No. 680,287. Patented Aug. 13, 1901.

W. O. STEELE.

ASPHALTUM OR GRANOLITHIC FILLED FLOOR OR TRENCH PLATE.

(Application filed Mar. 19, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

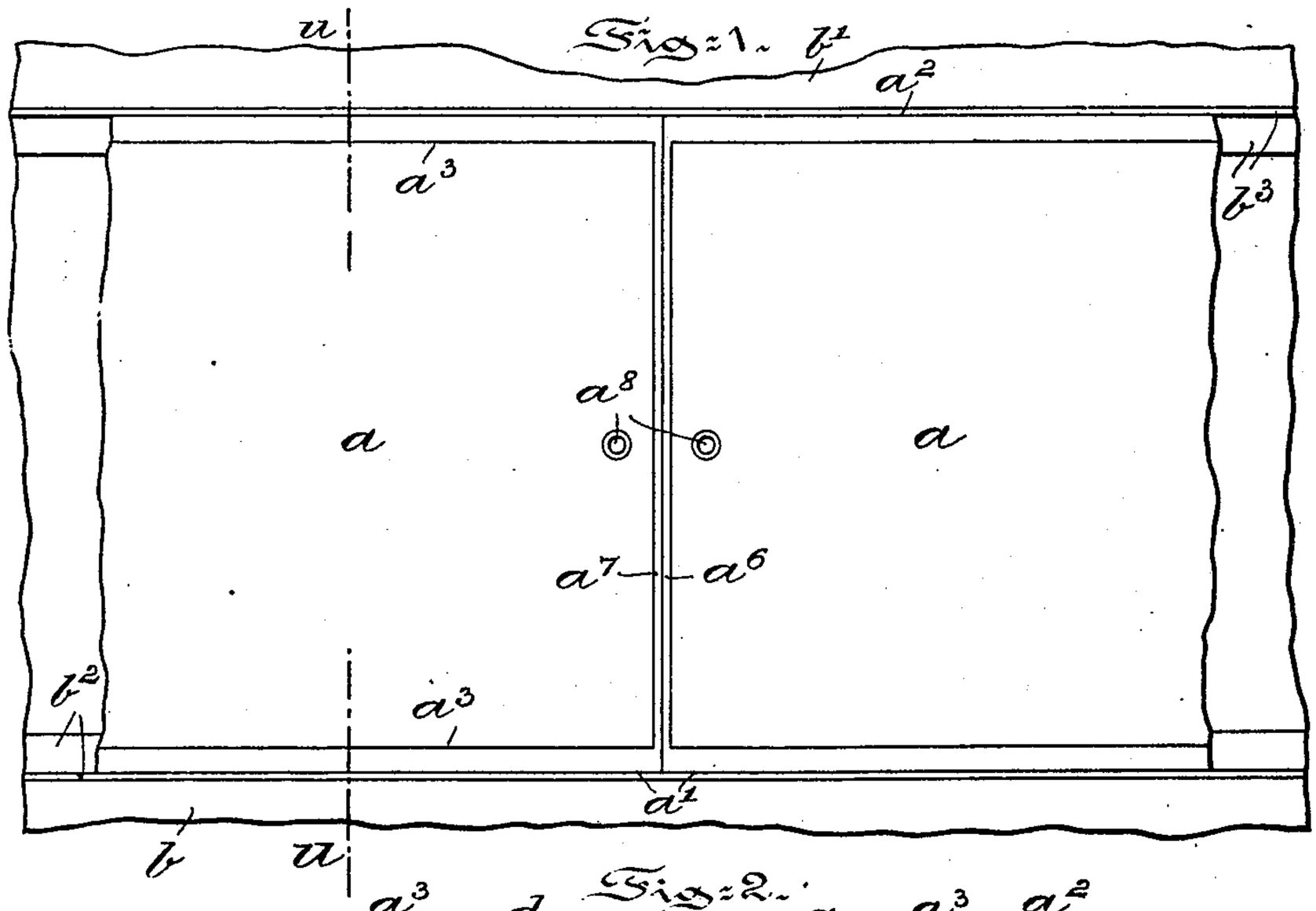

Fig. 2.

