

(No Model.)

E. S. VAUGHAN.
CELLAR BOTTOM.

No. 407,500.

Patented July 23, 1889.

Fig. 1.

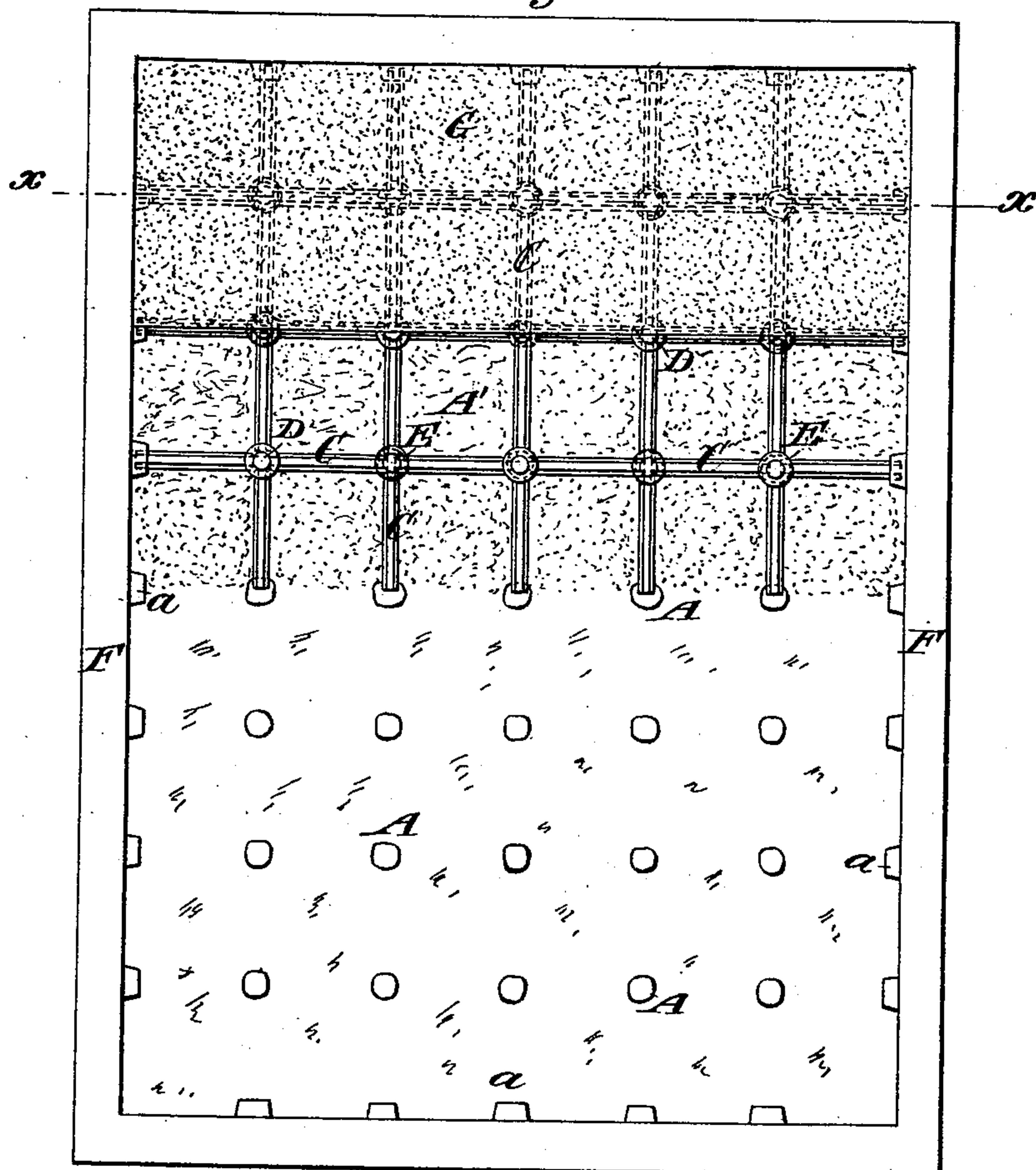


Fig. 2.

