

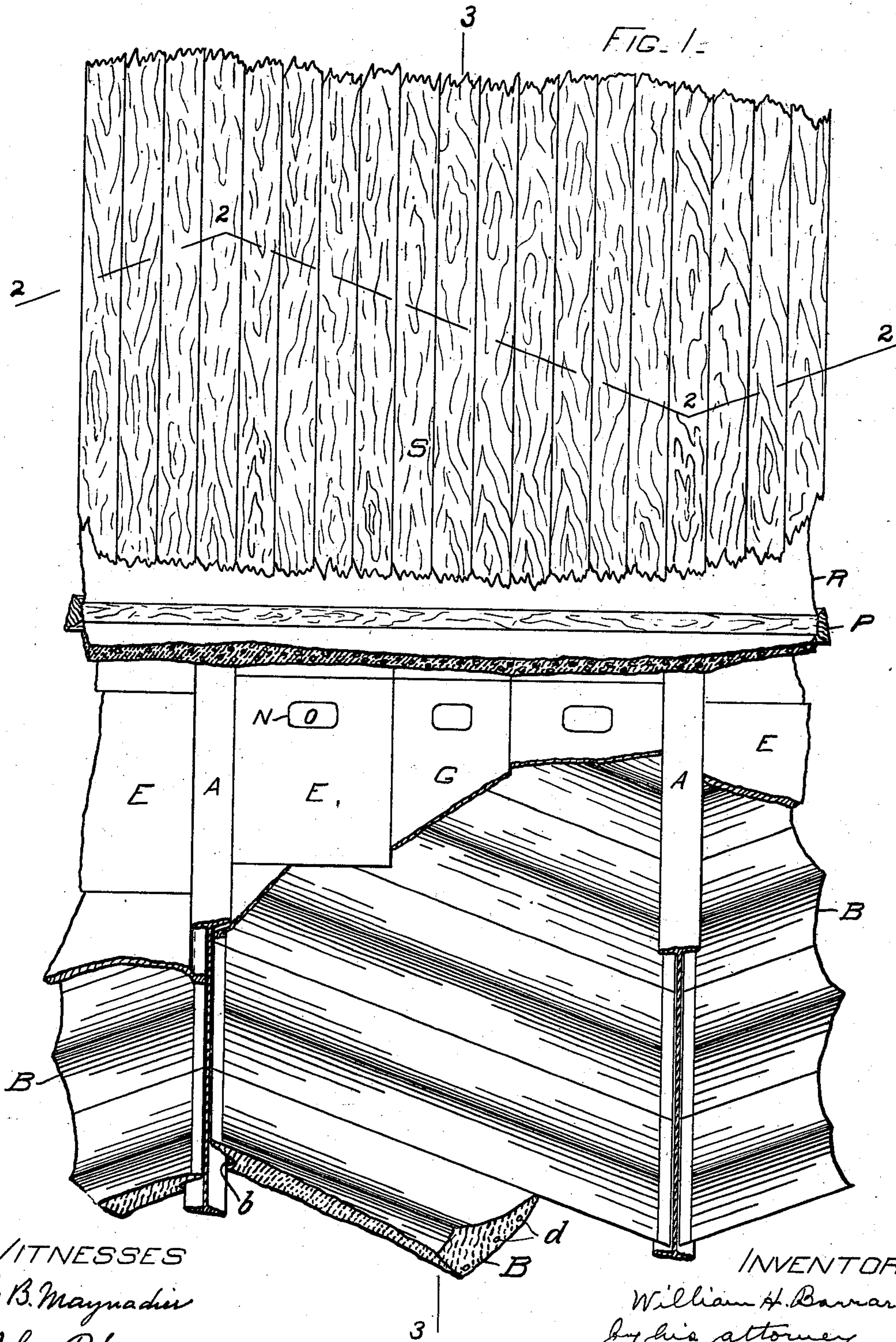
No. 702,616.

Patented June 17, 1902.

W. H. BARRAR.
FLOOR CONSTRUCTION.
(Application filed Apr. 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES
C. B. Maynard
John R. Snow.

