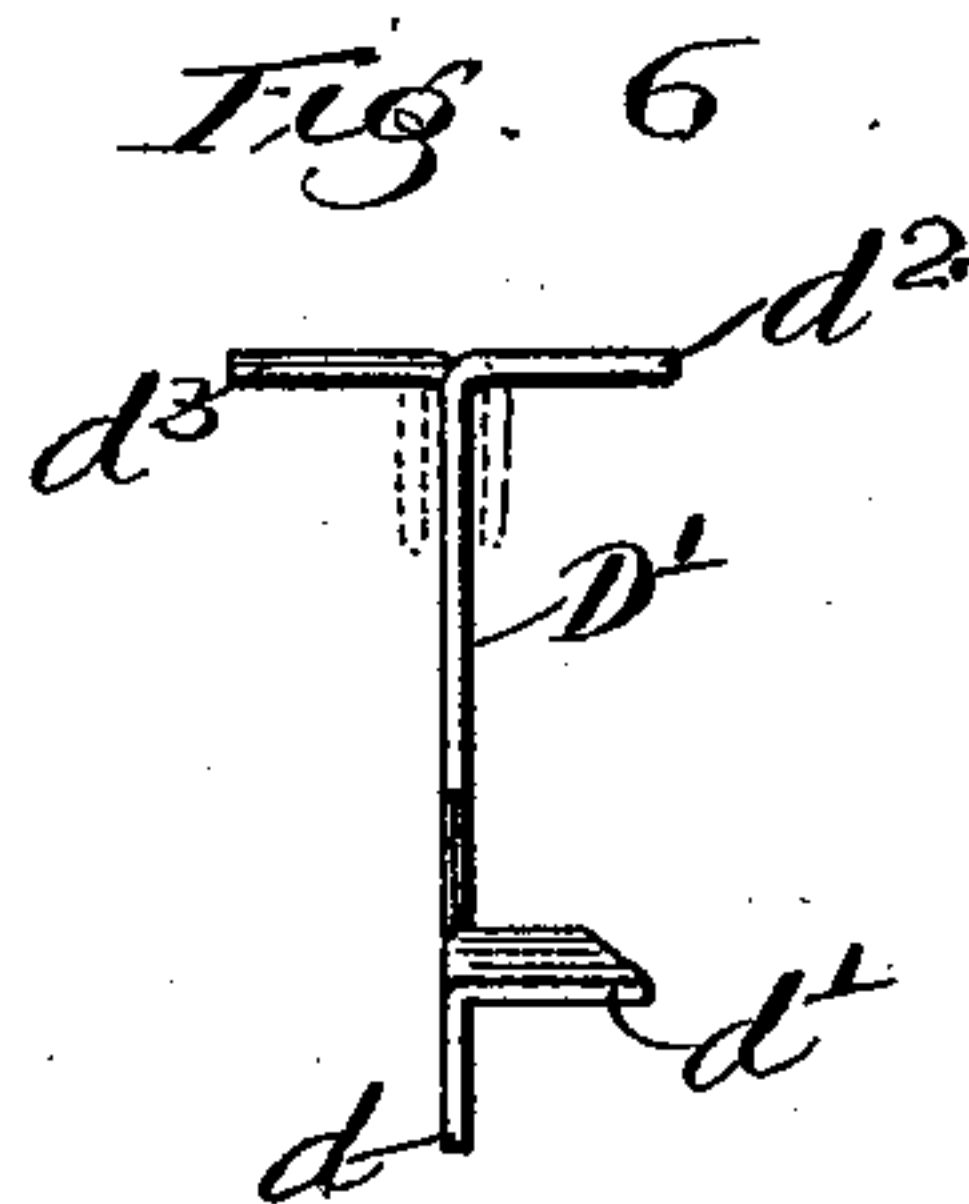
