

(No Model.)

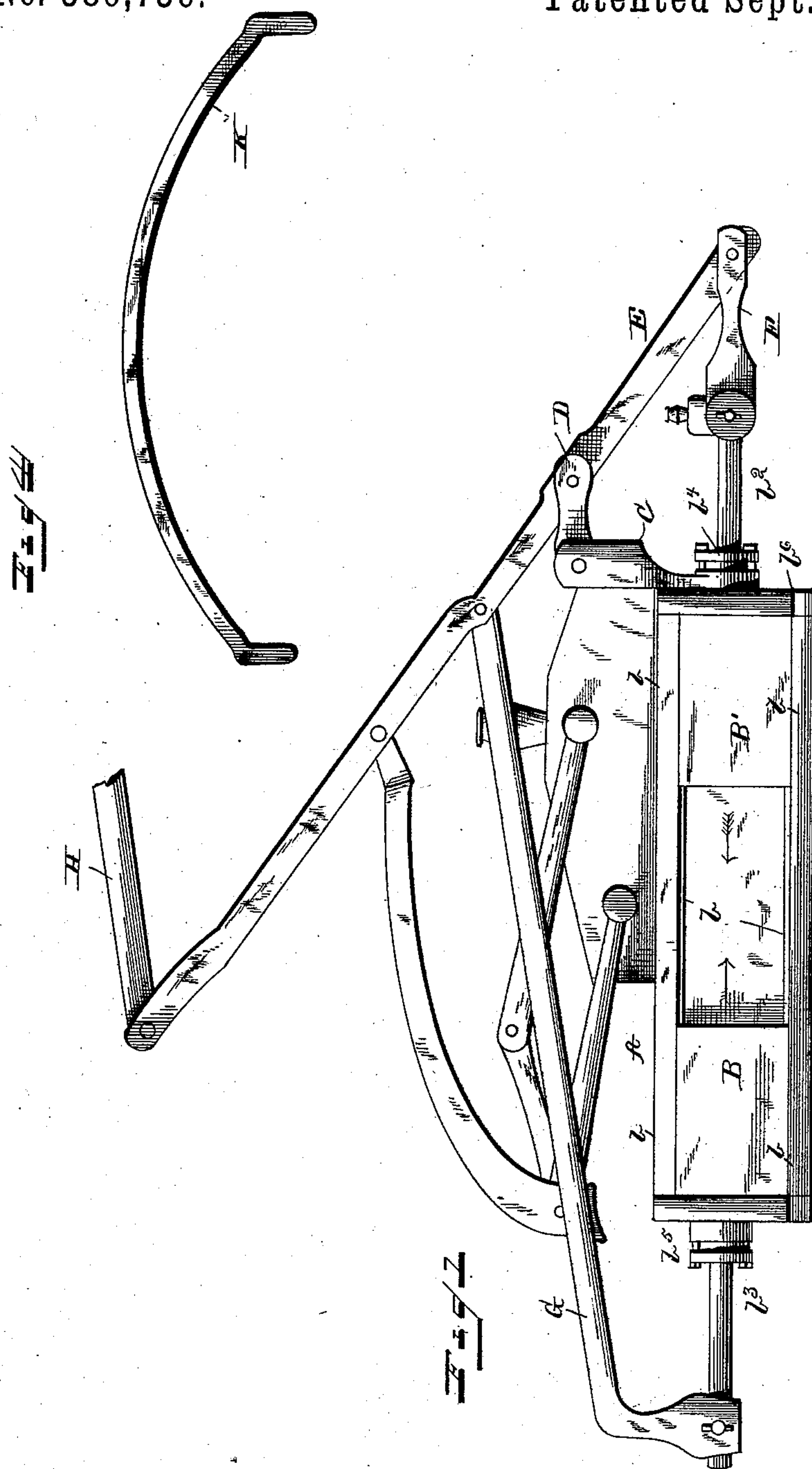
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G. W. CISCO.

THROTTLING DEVICE FOR STEAM CYLINDERS.

No. 389,736.

Patented Sept. 18, 1888.



