T. Grob.

Acoustic Stage.

No. 88,384. Patented Mar. 30, 1869.

Fig. 1.

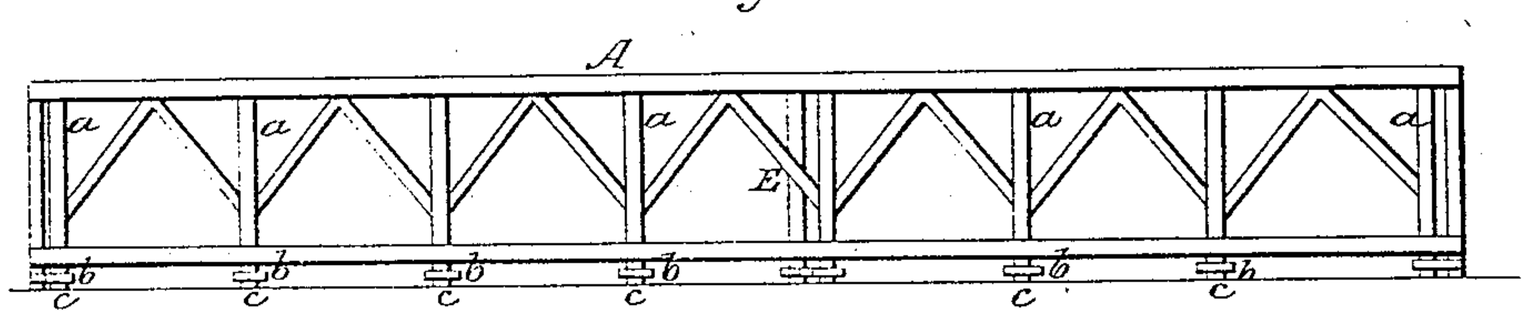


Fig. 2.

