

(No Model.)

W. T. REASER.
SLIDE VALVE.

No. 251,134.

Patented Dec. 20, 1881.

Fig. 1.

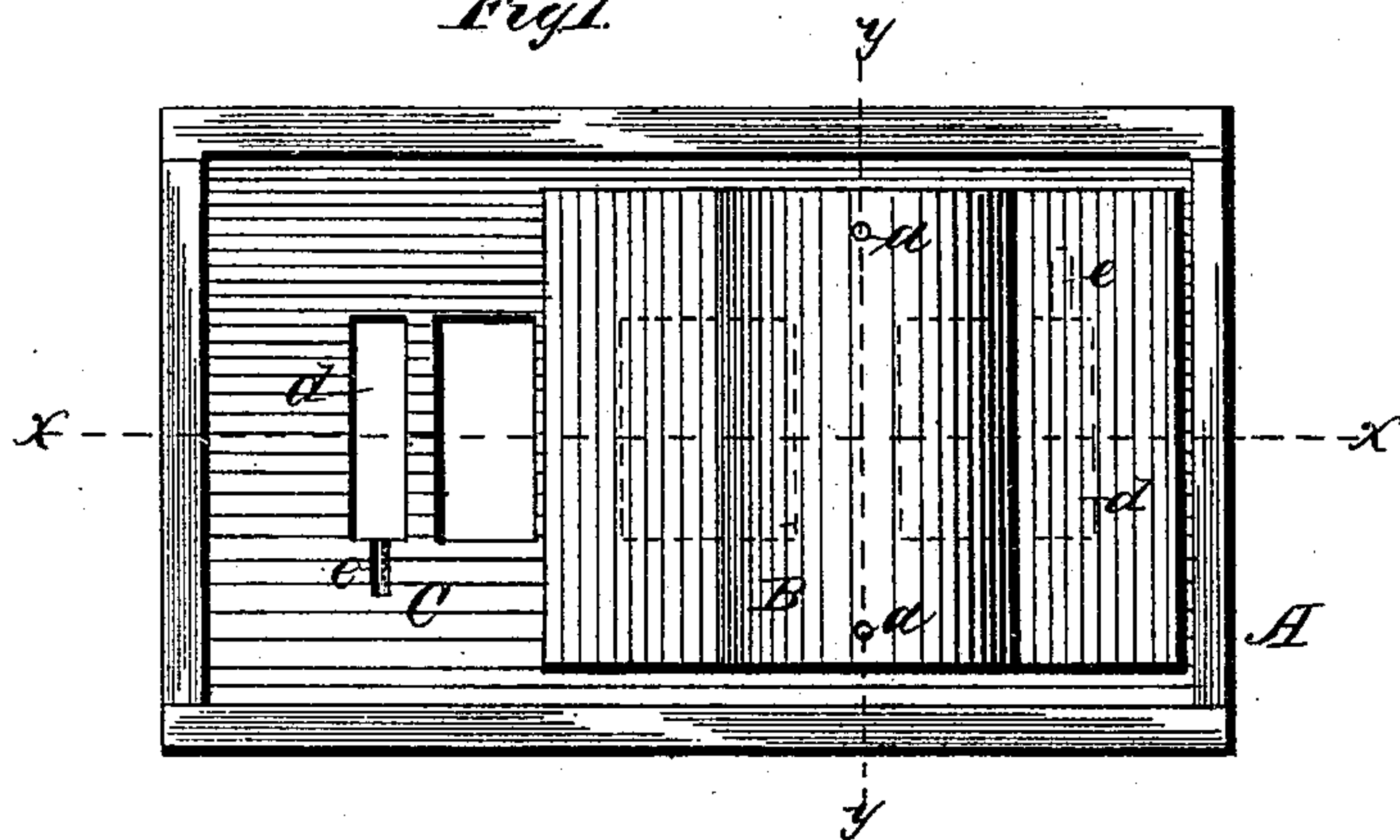


Fig.2.

