

No. 714,972.

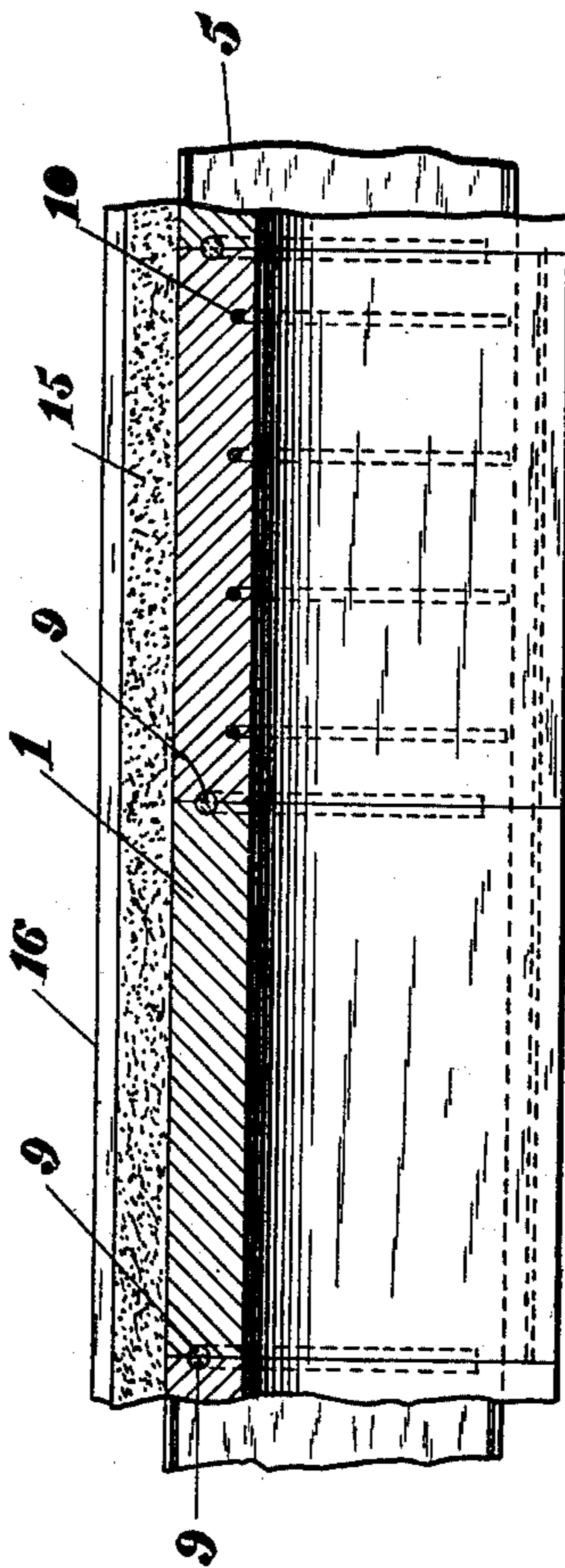
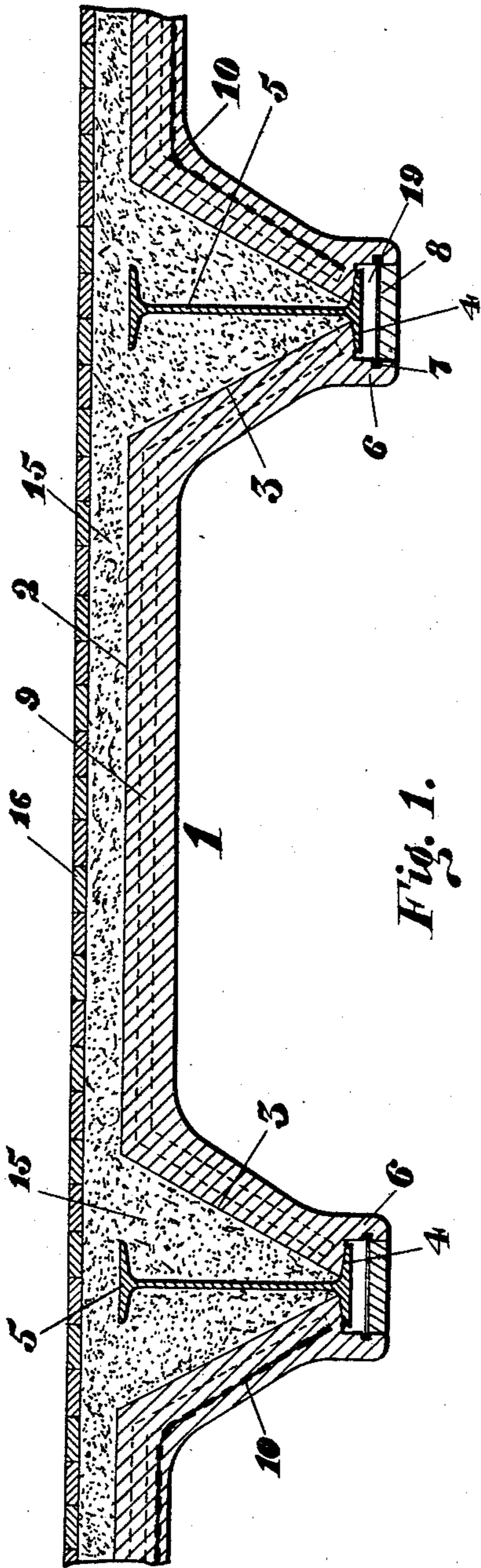
Patented Dec. 2, 1902.

