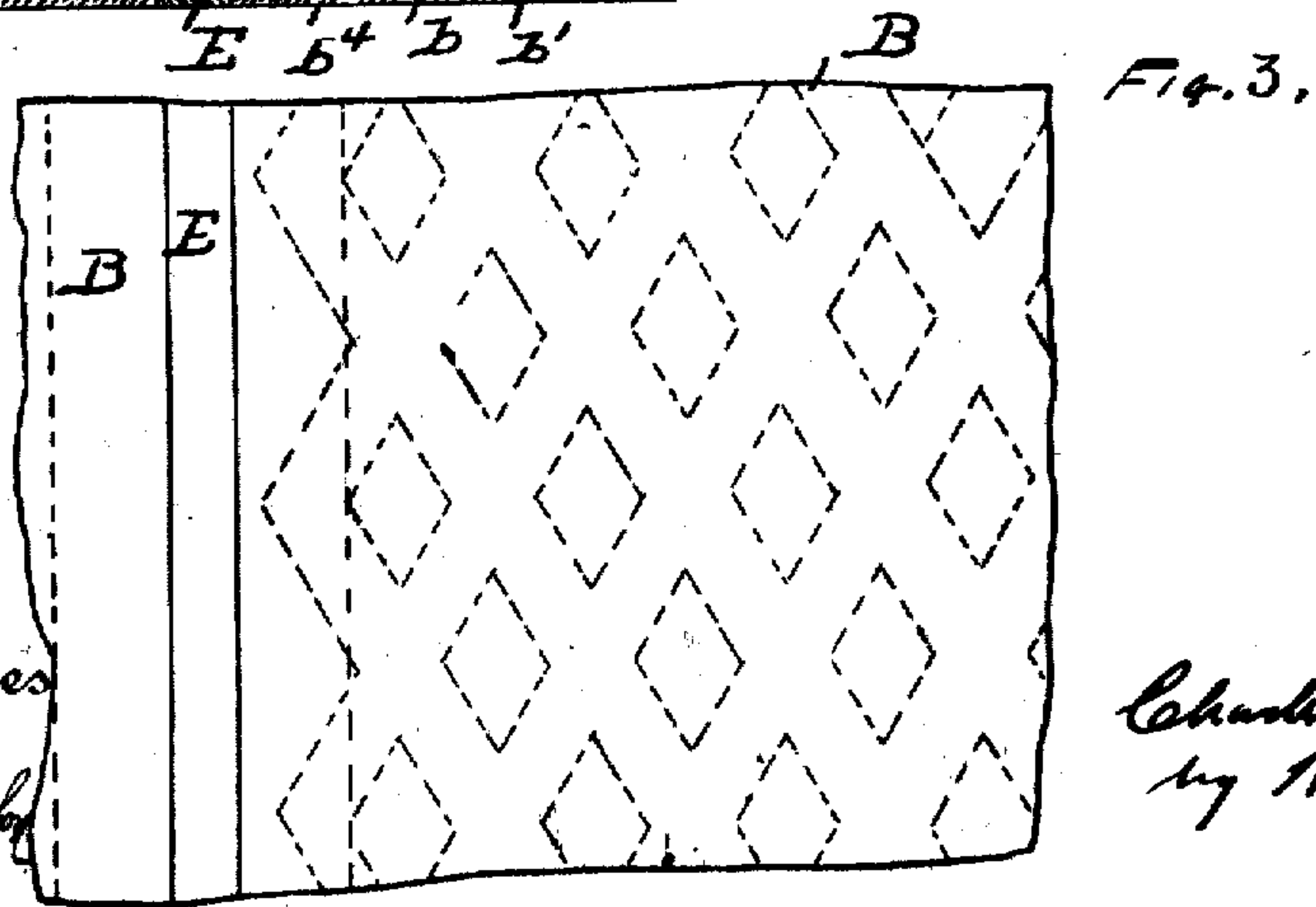
