

(No Model.)

C. B. SILL.
SHEET OR PLATE GIRDER.

No. 602,274.

Patented Apr. 12, 1898.

Fig. 1.

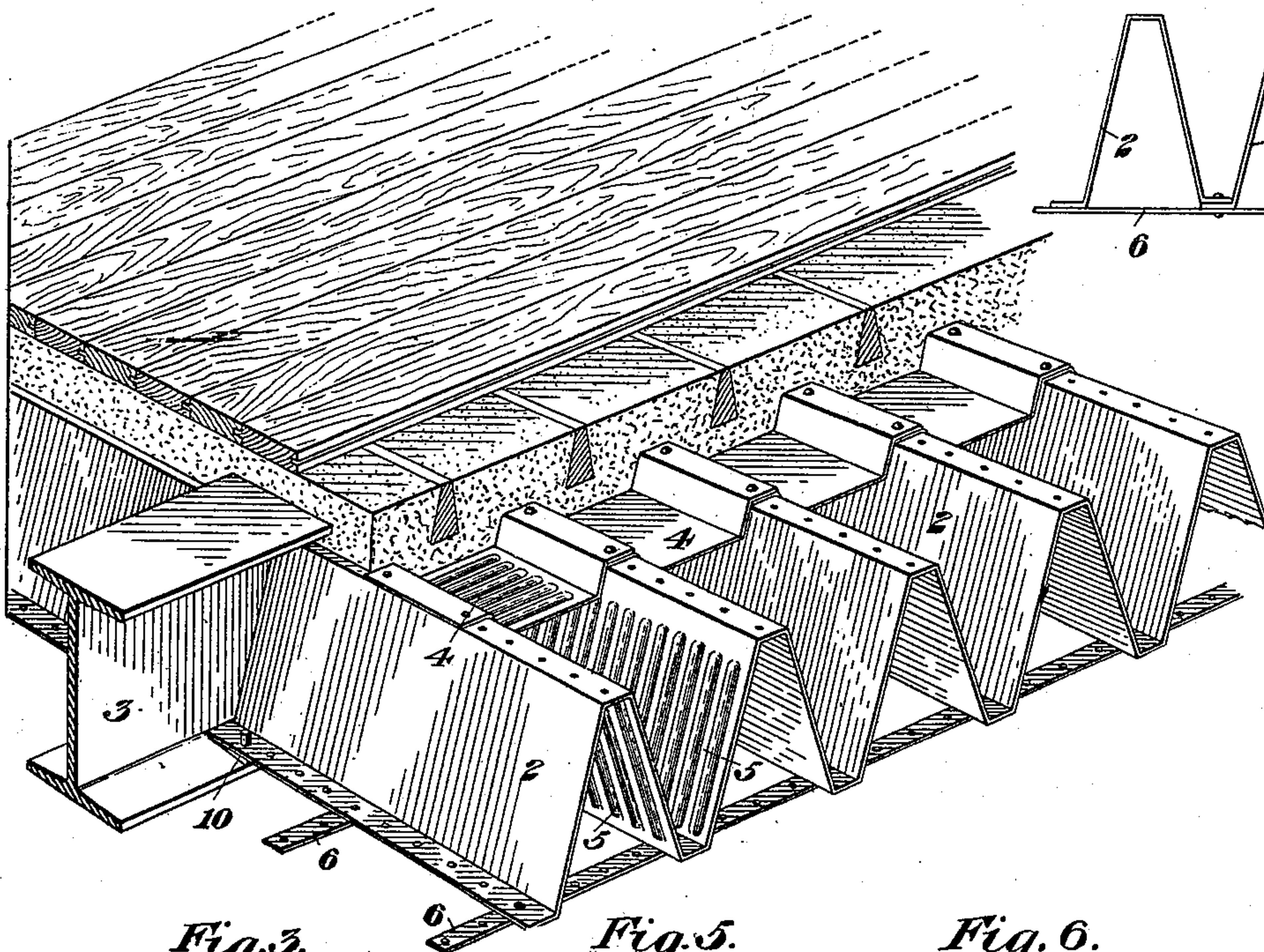


Fig. 2.