WITNESSES

F. L. Curand

R. M. Elliott

INVENTOR,

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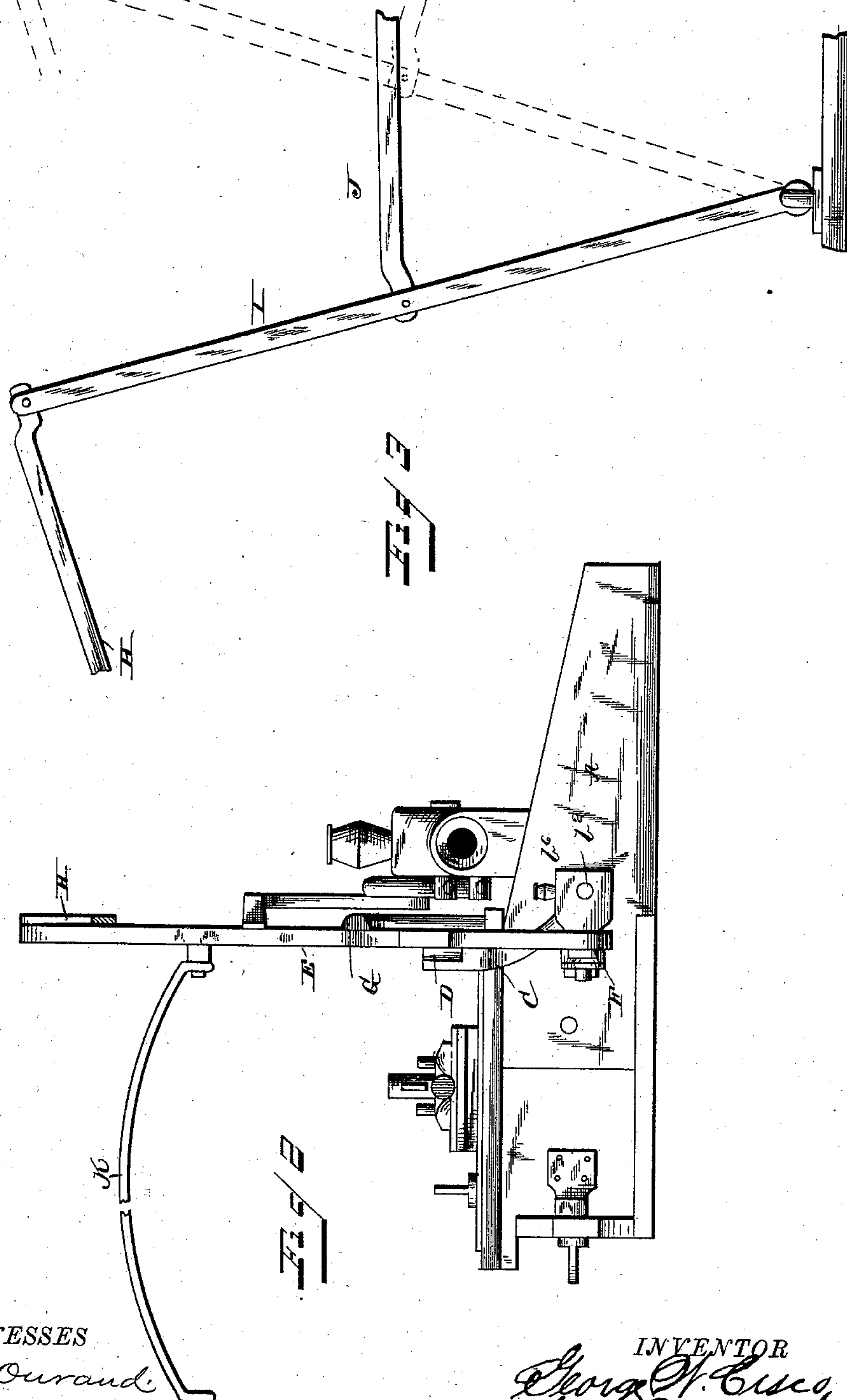
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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON CISCO, OF MONTVALE, NEW JERSEY.

THROTTLING DEVICE FOR STEAM-CYLINDERS.

SPECIFICATION forming part of Letters Patent No. 389,736, dated September 18, 1888.

