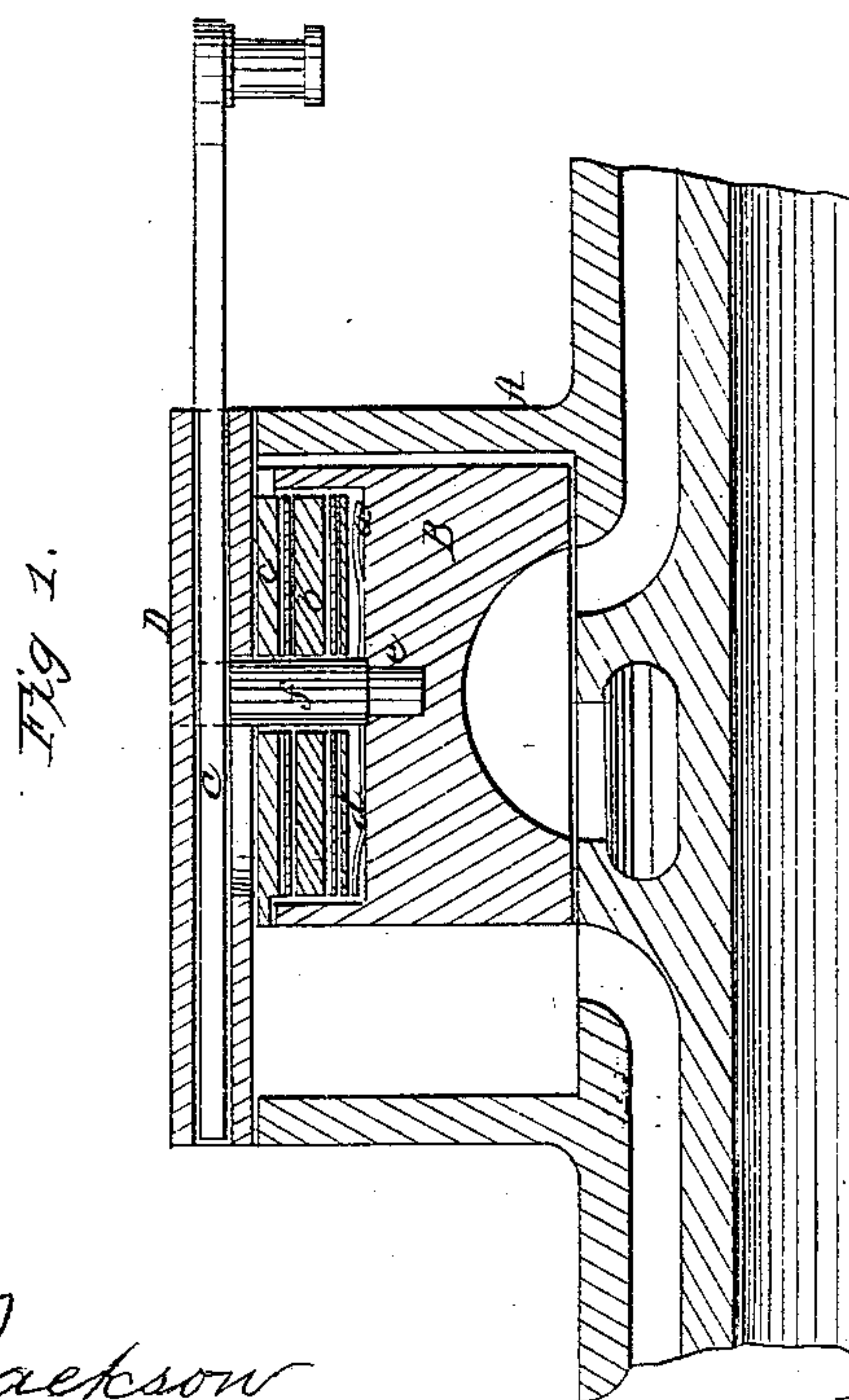
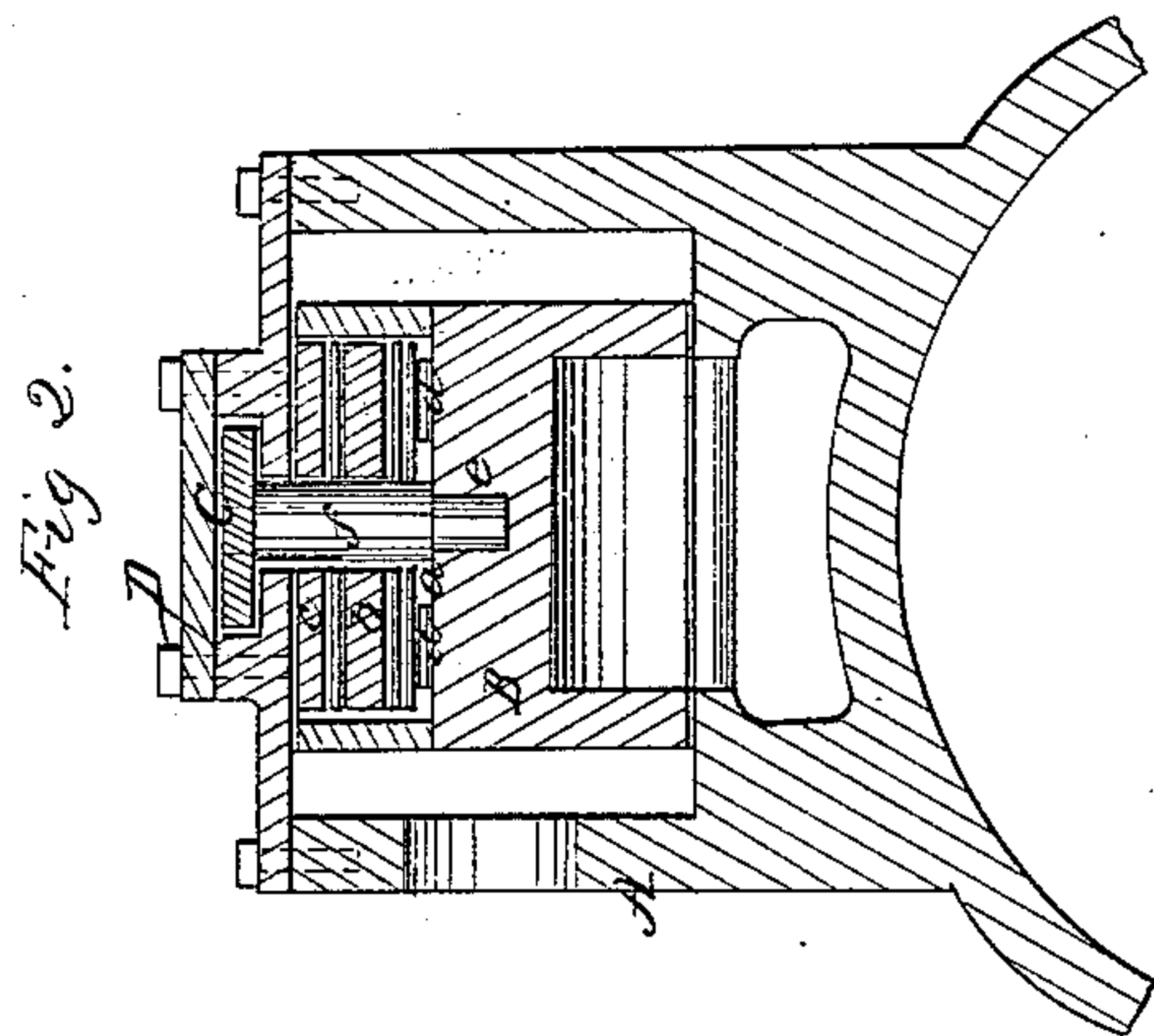