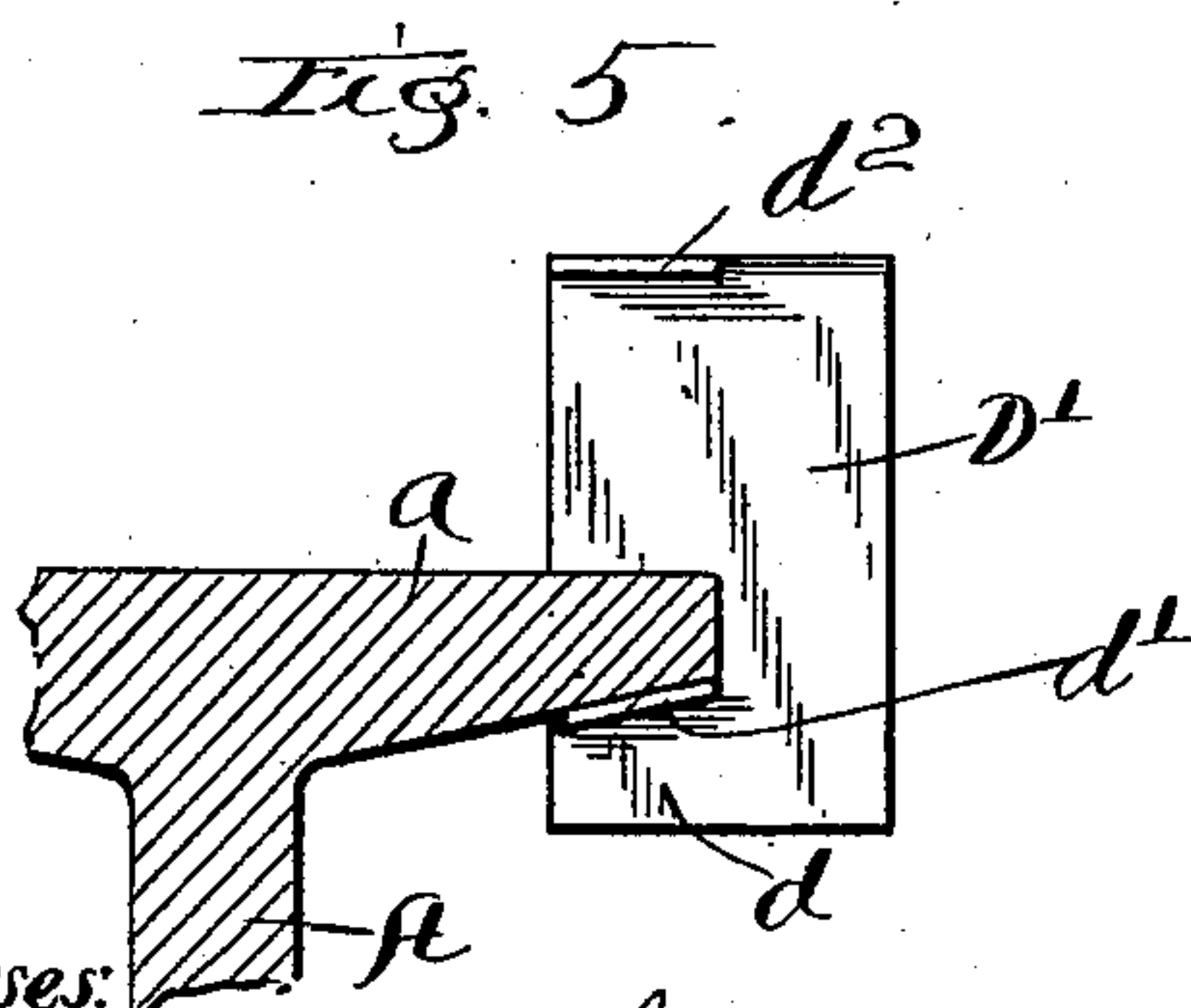