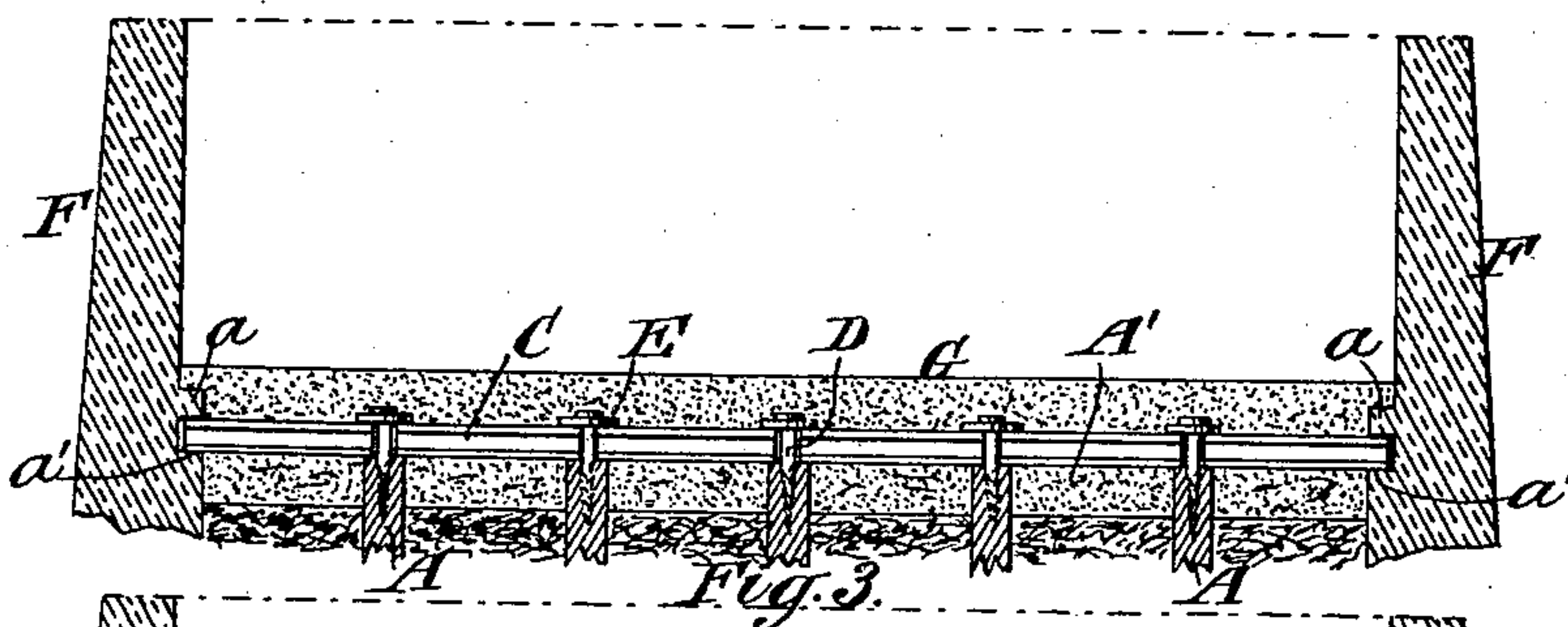
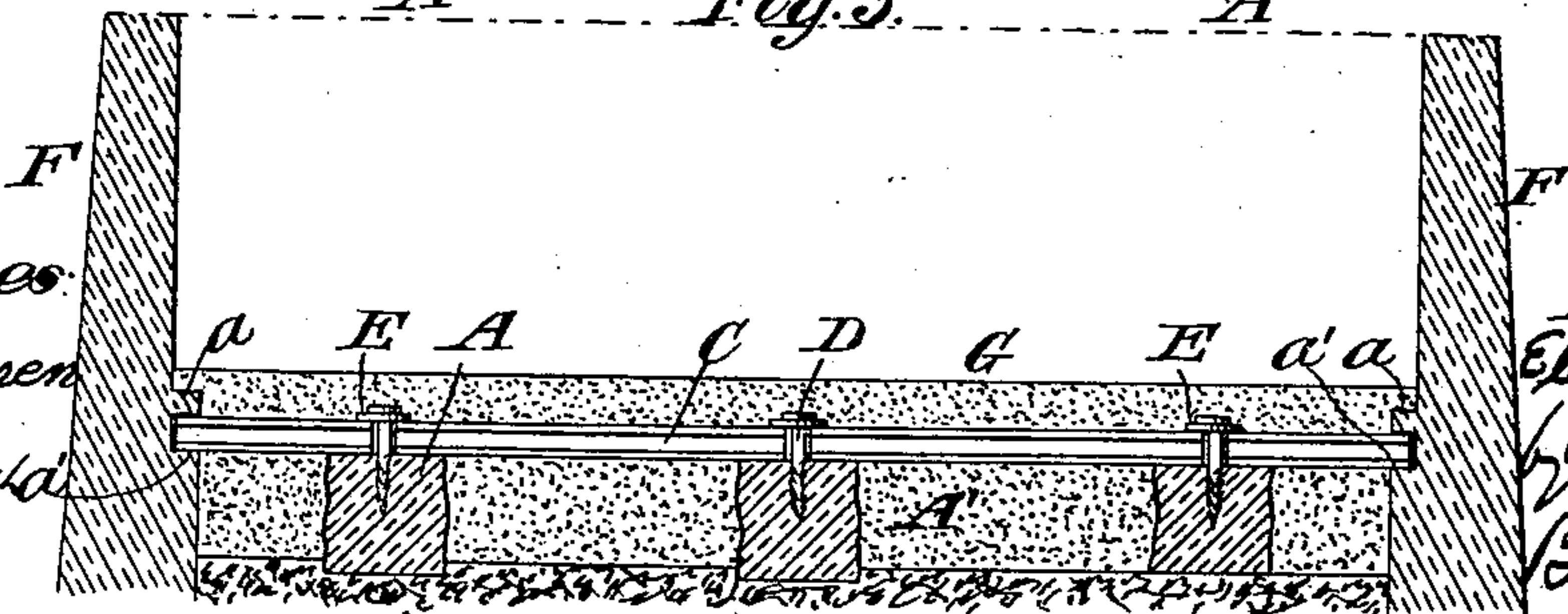


Fig. 3.



