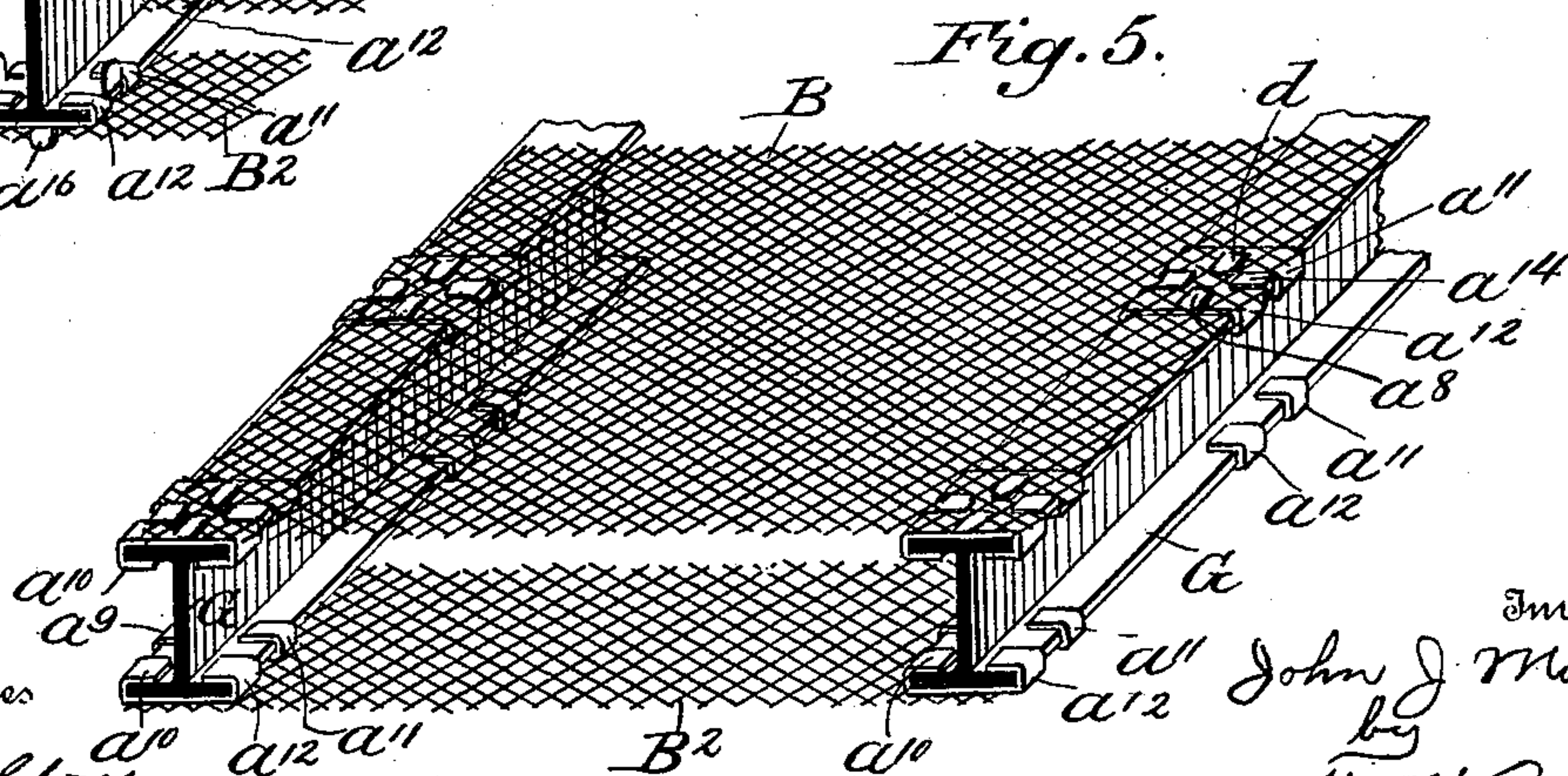