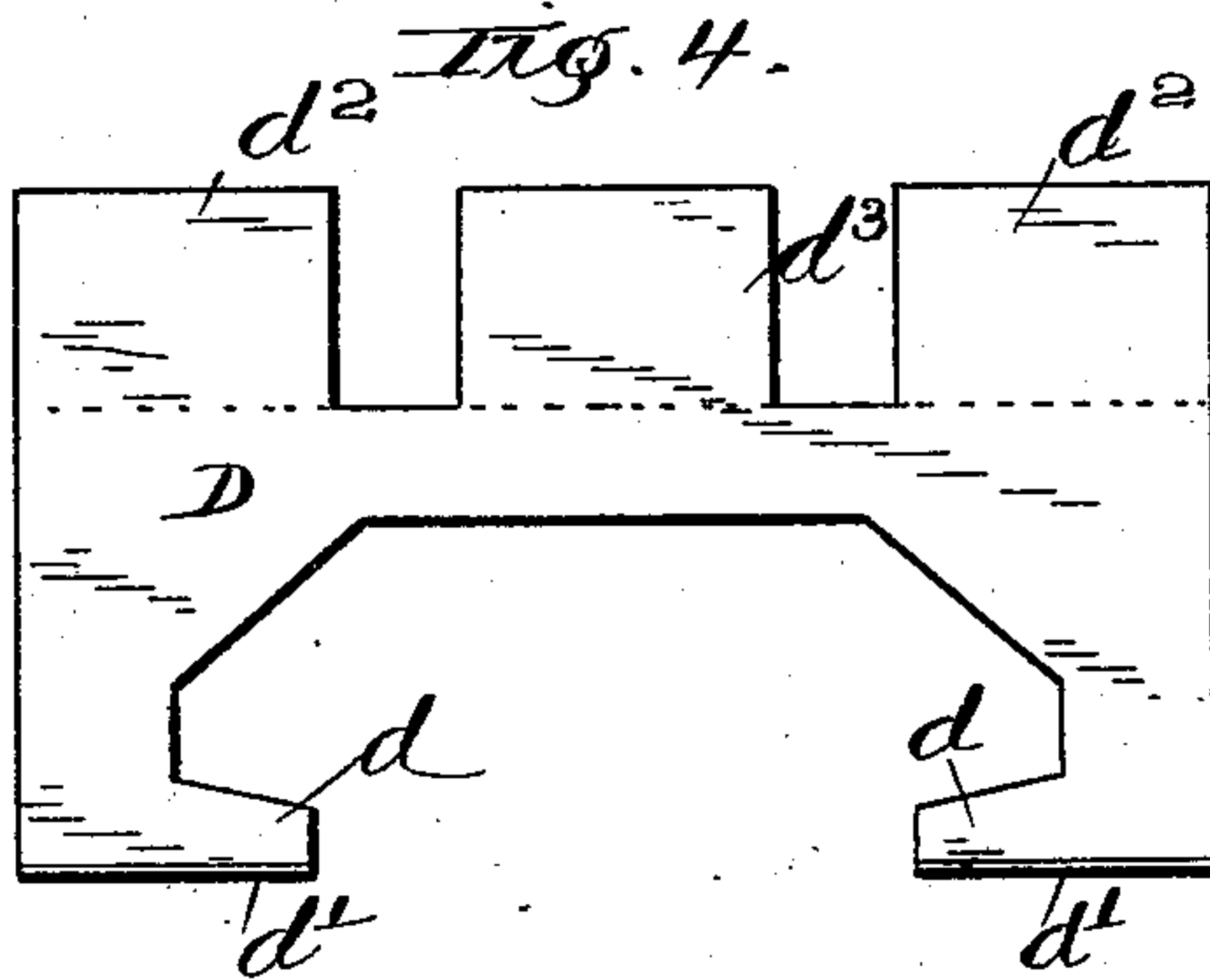
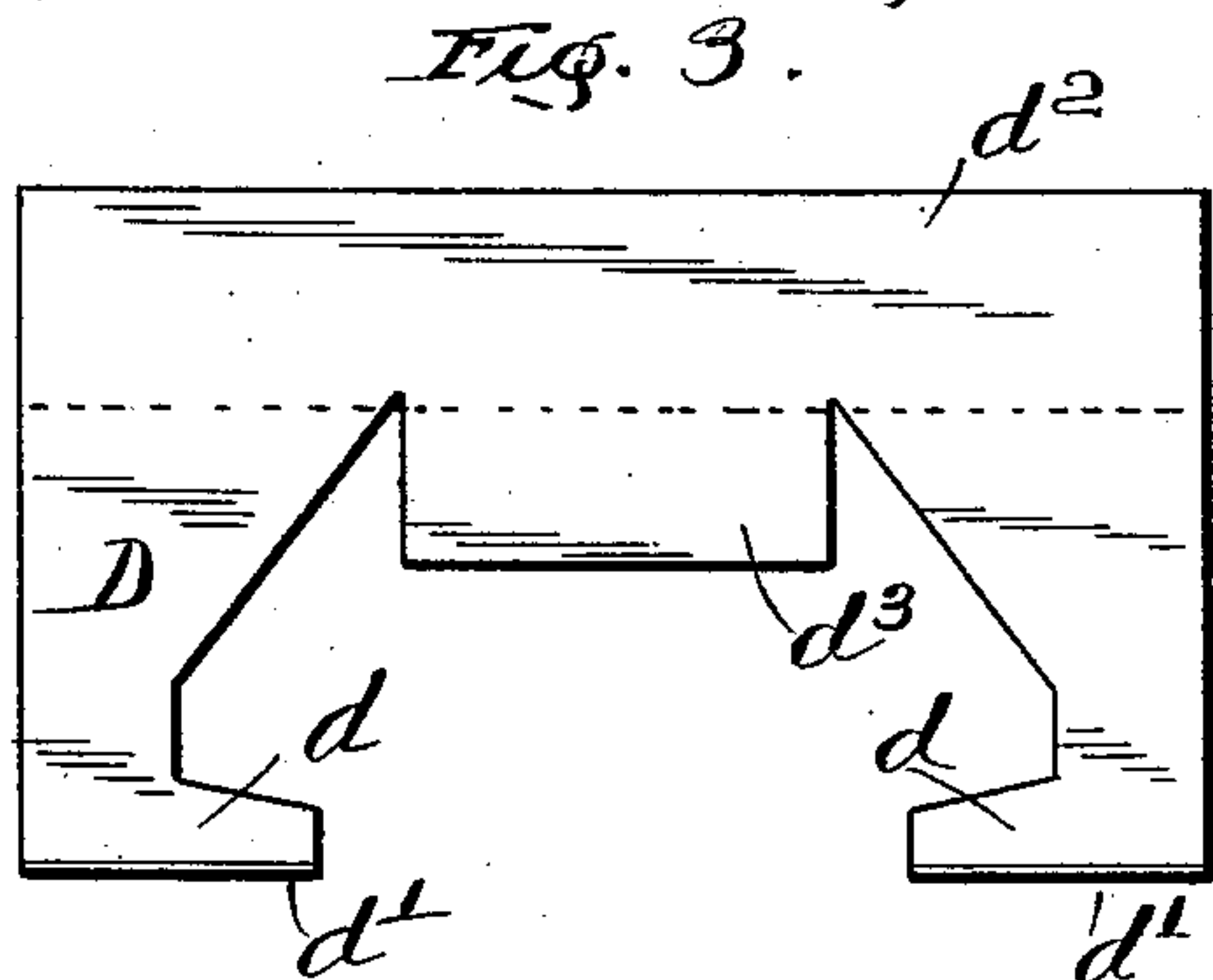