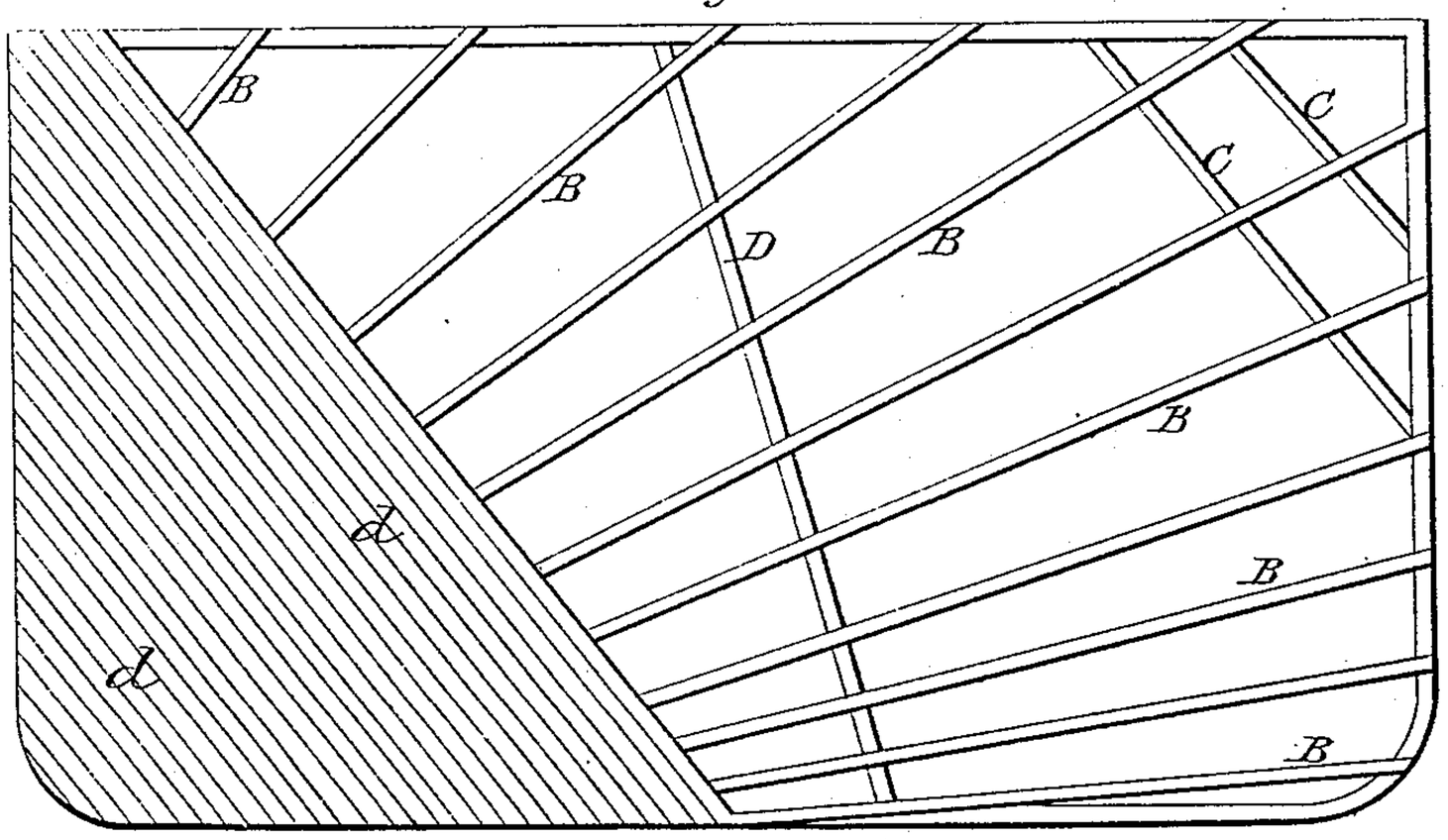
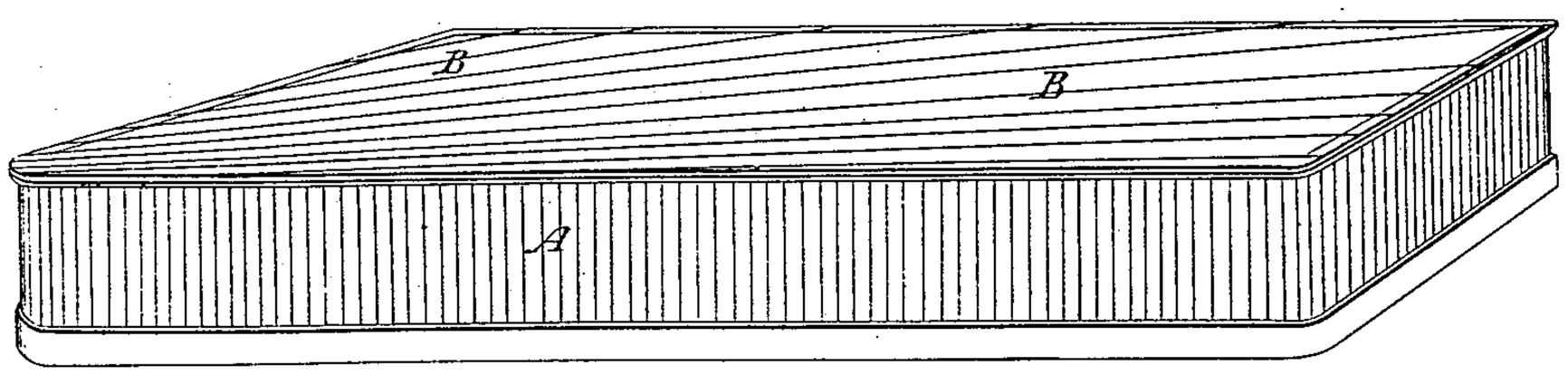


Fig. 3.



Witnesses.
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TROUTMAN GROB, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 88,384, *dated March* 30, 1869.