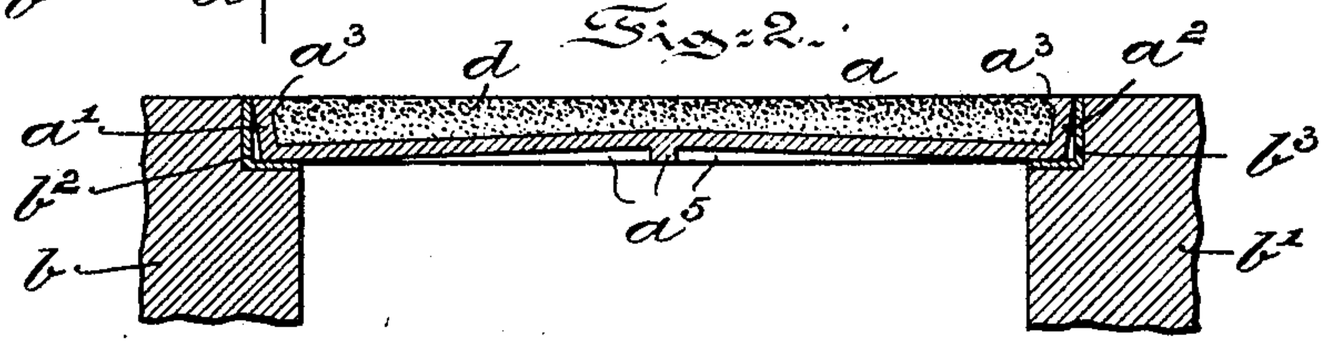

Fig. 3.

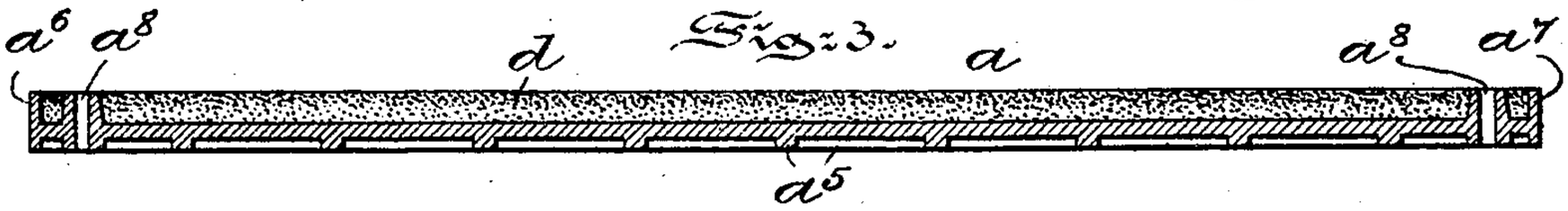

Fig. 4.