E. THACHER.
FLOOR UNIT.

(Application filed Aug. 1, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

E. J. Carr
C. S. Newton

INVENTOR

Edwin Hatcher.

BY *William R. Baird*

His ATTORNEY

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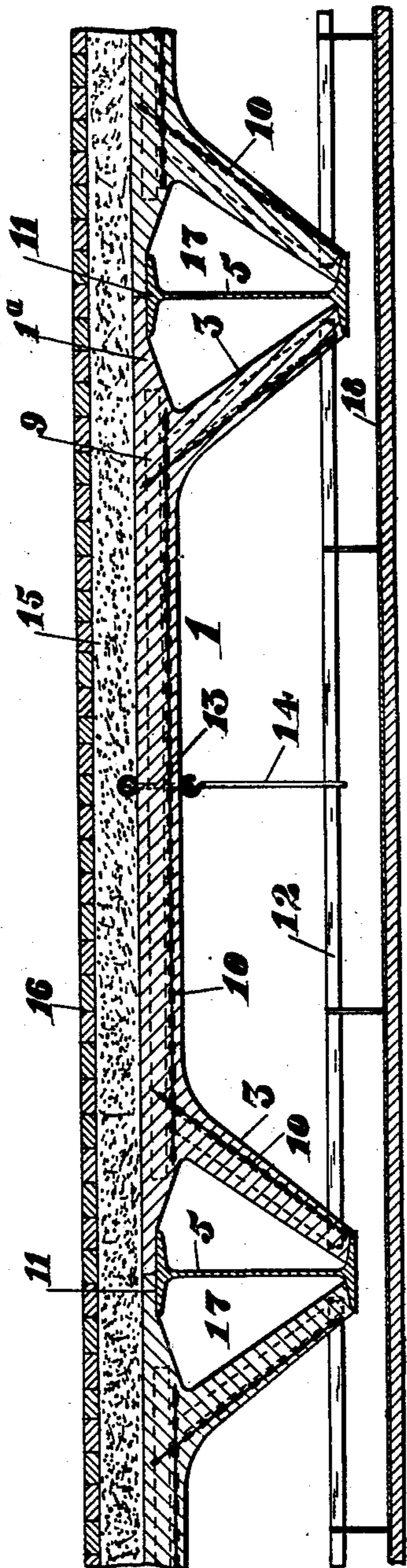


Fig. 3.