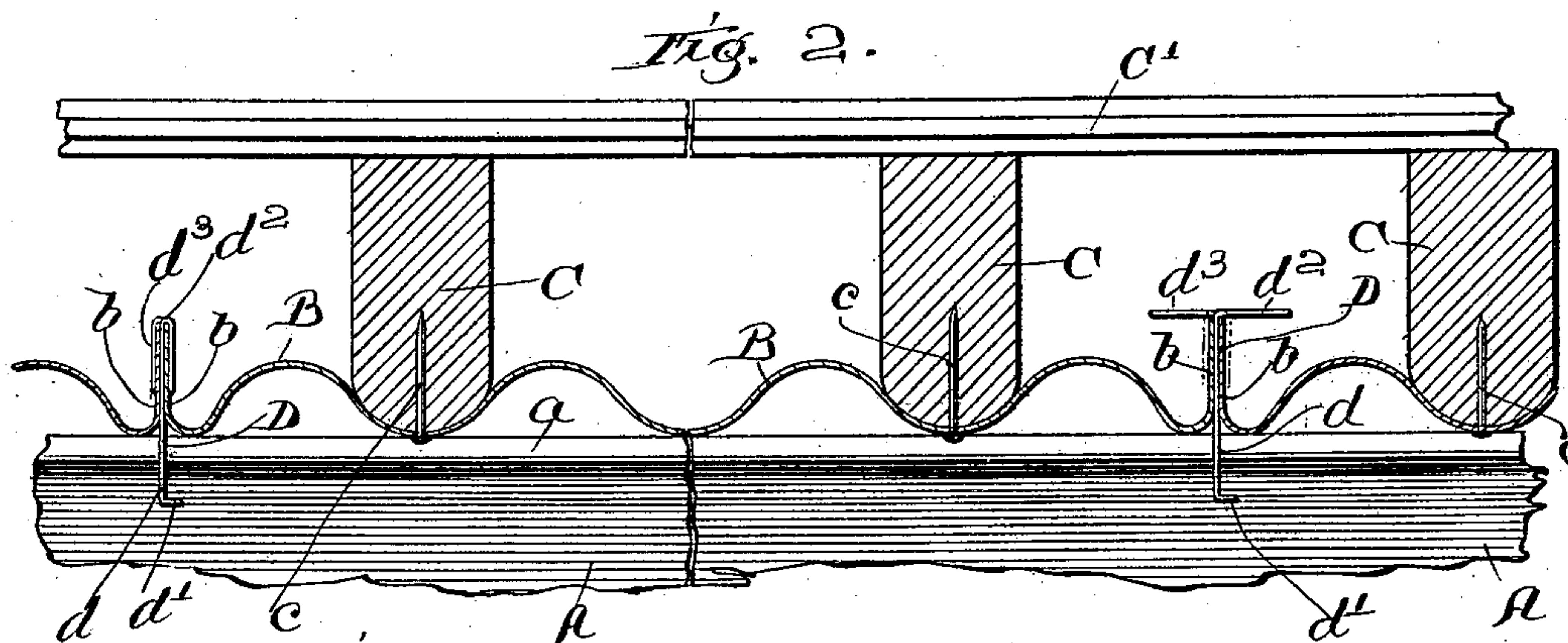
