(No Model.)

E. L. RANSOME.

CONCRETE CONSTRUCTION.

No. 548,657. Patented Oct. 29, 1895.

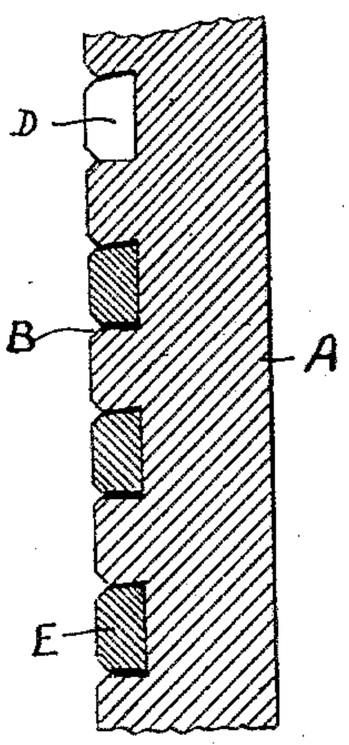

FIG. 2.

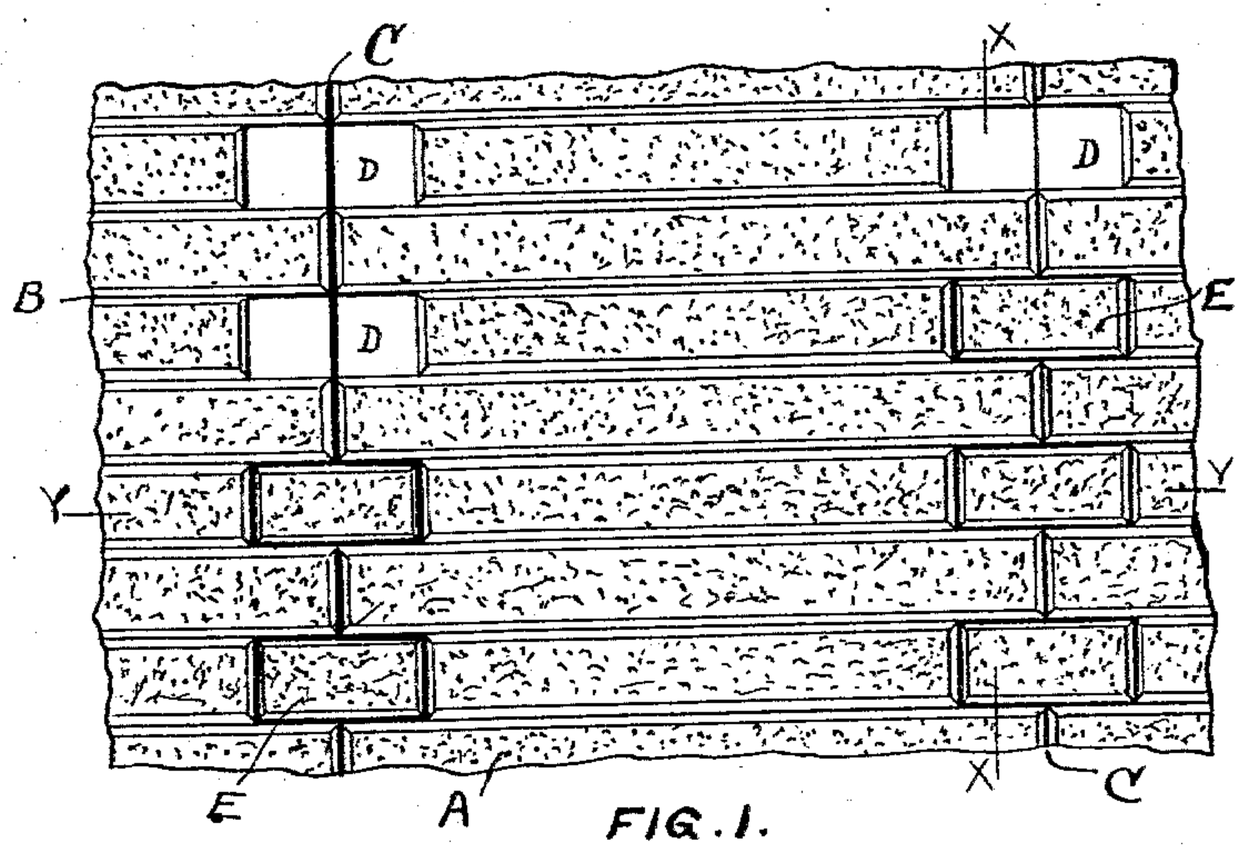

FIG. 1.