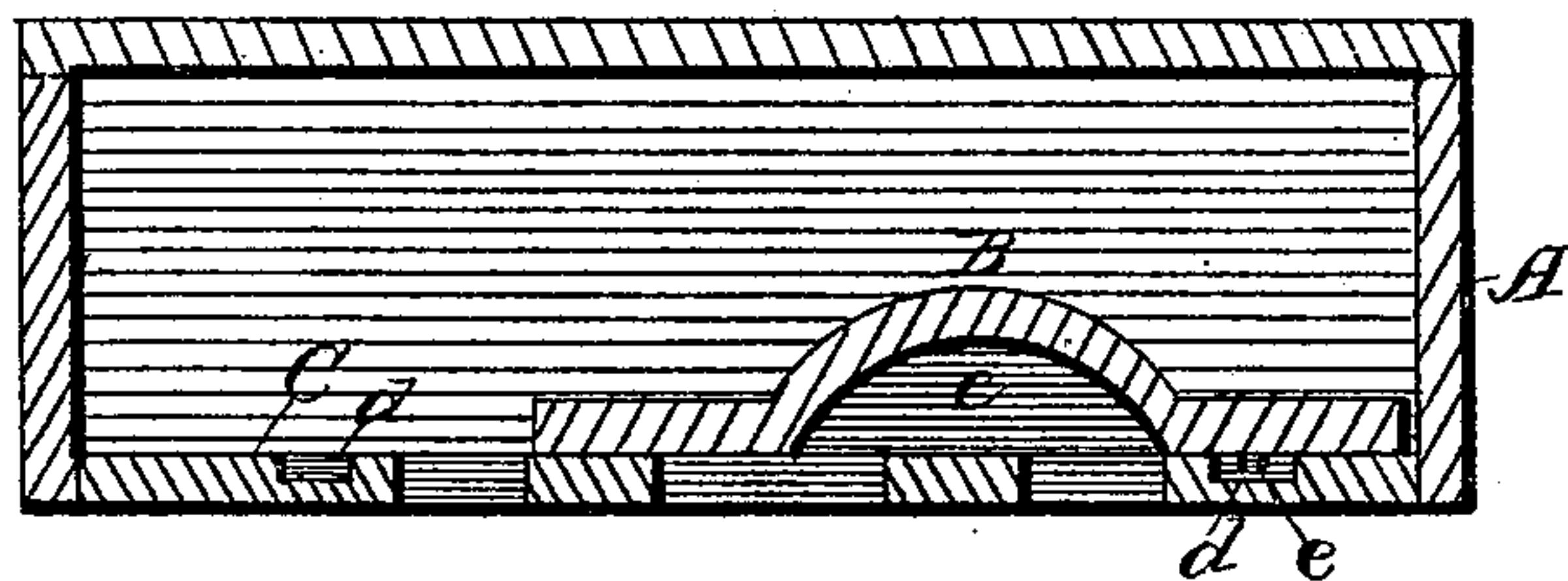


Fig. 3.