INVENTOR
William H. Barrar,
by his attorney
J. E. Maynard.

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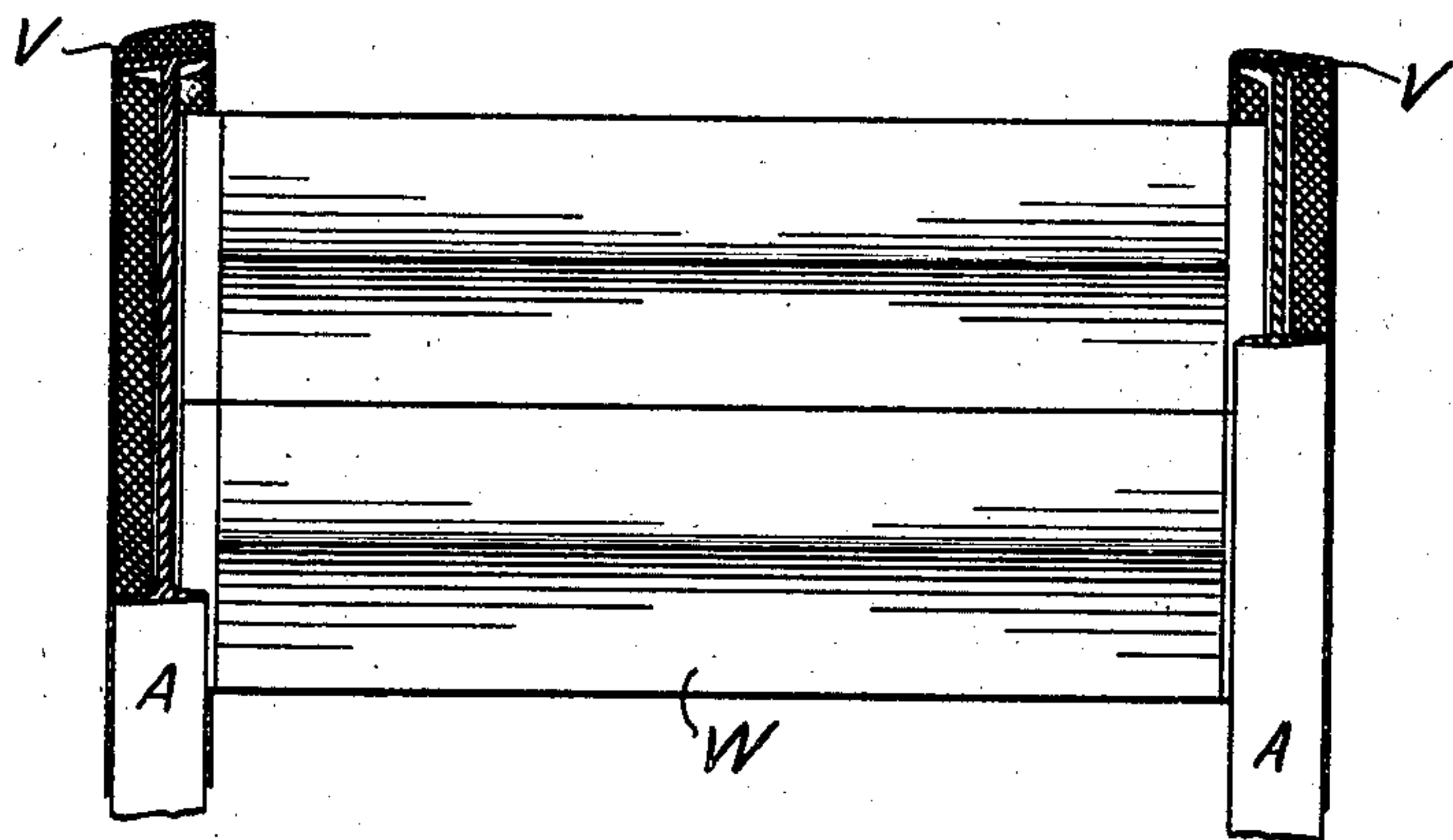
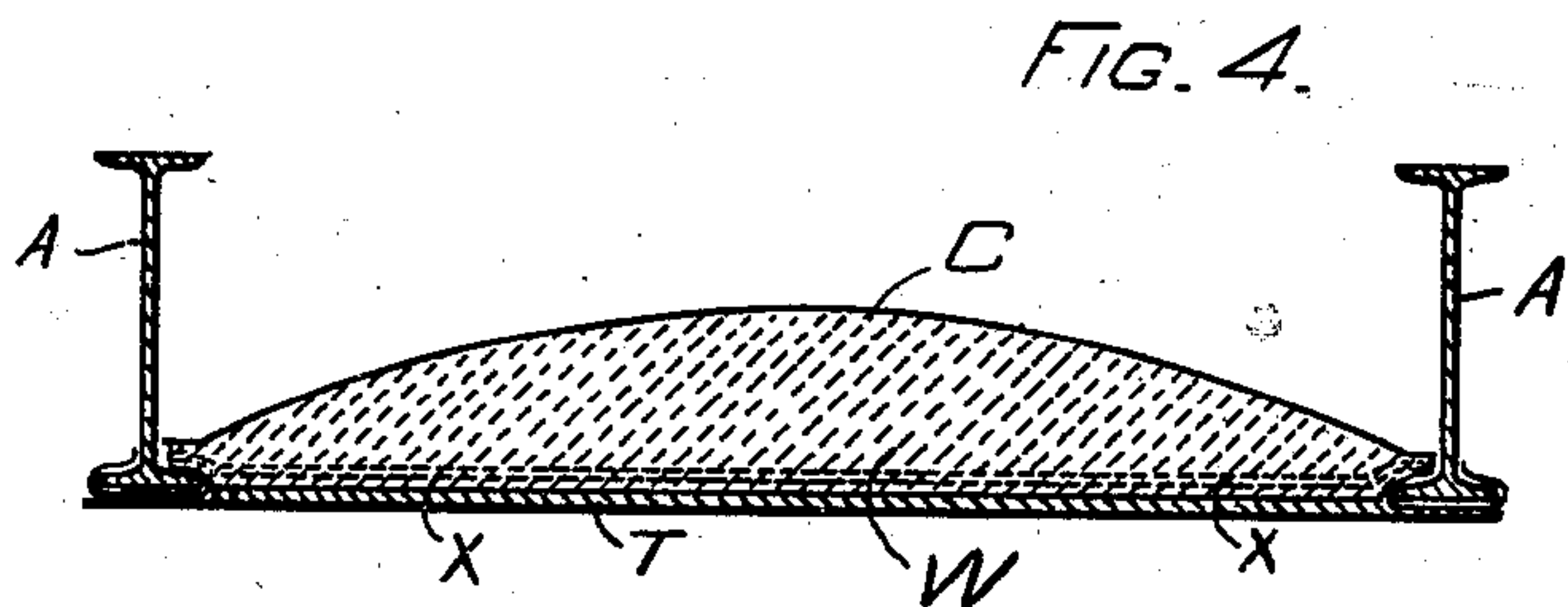
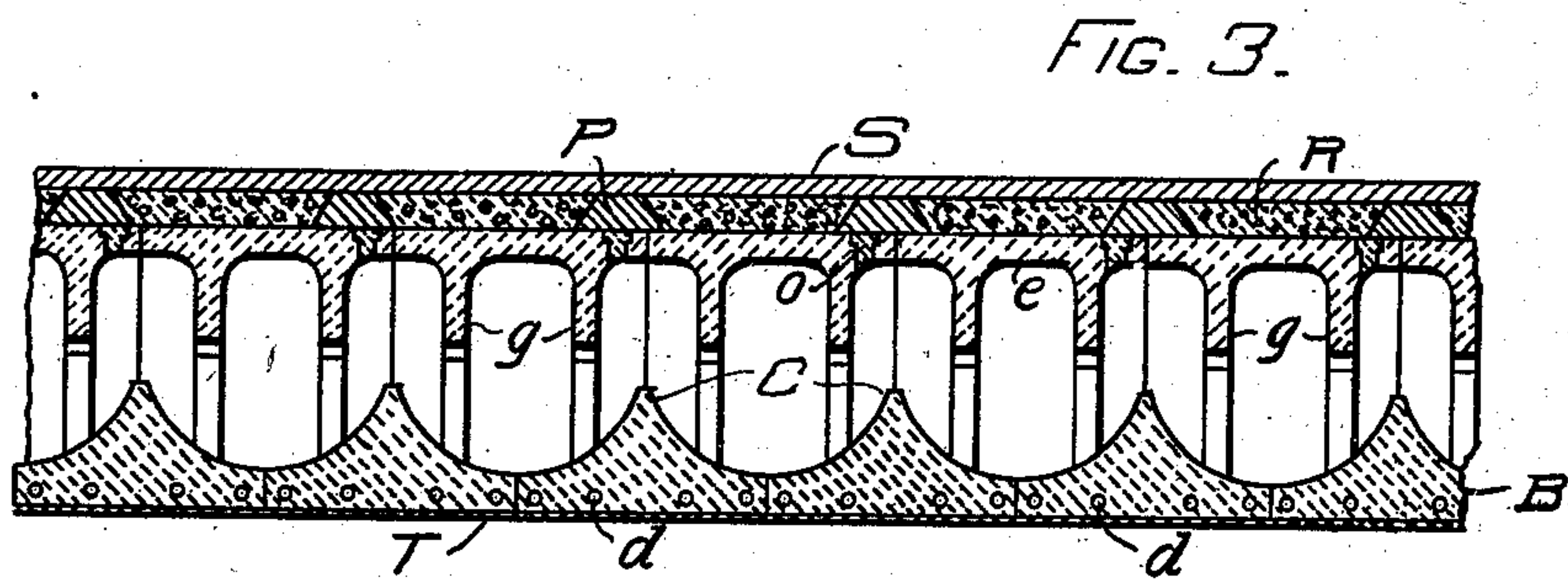