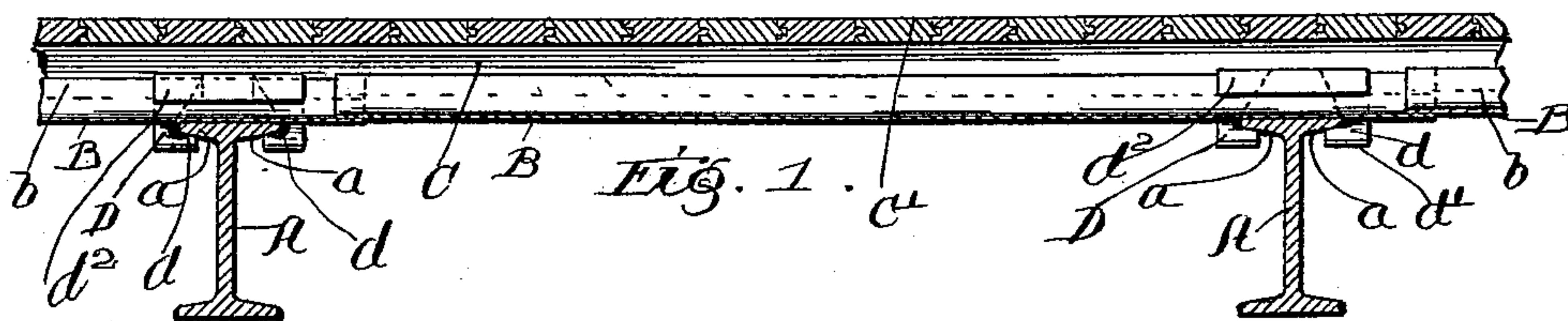