Witnesses:

Olundgren

Wm. Bickel

Inventor

E. S. Vaughan

By His Attorneys

Wm. G. Wright

UNITED STATES PATENT OFFICE.

ELEAZAR S. VAUGHAN, OF FLATBUSH, NEW YORK.

CELLAR-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 407,500, dated July 23, 1889.

Application filed April 11, 1889. Serial No. 306,850. (No model.)

To all whom it may concern:

Be it known that I, ELEAZAR S. VAUGHAN, of Flatbush, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Cellar-Bottoms, of which the following is a specification.

It frequently happens, more particularly in cities, that the level of a cellar-bottom will be below the level of high-tide or surface water. In such cases it is usual for the water to percolate through the soil, and following the rise of the tide or surface water to flow into the cellar, thus filling or partially filling it with water. Heretofore it has been proposed to obviate this difficulty by constructing the floors of a very great thickness or heavy bed of cement, concrete, or other material; but it has been found that this does not overcome the difficulty under a heavy or extreme pressure of water, for the reason that the water will force the cement or concrete flooring upward, breaking it, and thus admitting the water to the cellar. In order to overcome these difficulties, I propose to anchor the flooring or portions of it in such manner that the floor cannot be thrown up by the incoming water.

I will describe my improved cellar-bottom in detail, and then point out the novel features in the claim.

In the accompanying drawings, Figure 1 is a plan view of a cellar-floor embodying my improvement. Fig. 2 is a transverse section thereof, taken on the line $x x$, Fig. 1. Fig. 3 is a similar section, but showing a modification.

Similar letters of reference designate corresponding parts in all the figures.

Referring first to the example of my improvement shown in Figs. 1 and 2, A designates piles, which may be sunk or driven into the soil beneath the cellar-bottom. I prefer to arrange such piles in rows, or, in other words, so that their upper ends will be in straight lines extending along the cellar-bottom. By this means rows of piles will cross each other at right angles, or approximately so. The tops of the piles may, by sawing or otherwise, be brought to the same level. The piles having been arranged I fill in the spaces between the piles with solid building material, combined with natural asphalt or

other bituminous substances or water-proof material A'.

C designates short sections of bars, which may be of iron, stone, wood, or other suitable material. As here shown said bars are made of iron. These sections are only of sufficient length to extend between the piles in rectangular lines and rest upon the piles at their ends. It will be observed more particularly by an examination of Fig. 1 that the bars C when arranged upon the piles form, as it were, squares, the ends of four of the bars resting upon each of the piles. The adjacent ends of the bars resting upon each pile do not, however, come so close together but that a space is left between them. Through this space I insert spikes D, which may be barbed, screw-threaded, or of any suitable construction to obtain a firm hold on the upper ends of the piles when inserted therein. These spikes constitute securing devices. I prefer, also, to arrange between the spike-heads and the ends of the bar-sections washers or caps E, which washers or caps extend over the ends of the bar-sections, and when the spikes are firmly set assist in securing the bar-sections in place.

The side walls F of the cellar I build up of brick laid in cement, combined with asphalt or other bituminous substances or water-proof material, and upon the inner surfaces of said walls I provide projections $a a'$, between which the ends of the bar-sections C, which extend to the said side walls, will be received, and by which they will be retained in position. The bar-sections having all been secured in place, I cover over the whole with a layer of solid building material, combined with asphalt or other bituminous substances or water-proof material G.

It will be seen that a cellar-flooring thus constructed is firmly anchored, and this, together with the fact that the bottom is subdivided into comparatively small spaces, prevents the same from being raised or broken by any pressure of water from below, and the cellar will therefore be kept dry.

In Fig. 3 I have shown that instead of using piles for anchors by which the floor will be secured I may use blocks of heavy material—such, for instance, as stone, iron, or other heavy material—and with which the spikes D will engage. This last method of construc-

tion will be found advantageous in constructing cellar-bottoms embodying my improvement in buildings which have already been erected and where it is not convenient to drive
5 piles.

Not only does my improvement exclude water from a cellar, but it obviates need for using so deep a body of material as is necessary when the simple weight and strength of
10 the material of the body are relied upon to hold it in place and prevent leakage. A very material saving is therefore effected in the construction.

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

A cellar-bottom comprising the combination
15 of solid building material and asphalt or bituminous substance, bar-sections embedded in said material and substance, anchors, and securing devices for securing said bar-sections to the anchors, substantially as specified.
20

ELEAZAR S. VAUGHAN.

Witnesses:

FREDK. HAYNES,
ARTHUR H. GAMBLIN.