

E. S. HELLER.
BOND PLATE FOR BUILDING CONSTRUCTION.
APPLICATION FILED APR. 2, 1907.

956,347.

Patented Apr. 26, 1910.

Fig. 1.

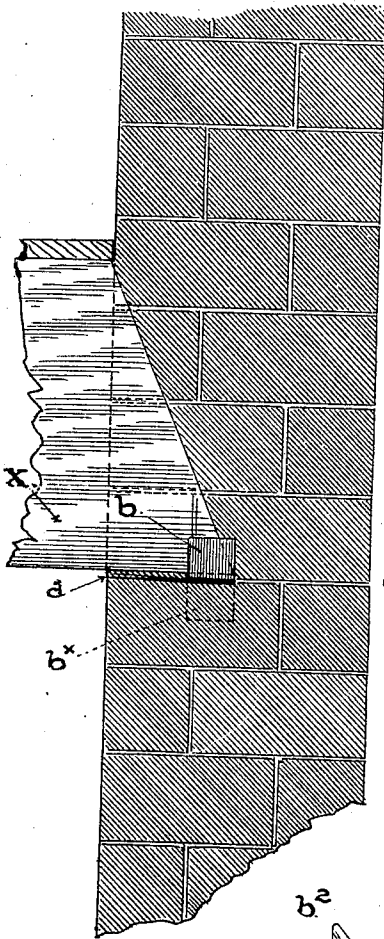


Fig 2

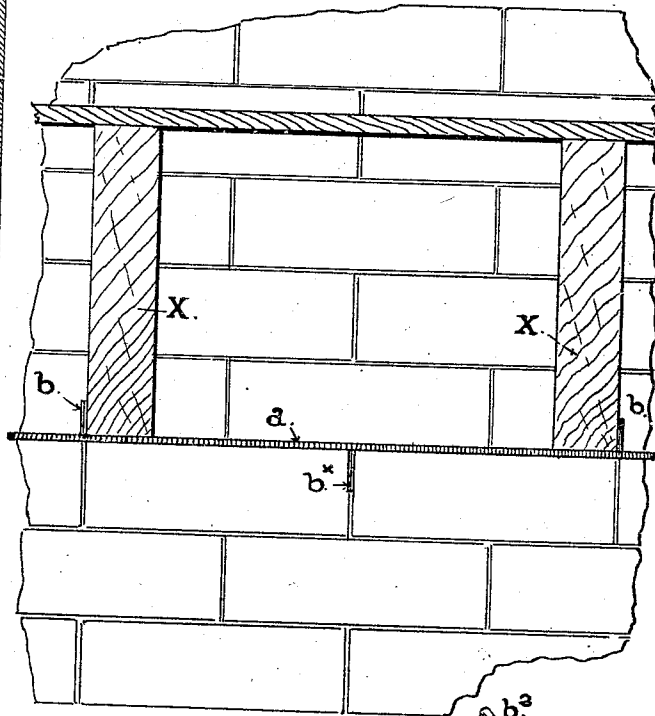


Fig. 4

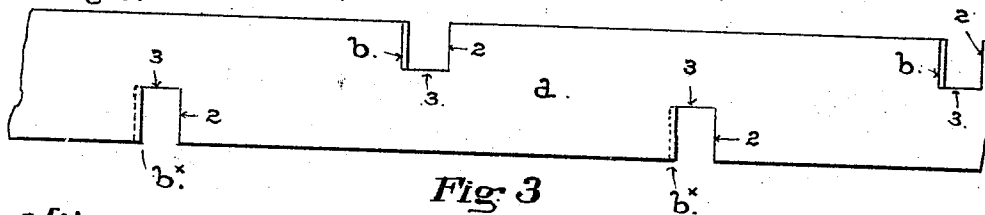
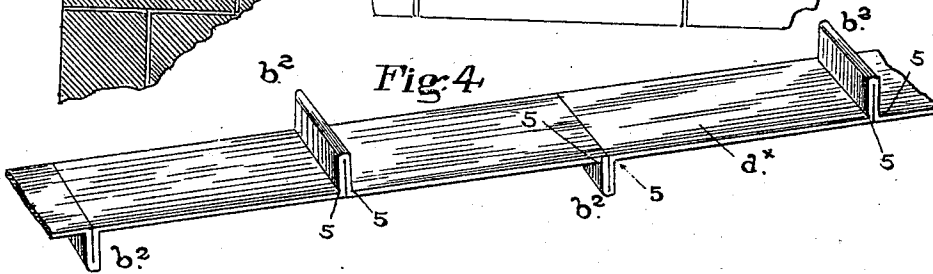


Fig 3

Witnesses

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UNITED STATES PATENT OFFICE.

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BOND-PLATE FOR BUILDING CONSTRUCTION.

956,347.

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To all whom it may concern:

Be it known that I, EMANUEL S. HELLER, a citizen of the United States of America, resident of the city and county of San Francisco and State of California, have invented new and useful Improvements in Bond-Plates for Building Construction, of which the following is a specification.

My invention relates to the production of an improved bond-plate for binding together the courses or layers of bricks or stones in a wall.

It has for its object to provide a bond-plate or device of the character mentioned, having several advantages over the bond-plate heretofore commonly used in building-construction, particularly in the feature of giving the wall increased strength in lateral or transverse directions, and the quality of resisting lateral and horizontal stress or forces that tend to shift or displace the bricks of one course upon those of the next courses.