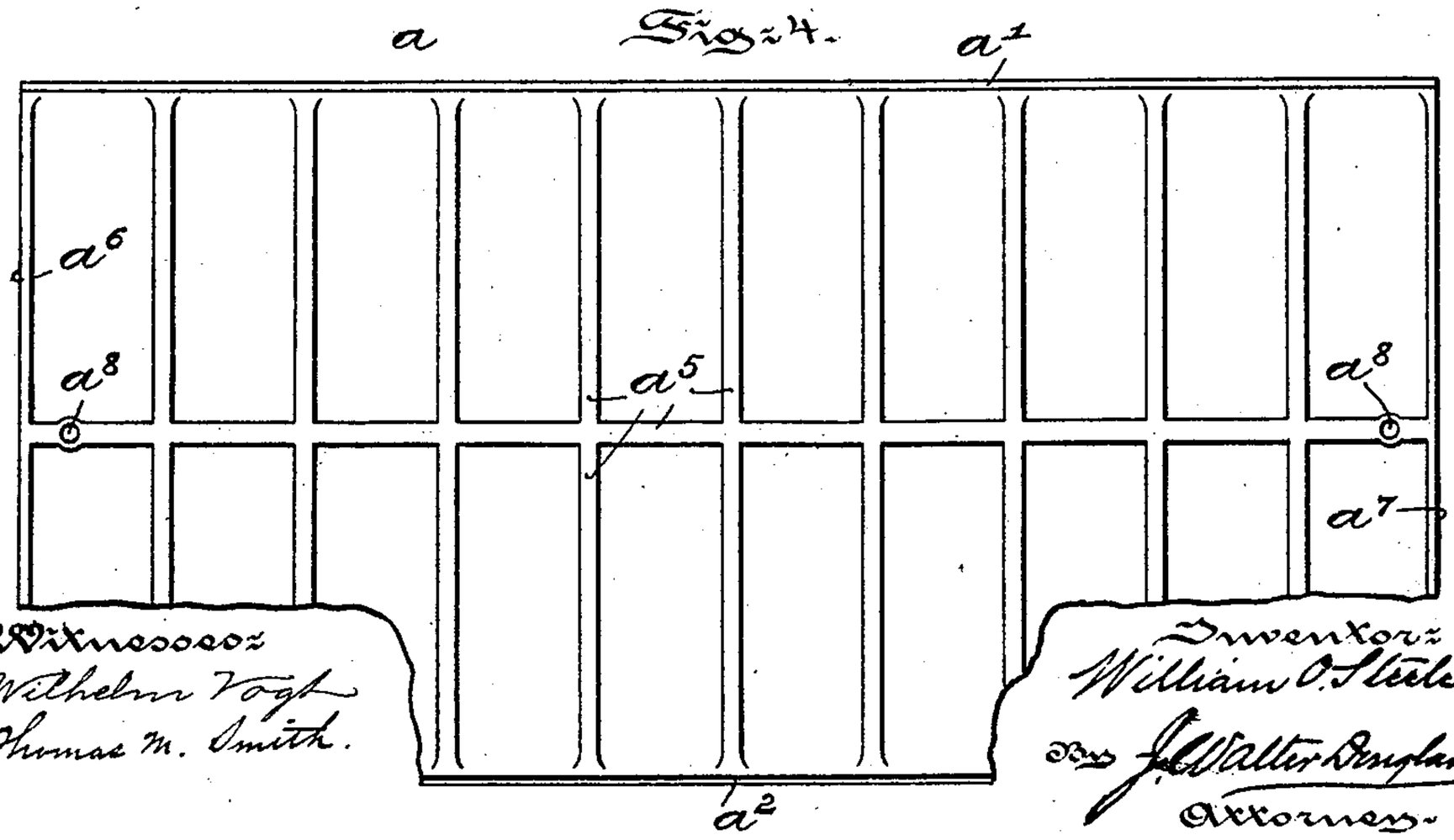

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Fig. 5.

