

No. 654,905.

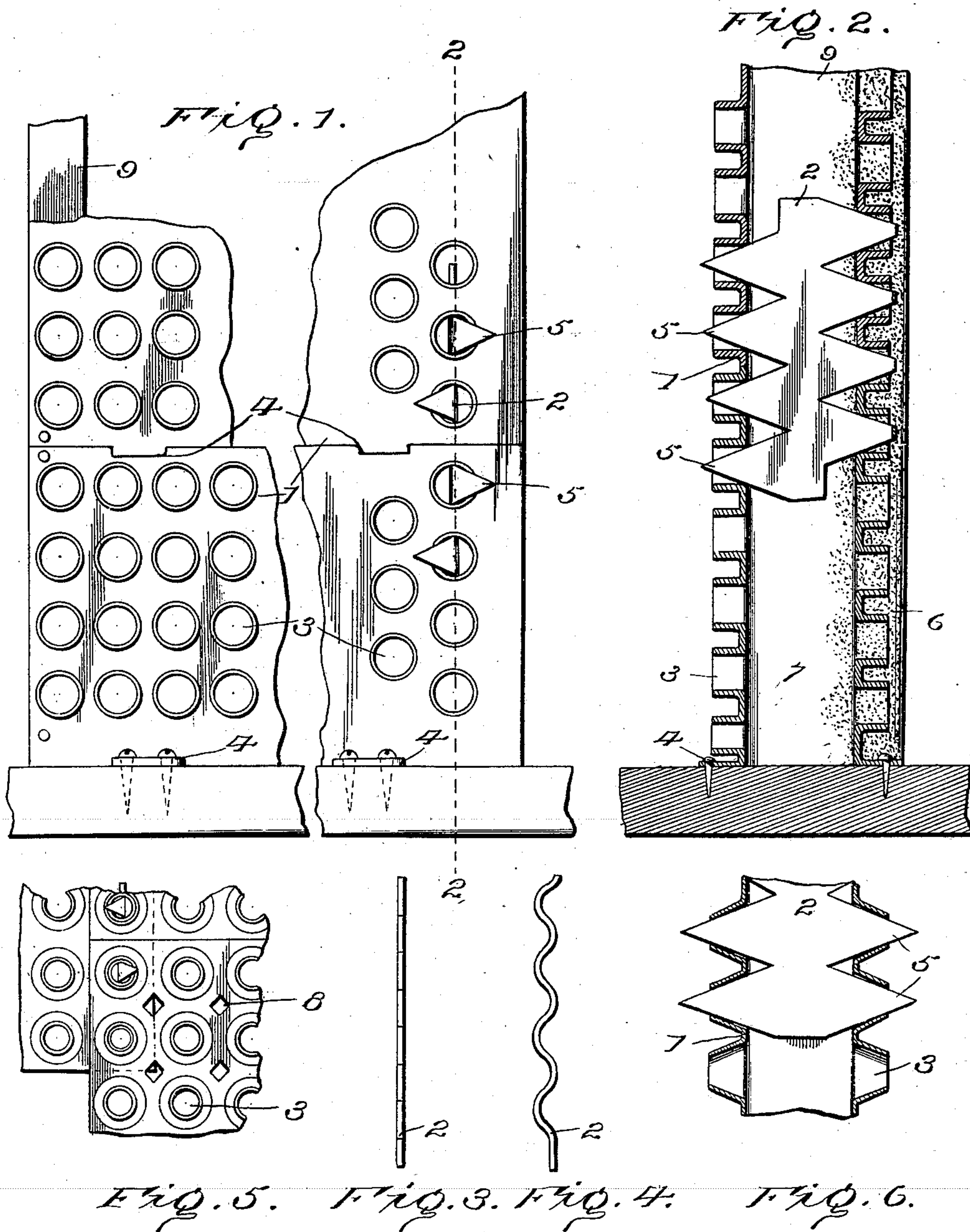
Patented July 31, 1900.