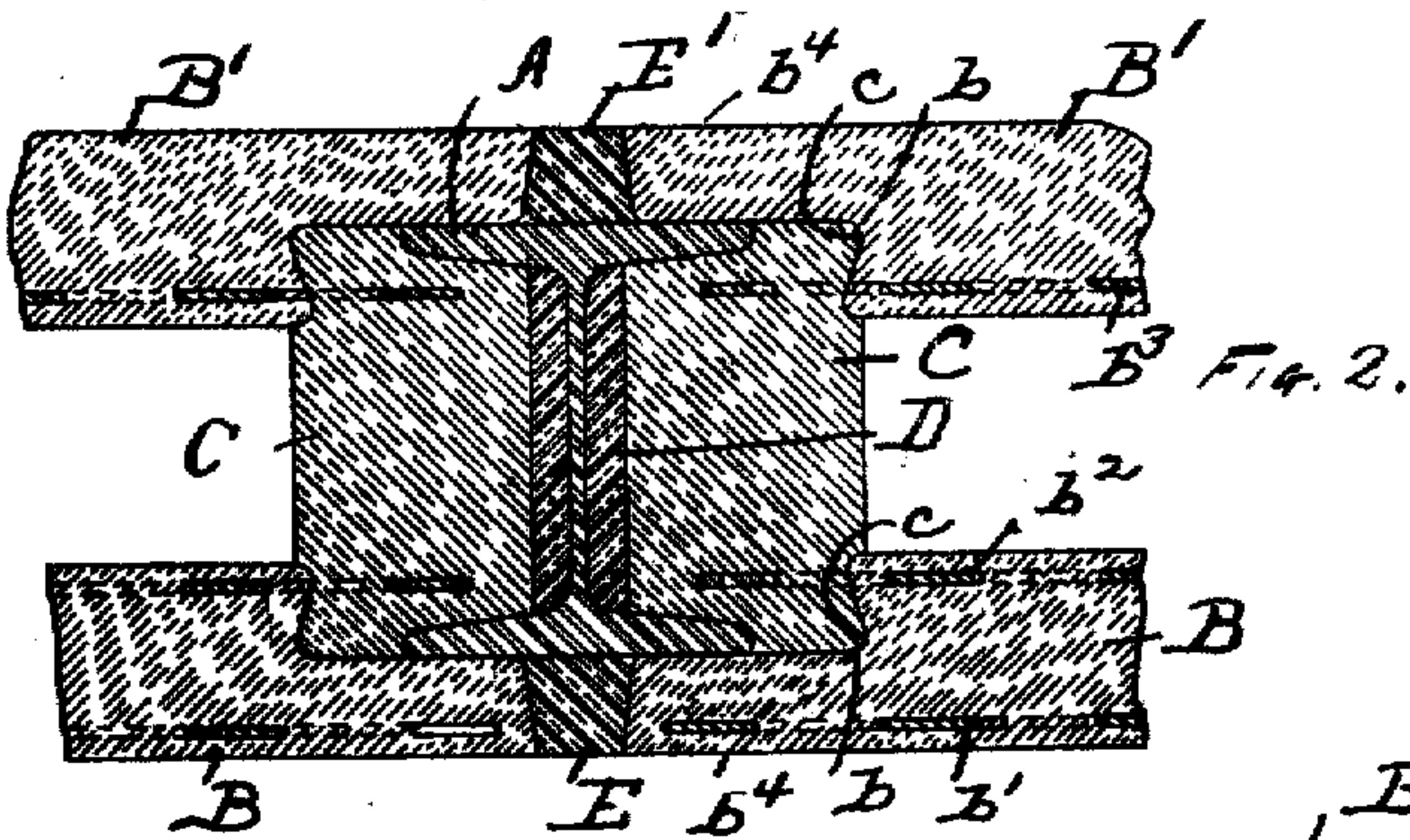