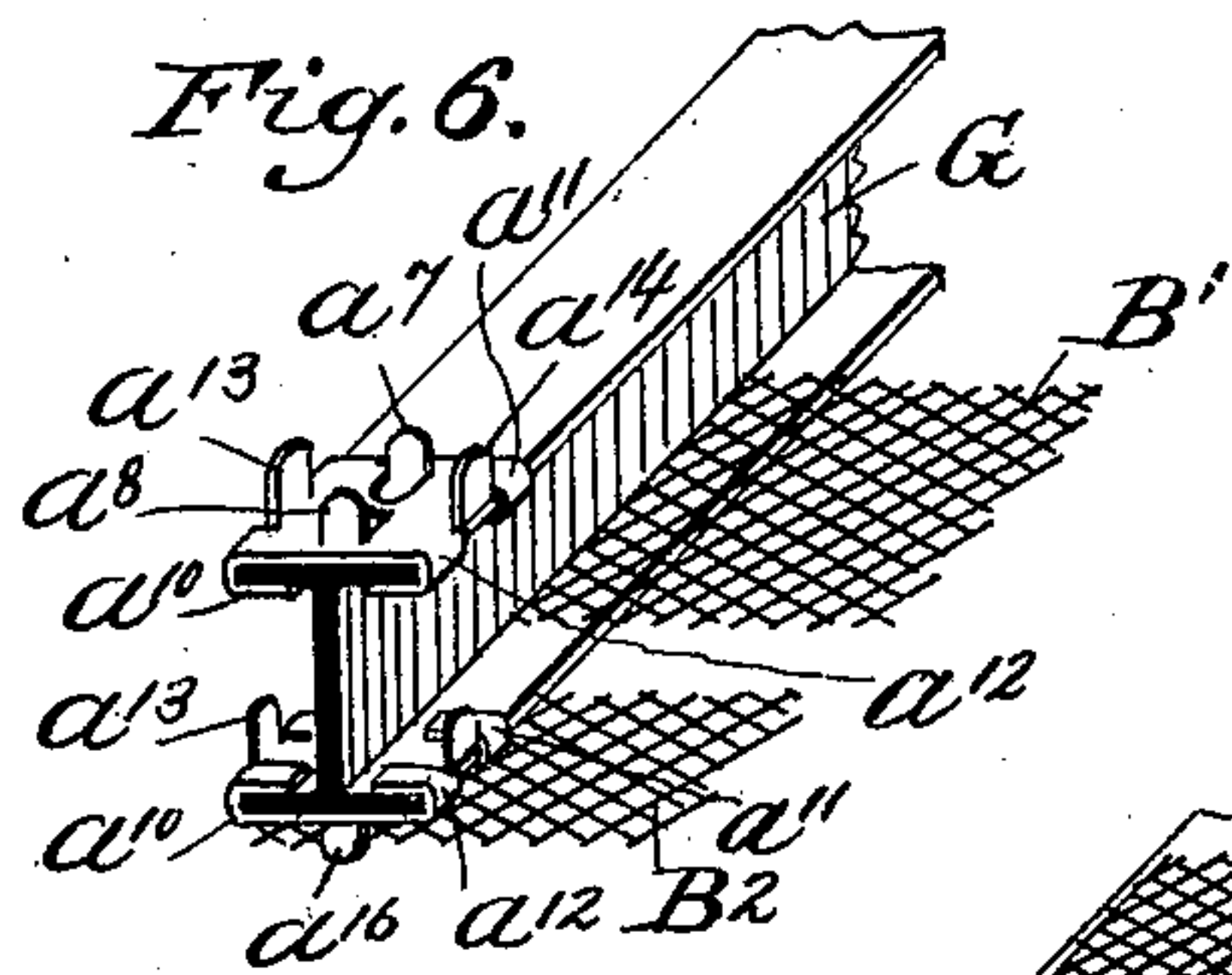