G. H. Myers,
Steam Balanced Valve.
N^o 64,132. Patented Apr. 23, 1867.



Witnesses.

J. H. Jackson
Wm. Swanwick

Inventor.

Geo. H. Myers
Per *Wm. H. Myers*
Attorney

United States Patent Office.

GEORGE H. MYERS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 64,132, dated April 23, 1867.

IMPROVEMENT IN STEAM-ENGINE SLIDE-VALVES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE H. MYERS, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented a new and improved Balance-Valve; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention.

Figure 2 is a transverse section of the same.

Similar letters of reference indicate like parts.

This invention relates to a slide-valve, which is provided on its back with a cavity to receive suitable springs and packing pieces, together with a top plate, which is faced off, so that it works steam-tight against the inner surface of the valve-chest cover; and the valve is relieved from the pressure of the steam on its back.

Through the top plate of the valve and the packing pieces extends a pin, which has its bearings in a socket in the body of the valve, and which is secured to a slide, which takes the place of the valve-rod, and moves in suitable guides on the top of the valve-chest, in such a manner that no stuffing-box is required, and the valve can be operated with the least possible friction.

A represents a valve-chest, the bottom of which is planed off, and forms the seat for the valve B. This valve is provided on its back with a cavity, *a*, which is intended to receive the packing pieces *b* and the top plate *c*. Suitable springs *d*, which are secured to the bottom of the cavity *a*, or to the lowest packing piece, serve to exert an upward pressure on said packing pieces, so that, by their action, the face of the top plate *c* is held in contact with the inner surface of the steam-chest cover. The packing consists of layers of prepared paper, which alternate with layers of thick elastic India rubber, which, by the pressure to which it is exposed, expands, so that it bears steam-tight against the sides of the cavity *a*, and the entrance of steam in said cavity is avoided, the paper or other material being used to protect the India rubber. In order to prevent the steam from forcing the valve off from its seat the top edges of said valve are made to project beyond the top plate, so that the downward pressure of the steam on said projecting edges will balance the upward pressure of the steam on the ports. The required reciprocating motion of the valve is produced by a slide, C, which moves in suitable guide-ways D, on the top of the valve-chest. From this slide extends a pin, *f*, through a slot in the top of the valve-chest, and through suitable holes in the top plate *c* and in the packing pieces into a socket, *e*, in the body of the valve, so that, by imparting a reciprocating motion to the slide, the desired motion of the valve is effected. The slide moves quite freely in its guides, and the pin *f* passes freely through the slot in the valve-chest cover, which, being covered by the top plate *c*, is not exposed to the steam, and consequently no stuffing-box is required, and the valve is operated with the least possible friction. By means of the springs in the bottom of the cavity *a* the top plate is free to accommodate itself to the inner surface of the valve-chest cover; and, if it should not bear up quite hard enough, the fault can be easily corrected by interposing one or more layers of paper or other suitable material. The packing in the cavity *a* is easily kept in order, and a balance-valve is obtained which is cheap, easily operated, and not liable to get out of order.

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

1. The cavity *a* in the top of the valve, in combination with springs *d*, packing pieces *b*, and a top plate, *c*, constructed and operating substantially as and for the purpose described.

2. The slide C, working on the outside of the steam chest, and provided with a pin, *f*, to catch in a socket in the valve, in combination with the top plate *c* and packing pieces *b*, constructed and operating substantially as and for the purpose set forth.

GEO. H. MYERS.

Witnesses:

WILLIAM P. BECKER,

WM. H. SOLE.