Application filed April 2, 1888. Serial No. 269,286. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON CISCO, a citizen of the United States, and a resident of Montvale, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Throttling Devices for Steam-Cylinders; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to devices for cutting off the supply of steam-cylinders.

The object is to produce a device for cutting off the supply of steam to cylinders independent of the throttle-valve, so that should the throttle-valve become injured or inoperative from any cause the supply of steam to the cylinder may be cut off in the steam-chest, thereby rendering the further admission of steam to the cylinders impossible; furthermore, to produce a device which, while being composed of a comparatively few number of parts, will be so adjusted and arranged as to render it at once efficient and durable in use and comparatively inexpensive of production.

With these objects in view the invention consists in the combination, with a steam-chest, of a compartment provided with suitable valves, each valve having a valve-stem connected therewith and passing through stuffing-boxes secured to the ends of the compartment; furthermore, in a device for operating the valves to cause them to close simultaneously when desired; and, finally, in the various novel details of construction, as hereinafter fully set forth.

In the accompanying drawings, forming part of this specification, and in which like letters of reference indicate corresponding parts, Figure 1 is a side elevation showing the arrangement of the valves, the valve-stem connected therewith, and the levers for operating the same. Fig. 2 is an end view showing the compartment secured in position on the steam-chest. Fig. 3 is a detail view of draw-bar for operating the device from the cab, and Fig. 4 is a detail view of a device for connecting the two draw-bars.

Referring to the drawings, A designates a compartment or chamber, made of any suitable material, but preferably of iron. Within this chamber are placed two valves, B B', which

are held in proper position by means of guides or ways *b*, secured to the inner edges of the compartment by bolts or screws *b'*. Each of these valves has respectively a valve-stem, *b*² *b*³, attached to it, the ends of which pass through and work in stuffing-boxes *b*⁴, secured to the respective ends *b*⁵ and *b*⁶ of the compartment or chamber A. To the end *b*⁶ a standard, C, is secured, which extends some distance above the top of the compartment, and has at its upper end a bar or link, D, pivoted thereto, which connects with a bar, E. To the lower end of this bar is pivoted a link, F, which connects with the valve-stem *b*², and at a point above the standard is pivoted another and a longer link, G, which connects with the valve-stem *b*³ at the opposite end of the chamber.

H designates a rod, connected at one end to the bar E and at the opposite end to a lever, I, the lower end of which is pivoted to the tread-board of the engine. At a point near the center of this rod is pivoted a draw-bar, J, which extends from that point to the cab of the engine.

It is to be understood that each steam-chest is provided with the cut-off device, and may be operated from either side of the cab. It is desirable to so arrange the mechanism that the steam may be cut off from both sides of the engine at one time. To effect this, a bent rod, K, is employed, which passes over the boiler, and is connected to the rod E, so that should the lever J be pulled back on either side of the cab the valves in each of the chambers will be closed simultaneously.

The mode of operation is as follows: The engineer, on seeing any approaching danger, draws the lever J back to the position shown in dotted lines in Fig. 3. This pulls the bar E back, which, being fulcrumed to the link D, would naturally push the valves *b b'* in the direction indicated by the arrows, and this cuts off the supply of steam to the steam-chest.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device for cutting off the steam to the cylinders of engines, the combination of the valves B B', the levers F G, connecting with and operating, respectively, the valve-stems *b*² *b*³, the movable fulcrum D, and the bar E, pivoted thereto, substantially as described.

2. In a device for cutting off the supply of steam to the cylinders of engines, the combination of the bar E, the rod H, pivoted thereto, and the bent lever K, for connecting the levers 5 on each side of the boiler, substantially as described.

3. The combination of the bar E, the rod H, pivoted thereto, the bent lever K, for connecting the levers on each side of the boiler, the 10 lever I, pivoted at its lower end to the tread-board of the engine and at its upper end to the

rod H, and the draw-bar J, extending from the lever I to the cab of the engine, substantially as described.

In testimony that I claim the foregoing as my 15 own I have hereunto affixed my signature in presence of two witnesses.

GEORGE WASHINGTON CISCO.

Witnesses:

H. F. BAUER,

JOSEPH JAY CISCO.