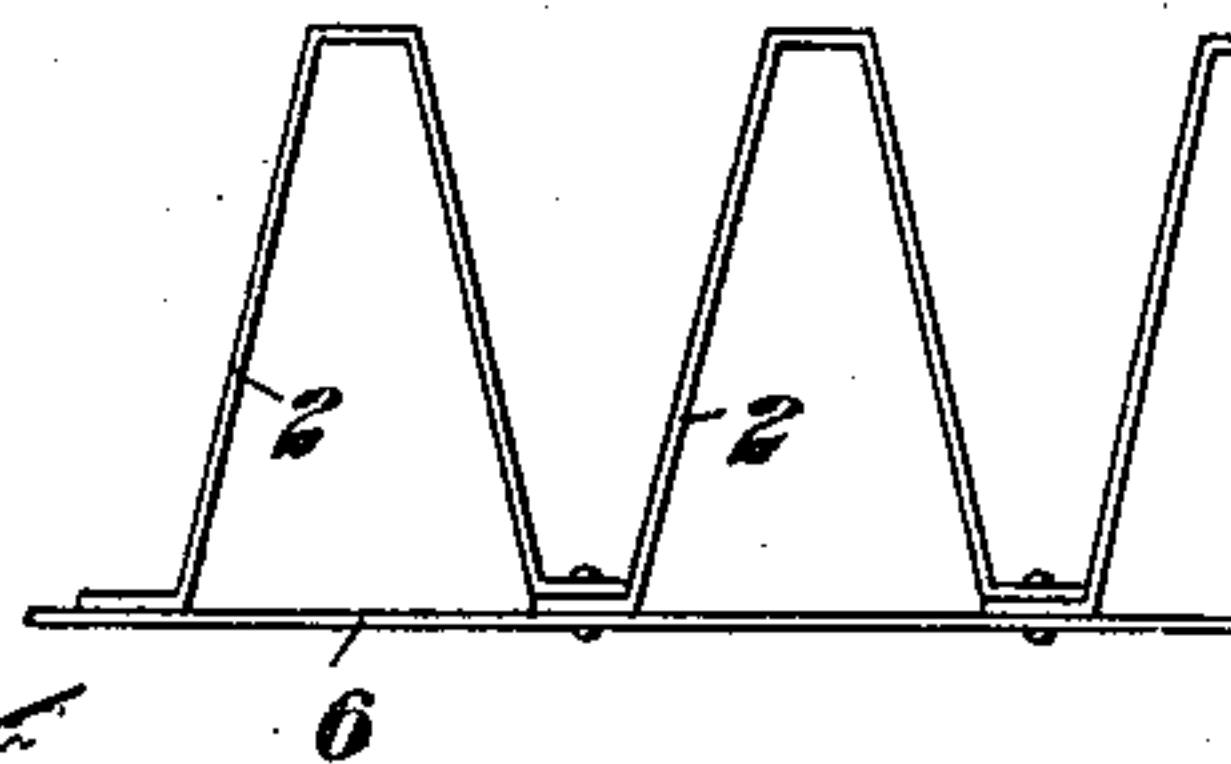


Fig. 3.

