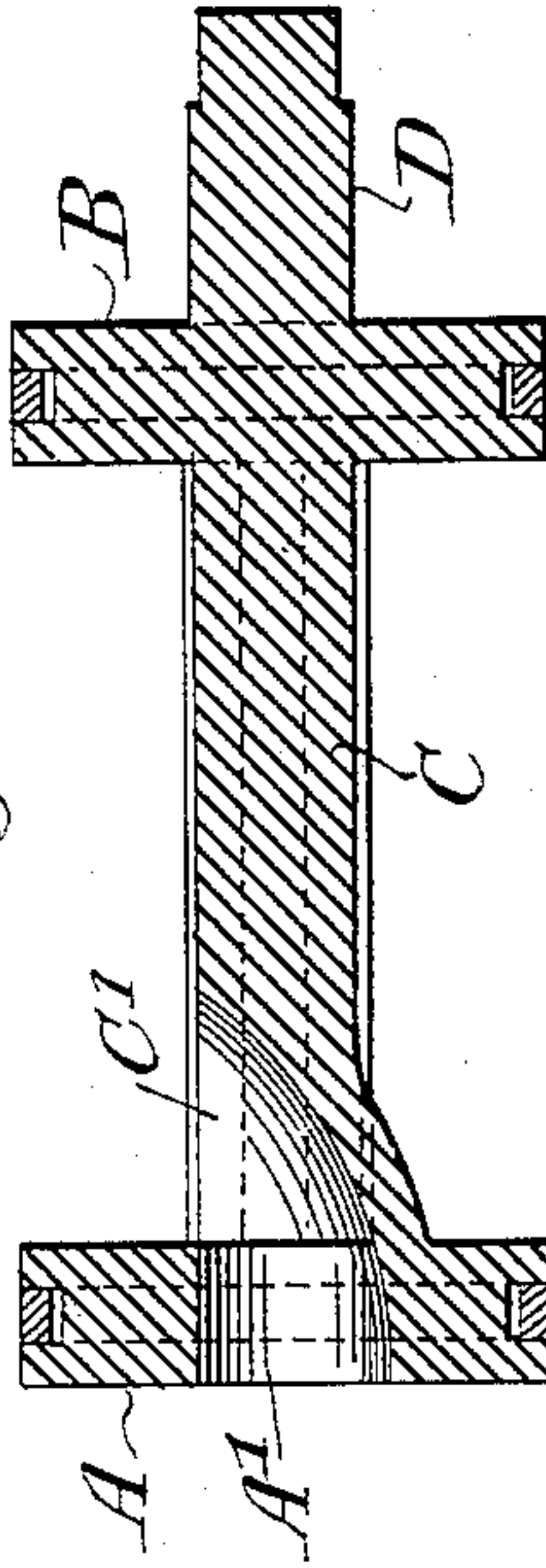
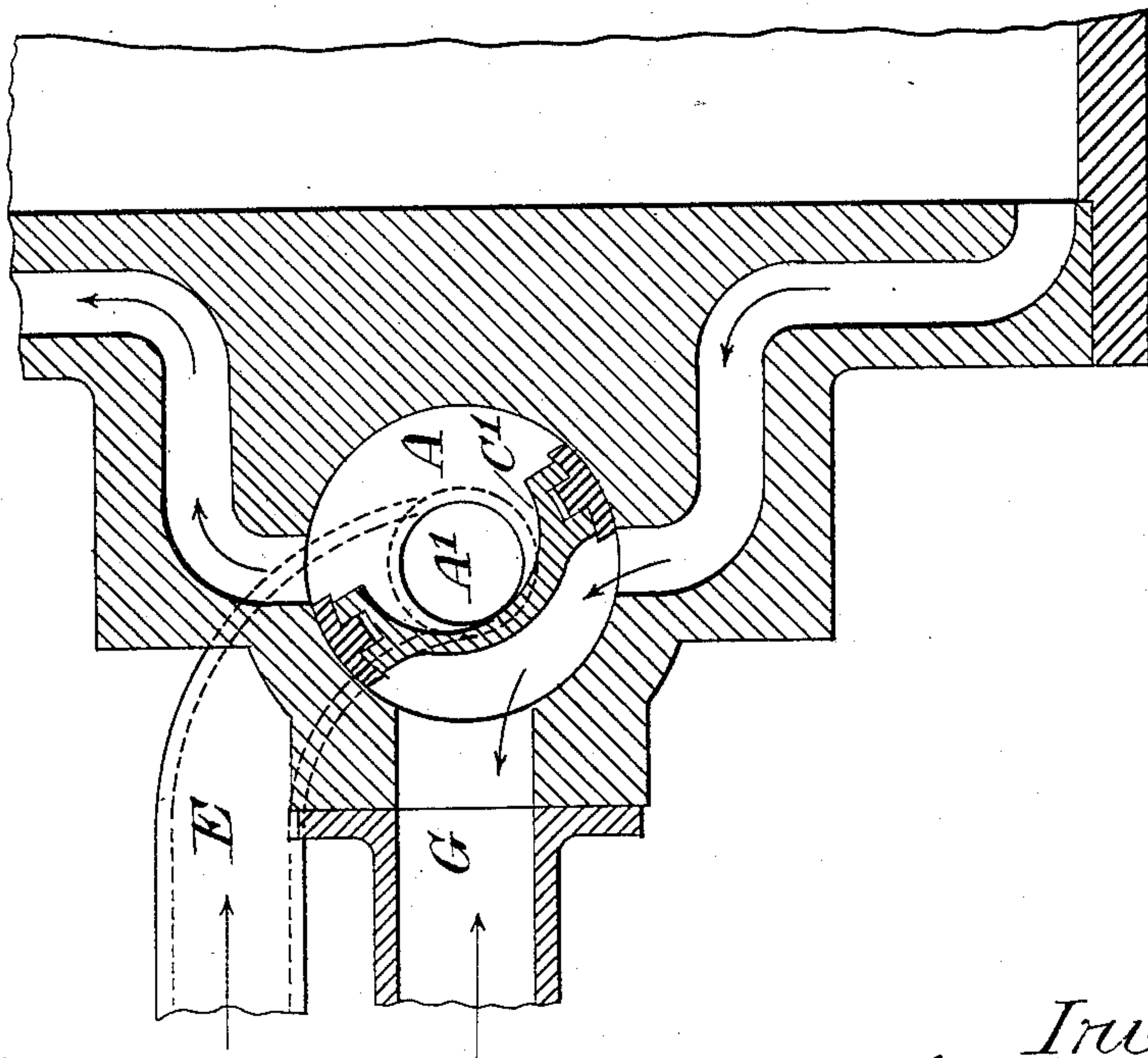