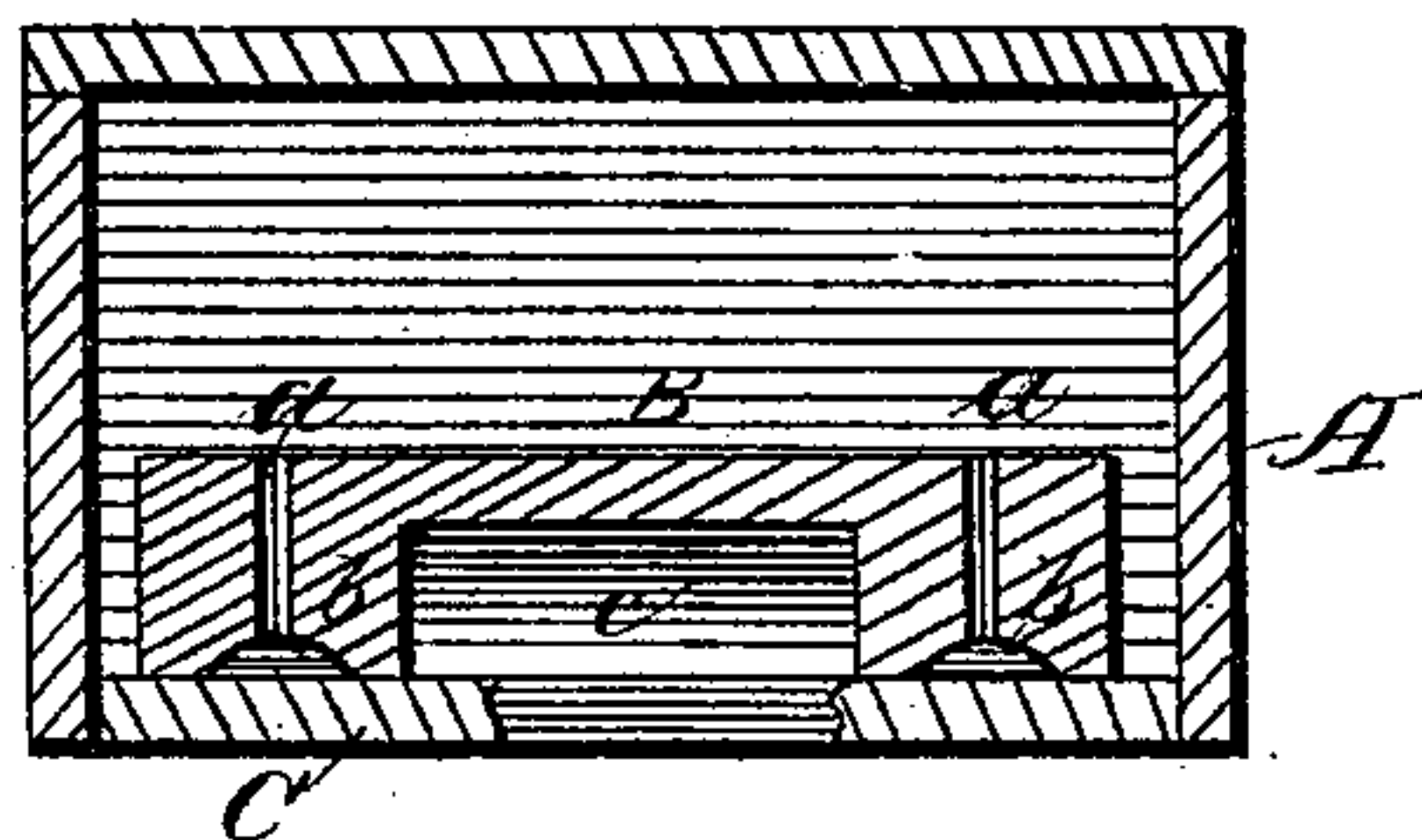
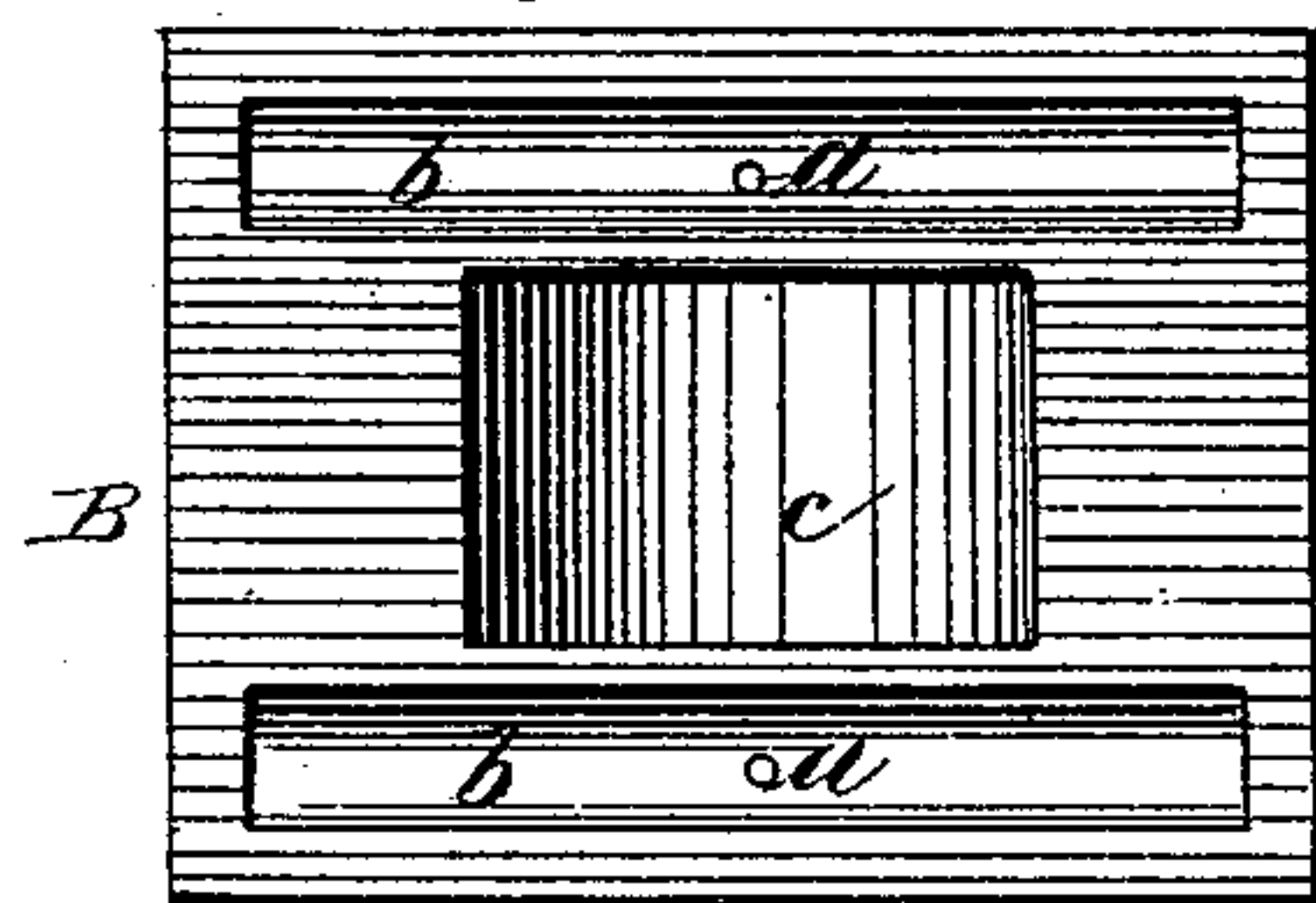