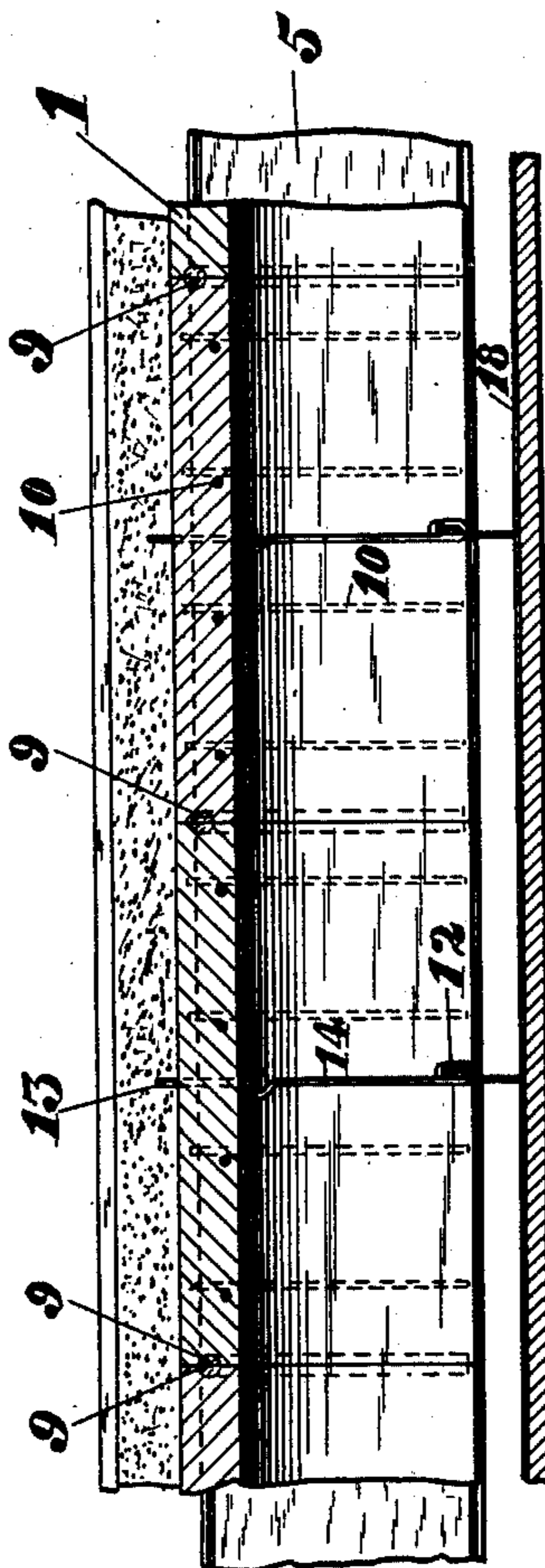


Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWIN THACHER, OF NEW YORK, N. Y.

FLOOR UNIT.

SPECIFICATION forming part of Letters Patent No. 714,972, dated December 2, 1902.

Application filed August 1, 1902. Serial No. 117,926. (No model.)

To all whom it may concern:

Be it known that I, EDWIN THACHER, a citizen of the United States, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Floor Units, of which the following is a specification.

My invention relates to fireproof floor construction; and its novelty consists in the production of a new floor unit or member which may be economically and satisfactorily employed for this purpose.

There is a constant demand for a unit of construction in the building of floors which can be made at a place distant from the location of the building in which it is to be placed, which will be relatively light, consist of well-known and tested materials, and be inexpensive to make. I have endeavored in my invention to meet the requirements of this problem by making a floor unit or member of plastic material, providing it with legs made integral therewith and adapted to rest upon the bottom flanges of the supporting-beams, providing it with metallic cores for the purpose of increasing its strength and rigidity, and providing means whereby the different units or members may be securely united together to form an entire floor. I have also added other features, which will be more specifically hereinafter pointed out.

In the drawings, Figure 1 is a transverse vertical section of a portion of a floor made of my improved construction. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a transverse vertical section of a modified form of the same, and Fig. 4 is a longitudinal vertical section of the form shown in Fig. 3.

In the drawings, 1 is a floor unit consisting of an upper substantially horizontal member 2 and provided on each side with dependent portions or legs 3, the lower extremities of which, 4 4, are of such a shape as to be adapted to rest upon the lower flanges of the I-beams 5 of the building, the I-beams being supported at their ends in the usual manner. The lower member 6 of the leg of the floor unit is so shaped as to depend below the plane of the flange of the I-beam and has means provided, as the recess 7, to admit of the insertion of metal lath 8, if the use of the latter should be deemed desirable. Each unit is

provided also with suitable means, as the transverse groove 9, extending along the efficient portion of the face of the unit and adapted for the reception of mortar or similar binding material, whereby one unit may be connected to its adjacent neighbor in the series.

I have found it desirable in practice to insert in the body of the plastic material, of which the units are preferably formed, cores or bars 10, of metal, preferably steel, which may be made of such irregular outline as to prevent their longitudinal or lateral displacement after the units have hardened or set.

In Figs. 3 and 4 I have illustrated a form of the unit in which the upper member 1 has been extended on either side to form an additional projecting member 1^a, which projects over and rests upon the upper flange 11 of the I-beam 5. This construction is of advantage where lateral rigidity, a continuous smooth surface, or lightness is especially desired in a building. In these same views, Figs. 3 and 4, I also illustrate a construction where the legs 3 3 of the floor units are provided with transverse tie-bars 12 12, embedded in the plastic material of the legs in the course of their construction in any suitable manner, so as to firmly fix them therein, the said tie-bars being arranged at any suitable point or points in the breadth of the unit, or, if preferred, provision can be made for attaching the ties after the unit is made. The ties serve the double purpose of strengthening the molding and as a convenient attachment for suspended ceilings. I also provide the floor unit when it is convenient with one or more eyebolts 13, which may thus afford means for lifting and setting in place conveniently and the lower ring of which may be used to support a suspender 14, which in turn will assist in carrying the weight of the suspended ceiling.