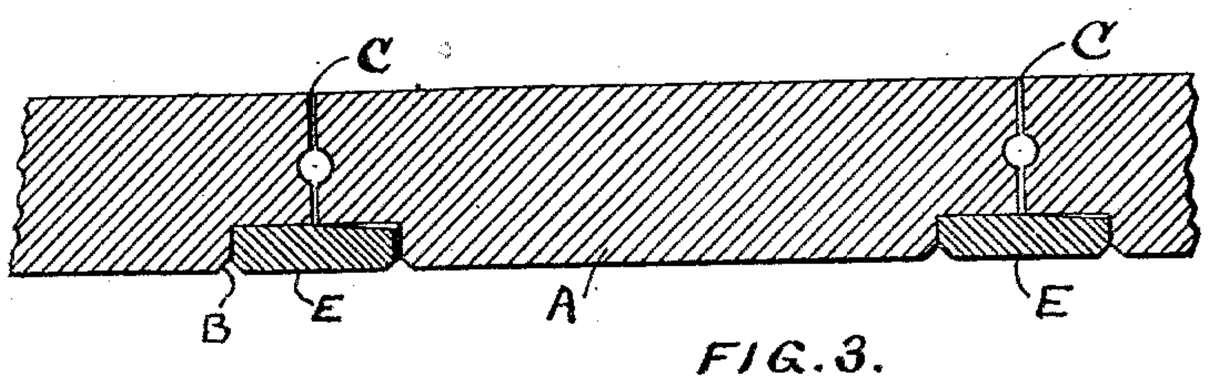

FIG. 3.

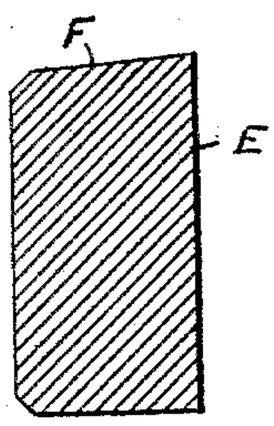

FIG. 6.

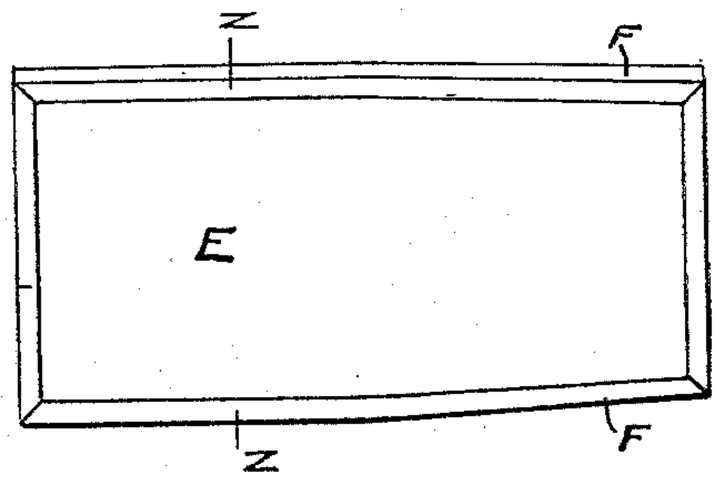

FIG. 4.

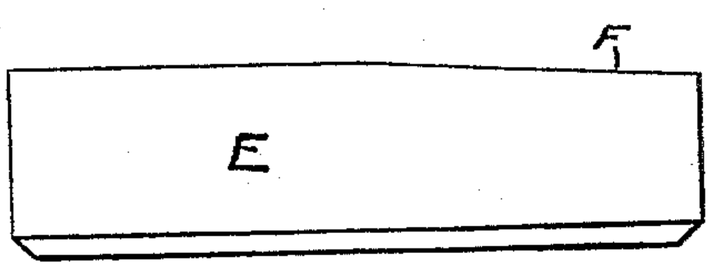

FIG. 5.