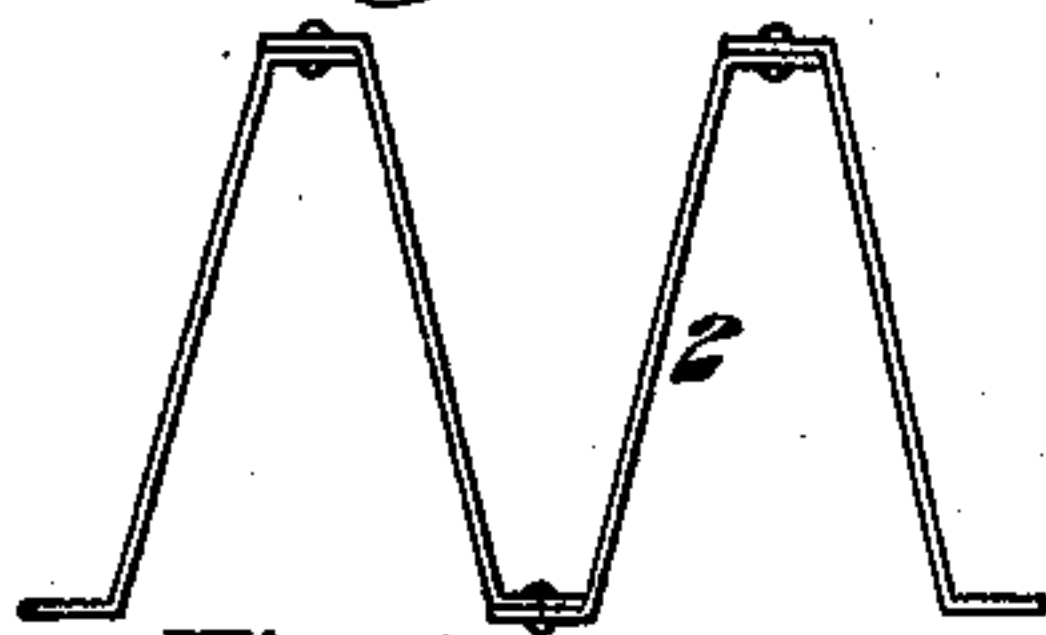


Fig. 5.

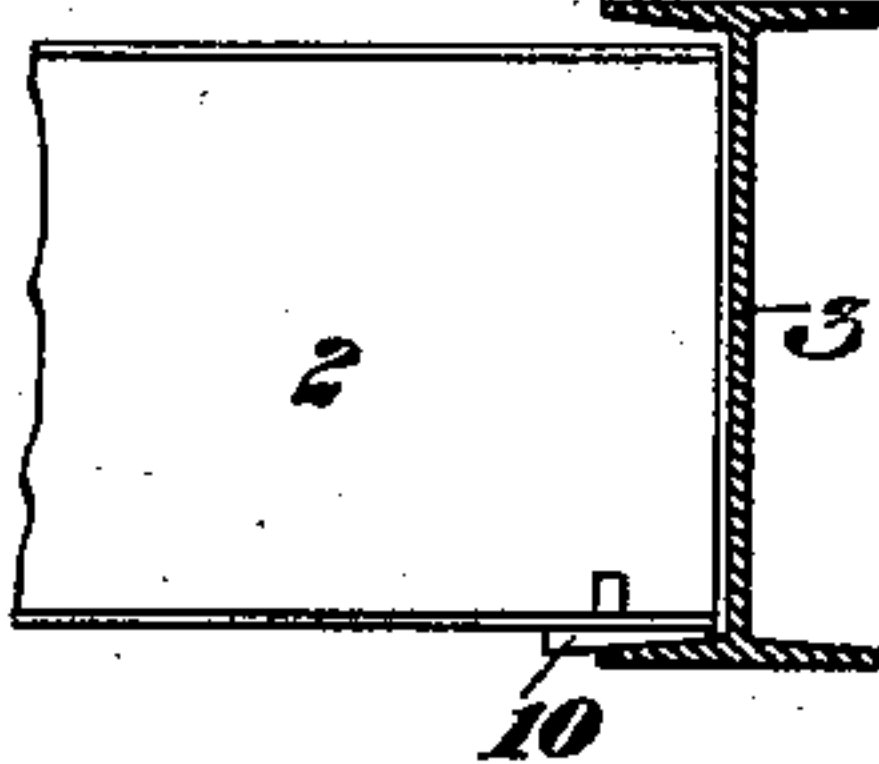


Fig. 6.