M. W. MARSDEN.  
BUILDING MATERIAL.

(Application filed July 2, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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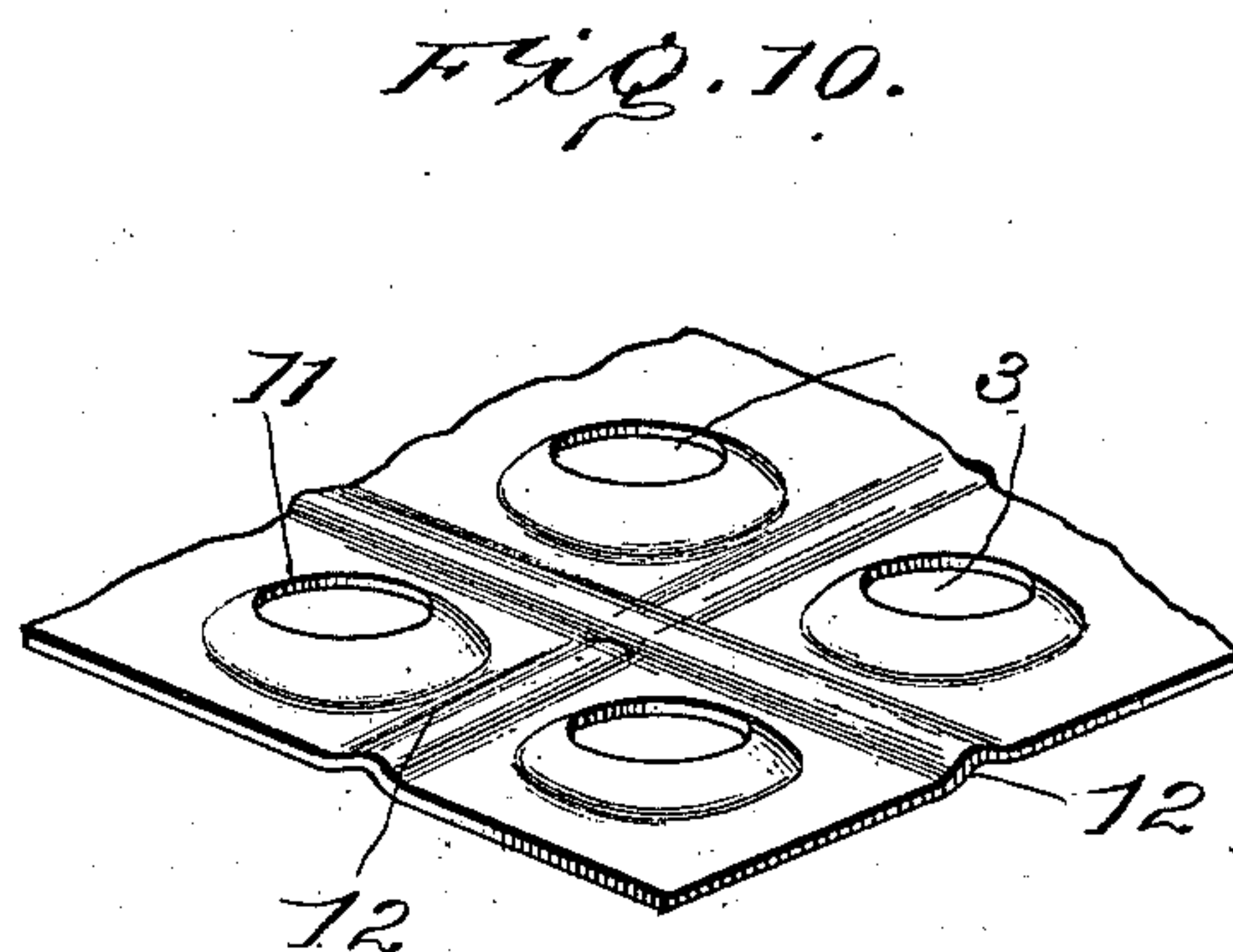
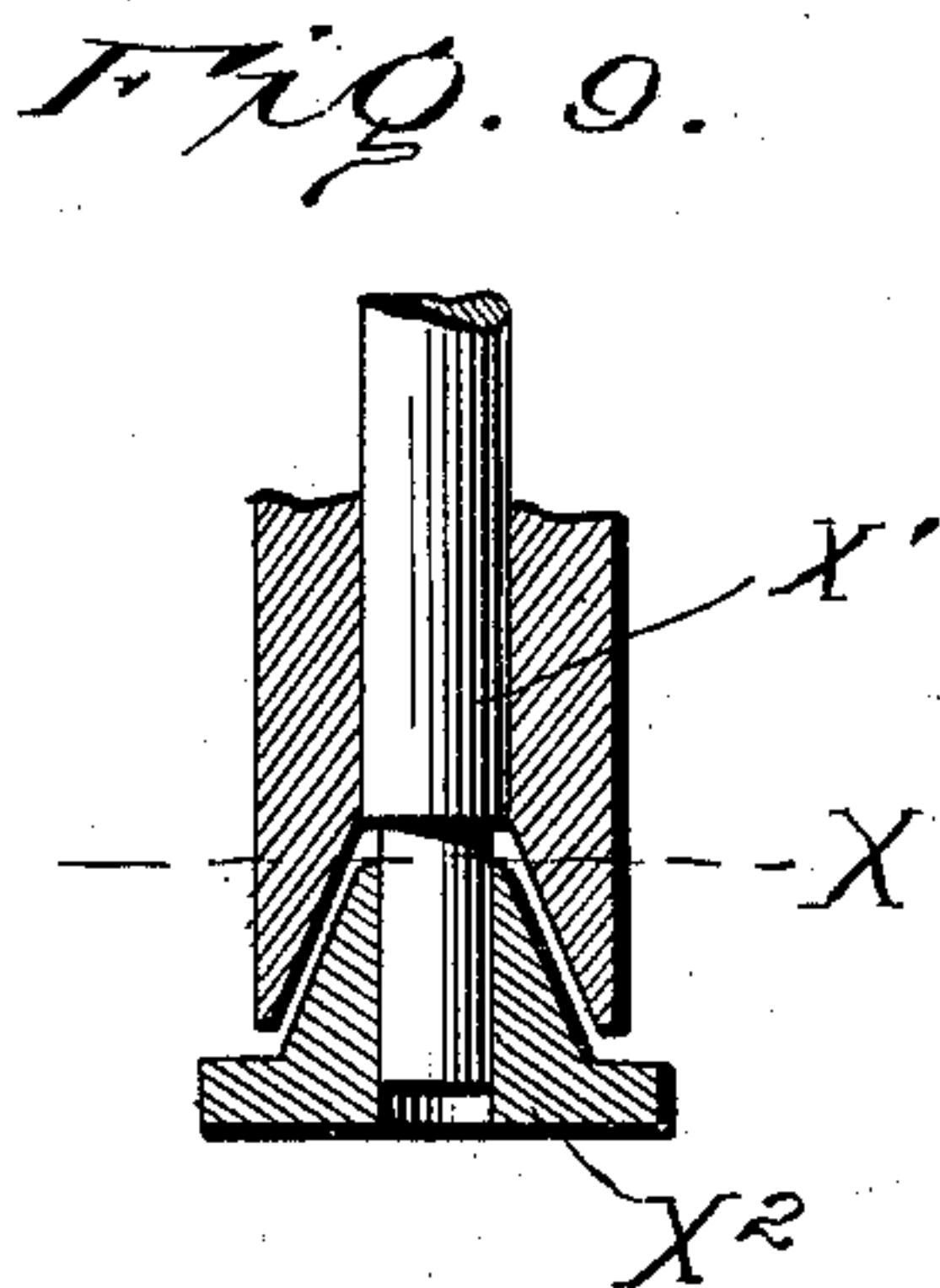