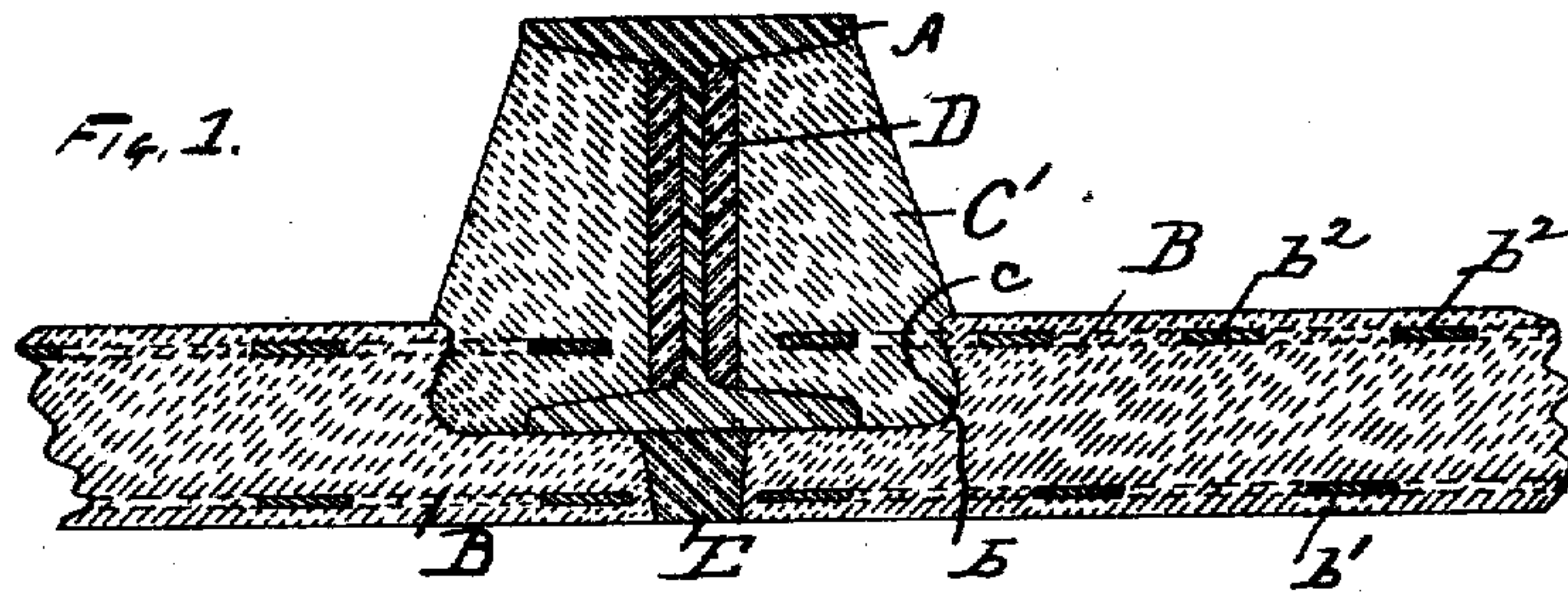


