

H. PIERCE & J. B. BUTTON.
OIL TANK.

No. 61,453.

Patented Jan. 22, 1867.

Fig. 1.

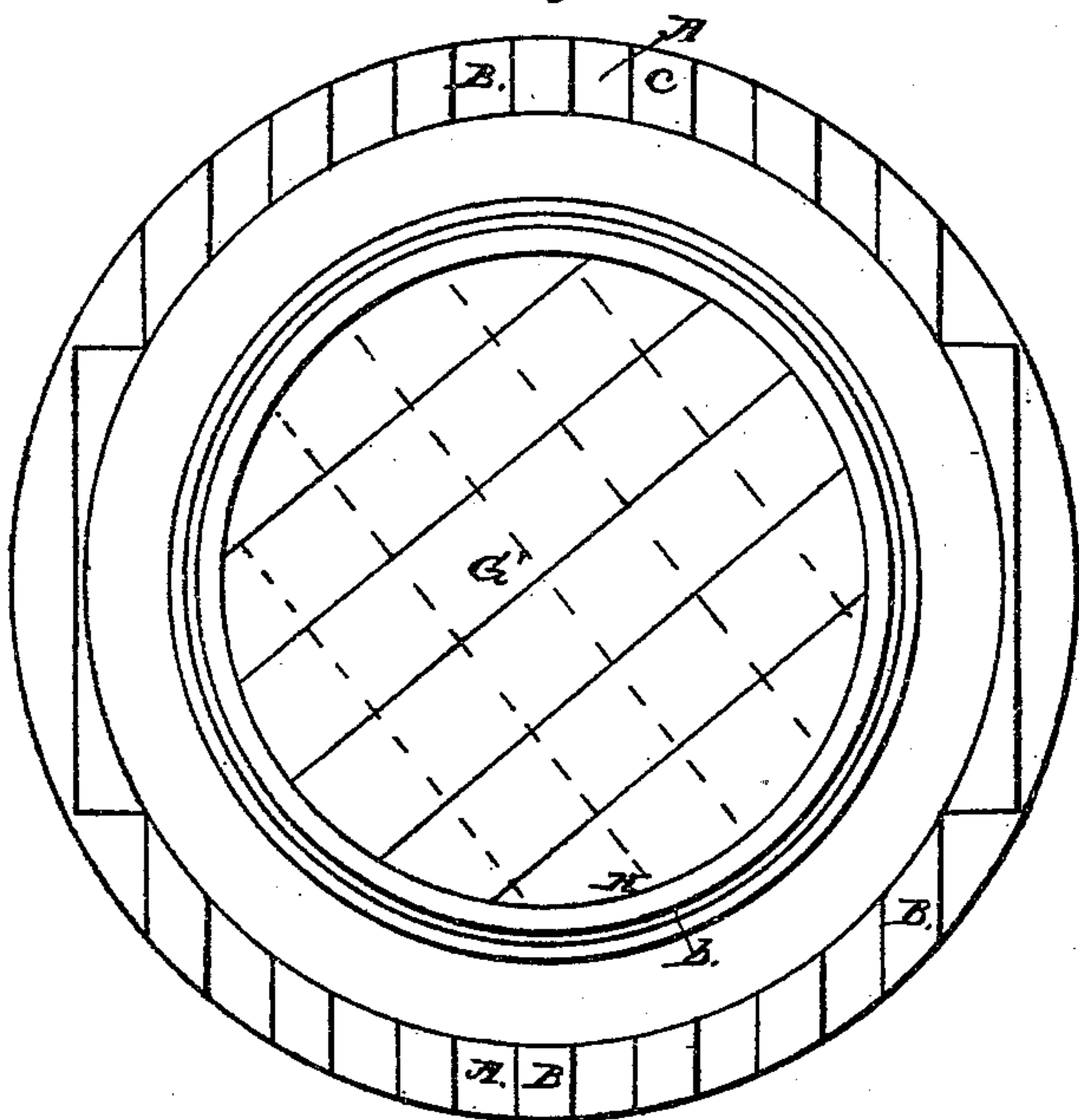


Fig. 2.