(No Model.)

H. B. SEELY.
FIREPROOF FLOORING.

No. 540,694.

Patented June 11, 1895.



Witnesses:  A. H. ^a
Charles Sharvey
A. H. Ebbesen

Inventor:
Herman B. Serly
By Wiles & Wines Attys.

UNITED STATES PATENT OFFICE.

HERMAN B. SEELY, OF CHICAGO, ILLINOIS.

FIREPROOF FLOORING.

SPECIFICATION forming part of Letters Patent No. 540,694, dated June 11, 1895.

Application filed November 19, 1894. Serial No. 529,226. (No model.)

To all whom it may concern:

Be it known that I, HERMAN B. SEELY, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fireproof Floorings, of which the following is a specification.

My invention relates to improvements in fire proof floorings, its object being to provide a cheap and simple construction comprising the usual steel or iron beams, metal sheets resting upon the beams, flooring strips resting upon the metal sheets and supporting the floor boards, and suitable means for fastening the metal sheets in place upon the beams and preventing warping or buckling of the sheets.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a vertical section of a fireproof floor embodying my improvements, the floor-beams being shown in transverse section. Fig. 2 is an enlarged vertical section of the floor, the plane of section being parallel with the floor-beams. Figs. 3, 4, 5, and 6 are detail drawings showing forms of devices for tying the metal sheets to the beams.

In the views, A, A are the usual beams having flanges, *a, a*, and B, B are sheets of metal preferably corrugated, resting on the beams and having upturned margins, *b, b*, contiguous to each other and at right angles to the beams. Flooring strips, C, C, resting upon the sheets, B, B, are held in place by nails, *c, c*, passing through the sheets, the lower edges of the strips being shaped to conform to the surface on which they rest. When the corrugated sheets are used, as shown in my preferred construction, the flooring strips rest in the gutters of the sheets and are rounded as clearly indicated in Fig. 2. The usual flooring boards, C', are nailed transversely upon the flooring strips as shown in Figs. 1 and 2.

In order to hold the sheets firmly in place upon the beams and prevent warping and buckling I have found it necessary to tie their edges to the beams, and for this purpose a fastener lying between the upturned margins of the contiguous strips and embracing the upper flanges of the beam is a most convenient and economical device. Such a fastener