Fig: 3.



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By *Philip Phelps & Sawyer*
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(No Model.)

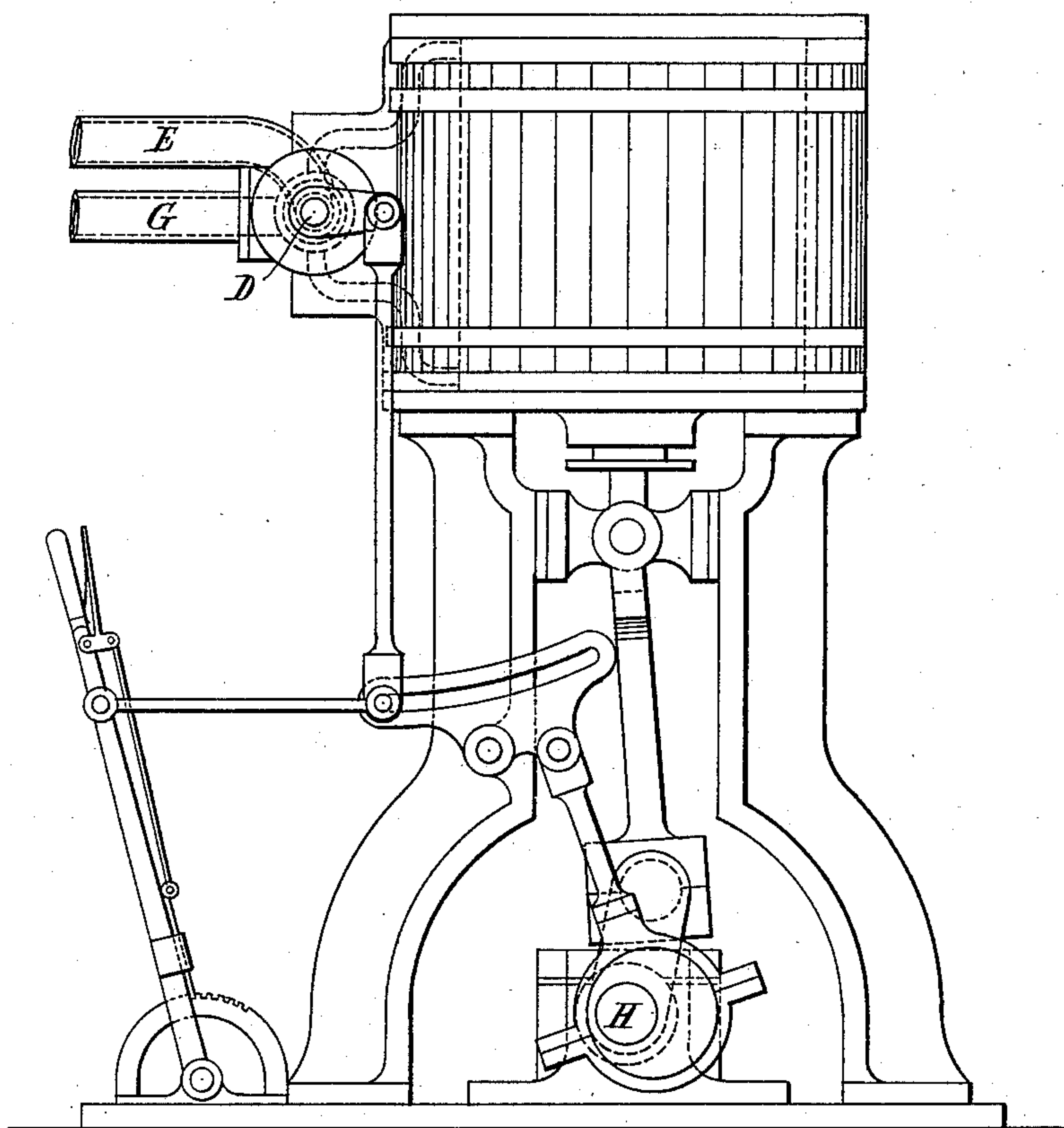
2 Sheets—Sheet 2.