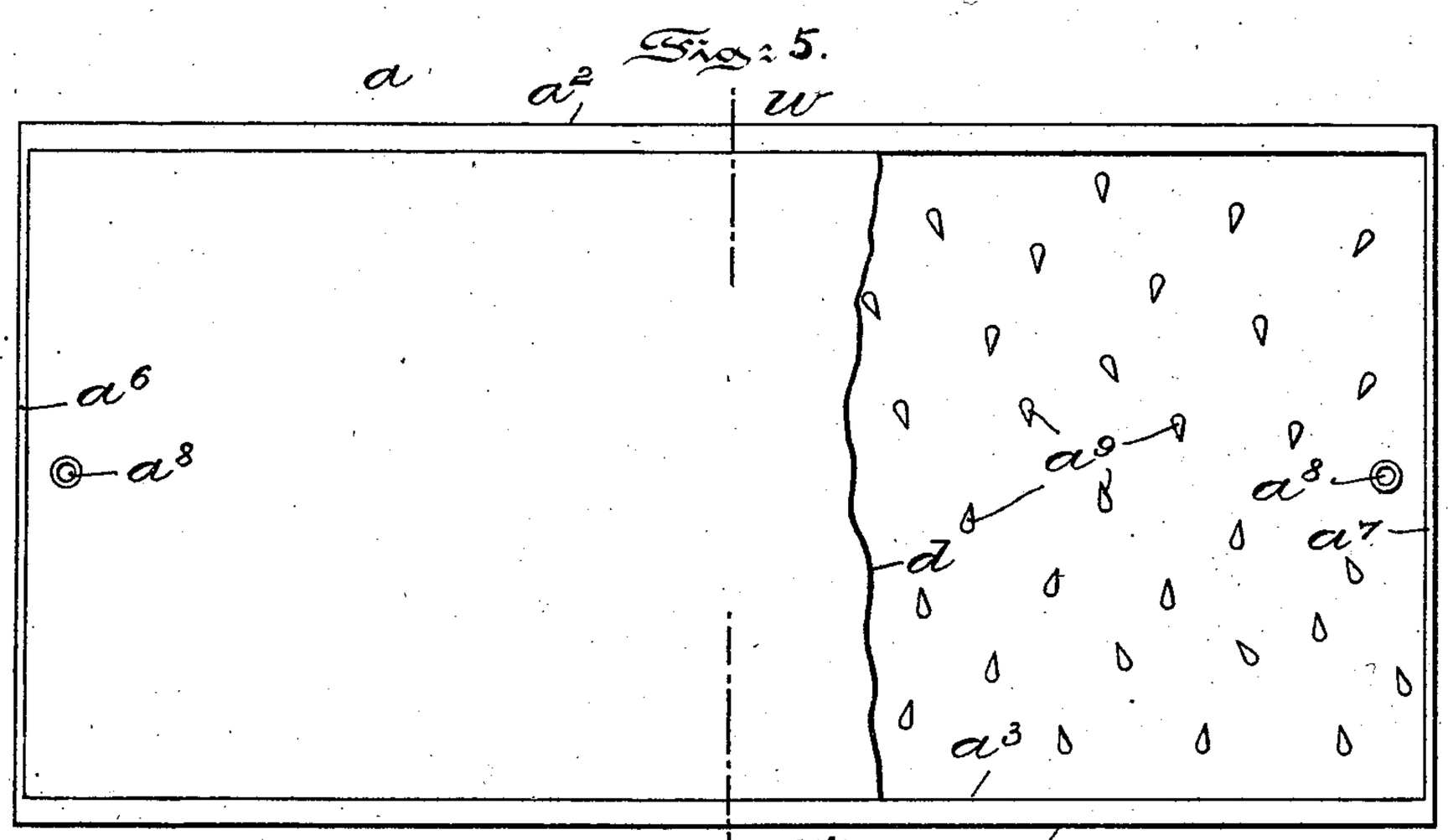

Fig. 6.

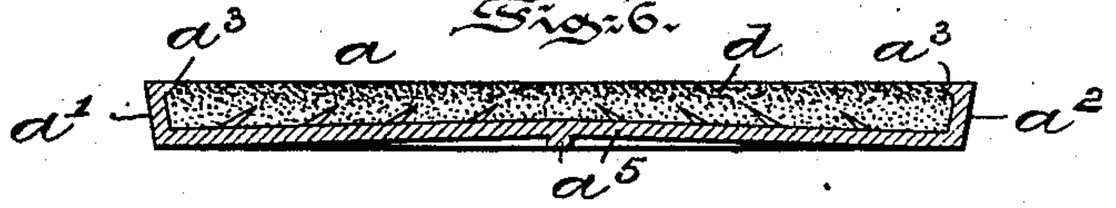

Fig. 7.