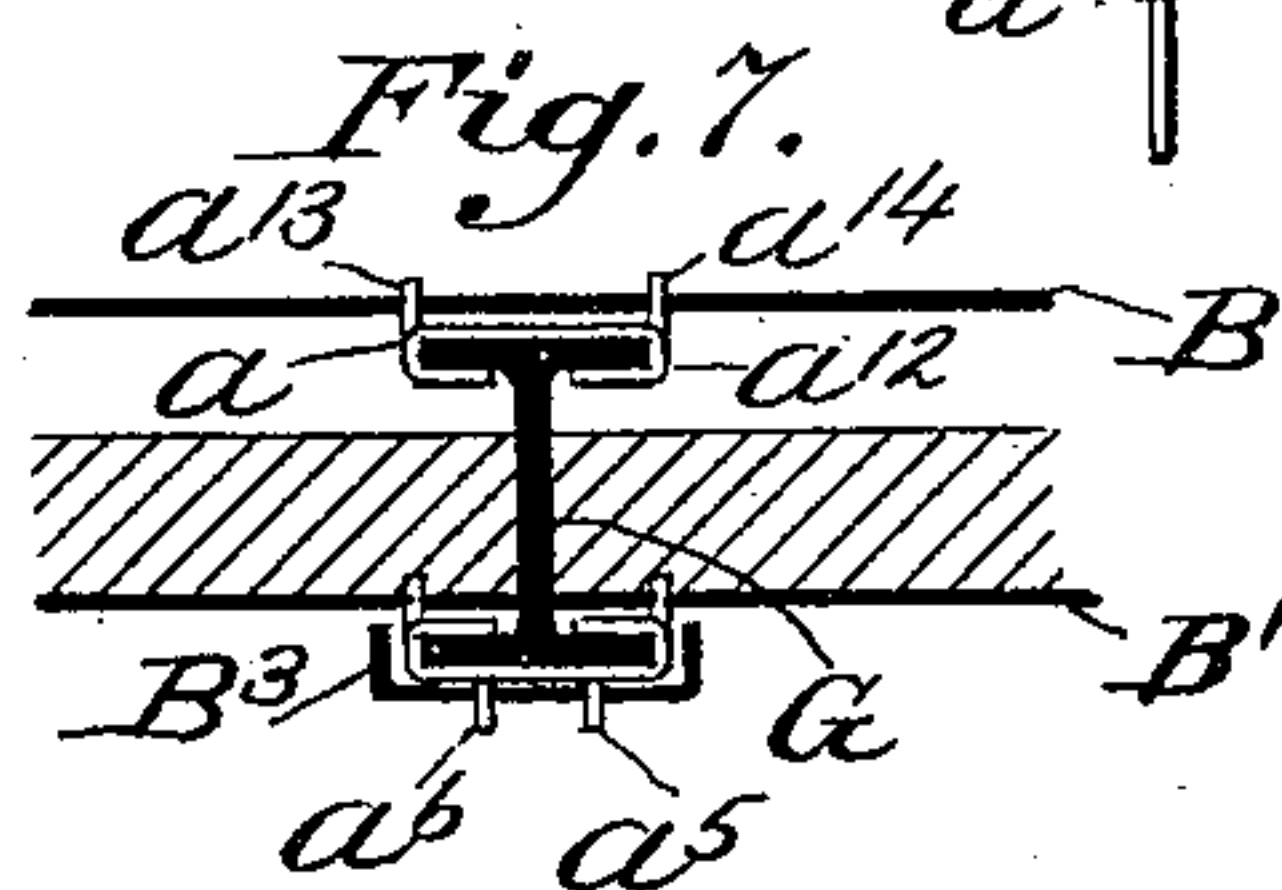
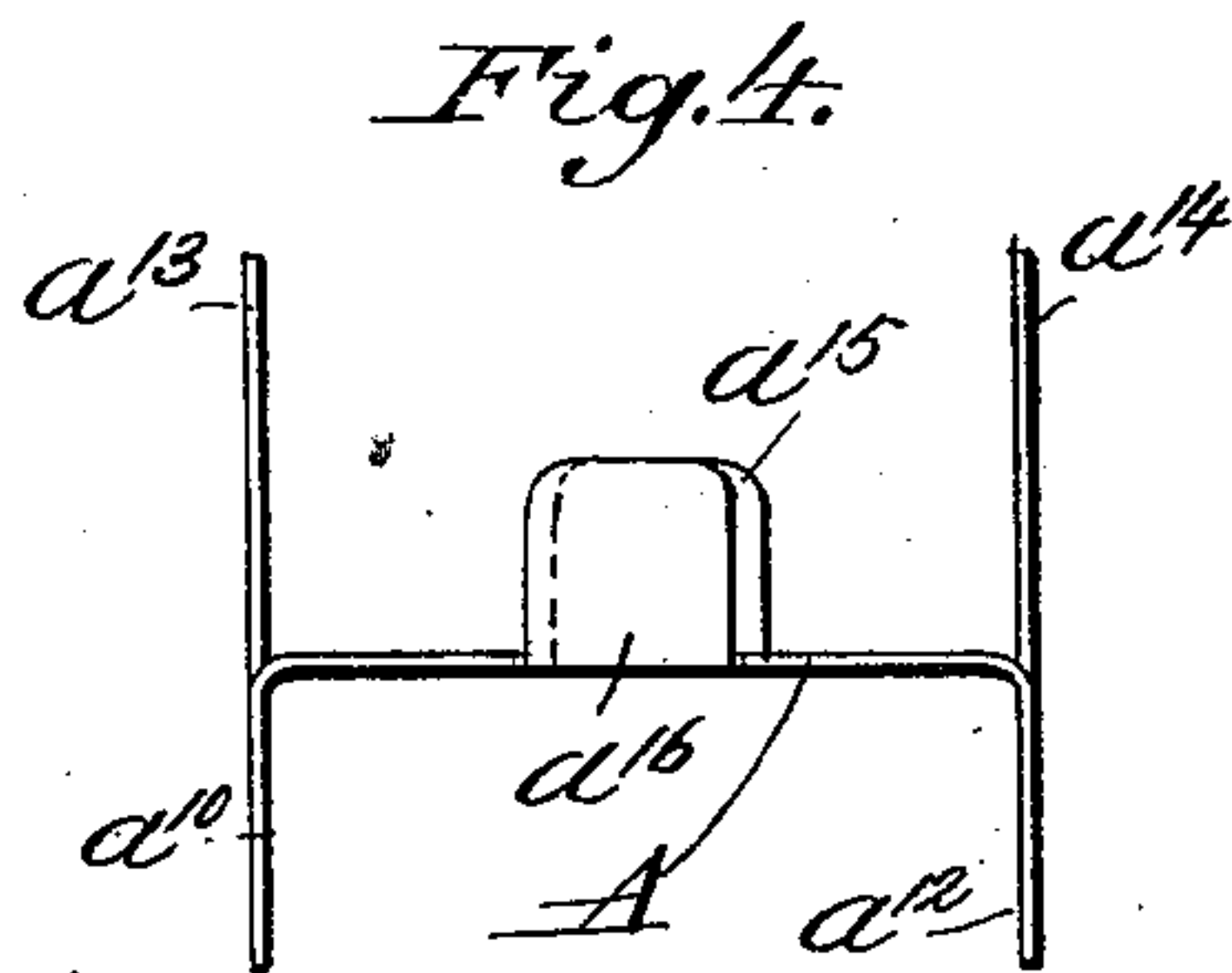