Fig 4.



WITNESSES

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WARREN T. REASER, OF MADISON, ASSIGNOR OF ONE-FOURTH TO JAMES E. McKEEN, OF RIVER FALLS, WISCONSIN.

SLIDE-VALVE.

SPECIFICATION forming part of Letters Patent No. 251,134, dated December 20, 1881.

Application filed June 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, WARREN T. REASER, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Slide-Valves for Steam-Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in slide-valves for steam-engines; and the invention has for its object the admission of steam, which is confined and carried between the valve and its seat in such manner as to form a cushion, and thereby relieve the pressure of the valve down on its seat; and to this end the invention consists in novel features of construction and combination and arrangement of parts, all as will be hereinafter fully described, and specifically pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a top view or plan of the steam-chamber with the top thereof removed. Fig. 2 is a longitudinal section through the line *x x* of Fig. 1. Fig. 3 is a transverse section through the line *y y* of Fig. 1. Fig. 4 is a bottom view or plan of the valve.

In the drawings, A represents the usual steam-chest, and B the slide-valve, arranged on its seat C, of the induction and exhaust ports. The valve B is provided on its under side with two longitudinal arched or concaved chambers, *b b*, extending nearly its entire length and on opposite sides of the exhaust-passage *c* of the valve, and in which steam is admitted through the openings *a a*, all as clearly shown in Figs. 3 and 4. The valve-seat C is also provided with transverse chambers *d d* on opposite sides of the induction and exhaust ports, and with which the chambers *b b* of the valve

communicate alternately as the valve passes over and closes them through the medium of the short grooves *e e*, all as clearly shown in plain and dotted lines, Fig. 1.

By the above-described construction and arrangement of parts, and steam being admitted through the openings *a a*, it is confined and carried in the arched or concaved chambers *b b*, thus forming a cushion between the valve-seat and valve, and also end cushions, by confining the steam from said chambers alternately in the transverse chambers *d d* as the valve moves over them, thus relieving the pressure of the valve down on its seat and permitting it to work free and easy.

I am aware that it is common to admit live steam under the face of the valve, or to under faces on the valve, and such I do not wish to be understood as claiming, broadly, as of my invention.

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

1. The combination, with the valve-seat C, of the slide-valve B, provided on its under side or face with the longitudinal arched or concaved chambers *b b* on opposite sides of the exhaust-passage *c*, and the openings *a a*, extending down through said valve and communicating with and admitting steam to said chambers, substantially as and for the purpose herein shown and described.

2. The combination of the valve-seat C, provided with the chambers *d d* and grooves *e e*, and the slide-valve B, provided with the longitudinal arched or concaved chambers *b b* on its under side or face, and openings *a a*, communicating therewith, substantially as and for the purpose herein shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WARREN T. REASER.

Witnesses:

E. A. HAYES,
JAY O. HAYES.