WITNESSES:
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UNITED STATES PATENT OFFICE.

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CONCRETE CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 548,657, dated October 29, 1895.

Application filed April 1, 1895. Serial No. 544,058. (No model.)

To all whom it may concern:

Be it known that I, ERNEST LESLIE RANSOME, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Concrete Construction, of which the following is a specification.

My improvement relates to concrete structures built monolithically *in situ*.

Experience has shown that long monolithic walls of Portland-cement concrete crack after the lapse of time. These cracks are usually vertical in general direction and very irregular. By reason of their irregularity and their entire lack of all architectural harmony with their surroundings such cracks are very conspicuous and obnoxious. In concrete iron construction these cracks are usually slight and not necessarily of any series moment, excepting that they greatly mar the beauty of the structure, rendering that which otherwise would be very pleasing in appearance an eyesore and a blemish. It has been customary to prevent these defects by building the walls in sections of such moderate lengths that they will not crack, and in plain walls the straight vertical joint thus made between two sections answers well enough; but it is undesirable and unsightly in ashler and other ornamental face work. This sectional joint is termed a "shrinkage-joint." My improvement consists in so breaking this shrinkage-joint at the surface as either to hide it from the ordinary observer or to render it neither out of harmony with its surroundings nor unsightly.

In the accompanying drawings, Figure 1 is a front elevation of a portion of the wall built according to my invention. Figs. 2 and 3 are sections on lines X X and Y Y, respectively, of Fig. 1. Fig. 4 is an enlarged front elevation of one of the filling-stones with the tapers exaggerated for the purpose of showing them more clearly. Fig. 5 is a top view of the same, and Fig. 6 is a section on line Z Z of Fig. 4.

In Fig. 1 part of the filling-stones E are omitted, so as to show the recessses in which they are placed, and the left-hand joint in the wall is illustrated by very heavy lines, so as to show the appearance when there is a considerable opening due to contraction, while the joint at the right is represented by a lighter line to show the ordinary appearance of a tight joint between the sections of wall.

The wall A is represented with an ashler surface having grooves B. In constructing such wall I make the shrinkage-joint C. This usually extends through the wall, though sometimes it is only carried deep enough into it to insure that when the wall shrinks it will crack there and not elsewhere. In every alternate ashler course or at suitable intervals recess D is made across the shrinkage-joint as the wall is built. An ashler joint-stone E, previously made and seasoned, is subsequently set therein. In setting this joint-stone in place it is frequently cemented into the wall on one side of the shrinkage-joint while it is but superficially pointed up on the other side. When shrinkage takes place, the joint opens in an unbroken line in the rear of the joint-stone E, but it breaks around the joint-stone following the grooved or other jointing of the ashlered face. This opening joint being at the face-jointing it is generally unnoticed, and if it opens sufficiently to be unsightly it can be easily pointed up. Experience has shown that in such broken jointing the cracks are not objectionable.

The recess D for the joint-stone E may be of any required size or shape, in order to harmonize with the general character of the wall-surface.

Instead of building recess D in the wall and subsequently setting in the joint-stone E, the latter may be embedded in the soft concrete as the wall is being built. In this modification it is advisable to make the joint-stone E on the back and sides of one-half its length tapering toward the end, as shown at F, Figs. 4, 5, and 6, so as to permit of its being readily drawn along in its bed as the wall shrinks. By preference these joint-stones are concrete like the wall, and they are hardened and seasoned before using. They may, however, be of some other material, if desired, such as natural stone, terra-cotta, iron, brick, &c.

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

1. A monolithic concrete construction in which the joints between the sections thereof

are broken by ashler stones set in recesses in the face of the concrete and crossing the said joint.

2. In concrete construction a joint broken by intermediate ashler stones embedded in the face of the wall.

3. A concrete wall having intermediate recesses across a shrinkage joint with ashler stones inserted therein.

ERNEST LESLIE RANSOME.

Witnesses:
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