To such end and object, chiefly, my invention consists in a bond-plate for building-construction, having spurs or projections standing perpendicular to the plane of the plate, all as hereinafter more fully described and pointed out in the claims at the end of this specification.

The following description explains at length the manner in which I proceed to produce, apply and carry out my said invention, reference being had to the accompanying drawing illustrating a bond-plate of my invention, and its application to and combination with the bricks, or building-blocks in a wall.

Figure 1 is a vertical transverse section through a portion of a brick wall, with a bond-plate of my invention interposed between the horizontal courses in line with a floor-joist. Fig. 2 is an elevation taken from the left side of Fig. 1. Fig. 3 is a plan or top-view of the bond-plate before it is set in place in the wall. Fig. 4 is a perspective view of a portion of a bond-plate, illustrating another way of forming the spurs or standing-projections on the plate.

The bond-plate A comprises or embodies in its structure the plate or principal member *a*, and the spurs or standing-projections *b-b**.

The plate *a* is of a length greater than that of two bricks or blocks of the wall to which it is to be applied but excepting as

to this particular it may vary in width and length, as well as in thickness, according to the situation and the conditions attending its particular application and use in a wall.

The projections or spurs extend in opposite directions from the plane of the plate and are disposed along lines intermediate between the ends thereof, the arrangement of these projections being different in different styles of bond plates.

The spurs or projections *b-b** on both faces are formed, in one way, integrally with the plate *a*, by cutting the plate on lines 2—3 extending from the marginal edge into the plate and thence at right angles parallel with the edge, so as to detach on those two lines a portion of the plate of proper dimensions, which when turned up perpendicularly will form the spurs or projections *b-b**. In another way the spurs are formed integrally by folding the plate *a** over upon itself on a transverse line running across the plate, and then bending both parts or members back or outward at right angles on parallel lines at a distance beyond the line of the fold, as indicated at 5—5, so that the two members will lie in the same plane, thereby producing a spur or standing-portion as seen at *b²*, Fig. 4. In this form the spurs or projections extend across the plate *a* from the outer to the inner edge; whereas, in the other form illustrated in Fig. 3 the spurs are of less width than the plate. It will be evident, also, that these spurs can be formed separately, and afterward secured to the body of the plate by rivets, or by well-known ways or modes of permanently securing one piece of metal to another at right angles. These projecting portions or "spurs", as I have termed them, are formed or fixed on both sides of the plate at intervals apart, and usually with those on one side or face of the plate alternating with those on the opposite face, as represented in Figs. 3 and 4. The spurs are also properly spaced to agree with the dimensions of the bricks or blocks of the wall in which the plate is intended to be used, so that when interposed between the layers or courses the plate will not only have the same function of the ordinary bond-plate or bond-strip, but the spurs will enter the perpendicular joints between the bricks, not only in those of the course under the plate, but also between those in the course lying upon it, and, by virtue of this arrangement of the spurs on both sides, the plate will so

lock that they will reciprocally prevent lateral or transverse stress or forces from displacing or moving one course upon the other. A bond-plate of this construction, therefore, is well adapted for use in building-constructions that are liable to be exposed or subjected to earthquake shocks, and is especially applicable to earthquake countries and regions.

10 In those parts of a wall where bond-plate is placed in the courses directly under or adjacent to the sockets provided for floor-joists, the standing-spurs *b* are best spaced to agree with the spacing of the joints so as to bring
15 a standing-spur against the side of the joist *X*, as represented in Figs. 1 and 2, at *b*.

A bond-plate of my invention is well adapted also for use in building-construction employing either bricks, stone or molded
20 building-blocks.

What I claim as my invention, and desire to secure by Letters Patent, is:—

1. A bond plate arranged to lie between two superposed courses of brick or masonry, of a length greater than that of two bricks
25 or blocks of the wall to which it is applied, the plate being substantially continuous from end to end and lying in a common plane and being formed with perpendicular
30 bonding members extending in opposite directions from the plane of the plate and being disposed along lines extending transversely across the plate intermediate between the ends thereof, those members extending beyond one face of the plate being
35 arranged to lie between the adjacent ends of the bricks or blocks in the course next above the plate and those extending beyond the opposite face being arranged to lie between

adjacent ends of bricks or blocks in the course next below the plate.

2. A bond-plate having a series of members bent perpendicularly to said plate and located along each of its opposite edges and arranged to lie between the ends of adjacent
45 bricks in a course next the plate, the members along one edge of the plate extending in a direction opposite to those along the other edge.

3. A bond-plate having a series of members bent perpendicularly to said plate and located along each of its opposite edges and arranged to lie between the ends of adjacent
50 bricks in a course next the plate, the members along one edge of the plate extending in a direction opposite to those along the other edge and the said perpendicular members alternating with each other.

4. A bond-plate having a series of integral members arranged perpendicularly to said
60 plate and located along each of its opposite edges and arranged to lie between the ends of adjacent bricks in a course next the plate, the said members being of less width than the plate and those along one edge extending
65 in a direction opposite to those along the other edge.

5. A bond-plate for building construction comprising a flat plate having spurs on both faces standing perpendicular to the plane of
70 the plate.

In testimony that I claim the foregoing, I have hereunto subscribed my name in the presence of two subscribing witnesses.

EMANUEL S. HELLER.

Witnesses:

EDWARD E. OSBORN,
L. M. FRANK.