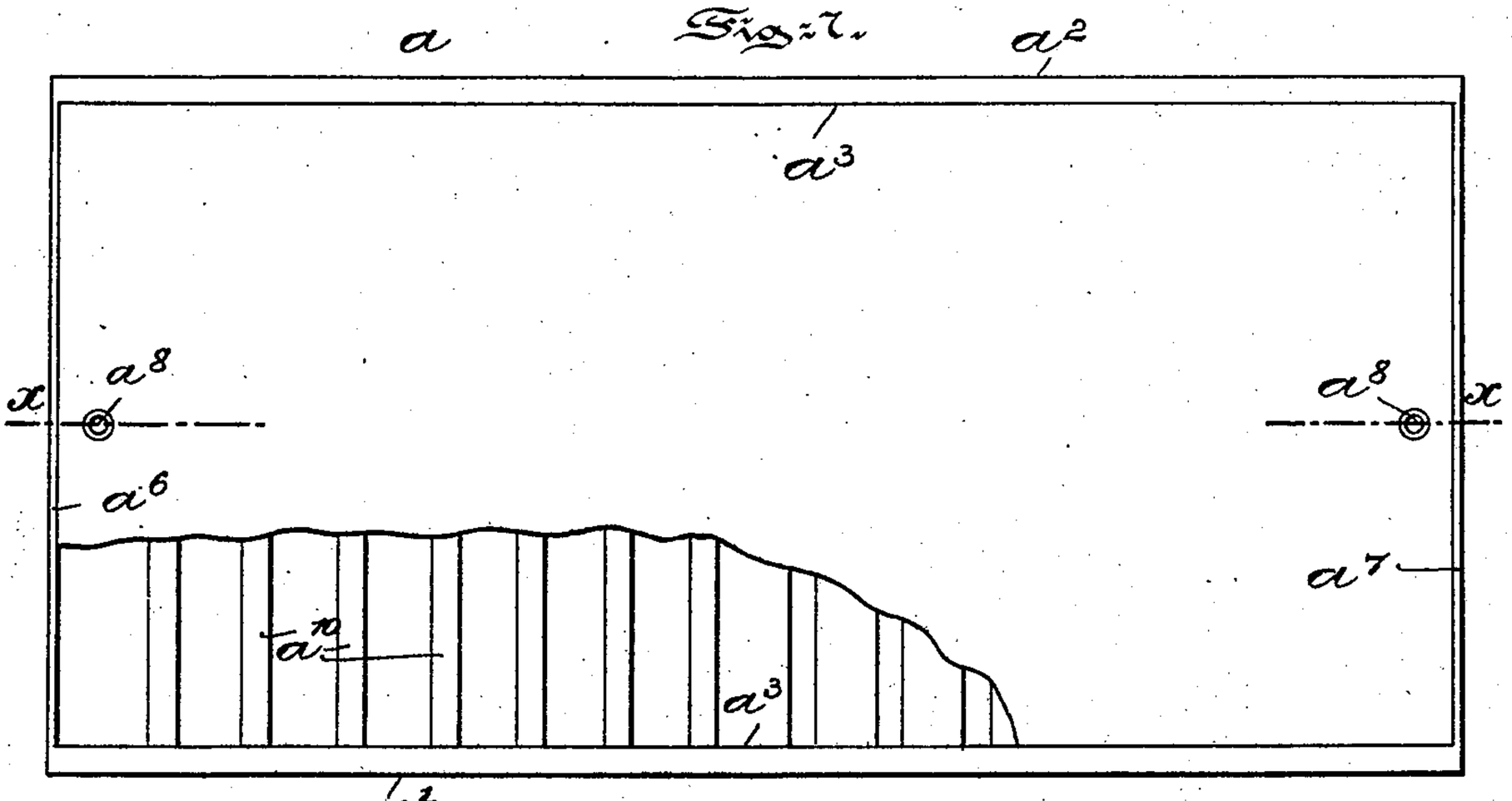

Fig. 8.

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UNITED STATES PATENT OFFICE.

WILLIAM O. STEELE, OF PHILADELPHIA, PENNSYLVANIA.

ASPHALTUM OR GRANOLITHIC FILLED FLOOR OR TRENCH PLATE.

SPECIFICATION forming part of Letters Patent No. 680,287, dated August 13, 1901.

Application filed March 19, 1901. Serial No. 51,870. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. STEELE, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Asphaltum or Granolithic Filled Floor or Trench Plates, of which the following is a specification.

My invention has relation to a noiseless granolithic or asphaltum filled floor or trench plate for various purposes, and in such connection it relates to the general construction and arrangement of the same.

The principal object of my invention is to provide a noiseless, comparatively simple, and effective filled floor or trench plate of different forms, shapes, or configurations adapted to be readily applied, so as to span a trench or opening, and such a floor or trench plate as is non-slipping and presents a surface which corresponds in the main to the surrounding surface of the cemented, asphaltum, or other floor, and also a filled plate in which clatter or rumbling induced by loads passing over the same is obviated, and, further, a trench or floor plate in which removal of the same from the trench or opening may be readily effected for desired purposes without disfiguring the floor or surrounding surfaces contiguous to the inserted filled plate covering the trench or opening.

My invention, stated in general terms, consists of a noiseless asphaltum or granolithic filled floor or trench plate constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and characteristic features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a top or plan view of two floor or trench plates in normal position abutting against each other, but partially broken away and held in framework or foundations adapted therefor, embodying features of my present invention. Fig. 2 is a transverse section on the line *u u* of Fig. 1, showing the floor or trench plate with the filling material mounted therein and the walls of a trench with the framework or foundations provided with angle-irons and on which the filled floor or trench plate is supported flush with the surrounding cemented or other flooring. Fig. 3 is a longitudinal sectional view of one of the trench-plates of Fig. 1, showing the tubular openings near each end of the filled floor or trench plate for permitting of the withdrawal of such plate from its framework or foundations. Fig. 4 is an underneath plan view, in broken section, of the floor or trench plate, showing the herring-bone or ribbed back of the plate for additionally strengthening the said plate in portions subject to the strain and load of the filling material of the body of the plate. Fig. 5 is a top or plan view, partly broken away, of a rectangular-shaped filled floor or trench plate, showing a series of prongs or spurs extending upward from the top surface of the bottom to engage filling material mounted therein. Fig. 6 is a transverse sectional view on the line *w w* of Fig. 5, showing the series of tapering spurs or prongs projecting upward at angles from the top surface of the floor or trench plate and with which engages the material of said plate and as a holding means therefor. Fig. 7 is a top or plan view, partly broken away, of a filled rectangular-shaped floor or trench plate, showing the series of ribs or inclined projections extending transversely of the plate from the top surface of the bottom and arranged in series throughout the same; and Fig. 8 is a longitudinal sectional view of the filled floor or trench plate on the line *x x* of Fig. 7.