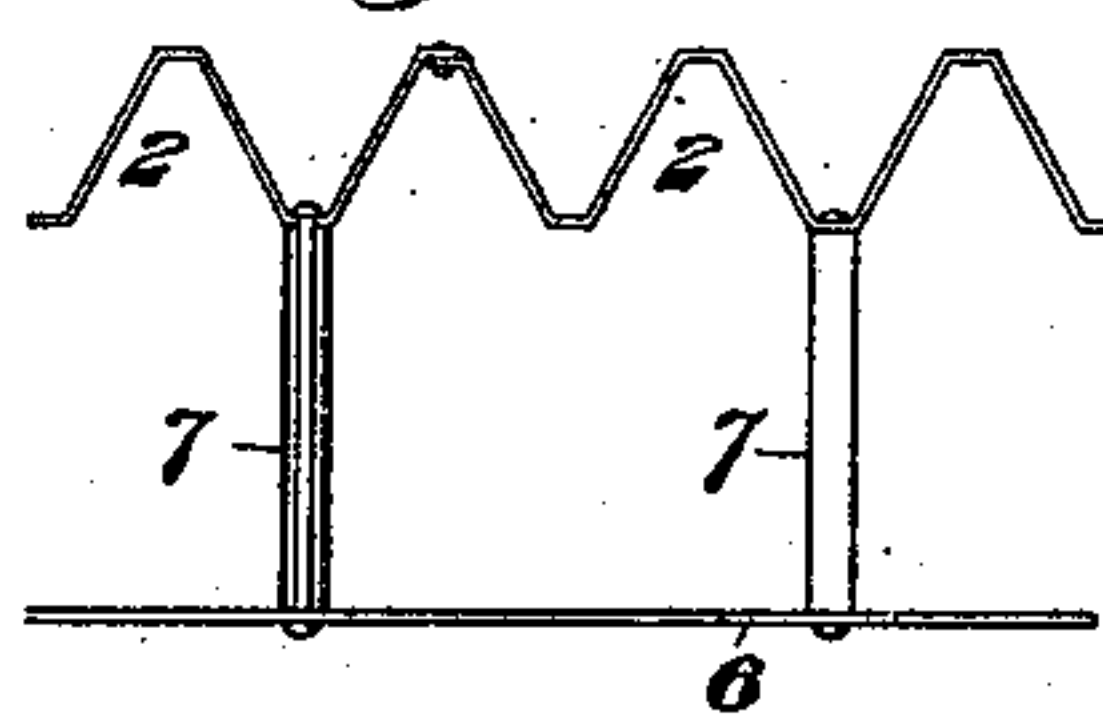


Fig. 7.

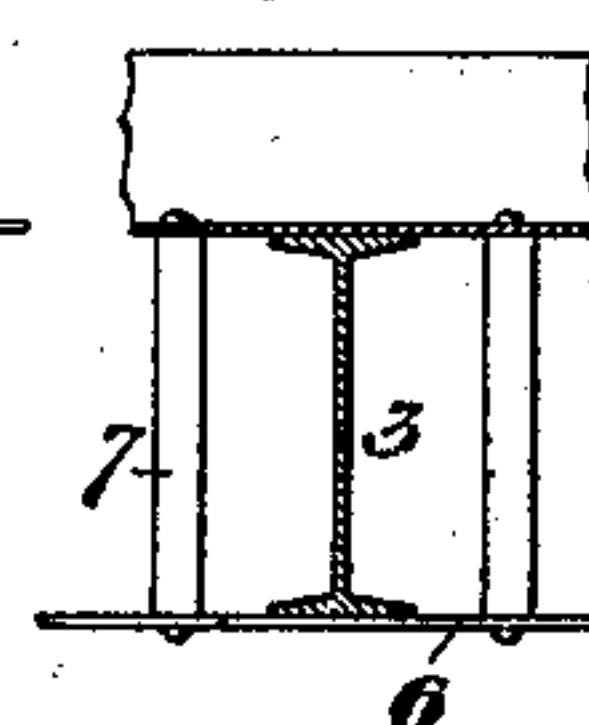


Fig. 4.

