B. BROWNSTEIN.

CONCRETE BUILDING BLOCK CONSTRUCTION.

APPLICATION FILED JUNE 21, 1912.

1,078,714.

Patented Nov. 18, 1913.

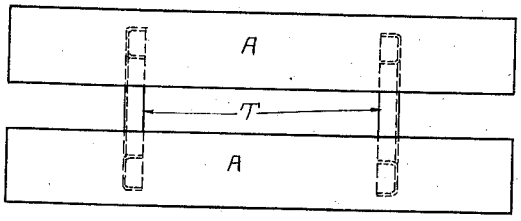


FIG. 1.

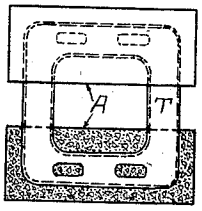


FIG. 2.

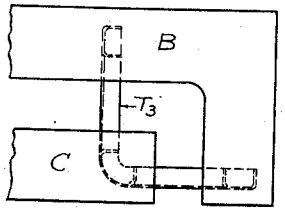


FIG. 3.

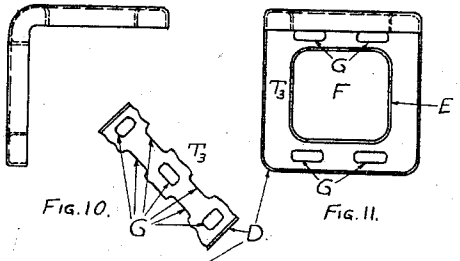


FIG. 10. FIG. 11.

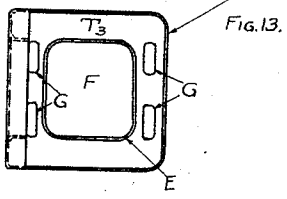


FIG. 13.

FIG. 12.

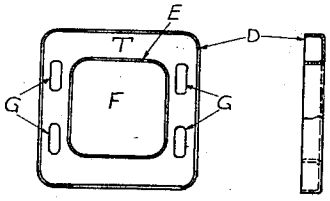


FIG. 4. FIG. 5

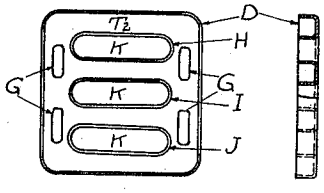


FIG. 8. FIG. 9.

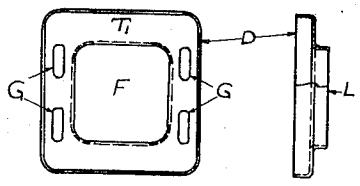


FIG. 6. FIG. 7.

WITNESSES

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CONCRETE-BUILDING-BLOCK CONSTRUCTION.

1,078,714. Specification of Letters Patent. Patented Nov. 18, 1913.

Application filed June 21, 1912. Serial No. 705,113.

To all whom it may concern:

Be it known that I, BENJAMIN BROWNSTEIN, a citizen of the United States, residing at Ellwood City, in the county of Lawrence and State of Pennsylvania, have invented new and useful Improvements in Concrete-Building-Block Construction, of which the following is a specification.

My invention relates to improvements in concrete slab building block ties, so that the slab block becomes a rigid block under all conditions.

Slab blocks united by metallic ties so that the slabs are separate from one another become water proof and which is an important factor, but there is still another important factor that must be considered before the slab block can be considered satisfactory as a building material, and that is rigidity in its construction, for if the slab block is not rigid enough to withstand distortion in transportation and rough handling it is not fit to be used as a building material.

When a concrete slab block is distorted, in ninety cases out of one hundred it cannot be brought back to plumbness without destroying partly or totally the chemical bond between the metallic tie and cement of slabs, hence, the ties become loose in the slabs, and even though there should be mechanical bonds between the ties and slabs, it is surely not very safe to build a house with loosely connected slabs.

The construction of slab blocks with metallic ties that possess that amount of rigidity which is required to insure against distortion of the slabs is clearly shown in the accompanying drawing forming part of this specification, in which similar letters refer to similar parts.

In Figure 1, is a plan of a slab block and Fig. 2 the end elevation and section of said block showing the position of the tie "T" and distribution of concrete in the slab through tie "T". Fig. 3 is a plan of a corner slab block and which clearly shows how the tie T_3 is embedded in the slabs.

The tie "T" shown in Figs. 4 and 5 is stamped out of one piece with apertures "G" in main body of tie "T" and with endless exterior flanges "D" bent at right angles to main body of tie "T" and also an endless interior flange "E" bent at right angles to the main body of tie "T" inclosing the large central aperture "F". The exterior flange "D" and interior flange "E" in connection with main body "T" form a channel section which is well known for its strength and economy in material.

The tie "T_1" shown in Figs. 6 and 7 is similar to the tie "T" shown in Figs. 4 and 5 except that the interior flange "L" is bent at right angles to main body of tie "T_1" but in the opposite direction to flange "D" forming in connection with main body of tie "T_1" a Z bar section which is equally as strong as a channel section of equal dimensions.

The tie "T_2" shown in Figs. 8 and 9 differs from the ties "T" and "T_1" Figs. 4, 5, 6 and 7 in that it has three central apertures "K" with three interior flanges "H", "I", and "J" instead of one central aperture "F" with one interior flange "E". Interior flanges "H", "I" and "J" are bent at right angles to main body of tie "T_2" and when all flanges are bent in the same direction form in connection with main body of tie "T_2" channel sections, and when flanges "H" and "J" are bent at right angles to main body of tie "T_2" but in the opposite direction to flanges "D" and "I" form Z bar sections.

The angle tie "T_3" shown in Figs. 10, 11, 12, and 13 is a combination of two ties stamped out of one piece and bent at right angles to one another, the sections of this tie "T_3" can be either channel section as shown or Z bar section and with two or more central apertures.

The central apertures "F" and "K" and small apertures "G" allow a good distribution of concrete through tie when the tie is embedded in the slabs so that the slabs are not weakened in any way by the insertion of the tie.

The ties being stamped out of one piece into channel or Z bar sections, make a rigid construction capable of resisting bending stresses in any direction, the flanges and apertures of the tie make a powerful mechanical bond within the slabs and with an extra large surface of the tie for a chemical bond between cement of slabs and tie, makes the slab block as rigid as a solid concrete block when made by the wet process and can withstand pretty rough handling without

distorting the slabs "AA" in the least in any direction from their true relation to one another.

What I claim and desire to secure by Letters Patent is:—

1. A tie for building blocks comprising a plate having openings therein, a flange located upon the perimeter of said plate and flanges surrounding each of said openings, the flanges adapted to anchor the tie in the material of the blocks as well as to stiffen the tie.

2. A tie for spaced slab building blocks comprising a plate having openings therein, a flange upon the perimeter of the plate and a flange surrounding each of said openings, said flanges projecting from alternate sides of the plate, said flanges and openings serving to interlock said tie with the material of the slab.

3. A tie for building blocks comprising a plate bent at an angle and having openings, a flange upon the perimeter of the tie, flanges surrounding each of said openings, said flanges and openings adapted to anchor the tie in the material of the blocks.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

BENJAMIN BROWNSTEIN.

Witnesses:

PAUL FERREE LUTHER,

WILLIAM BROWNSTEIN.