ACOUSTIC STAGE.

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, TROUTMAN GROB, of the city and county of San Francisco, State of California, have invented an Improved Acoustic Stage; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvements without further invention or experiment.

The object of my invention is to provide an improved stage, to be used principally for orchestras, and its advantage is to strengthen the tone of instruments used upon it, giving facilities for small orchestras to produce as loud and harmonious music as large orchestras on common stages. By its acoustic construction, it gives every instrument its full power and sweetness. The stage is built as nearly as possible in accordance with the principles of the sounding-board of stringed instruments, and is arranged to accord with the nature of the instruments, by placing them on the particular part of the stage suited to their tone, or gamut, when their vibrations will be taken up by the sounding-principles of the stage, and given to the audience in a full, round, clear, and sweet tone; and

It consists in constructing the stage so that it will stand elevated an inch or two above the floor, upon blocks of wood, which rest on blocks of flint-glass. Upright posts, which support the stage, rest upon these blocks of glass.

The floor of the stage rests upon timbers, which pass diagonally across the top, being nearer together at one end than at the other, under which are placed braces.

These braces are four in number, three being placed at right angles to the upper rails, at the corner where they are farthest apart, and the fourth passing across the centre diagonally.

Passing downward to the floor, from the middle of the centre brace, is a sounding-post, which is some two or three inches longer than the supporting-posts on the sides, causing the centre of the stage to be higher than any other part.

The floor of the stage is made of thin strips of dry spruce, or other suitable wood, which are placed across the top of the stage, diagonal to the wooden rails, or timbers, directly beneath them.

To more fully describe my invention, reference is had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a back view of my stage.

Figure 2 is a top view, showing a portion of the floor and underlying timbers.

Figure 3 is a perspective view.

Similar letters of reference in each of the figures indicate like parts.

A is a stage, of the ordinary outward shape, supported at the sides and ends by the upright posts *a a a*, which are thoroughly braced at each side, as shown.

These posts stand upon pieces of flint-glass *b b b*, which are placed upon the blocks of wood *c c c*, thus raising the stage the height of the latter blocks above the floor of the building.

Floor-timbers B B B pass across the stage, and are placed near together at one end, radiating to a greater width at the opposite end, as shown in fig. 2, resting upon the top of the stage.

Underneath these timbers are cross-braces C C, which are placed only in the corner at which the timbers B B B are farthest apart, and serve to soften the tone of the heavy-base instruments intended to be placed on that part of the stage.

A supporting-timber, D, passes at an angle across the middle of the stage, from the centre of which a sounding-post, E, descends to the floor, which also stands upon flint-glass.

The post E may be two or three inches longer than the posts *a a a*, so that the centre of the stage will be higher than the sides or ends.

The floor is made of narrow pieces of dry spruce, or other suitable wood *d d d*, which are placed diagonally across the timbers B B B, and secured to the top of the stage.

By constructing stages in this manner, they not only serve for musical instruments, but are a great aid to public singers and speakers, and especially for theatrical performers, the volume of sound required, being far less than upon the ordinary stage; and jig-dancing may be performed upon it with great effect, the time being distinctly beaten by the heel of the dancer.

When the stage is intended for speakers, a round hole may be made in its centre, and an ear-shaped flange be fitted loosely around its edge, in order that it may be turned so as to catch the sound, and convey it to the sounding-portion of the stage.

This stage may be constructed at a much less cost than the ordinary stage, while its strength is sufficient to uphold any number of persons that can conveniently stand upon it.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The above-described floor, consisting of radiating timbers B B, diagonal timbers C C and D, and boards *d d*, when constructed substantially in the manner and for the purposes set forth.

2. In combination with the above-claimed floor, the posts *a a*, blocks *c c*, intervening glasses *b b*, and the sounding-post E, arranged to support said floor, substantially as described.

In witness whereof, I have hereunto set my hand.

T. GROB.

Witnesses:

J. L. BOONE,

GEO. H. STRONG.