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 STRUCTURE FOR BUILDINGS.  
 APPLICATION FILED NOV. 27, 1905.

928,343.

Patented July 20, 1909.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## STRUCTURE FOR BUILDINGS.

No. 928,343.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed November 27, 1905. Serial No. 289,273.

*To all whom it may concern:*

Be it known that I, CHARLES C. STUTZ, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Structures for Buildings, of which the following is a specification.

This invention relates to structures for buildings and consists in certain improvements therein as will be hereinafter fully described and pointed out in the claims.

More particularly the structure for buildings is adapted to the construction of building walls formed of concrete iron and some other plastic material. In the broader features of the invention some of these elements may be omitted but in the preferred construction it consists of I beams, concrete plates and locking devices for locking the plates with the beams as well as supplying means by which the expansion of the parts may be provided for.

The invention is illustrated in the accompanying drawings as follows:—

Figure 1 shows a cross section of the structure. Fig. 2, a cross section of a structure in which the wall is formed of double plates. Fig. 3, a fragment of a side elevation of a wall.

A marks the I beam which is utilized in the preferred construction; B, the exterior wall plate, and B', the interior wall plate. In some instances but a single wall plate is used and where this is done, it is doubly reinforced at  $b^1$  and  $b^2$ , but where the double wall plate is used only the inner parts of the plate are reinforced as at  $b^2$  and  $b^3$ . The edges of the plates have a locking contour. As shown this locking contour consists of a groove  $b$  into which is shaped the locking block C preferably formed of grout or concrete. In the putting up of the wall the plate is put in position and the grout or concrete in the plastic condition put in position with relation to the plate. As this grout or concrete hardens the plate B or B' is securely locked with relation to the beam. I prefer that the plates have an overlapping edge  $b^4$  and between the edges of the adjacent plates B there is placed a resilient cement E which fills the space but still permits of expansion and contraction of the plates. A similar expansion block E' is arranged between the interior plates. I also prefer

to provide an elastic cement expansion piece D between the locking piece C and the web of the I beam so as to permit of some latitude in this particular as well.

The cement used for the expansion blocks E and E' may be of any desired composition so long as it is resilient. For ordinary slating cement, many of the cements formed from coal tar asphaltum will answer the purpose. As shown in the drawings there are openings for expansion of the parts so that the blocks C are in engagement with the I beams. As the I beams and cement plates contract, these resilient blocks expand sufficiently to keep in contact.

What I claim as new is:—

1. A wall comprising a plate of concrete; and means for locking the plate in place, said means including a locking piece, the plate and locking piece being provided with corresponding protuberances and indentures, the protuberances projecting into the indentures, and an elastic cement acting on the locking piece to permit of expansion and contraction of the plate, and to hold the locking piece in engagement with the plate as the plate contracts.

2. A wall comprising a concrete plate, the edge of which has a locking contour; a flanged I beam; a locking piece engaging the inner faces of the flanges of the I beam and molded to the shape of the edge of the plate and engaging the same to lock it in place relatively to the I beam; and an elastic cement between the beam and the locking piece to permit expansion and contraction.

3. A wall comprising an I beam; a concrete plate, having a part of its body overlapping and in contact with the edge of the I beam, the edge of the plate being along the face of the I beam, and said plate having an offset extending from said overlapping portion in the direction of the beam, and a separate means engaging the flange of the I beam and said offset for locking the plate in place.

4. A wall comprising an I beam; a concrete plate having part of its body overlapping and in contact with the edge of the I beam, the edge of the plate being along the face of the edge of the I beam, and said plate having an offset extending from said overlapping portion in the direction of the I beam and a concrete block engaging the flange of the I beam, and said block and



off set having protuberances and corresponding indentures interlocking for holding the plate in place on the I beam.

5 A wall comprising an I beam; a concrete plate, having the lapping portion "b'" overlapping, and in contact with the edge of the I beam, and having a projection from the overlapping portion in which there is an under cut *c*, and a cement block C' engaging  
10 the flange of the I beam, and extending into the under cut portion *c* for securing the plate to the I beam.

6. A wall comprising a beam; a plate having an overlapping portion *b'* and an inwardly extending offset from said overlapping portion, said offset having a locking contour; a cement locking piece in engagement with said offset and the beam; and an elastic material between the locking piece  
15 and the beam for permitting expansion and contraction.

7. A wall comprising an I beam; cement plates arranged at both faces of the I beam; said plates facing each other, and forming  
25 a double wall and a cement locking piece

secured between the flanges of the I beam and engaging and locking said plates.

8. A wall comprising an I beam; cement plates arranged at both faces of the I beam; a cement locking piece secured between the  
30 flanges of the I beam and engaging and locking both of said plates; and a resilient cement arranged between the locking piece and the beam.

9. A wall comprising the I beam A; the  
35 plates B and B' having the undercut edges *c-c*; said plates facing each other and forming a double wall, a locking piece C formed of elastic material and molded to the shape of the undercut portion *c* and extend-  
40 ing between the flanges on the I beam for locking the plates relatively to the I beam.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES C. STUTZ.

Witnesses:

C. E. McCLINTON,  
E. H. CURTIS, Jr.