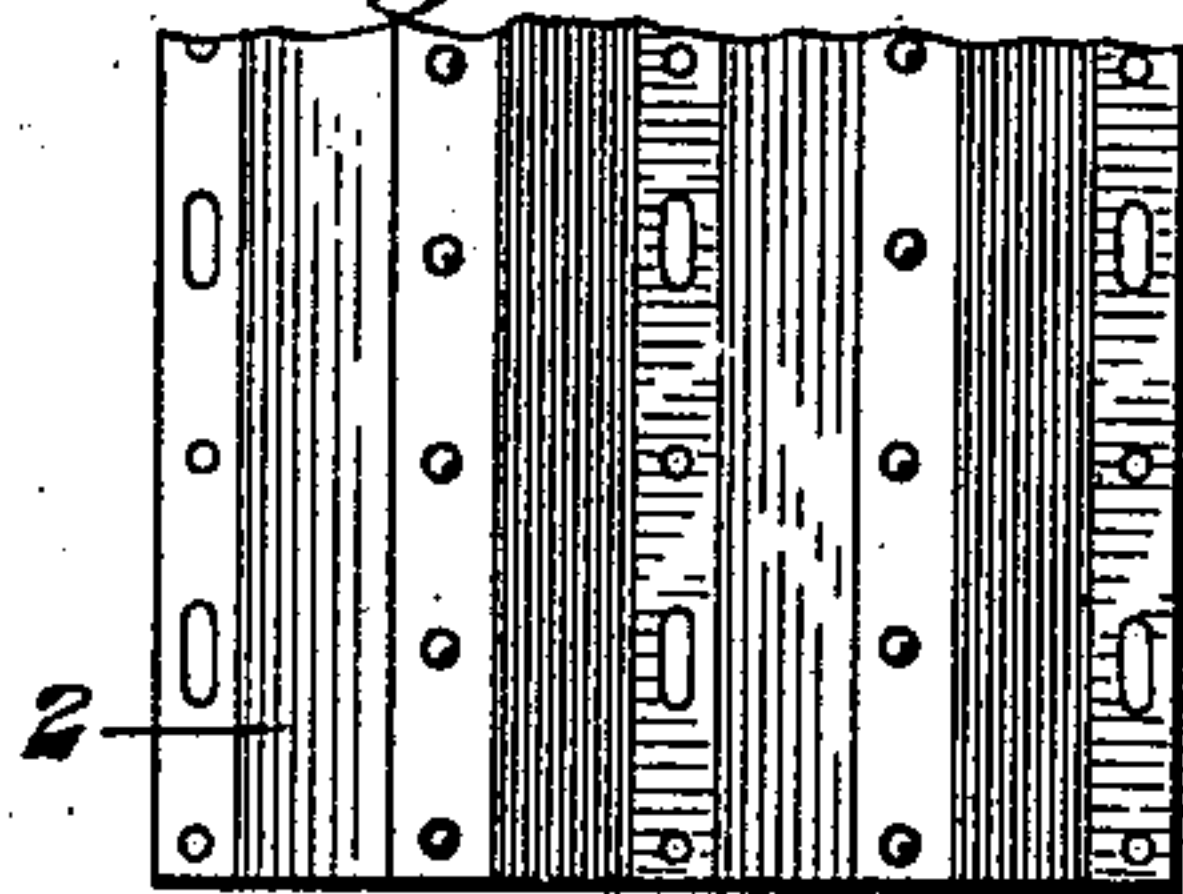


Fig. 8.