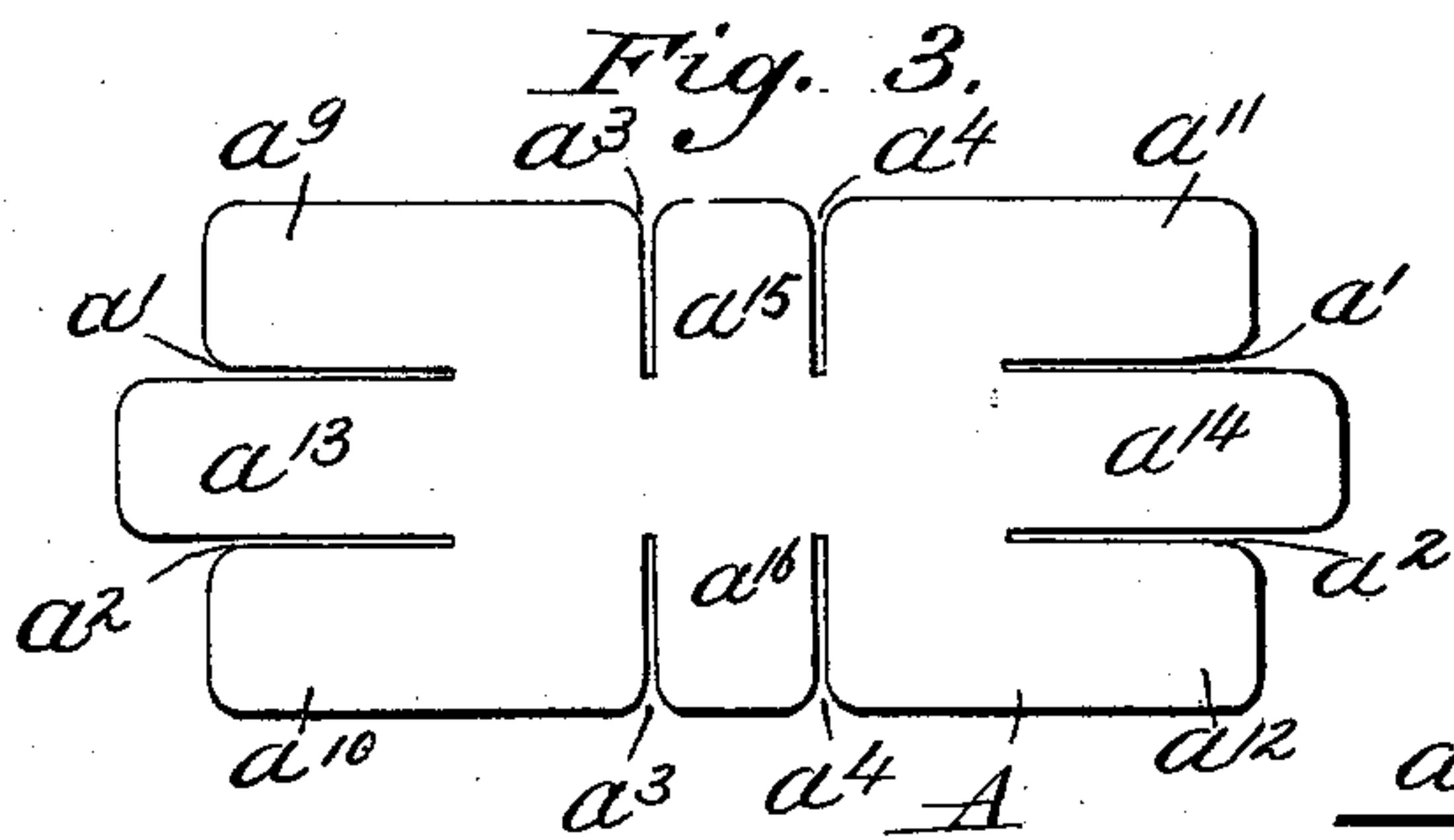