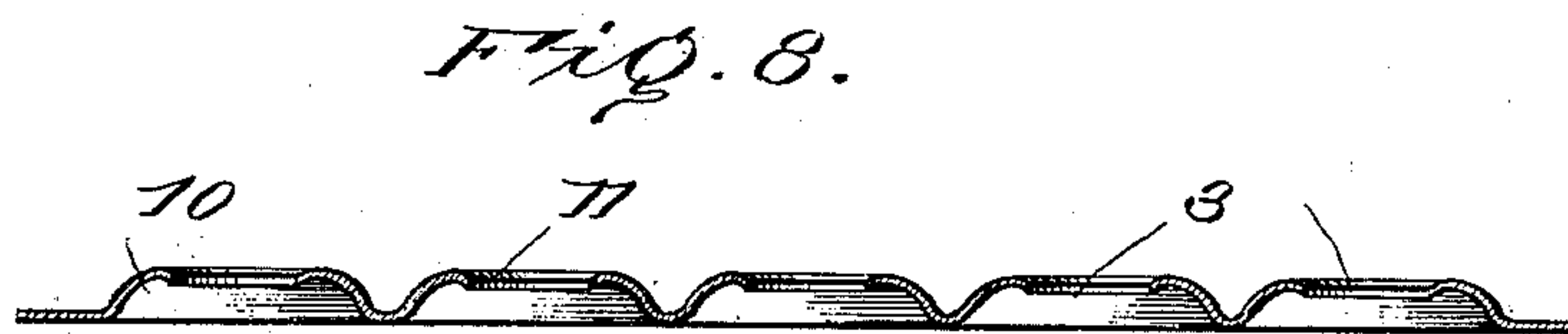
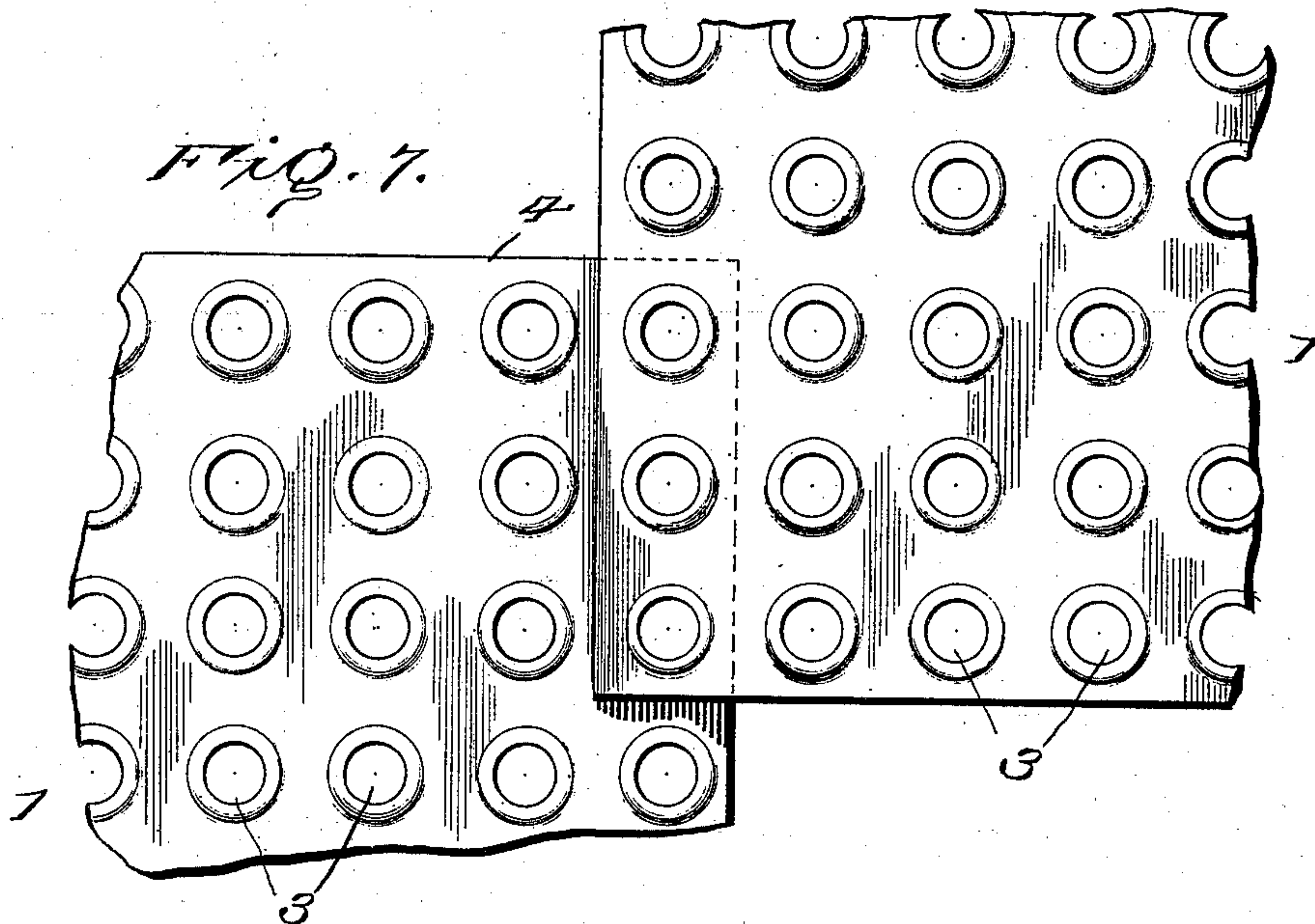
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(No Model.)

