

C. Hattersley,

Piano.

No. 103456.

Patented May 24. 1870

Fig. 1.

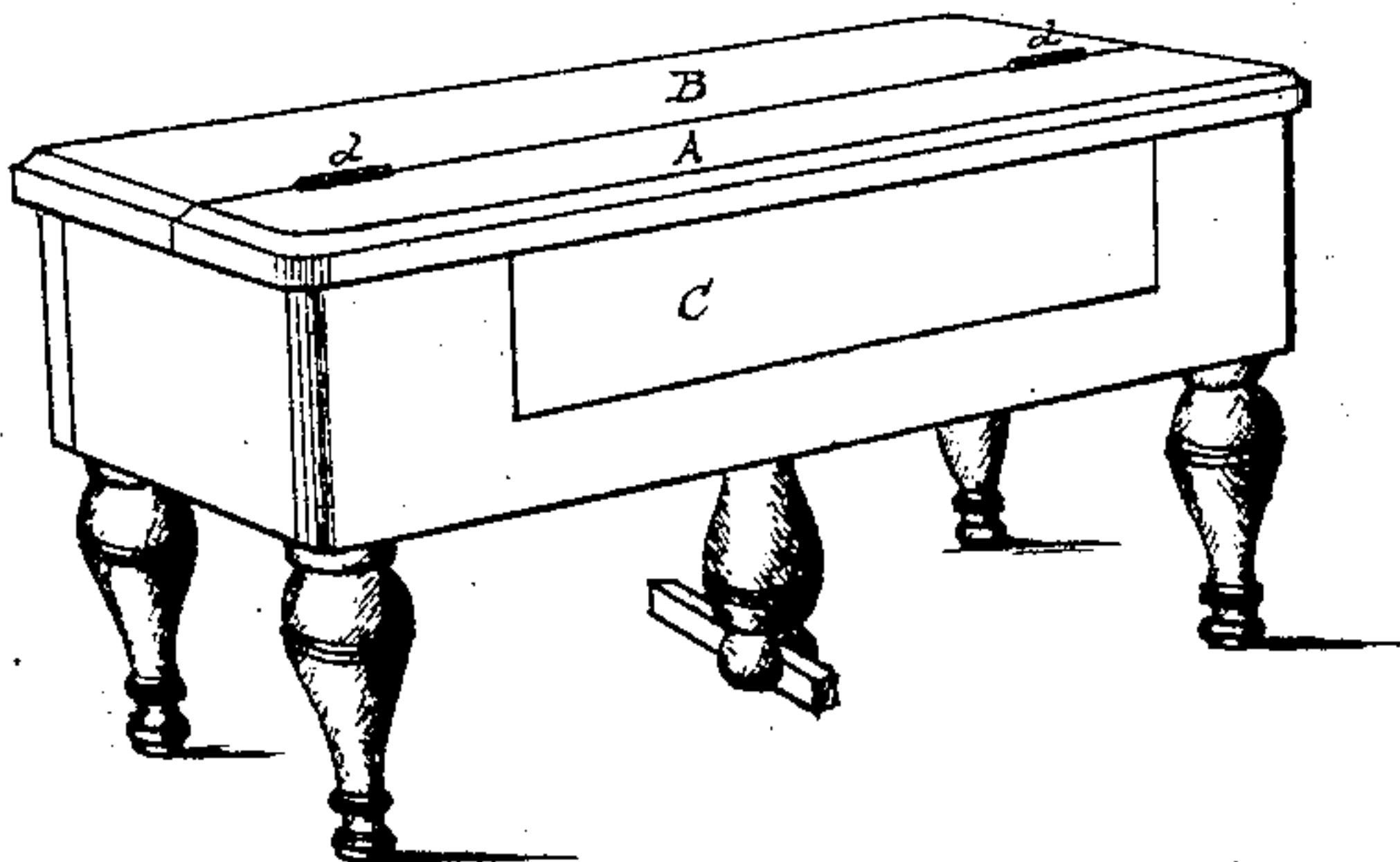


Fig. 2.