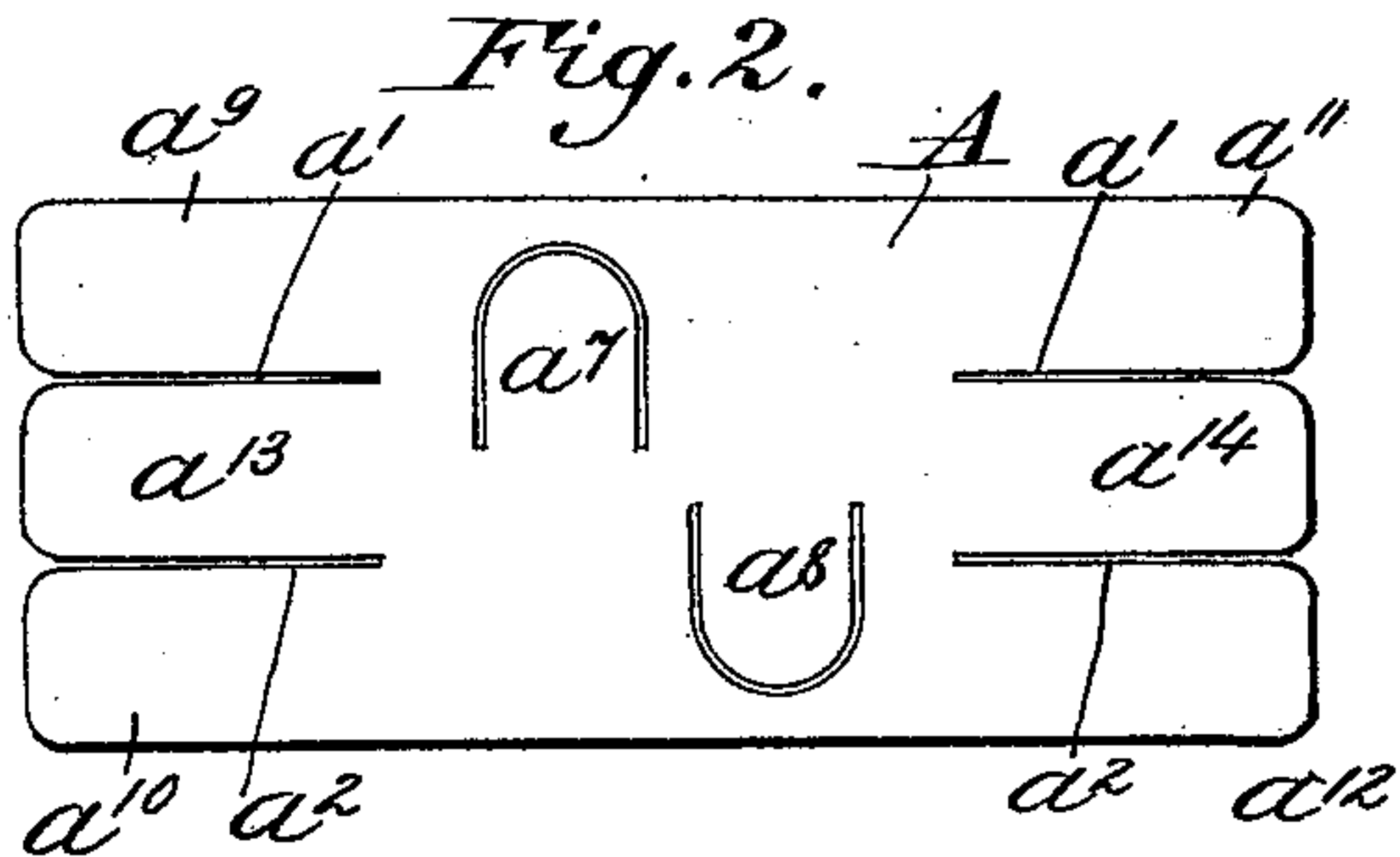