2 Sheets—Sheet 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

MARK W. MARSDEN, OF PHILADELPHIA, PENNSYLVANIA.

## BUILDING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 654,905, dated July 31, 1900.

Application filed July 2, 1900. Serial No. 22,309. (No model.)

*To all whom it may concern:*

Be it known that I, MARK W. MARSDEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Building Material, of which the following is a specification.

The object of the invention is to provide a fireproof material which shall be comparatively inexpensive, strong, easily erected, and well adapted for the reception of plaster.

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

Figure 1 is a face view illustrating a partition without plaster and constructed to embody features of my invention. Fig. 2 is a sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is an edge view of one of the tie or distance pieces. Fig. 4 is a sectional view of a tie or distance piece embodying a modification of the invention. Figs. 5 and 6 are respectively face and sectional views illustrating a modification of the invention. Fig. 7 is a plan view of sections of two overlapping building-plates having the flanges in substantially the form of truncated cones or frustums, the latter registering with each other at their overlapping portions, as shown. Fig. 8 is a cross-section through a perforated plate the flanges of which are slightly dished or concaved. Fig. 9 is a diagrammatic view illustrating the mode of punching the plates. Fig. 10 is a modified form of plate with corrugations running parallel with the truncated cones or frustums.

Referring to the drawings, my improved partition is shown as consisting of sheets or plates 1, preferably of sheet metal, and of distance or tie pieces 2. The sheets 1 are punched up so as to provide them with flanged openings 3, which may be cylindrical, as shown in Figs. 1 and 2, or conical, as shown in Figs. 5 and 6. These openings are formed by punching, stamping, or otherwise removing a circular blank in such manner that a continuous marginal flange or ring is formed, which is made cylindrical or may have the form of a truncated cone or frustum, as in-

dicated, or substantially such forms, the burs necessarily caused by the punching operation being directed toward the interior thereof, so as to leave a smooth edge or surface. By "cylindrical" and "conical" I do not wish to confine myself to the narrow definition of these terms, as while the general outline of the flanges forms practically cones or frustums they may be, and generally are, slightly dished or concaved, as shown in Fig. 8.

The mode of punching is illustrated in the diagram Fig. 9, and it will be understood that the plate is punched and raised in opposite directions, so that if burs are formed they will naturally be forced inward in respect to the flange. X indicates the plate, and X' and X<sup>2</sup> the male and female dies, respectively. The operation of these devices is well known to those skilled in the art and requires no description here.

The removal of the blank and the shaping of the flange are the result of one operation, and it will be evident that the novel feature of having the annular flange formed as a continuous member besides simplifying and reducing the cost of manufacture of the plates also compensates for the metal removed and imparts increased structural strength to the partition.

The perforations may be arranged in straight rows, as shown in Fig. 5, or they may be staggered, as shown in Fig. 1. Each sheet 1 along one of its edges, which, after erection is shown as the bottom edge, is slit or otherwise provided with tongues, as at 4, or may lap over—for instance, as shown at the end in Fig. 1 and in detail, Fig. 7. The tongues 4 may be bent at right angles to the sheets and by tacking them to the floor serve in part to secure the partition or wall. By bending the tongues of the superimposed sheets slightly backward and forward they serve to engage the top edge of the sheet upon which they are superimposed, and thus assist in holding the structure to place. The distance or tie pieces 2 are cut or otherwise formed with serrated edges, so as to provide them with teeth 5. The teeth 5 penetrate certain of the perforations in each of two adjacent sheets or plates and are bent over, so as to clench the same, and thus not only assist in holding the parts of the partition to place,



but also in properly holding the sides thereof at a proper distance apart.

In Fig. 2, 6 indicates plaster, and the space 7 may be filled with any suitable incombustible material, if desired.

In Fig. 5, 8 represents additional openings, which may be provided in the sheet or plate, and that figure also shows the plates overlapped at their edges and secured by the teeth 5. 9 represents a portion of a door-frame, to which the sheets or plates may be attached by nails, screws, or like fastening devices.

In Fig. 4 the distance or tie piece is shown corrugated, whereby its strength is increased.

Fig. 7 illustrates the mode of overlapping adjoining edges of plates provided with perforations having flanges in the form of truncated cones or frustums.

Fig. 8 is a cross-section through one of the perforated plates, showing the flanges slightly dished or concaved, as at 10, and having the burs 11 turned inward or reversely thereto.

In Fig. 10 I have shown a modified form of plate, in that the same is provided with corrugations 12, running parallel to the perforations and longitudinally and laterally with respect to the plate.