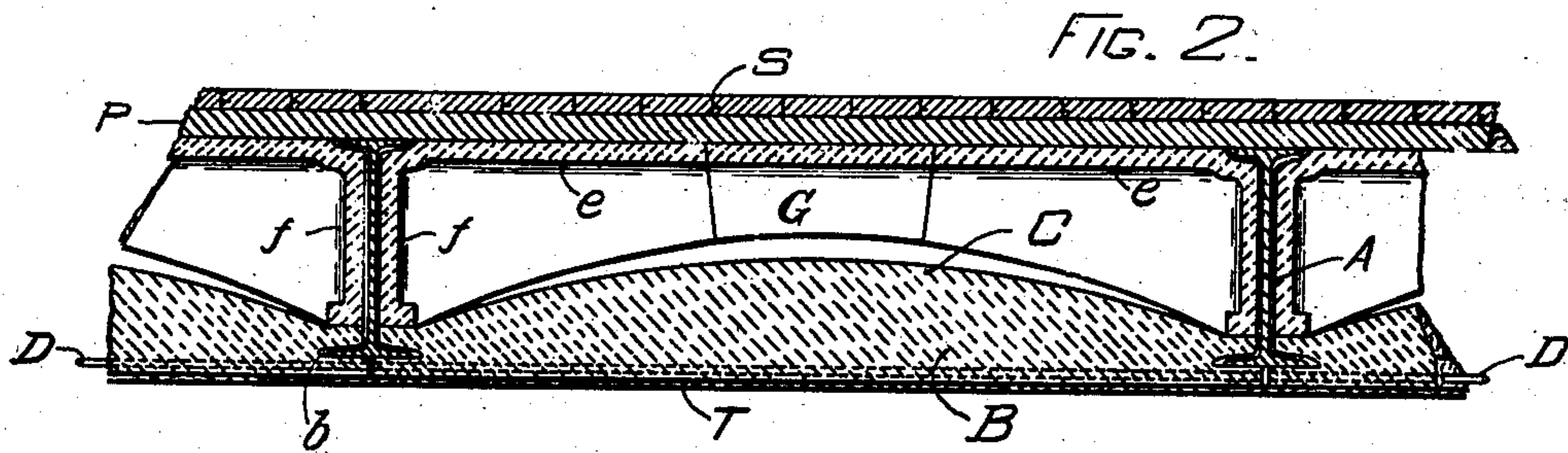
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UNITED STATES PATENT OFFICE.