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Fig. 4



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UNITED STATES PATENT OFFICE.

THOMAS W. SCOTT, OF LONDON, ENGLAND.

VALVE FOR STEAM-ENGINES.

SPECIFICATION forming part of Letters Patent No. 596,624, dated January 4, 1898.

Application filed September 10, 1897. Serial No. 651,215. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. SCOTT, of 1 Hollydale Cottages, Addison Road, Bromley, London, Kent county, England, have invented
5 certain new and useful Improvements in Cut-Off Valves for Steam-Engines, of which the following is a specification.

The object of this invention is to provide
10 a simple, efficient, and almost perfectly-balanced cut-off valve for steam-engines whereby the difficulties experienced with D and other slide valves will be overcome; and the invention consists in a novel construction of rotary or rocking valve.

15 In the accompanying drawings, Figure 1 is a front view of the improved valve. Fig. 2 is a longitudinal section. Fig. 3 is a sectional view showing the valve in position with the steam inlet and outlet and the passages to the
20 piston-cylinder; and Fig. 4 is a side elevation of a steam-engine with the valve applied thereto, showing a method of operating the valve from an eccentric on the crank-shaft of the engine.

25 A and B are the two disks, connected together by the web C, of a width equal to the diameters of the disks, and D is a stem. All these parts are preferably cast in one piece. The disks and the edges of the web are fitted
30 with packing to make a steam-tight joint. In the disk A is a central opening A', through which steam enters, and this opening connects with a recess or chamber C', having the same area as the opening and formed in and open
35 to one side of the web, as shown.

E, Fig. 3, is a pipe which may be used as the steam-pipe and fits into the end of the valve case or cylinder in which the valve is housed and opposite to the hole or opening A'.
40 G is another pipe, which may be used as the exhaust, or vice versa, as may be desired. In the arrangement shown steam will enter at A', pass into the chamber C', and thence to one side of the web C, exhausting at the back
45 of the web, as indicated by the arrows, Fig. 3.

The valve is operated by a well-known link-

motion connected with an eccentric on the crank-shaft H. (See Fig. 4.) This link-motion also provides for reversing, which can be effected while the engine is running and with-
50 out shutting off steam.

By the use of this novel construction of valve I may increase the port area without increasing the work on the eccentric, and the whole weight of the valve is taken off the eccentric.
55 It is possible to reverse the engine with one eccentric, and the reversing can be effected under full head of steam without the aid of steam reversing-gear, no matter how large the main engine may be. The whole of the
60 back pressure on the back of valve of the old D type, so detrimental to power of engine, is overcome and the valve is almost balanced. It will keep itself steam-tight without producing any unnecessary amount of friction,
65 and the ports of cylinder can be made any size compatible with size of cylinder without any detriment to the valve, thereby increasing the efficiency of the steam in a low-pressure cylinder, (on a triple engine,) and it can
70 be worked at any grade of expansion.

The valve can be examined at sea in about one-quarter the time of an ordinary D-valve, as there are no doors to sling in order to get
75 at it.

For locomotive work, where the cylinders are between the side framing, the bore can be increased to the full area taken up by the present valves and boxes.

What I claim is—

80 A cut-off valve for steam-engines, consisting of two disks, one perforated and connected by a web of a width equal to the diameters of the disks, such web containing a recess or chamber of an area equal to the opening of
85 the disk, and a valve case or cylinder, as and for the purpose set forth.

THOMAS W. SCOTT.

Witnesses:

H. K. WHITE,

ALFRED V. BISHOP.