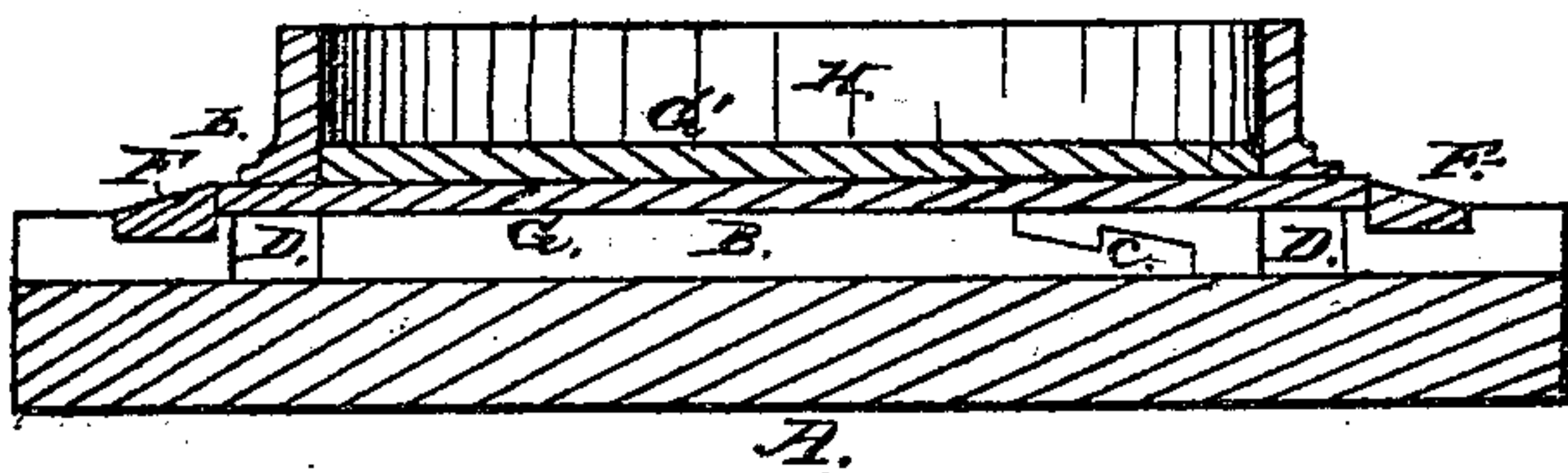
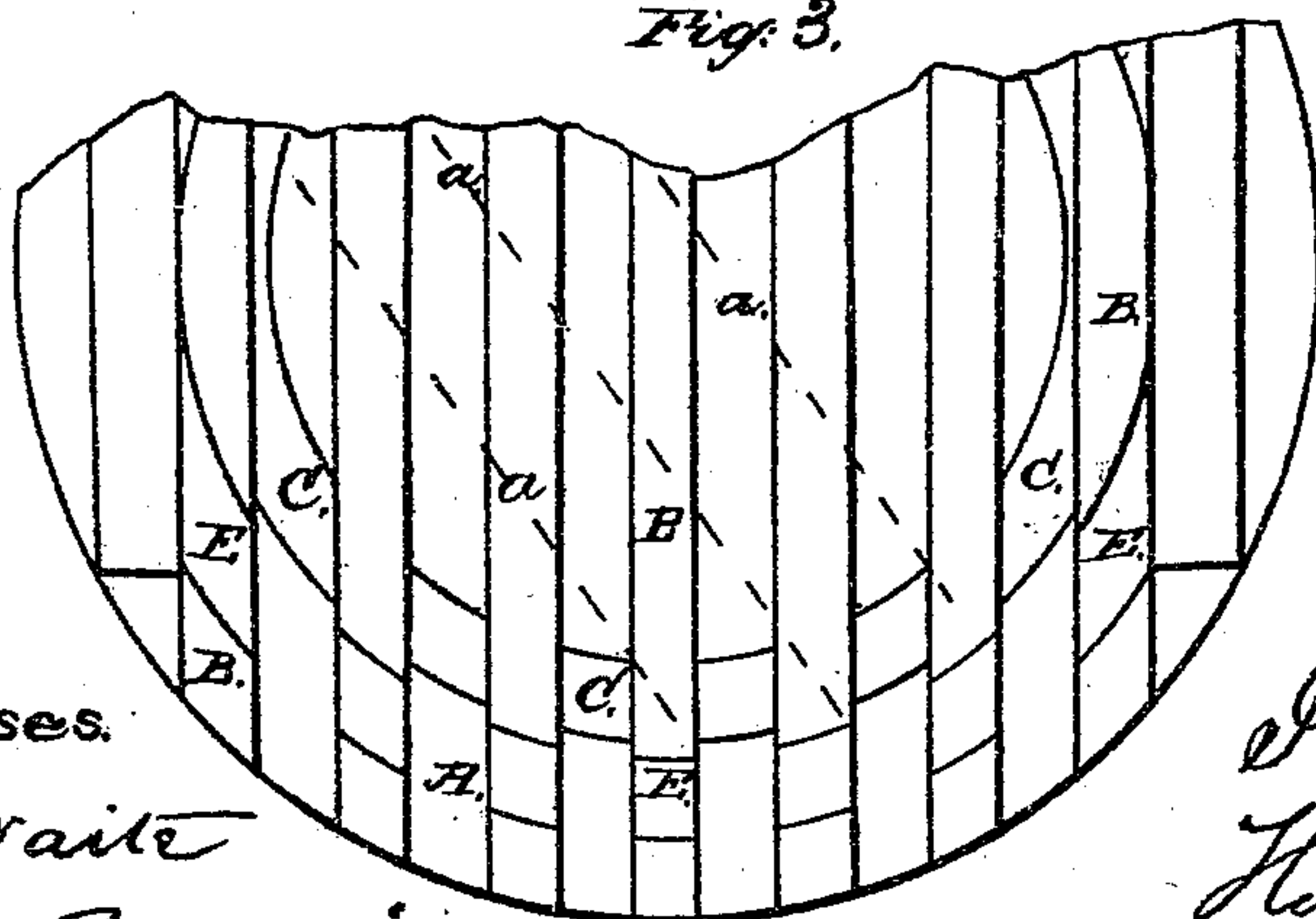


Fig. 4.
C.