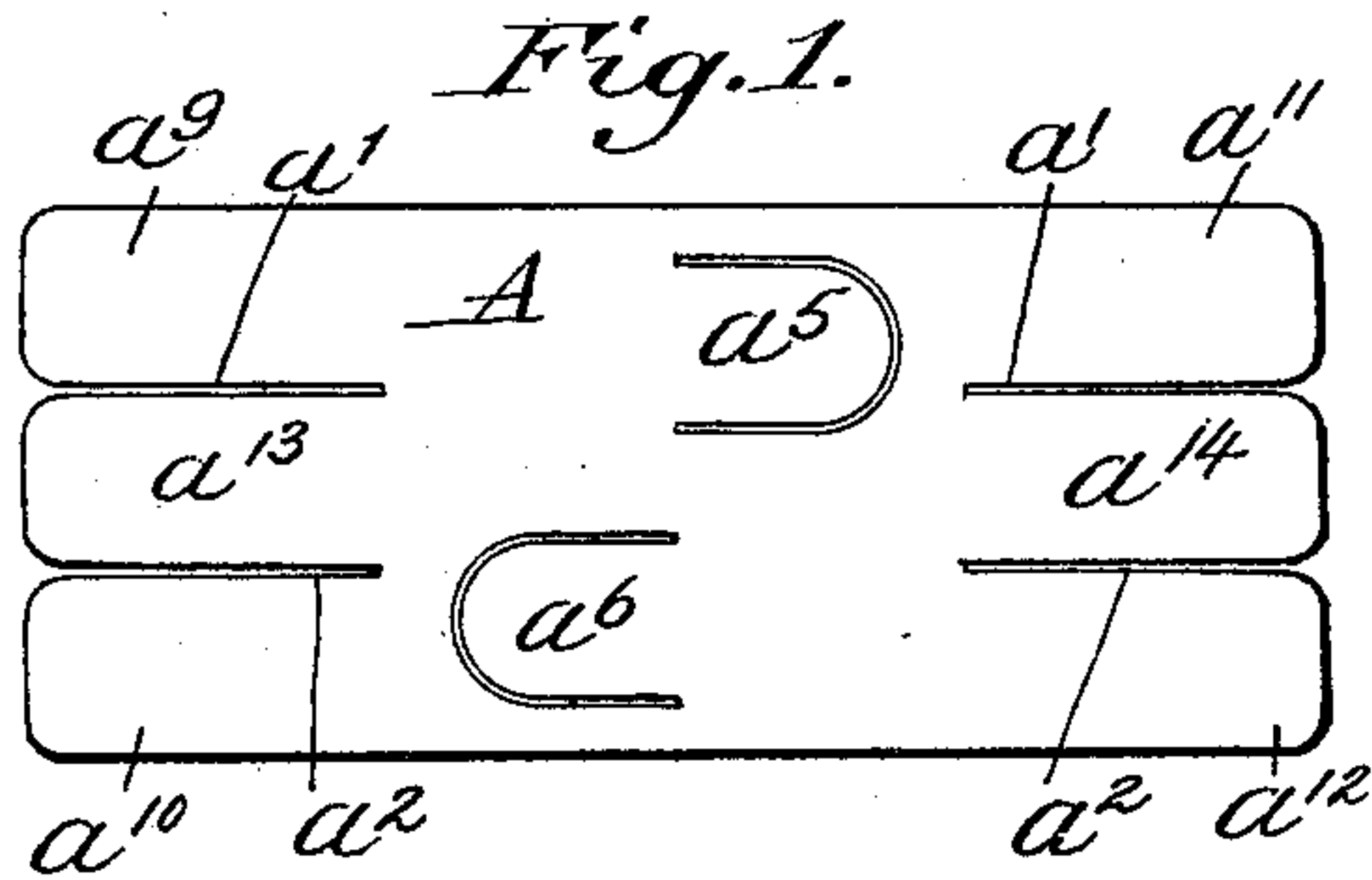