is shown in Figs. 1, 2, and 3, in which D is a sheet metal plate lying between the upturned edges, *b, b*, of the sheets and having at its lower edge two jaws, *d, d*, lying beneath the margins of the upper flanges, *a, a*, of a beam. The jaws, *d, d*, may be strengthened and stiffened by a lateral flange, *d'*, as shown in the drawings. A portion of the stock of the plate above the jaws, *d, d*, is cut away leaving a downwardly extending lug, *d³*, and the width of the plate is such that when in working relation, the portion of the plate above the dotted lines in Fig. 3, extends above the upturned margins of the sheets, B, between which it lies. In applying this fastener it is brought into engagement with a beam and into contact with the upturned edge, *b*, of a sheet. The part, *d²*, of the plate is then bent over the edge of the sheet and downward into the position shown in Fig. 2, this bending being adapted to turn the lug, *d³*, upward. A second sheet, B, is then put in position, its upturned edge, *b*, being in contact with the opposite face of the plate, D. The lug, *d³*, is then bent downward over the edge of this sheet and the fastening is thus completed. A modified form of this fastener is shown in Fig. 4, the parts, *d²*, *d³*, being all formed in the upper edge of the plate, D, and being separated by vertical slots. The lugs, *d²*, *d²*, may evidently be bent downward over the edge of one sheet and the lug, *d³*, over the edge of the adjacent sheet.

Figs. 5 and 6, show a fastener adapted to engage the margin of a single flange of the beam, A, instead of both flanges. This flange consists of a plate having a jaw, *d*, at its lower edge, the jaw being preferably reinforced by a flange, *d'*. The upper edge of the plate is split to form two lugs, *d²*, *d³*, adapted to be bent downward over the edges of two contiguous sheets. This form while operative, is not as convenient of application as the form shown in the preceding figure, for the reason that it is more liable to accidental displacement during the assembling of the parts, though when once in place, it retains its position and forms a practical fastener.

The application of the flooring strips, C, C, to the metal sheets, B, B, is a very simple matter, since the strips may be placed in suitable relation upon any flat surface and the

sheets may be placed upon them and fastened to the mby nails, after which the whole structure may be inverted, the sheets being made the base of support for the strips.

5 Having now described and explained my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fire proof flooring, the combination with suitable beams, of corrugated metal
10 sheets resting on the beams, flooring strips seated in the gutters of the sheets, and held in place by nails passing through the sheets and flooring boards resting on and fastened to the strips.

15 2. In a fire proof flooring, the combination with suitable beams, flanged at their upper edges, of metal sheets resting on the beams, and fastenings lying between the contiguous edges of the metal sheets and engaging
20 the sheets and embracing the flanges of the beams, whereby the edges of the sheets are tied to the beams.

3. In a fire proof flooring the combination with beams flanged at their upper edges, of
25 metal sheets resting on the beams and vertical plates lying between said sheets and tying them to the beams, said plates being in engagement at their upper edges with said sheets and being formed at their lower edges
30 with jaws engaging the flanges of the beams.

4. In a fire proof flooring, the combination with beams flanged at their upper edges, of metal sheets having upwardly turned contiguous edges, and fastenings lying between
35 said upturned edges and engaging the margins thereof, and also the flanges of the beams

whereby the edges of the sheets are tied to the beams.

5. In a fire proof flooring, the combination with beams flanged at their upper edges, of
40 metal sheets resting on the beams and having upwardly turned contiguous edges, and vertical plates lying between the contiguous edges of the sheets and embracing the flanges
45 of the beams and the margins of the sheets whereby the edges of the sheets are tied to the beams.

6. In a fire proof flooring, the combination with beams flanged at their upper edges, of metal sheets resting on the beams and having
50 upwardly turned contiguous edges and vertical plates lying between said upwardly turned edges and tying them to the beams, said plates being formed at their lower edges with jaws engaging the flanges of the beams
55 and at their upper edges with lugs turned outward and downward over the margins of the sheets.

7. The combination with the beams, A, A, having flanges, *a, a*, of the sheets, B, B, resting
60 on the beams and having upwardly turned edges, *b, b*, and the plates, D, D, lying between the contiguous edges of the sheets and formed at their lower margins with jaws, *d, d*, embracing the flanges of the beams and at their
65 upper edges with lugs, *d², d³*, turned outward and downward over the edges of the sheets.

HERMAN B. SEELY.

Witnesses:

CHARLES O. SHERVEY,
A. I. H. EBBESEN.