Fig. 3.



Witnesses.

E. E. Waite

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Inventors.

J. B. Button
Hiram Pierce

United States Patent Office.

HIRAM PIERCE AND J. B. BUTTON, OF CLEVELAND, OHIO.

Letters Patent No. 61,453, dated January 22, 1867.

IMPROVEMENT IN OIL TANKS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, H. PIERCE and J. B. BUTTON, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented certain new and useful improvements in Oil Tanks; and we do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of the tank.

Figure 2, a transverse section.

Figures 3 and 4, detached sections to be referred to hereafter.

Like letters of reference refer to like parts in the views.

A, fig. 1, represents the ground upon which the sills or sleepers B B are laid in the order and in the direction as shown in fig. 3, the number and length of which being according to the size or capacity of the tank desired. In order to brace the sills and to assist in keeping them in proper position, the keys C are introduced between them. A detached key is shown in fig. 4. It will be seen by this that the key is made with inclined ends, hence making the upper side much narrower than the lower. The sides of the sills between which the keys are placed are gained in so as to conform to the shape of the key. This gain is shown at D, fig. 2. These several braces, when in position, collectively form an arc or circle, as shown in fig. 3. In the extreme ends of the sills are cut the gains E E, fig. 3, in which are fitted the abutment braces F, fig. 2. These braces project above the face of the sills, forming a shoulder, against which the first flooring, G, of the tank is made to abut, as shown in fig. 2. The relative position of the plank to the sills, upon which they are laid and firmly spiked, and which form the first floor of the tank, as aforesaid, is indicated by the dotted lines *a*, fig. 3. In this it will be seen that the shim ends of the planks rest upon the sills, and this being the weaker part of the plank it is thereby securely and firmly supported. H, fig. 1, is the body of the tank, and is constructed in sections of sheet iron, firmly riveted together and seamed, the height of the tank being more or less, as circumstances may require. The tank is placed upon the floor, so that it will rest upon or over the arch made by the keys above referred to. A gasket is then placed under it and it is then secured in position upon the floor by the angle-irons *b*, figs. 1 and 2, which are riveted to the sides of the tank and fastened to the floor by strong bolts being screwed through them down into the sills and keys. When the tank has been thus properly secured to the floor, the joints of the same are then calked and painted over with coal tar or any other desirable substance. Upon this is laid an inlayer of felting, *a'*, and made to fit closely to the sides of the tank. Upon this felting is then laid and spiked a second bottom or floor of plank, G', inside the tank, and in direction transversely to the first, so that the ends of which will lap over upon the shim ends of the first floor. It is obvious that by placing the planks thus transversely to each other that the weak sides of the one will be supported and strengthened by the stronger parts of the other, thereby making the entire bottom of greater strength and durability. The second bottom is not made to fit close to the sides of the tank, but a short space is left between the edge of the floor and the side of the tank for the purpose of calking, as also are the seams of the inside bottom. Should the timber be too short to form an entire sill for the tank, two pieces are then scaved and locked together, as shown at *c*, fig. 2. By this means the sill is made as strong as if made of one piece of timber.

Of the many advantages of a tank constructed as above described, we instance the following as the leading points of interest: The sills being gained out at the ends, as above described, thereby support the arch F, against which the first floor is made to abut, offers a strong resistance to the outward pressure of the floor while being calked, and also to the lateral pressure of the tank when filled with oil. The sills being spliced and locked together in the manner stated gives to them the character of an entire piece of timber, and hence much greater security is thereby given to the foundation or floor of the tank. Also, the sections C which form the inner arch of the floor, by their peculiar wedging shape, serve to give additional strength to the sills by bracing them laterally, when the sections are drawn upward by the screws passing through the angle-irons, and by the means of which the tank is screwed to the floor. In placing the first floor diagonally across the sills, so that the shim ends of which shall rest upon them, and at the same time abutting against the outer arch, secures the floor from all possibility of giving way by any ordinary circumstances. Also by placing the plank of the second floor diagonally across the joints of the first, or so that the ends of the plank comprising the second

floor shall lap upon the shim ends of the first floor, as above stated. It also being placed within the tank and supported laterally by the angle-irons and bolts, gives to the whole structure a solidity and strength of character as to admit of no possibility of its being displaced by the act of calking the seams of the floor. This, together with the spiking of the floor to the sills and to each other, with the interpose or inlayer of felting, renders the whole structure of the bottom complete without the possibility of leakage or being in any way displaced by the weight and pressure of the oil.

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

1. The arrangement of the sills B, keys C, abutment braces F, in combination with the foundation floor G, for the purpose set forth.
2. The construction and arrangement of the bottom G' placed within the tank, the inlayer d', in combination with the tank H, angle-irons b, and floor G, for the purpose and in the manner set forth.

J. B. BUTTON,
HIRAM PIERCE.

Witnesses:

J. H. BURRIDGE,
E. E. WAITE.