(No Model.)

J. J. MOFFAT.  
FIREPROOF FLOOR, CEILING, WALL, &c.

No. 587,059.

Patented July 27, 1897.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN JAMES MOFFAT, OF BIRMINGHAM, ENGLAND.

## FIREPROOF FLOOR, CEILING, WALL, &c.

SPECIFICATION forming part of Letters Patent No. 587,059, dated July 27, 1897.

Application filed December 28, 1896. Serial No. 617,261. (No model.) Patented in England November 26, 1896, No. 26,847.

*To all whom it may concern:*

Be it known that I, JOHN JAMES MOFFAT, builder, a subject of the Queen of Great Britain, residing at 28 Sampson Road, Camp Hill, Birmingham, England, have invented certain new and useful Improvements in Connection with Fireproof Floors, Ceilings, Walls, and Partitions, (for which I have obtained a patent in Great Britain, dated November 26, 1896, No. 26,847,) of which the following is a specification.

My invention has for its object improvements in connection with fireproof floors, ceilings, walls, and partitions, by which means I greatly simplify the parts and materially reduce the cost of construction.

In carrying my invention into practice I take a strip of sheet-steel or other suitable metal, which may or may not be corrugated, and form one or more slits at either end—by preference two—and in the center, or thereabout, I cut out or form one or more tongues or pieces. When building fireproof floors, this strip of sheet-steel is laid upon the top of the iron girder and the two outsides of the slit ends are turned over and under, binding or clipping the strip to the girder. The center portions of these ends are then turned upward, and also the center tongue or tongues projecting through the expanded metal lathing, wire, or other material which is placed on the top, by which means it can be pulled taut from girder to girder. The center portions of the ends of the strip and the center tongue or tongues may be turned down previous to the concrete or other substance which is placed over the top for forming the floor.