The figures illustrate the manner in which my floor units are to be united together into one structure to form the floor and, where required, the ceiling also of a building. I prefer that the units should be made of concrete and should be manufactured at a factory, where conveniences for so doing are more readily accessible than in the building where the floor is to be erected. I do not limit myself, however, to the manufacture of

these units elsewhere than at the point of erection. The units having been thus made with or without the internal metallic cores or bars, I-bolts and tie-beams are brought to the building where they are to be erected and where the beams are already in place, and the grooves 9 having been filled with mortar or similar binding material the units are set in place adjacent to each other and after a short time will be found to be joined together by the setting of the mortar or binding material. The space 15 on each side of the I-beams and above the surfaces of the floor units may conveniently be filled with cinders, forming a space in which pipes and other conveniences of the building may be placed. Above this cinder layer 15 will come the floor 16, which may be made of any suitable material. Where the form of floor units shown in Figs. 3 and 4 is employed, the spaces on each side of the I-beams 17 17 may be used as air-spaces, and the same is true of the space beneath the floor units.

In Figs. 3 and 4 I also illustrate the construction where a metal-lath ceiling 18 is suspended from the tie-beams of the floor units and is subsequently plastered or otherwise treated on its lower surface. The space 19 beneath the I-beam in the construction shown in Fig. 1 may also be left as an air-space without detriment.

The advantages of my invention are considerable. The floor units require no centering, and therefore the false work commonly employed for the support of materials of construction of this class is entirely done away with and does not hinder the other operations of the workmen upon the building. The units are manufactured in time to acquire suitable strength before they are used in the building and can be loaded to their maximum without delay, which is of great advantage. The units weigh less than any structure of similar strength known to me. If made of proper materials, they are completely fireproof, and if the steel rods are embedded therein to the total exclusion of the air there is no danger of rusting or deterioration from oxidation.

What I claim as new is—

1. In a fireproof floor construction a floor unit or member made of plastic material and provided with legs made integral therewith and adapted to rest upon the bottom flange of the supporting metal beam and provided with a top extension-piece adapted to bear upon and cover the top flange of the same beam.

2. In a fireproof floor construction, a floor unit or member made of plastic material and provided with legs adapted to rest upon the

bottom flange of the supporting metal bottom and a top extension-piece adapted to bear upon and cover the top flange of the same beam and also provided with metallic rods at suitable places therein.

3. In a fireproof floor construction, a floor unit or member made of plastic material provided with legs adapted to rest upon the bottom flange of the supporting metal beam and a top extension-piece adapted to bear upon and cover the top flange of the same beam, and also provided with grooves upon each lateral face for the reception of mortar or similar binding material whereby it may be connected to an adjacent unit or member.

4. In a fireproof floor construction, a floor unit or member made of plastic material and provided with legs adapted to rest upon the bottom flange of the supporting-beam, and provided with a tie-bar extending transversely across the bottom of the unit and suitably secured to the legs thereof.

5. In a fireproof floor construction, a floor unit or member made of plastic material provided with legs adapted to rest upon the bottom flange of the supporting-beam, provided with a tie-bar extending transversely across the bottom of the unit and suitably secured to the legs thereof, and with an eyebolt embedded at suitable places therein.

6. In a fireproof floor construction, the combination with two floor units or members provided with legs and adapted to rest upon opposite sides of the bottom flange of the supporting metal beam, of a metal lath underneath the said beam and between the lower extremities of the legs of the said units.

7. In a fireproof floor construction, the combination with two floor units or members provided with legs and adapted to rest upon opposite sides of the bottom flange of the supporting metal beam of a plaster filling-piece beneath the said beam and between the adjacent legs of the floor units resting thereon.

8. In a fireproof floor construction, the combination with two floor units or members provided with legs and adapted to rest upon opposite sides of the bottom flange of the supporting metal beam and a plaster filling-piece beneath the said beam and between the adjacent legs on the floor units resting thereon, with an air-space between the upper surface of said plaster and the lower surface of the beam.

Witness my hand this 30th day of July, 1902, at the city of New York, in the county and State of New York.

EDWIN THACHER.

Witnesses:

HERMAN MEYER,
M. HYNDMAN.