Referring to the drawings, *a* represents a rectangular-shaped plate of suitable metal with preferably inclined sides a' and a^2, as clearly illustrated in Figs. 2 and 6, and having at the upper edges inwardly-projecting fins or rims on each side a^3 and with a herring-bone or ribbed bottom a^5, as illustrated in Figs. 4 and 8, to provide additional strengthening means uniformly throughout the plate for the reception of the filling material mounted therein and which may consist of asphaltum, granolithic, or other matter *d*, and thus to secure entire safety in the use of such a floor or trench plate over trenches to sustain not only the weight of the filling material within the plate, but also the load brought to bear upon the plate in position without detriment thereto. The ends a^6 and a^7 of the

plate are provided with vertical straight walls, so that companion plates may be joined together, as illustrated, for example, in Fig. 1, to form a neat and tight-fitting joint between the two plates in position. Near each end of the plate are provided tubular openings a^8, extending through the bottom and to the top for the inserting of tools or devices for permitting of the ready removal of the plates in position.

b and b' represent stone, cement, or other foundations provided with angle-irons b^2 and b^3 on the respective sides of the opening or trench and with which engages the filled plate, for example, in the manner clearly illustrated in Fig. 2.

In Figs. 5 and 7 the plates are the same as already described, with the exception that in Fig. 5 in the top surface of the bottom are struck up therefrom in staggered relationship a series of tapering spurs, prongs, or projections a^9, with which the filling material d is adapted to engage, consisting of granolithic, asphaltum, or other preferred materials compacted therein, as illustrated in Figs. 2, 3, 6, and 8. In Fig. 7 in the top surface of the bottom are substituted for the tapering spurs or prongs inclined projections a^{10}, arranged in two series extending crosswise of the plate throughout the same, the incline of one series being preferably the reverse of the other, as illustrated in Fig. 8, and with which the granolithic, asphaltum, or other suitable material d engages as a securing means therefor and for permitting of a more complete compacting of the material within the body of the plate, held against bulging or sagging by the inturned fins, rims, or flanges a^3 on the sides of the plate, as hereinbefore explained.

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

1. A floor or trench plate, consisting of a dish-shaped plate having inclined sides with overlapping rims or flanges, vertical straight surface ends and a herring-bone bottom, substantially as and for the purposes described.

2. A floor or trench plate, consisting of an oblong dish-shaped plate having inclined sides with inturned rims or flanges, vertical straight surface ends and a herring-bone bottom and an asphaltum or granolithic material mounted in and filling said plate, substantially as and for the purposes described.

3. A floor or trench plate, consisting of a dish-shaped oblong plate having sides with overlapping rims or flanges and vertical plain surface ends, a transversely and longitudinally ribbed bottom, and projections extending upward through the bottom of said plate near the respective ends of the same, and a filling material mounted in said plate, substantially as and for the purposes described.

4. A floor or trench plate, comprising an oblong plate provided with inclined sides and overlapping rims or flanges, granolithic, asphaltum or other material mounted in and filling said plate, and the bottom of said plate provided with a series of transverse ribs or projections and with a central longitudinal rib or projection, substantially as and for the purposes described.

5. A floor or trench plate, comprising a rectangular dish-shaped plate provided with inclined sides, asphaltum or other similar material mounted in and filling said plate and the bottom of said plate provided with a central longitudinal rib and with transverse ribs extending therefrom on both sides of the central rib at suitable distances apart, and tubular openings extending through the body of said plate from top to bottom near the respective ends thereof, substantially as and for the purposes described.

6. A floor or trench plate, comprising a rectangular dish-shaped plate provided with a herring-bone bottom having inclined sides with overlapping rims or flanges and vertical straight ends, tubular openings extending through the body of said plate near the respective ends thereof and spurs or projections extending up from the top surface of the bottom of said plate, and a material mounted in the body of said plate and filling the same, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

WILLIAM O. STEELE.

Witnesses:
J. WALTER DOUGLASS,
THOMAS M. SMITH.