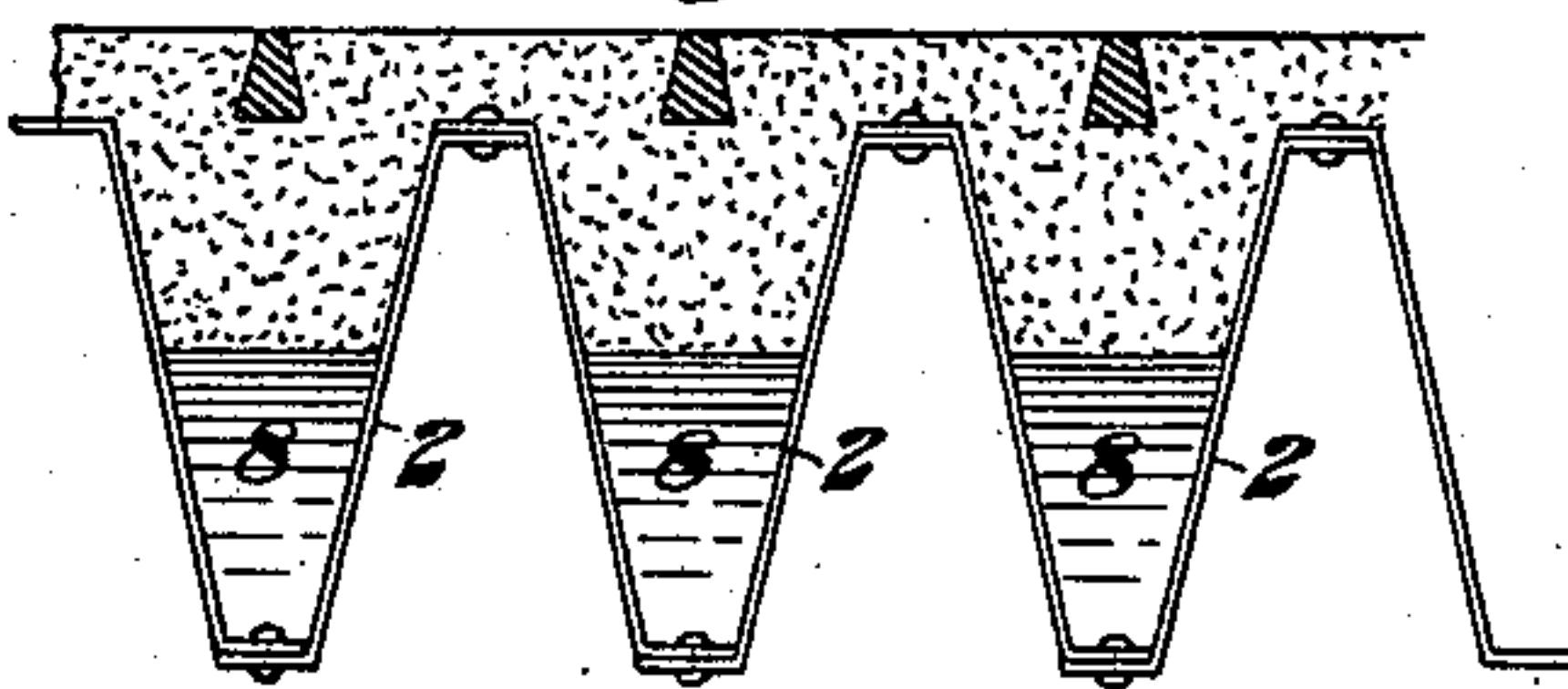
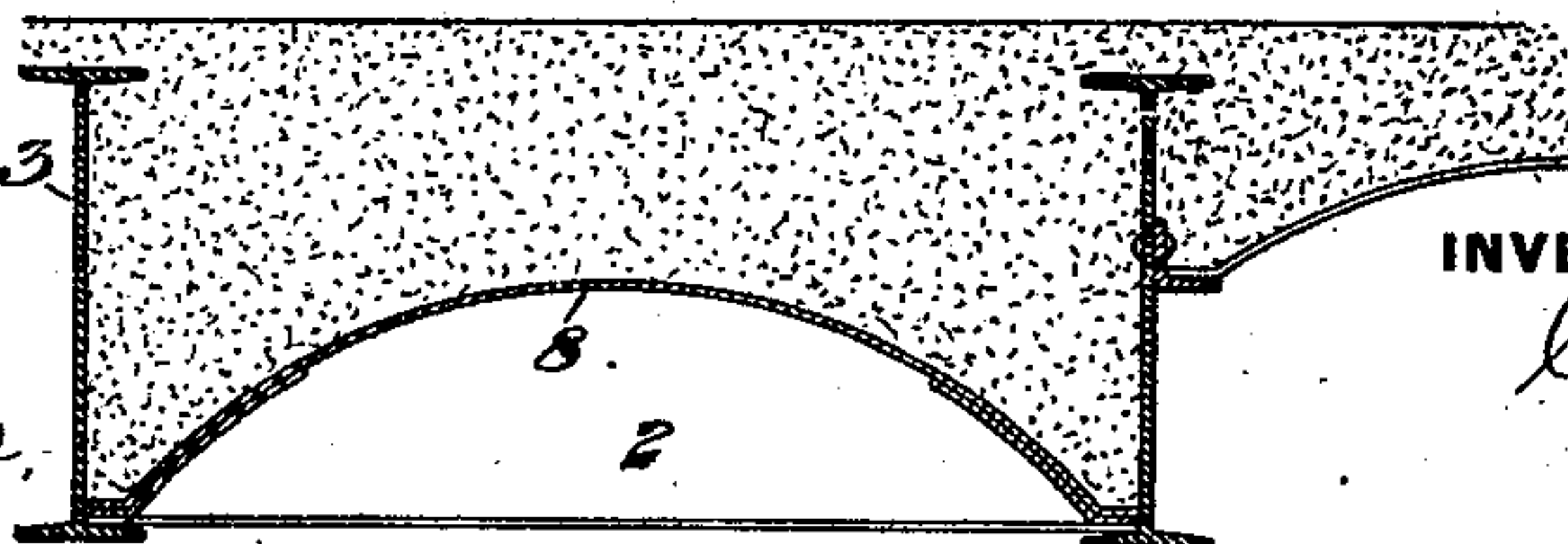


Fig. 9.



WITNESSES
Owen L. M. Condy
John B. M. Wade.

INVENTOR
Cyrus B. Sill

UNITED STATES PATENT OFFICE.

CYRUS B. SILL, OF NILES, OHIO.

SHEET OR PLATE GIRDER.