WILLIAM H. BARRAR, OF BOSTON, MASSACHUSETTS.

FLOOR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 702,616, dated June 17, 1902.

Application filed April 4, 1901. Serial No. 54,245. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BARRAR, of Boston, in the State of Massachusetts, have invented an Improvement in Floor Construction, of which the following is a specification.

The objects of my invention are to provide a floor construction that will be less expensive than any reliable floor construction now known and yet be of ample strength to sustain the load to which it is to be subjected and also to provide a properly-ventilated floor construction.

My invention consists in the combination of I-beams, sets of plates forming an arch with a flat top, and lower plates supporting the ends of the arch and each extending from I-beam to I-beam and supported by the I-beams.

In the drawings, Figure 1 is a plan, partly broken away, of my improved floor construction. Fig. 2 is a section on line 2 2 2 2 of Fig. 1. Fig. 3 is a section on line 3 3 of Fig. 1. Fig. 4 is a section of a modified form, and Fig. 5 is a plan of the modified form.

In the drawings, A A are I-beams. B B are lower plates, of Portland cement or the like, with segmental ribs C C. These plates are rhomboidal in plan and have grooves *b b* along their ends to receive the ribs of the I-beams.

D D are tubes, of tin or the like, to form passages *d d* for better ventilation.

E E are upper plates, of cement or the like, with horizontal webs *e e* extending less than half-way across from I-beam to I-beam, with vertical webs *f f* extending down to the lower plates B B, and segmental ribs *g g* connecting the webs.

G G are flat plates with ribs and form the keystone of the arch.

N N are hand-holes in the upper plates and keystones, O O are stoppers for the hand-holes, P is wood screed, R is concrete, S is planking, and T is plastering.

In using my construction the I-beams are placed in position as usual. The lower plates are then laid across from one I-beam to the other, the rhomboidal form of the plates enabling their grooved ends to engage the ribs of the I-beams. The upper plates are then put in position with their webs *f f* against the I-beams, and each plate extends less than half-way across the span and is held by the

workmen until the keystone G is placed between two opposite plates, completing the arch, while the top of the arch is flat and ready to receive the flooring. The upper and lower plates may of course have as many ribs as desired, according to the load to be carried. Upon the upper plates and keystones is laid the flooring, which is shown as made of wood screed, concrete, and planking; but of course any suitable flooring may be used.

In the modification, Figs. 4 and 5, the lower plates W are formed as in the other figures, except that they lack the grooved ends, and therefore do not cover the under surface of the ribs of the I-beams, and those ribs are covered by wire-netting V, and the plastering T covers the under surface of the lower ribs of the I-beams. The air-passages *x x* are similar to *d d*. In this modification the lower plates W may be rectangular in plan, for they can be put in place by first resting one end on the lower rib of the I-beam and then lowering the other end until it rests on the lower rib of the opposite I-beam.

What I claim as my invention is—

1. In a floor construction the combination of I-beams; sets of plates forming an arch with a flat top, the I-beams forming the abutments of the arch and the middle plates of the sets forming the keystones, the end plates each having a horizontal web and a vertical web, with rib connections between the webs; and lower plates supporting the ends of the arch, and each extending from I-beam to I-beam and supported by the I-beams.

2. In a floor construction the combination of I-beams; sets of plates forming an arch with a flat top, the I-beams forming the abutments of the arch and the middle plates of the sets forming the keystones, the end plates each having a horizontal web and a vertical web, with rib connections between the webs; and lower plates supporting the ends of the arch, and each extending from I-beam to I-beam and supported by the I-beams, each lower plate being ribbed upwardly, substantially as shown.

WILLIAM H. BARRAR.

Witnesses:

C. B. MAYNADIER,
G. A. ROCKWELL.