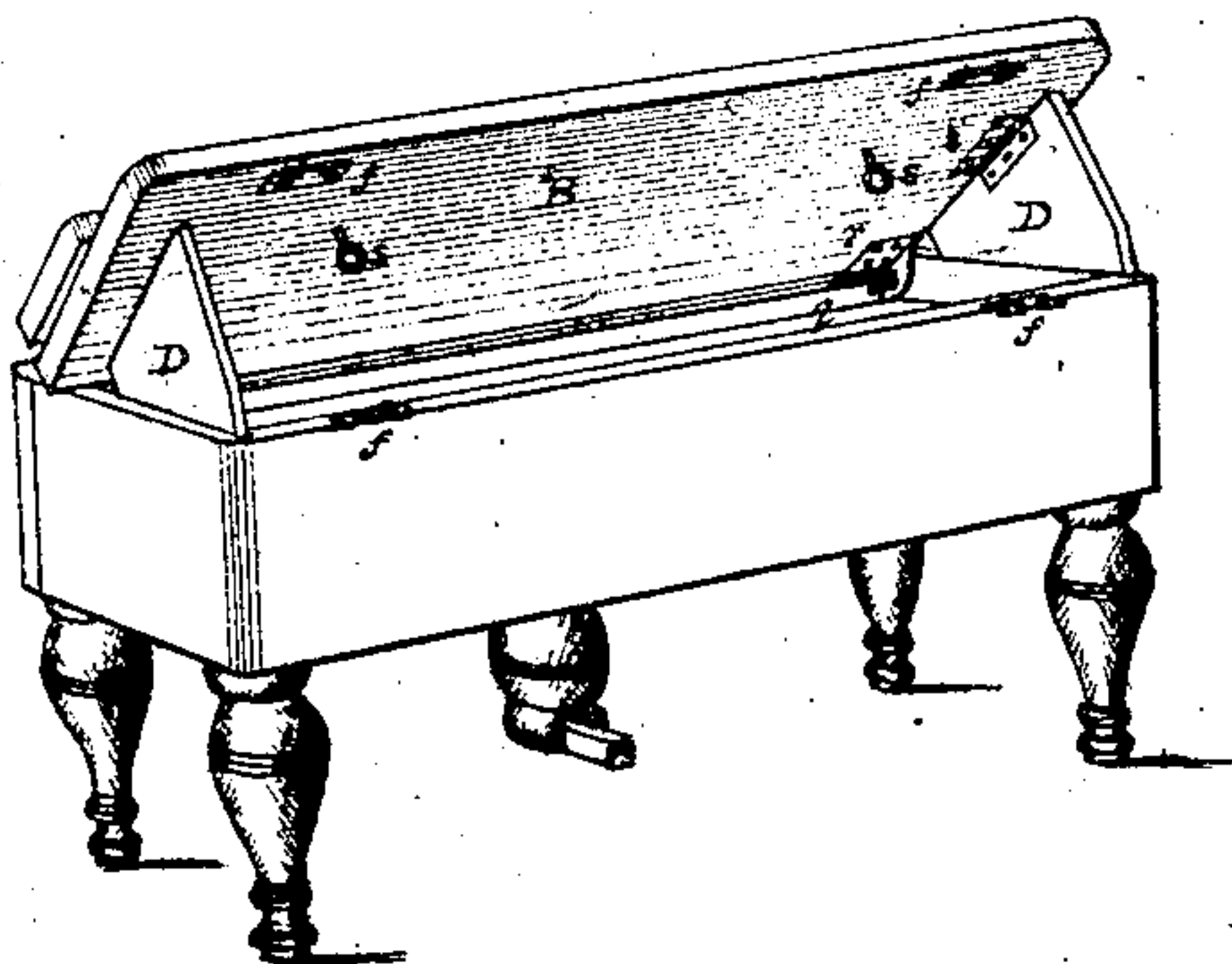