SPECIFICATION forming part of Letters Patent No. 602,274, dated April 12, 1898.

Application filed September 8, 1897. Serial No. 650,964. (No model.)

To all whom it may concern:

Be it known that I, CYRUS B. SILL, of Niles, in the county of Trumbull and State of Ohio, have invented a new and useful Improvement in Plate-Girders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a perspective view, partly broken away, showing a portion of flooring constructed in accordance with my invention. Figs. 2 and 3 are transverse sections showing modified forms of the girder construction. 15 Fig. 4 is a partial bottom plan view of the girder of Fig. 3. Fig. 5 is a broken detail view showing the method of leveling the end of my girder. Figs. 6 and 7 are detail views showing a light form of the girder with means 20 for suspending ceiling-strips therefrom; and Figs. 8 and 9 are sections at right angles to each other, showing additional features which may be employed.

My invention relates to the class of sheet 25 or plate girders which are used in floor or roof construction for bridges, buildings, &c., and is designed to provide a simple, cheap, and strong construction therefor which can be easily and quickly secured in place and is 30 well adapted for securing other parts thereto.

In the drawings, referring to Fig. 1, wherein I show a light floor construction, 2 represents my improved girder, which in this form consists of a continuous length of metal bent 35 into the form of alternate oppositely-extending troughs. The ends of the girder thus formed may rest upon the bases of the main girders 3 or upon the floor-walls or the tops of the girders, as shown in Fig. 7. The downwardly - extending trough - recesses thus 40 formed may be filled with concrete or other packing; but in light construction I prefer to employ crimped sheet-iron strips 4, as shown in Fig. 1, which are laid on top of the girders 45 and which receive the cement or concrete. The sides of the girders may be plain or may be formed with corrugated ribs 5, as shown in Fig. 1, and similar ribs or corrugations may be employed for the sheet-iron strips. 50 The bases of the troughs may be provided with strips 6, secured thereto and to which the tiles or stamped metal sheets forming a

ceiling may be secured. Instead of making the trough of a continuous plate of metal I may use separate troughs, as shown in Fig. 55 2, each trough having lateral base-flanges, which overlap each other and are riveted together; or I may build up the troughs of plates of metal having at each end angular flanges, which are riveted together, as shown 60 in Fig. 3. Instead of securing the ceiling-strips 6 directly to the bases or base-flanges of the trough I may provide depending hangers 7, as shown in Figs. 6 and 7, to the lower ends of which the ceiling may be secured. 65 In Figs. 8 and 9 I show arch-shaped plates 8, which may be placed between the sides of the troughs and which may spring from and rest upon the base-flanges of the main girders or may be secured at an intermediate point, as 70 shown at 9 in Fig. 9. Whenever it is necessary to level up one end of the girder, I may employ the wedge-shaped foot 10, as shown in Fig. 5, which is driven in between the end of the girder and the base of the main girder. 75

The advantages of my invention will be apparent to those skilled in the art, since a light, cheap, and strong construction is afforded which may be easily secured in place and which is well adapted for the securing there- 80 to of the other parts of the floor or ceiling.

Variations in the shape and dimensions of the troughs may be made, and the troughs may be spaced apart any desired distance, and many other variations will suggest them- 85 selves to those skilled in the art, without departing from my invention, since

What I claim is—

1. A sheet or plate girder consisting of a series of trough-shaped portions having their 90 sides provided with stiffening corrugations or ribs.

2. A sheet or plate girder composed of a series of trough shapes, and bent plates extending across the openings of the troughs 95 and arranged to receive a filling.

3. A sheet or plate girder consisting of a series of trough shapes having ceiling-strips secured to their bases.

4. A girder composed of alternate oppo- 100 sitely-extending trough portions, with flat bottoms provided with elongated slots for the adjustment of strips secured thereto.

5. The combination with a main girder, of

a cross-girder consisting of a series of trough-shaped portions resting upon the flange of the main girder, and a leveling-wedge interposed between them.

- 5 6. The combination with two parallel main girders, of a cross-girder consisting of a series of trough-shaped portions resting upon the base-flanges of the main girders, and arch-shaped plates located between the sides of

the troughs and having their ends supported upon the main girders.

In testimony whereof I have hereunto set my hand.

CYRUS B. SILL.

Witnesses:

JOHN B. MCDADE,
OREN L. MCCARTY.