In order that my invention may be clearly understood and more easily carried into practical effect, I have appended hereunto a sheet of drawings, upon which I have illustrated sufficient examples of my improved clip to show the principle of my invention and also the application of the same.

Figures 1, 2, and 3 are enlarged views showing different methods of forming my clips, which are cut from pieces of sheet-steel or other metal. Fig. 4 is a front elevation of Fig. 3, showing the clip ready bent for fixing onto the girder. Fig. 5 is a perspective view showing the clips attached to the girders G and holding the expanded metal lathing in

position. Fig. 6 is a perspective view showing the method of attaching the expanded metal lathing on the inside and outside of the girder. Fig. 7 is a cross-section showing the expanded metal lathing attached in a different manner.

In carrying my invention into practice I form my clip A from a strip of sheet-steel or other suitable metal, which may or may not be corrugated, with two slits  $a'$  and  $a^2$  at either end and two short slits  $a^3$  and  $a^4$  at either side, as shown at Fig. 3, or instead of forming slits at either side I may cut the center portions so as to form the tongues  $a^5$  and  $a^6$ , as shown at Fig. 1, or form the tongues  $a^7$  and  $a^8$ , as shown at Fig. 2. I then bend the ends or fingers  $a^9$ ,  $a^{10}$ ,  $a^{11}$ , and  $a^{12}$  all in one direction and the center portions  $a^{13}$  and  $a^{14}$  and the tongues or parts or fingers  $a^{15}$  and  $a^{16}$  in the opposite direction, as clearly shown at Fig. 4.

When forming my clips from malleable-iron castings, they would not be flat in their normal condition, but bent, as shown at Fig. 4.

When building fireproof floors, the clip is laid upon the girder G and the ends or fingers  $a^9$  and  $a^{10}$  are bent under, so as to clip one side of the girder, and the ends or fingers  $a^{11}$  and  $a^{12}$  clip the other side. The expanded metal lathing B or wire or other material is then placed in position, the center portions  $a^{13}$  and  $a^{14}$  and the tongues or the parts or the fingers  $a^{15}$  and  $a^{16}$  projecting through the mesh, which is afterward pulled taut from girder to girder, and then the portions  $a^{13}$  and  $a^{14}$  and the tongues or the parts  $a^{15}$  and  $a^{16}$  may or may not be turned down, as shown at Fig. 5. The concrete or other fireproof material is then laid on the top of the expanded metal lathing B.

The expanded metal lathing B<sup>2</sup> or its equivalent, on which the plaster for forming the ceiling is fixed, is attached to the under side of the girders in a similar manner, as hereinbefore described. My clips can be similarly applied to vertical girders or stanchions for walls or partitions.

At Fig. 6 I have shown the expanded metal lathing attached to the under side and on the inner edge of the girder. In this case the center portions  $a^{13}$  and  $a^{14}$  are bent in the same direction as the ends, so that they pass be-

tween the mesh of the expanded metal lathing B', by which means it is held in position, the expanded metal lathing B<sup>2</sup> on the under side being held in position by the tongues or  
5 the parts or the fingers *a*<sup>15</sup> and *a*<sup>16</sup>.

At Fig. 7 I have shown a further modification. In this case the expanded metal lathing B and B' are held in position, as hereinbefore described, and on the underside of the  
10 girder I fasten a strip of expanded metal lathing B<sup>3</sup> or its equivalent by means of the tongues, which, when secured in position, gives it the appearance of a beam. The space  
15 between the metal lathing B and B' is wholly or partly filled with silicate cotton, asbestos, or other fire-resisting material, which adds to its fire-resisting qualities and for deadening the sound, which is a great defect in fireproof floors as at present constructed.

Having now particularly described and as- 20  
certained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

A plate having parts stamped out of its body so as to form tongues, and slotted at the ends 25  
so as to form fingers, the said tongues and fingers being adapted to be bent upward or downward at will, in order that the said plate may constitute a clip to bind the metallic lathing to the girder substantially as set forth. 30

In testimony that I claim the foregoing as my own I affix my name in the presence of two witnesses.

JOHN JAMES MOFFAT.

Witnesses:

THOMAS MARSLOY,  
GEORGE LESTER.