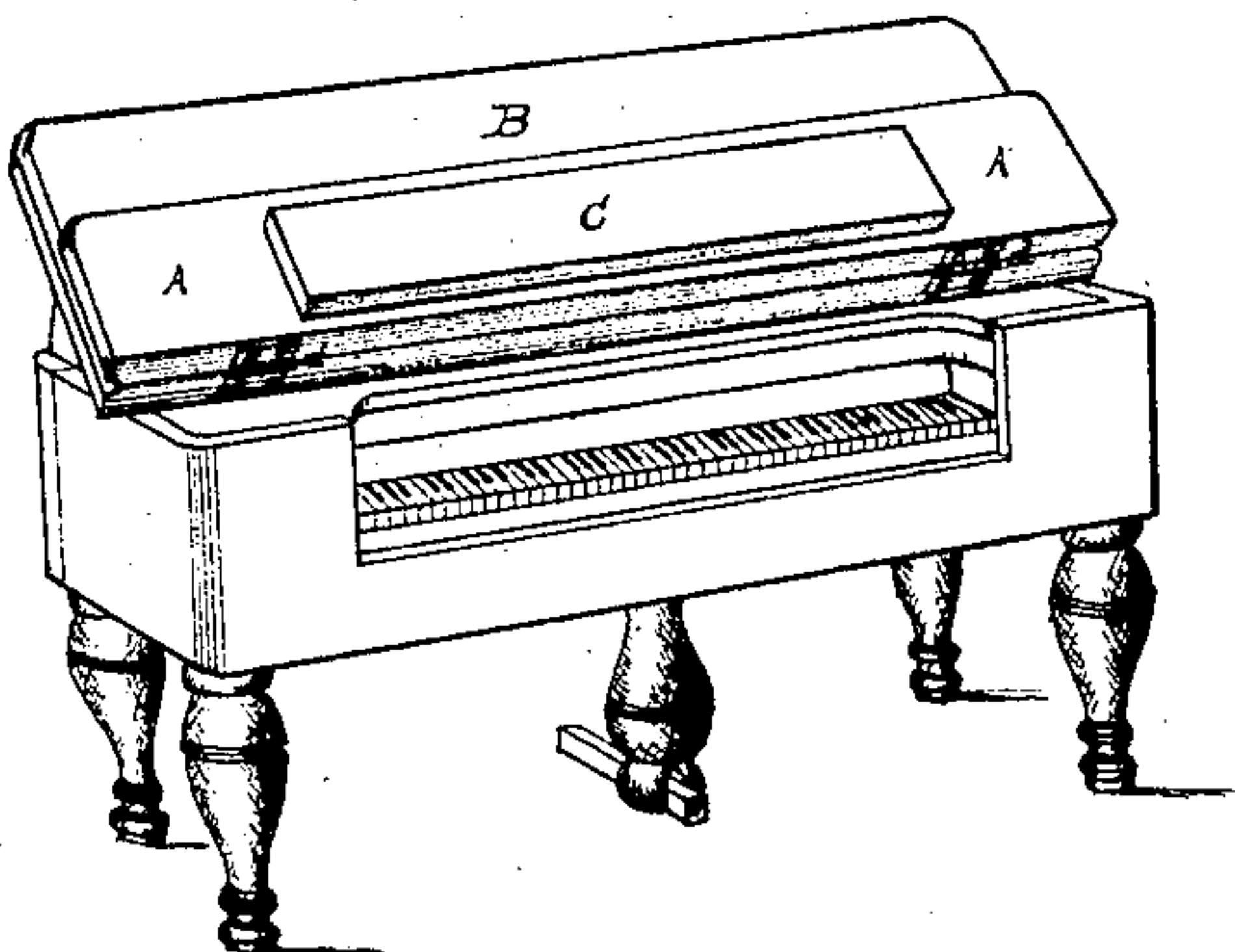