It is evident that instead of the distance or tie pieces 2 I may employ any suitable well-known attaching means.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in detail without departing from the spirit thereof. Hence I do not limit myself to the precise construction and arrangement of parts hereinabove set forth and illustrated in the accompanying drawings. For instance, it will be obvious that I do not limit myself to the use of the invention as a mere building-plate for partitions or walls, as it is susceptible to numerous other uses and applications. For example, it is of peculiar importance and value as a lining for steamships and other vessels. It can also be employed with equal facility and advantage as a support or foundation for a composition floor or pavement, which latter may consist of cement or may be made ornamental in any well-known and appropriate manner.

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

1. A building-plate provided with perforations having continuous marginal flanges on one side only of the plate, substantially as described.

2. A building-plate provided with perforations having continuous marginal flanges on one side only of the plate with the burs turned toward the interior thereof, substantially as described.

3. A building-plate provided with circular perforations having continuous marginal flanges with the burs turned toward the interior thereof, substantially as described.

4. A building-plate having perforations

punched therein forming continuous marginal flanges on one side only of the plate, said flanges being slightly dished or concaved, substantially as described.

5. A building-plate having perforations punched therein forming continuous marginal flanges on one side only of the plate, said flanges being slightly dished or concaved and having the burs turned inward toward the interior thereof, substantially as described.

6. A building-plate provided with circular perforations having continuous marginal flanges directed to one side only of the plate, said flanges being slightly dished or concaved, with the burs turned inward or reversely thereto, substantially as described.

7. A building-plate provided with perforations having continuous marginal flanges at one side of the plate in substantially the form of truncated cones, the burs of the flanges being turned inward or reversely thereto, substantially as described.

8. A perforated building-plate as an article of manufacture, having perforations punched in the same of circular form, said perforations being provided on one side only of the plate with continuous marginal flanges, in the shape of a frustum, the flanges being formed in the operation of punching and having the burs turned inward or reversely thereto, substantially as described.

9. A perforated building-plate as an article of manufacture, having perforations punched in the same of circular form, said perforations being provided on one side only of the plate with continuous marginal flanges slightly dished or concaved, the flanges being formed in the operation of punching and having the burs turned inward or reversely thereto, substantially as described.

10. A partition or wall consisting of sheets or plates provided with flanged perforations and having one of their edges equipped with tongues adapted to overlap the edge of an adjoining sheet or plate, and tie or distance pieces provided at their edges with teeth penetrating the perforations of adjoining sheets and bent over to clench the same, substantially as described.

11. A partition or wall consisting of sheets or plates provided with circular flanged perforations, and tie or distance pieces provided with pointed teeth fitted through said circular perforations and bent over at their ends to clench the plates or sheets, substantially as described.

12. A partition or wall consisting of sheets or plates provided with conically-flanged perforations, and tie or distance pieces provided with pointed teeth fitted through said conical perforations and bent over at their ends to clench the plates or sheets, substantially as described.

13. A partition or wall consisting of perforated sheets or plates provided at one of their edges with tongues, and corrugated dis-



tance or tie pieces provided with teeth fitted through perforations of adjoining plates and bent over to clench the same, substantially as described.

5 14. A partition or wall consisting of sheets or plates provided with circular perforations having continuous marginal flanges, and tie or distance pieces provided with pointed teeth fitted through said perforations and bent over  
10 at their ends to clench the plates or sheets, substantially as described.

15 15. A building-plate provided with perforations having continuous marginal flanges on one side only of the plate, said plate having its edges equipped with tongues, as and for the purpose set forth.

20 16. A building-plate provided with perforations formed by removing circular blanks therefrom, said perforations having continuous marginal flanges on one side only of the plate, and the latter having its edges equipped with tongues, as and for the purpose set forth.

17. A building-plate provided with circu-

lar perforations having continuous marginal flanges directed to one side of the plate, in  
25 combination with a layer of plaster or cement material spread over said flanges and keying through the perforations, substantially as described.

18. Tie or distance pieces consisting of elongated sheets of metal provided laterally with  
30 serrated edges, substantially as described.

19. A building-plate provided with circular perforations having continuous marginal flanges to one side of the plate, with the burs  
35 turned inward or reversely thereto, in combination with a layer of plaster or cement material spread over said flanges and keying through the perforations, substantially as  
40 described.

In testimony whereof I affix my signature in presence of two witnesses.

MARK W. MARSDEN.

Witnesses:

JAS. A. RICHMOND,  
R. W. ASHLEY.