Fig. 3.



Witnesses:
Theodore Mungen.
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Inventor:
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United States Patent Office.

CHARLES HATTERSLEY, OF TRENTON, NEW JERSEY.

Letters Patent No. 103,456, dated May 24, 1870.

IMPROVEMENT IN PIANOS.

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

I, CHARLES HATTERSLEY, of the city of Trenton, in the county of Mercer and State of New Jersey, have invented certain Improvements in the Construction of Piano-Fortes, of which the following is a specification.

The first part of my invention relates to the construction and hinging of the rear portion of the top of the piano-forte in such a manner that it may be raised from the back of the instrument and held up at an angle of about forty-five degrees, in order that it may, with the aid of the side-boards or props, hereafter described, act as a sound-board and as a guide to conduct the vibrations of air to the ears of the audience, in the rear of the instrument, without waste or injurious obstruction of sound, while the performer may sit in the usual position in front of the instrument, and, at the same time, face the audience.

The second part of my invention relates to the construction and operation of the devices by means of which the top of the instrument may be raised from the rear to the front, or from front to rear, with ease and convenience.

In the accompanying drawings—

Figure 1 represents a perspective view of a piano with the lid down from the front;

Figure 2, a like view of the same from the rear, with the top or lid raised; and

Figure 3, a like view of the same from the front, the flap-board and lid being raised to display the devices employed.

In the construction of the top A B, the division-line between the flap-board A and the lid B should be as near the front of the instrument as may be, and, at the same time, leave room for the keys and space for the performer, the object being to afford the vibrations of every string of the instrument perfect freedom of motion, except that they are controlled and guided by the lid B and props D D, which are so arranged, as shown in fig. 2, as to conduct and guide them back to the ears of the audience, without marring their effect.

In fig. 2, the props D D are attached to the lid B by the hinges *i i*, and may be folded up against it when the same is shut down, and the under side of the lid may be made with suitable recesses to receive these props, so that they may not come in contact with the strings; or, otherwise, the top may be made a little higher above the strings than usual, in order to furnish room for them when simply folded against the lid.

But as I design that my improvements may be applied to instruments already in use, I will suggest that, when this is done, the lid may be held up by props similar to D D, but not attached to it at all, but held in place by simple grooves in it, or by pins inserted in its under side, so that the props can be easily removed at pleasure; or, otherwise, a simple

straight stick under the outer edge of the lid might be used, but, in such case, the sound would go out sidewise, and the result of the described use of the lid would not be so good as it would be when the side-board props were used.

In fig. 2 is shown one of the hinges *r* of the lid, by which it is raised in the rear, but the top of the instrument may be constructed with the hinges *f f*, so that it may be raised in the old or usual way.

The rods or pins *q q* of the hinges *r r* may be made in such a manner as to be easily taken out, and may, therefore, be exchanged from one set of hinges to the other, whenever it is desired to change the mode of raising the top from the front to the rear, or from the rear to the front.

My improvements are deemed to be especially valuable for making music in large halls and to large audiences, but it is also deemed important to have a simple and easy means of changing any instrument so as to make it suitable for such a use, or for private use in smaller rooms, and to open in the common way.

Another very important result of my improvements is that, while the instrument opens in its rear to the audience, and the sound is guided and controlled, as before described, directly to the ears of the hearers, the performer faces the audience. This is an important consideration when the performer sings also.

If it should be desired, the top of the instrument might be constructed a little differently.

A strip of the central portion, extending from one end to the other, might be fastened upon the instrument, and the flap-board A and lid B might be hinged upon it, independently of each other.

I do not claim, broadly, the raising of the lid or top of the instrument in the rear, nor merely the hinging the same near the longitudinal center or at the front; but

What I do claim as new, and-desire to secure by Letters Patent, is—

1. The side-boards or props D D, as shown in fig. 2, whether attached to the lid B by hinges or otherwise or not, as supports for the lid, and as auxiliaries thereto as a sound-board as a guide in the delivery of the sound, when used in combination with that lid, and constructed and operated substantially as described.

2. The jaws of the hinges *r r* and *f f* and the exchangeable pins *q q*, in combination with each other, when used in combination with the top composed of lid B and flap-board A, as a set of devices for opening the instrument from both front and rear, constructed and arranged substantially as described.

CHARLES HATTERSLEY.

Witnesses:

THEODORE MUNGEN,
A. M. STOUT, Jr.