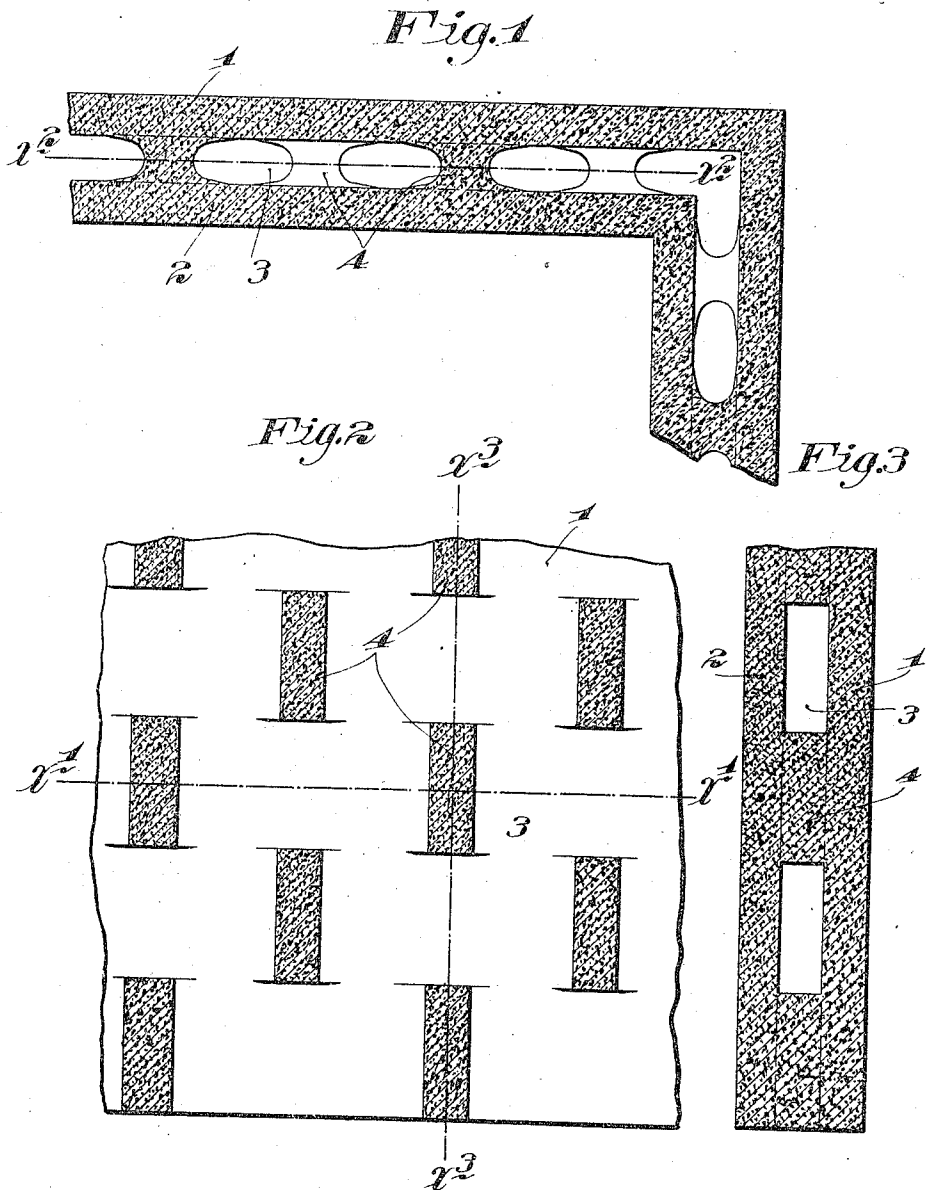


J. A. PETERSON.
 MONOLITHIC CONCRETE WALL.
 APPLICATION FILED DEC. 9, 1912.

1,062,298.

Patented May 20, 1913.



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UNITED STATES PATENT OFFICE.

JOHN A. PETERSON, OF MINNEAPOLIS, MINNESOTA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN A. PETERSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Monolithic Concrete Walls; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a continuous air space in a monolithic concrete wall and, to such ends, generally stated, consists of the novel construction and arrangement of parts hereinafter described and defined in the claim. This result, from a broad point of view, has been accomplished in walls built up of concrete blocks, and in part, it has been accomplished in monolithic or "slushed-in" concrete walls, but in these latter walls the best results have not been obtained because of the very incompleteness of the intermediate air space.

My improved wall is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings: Figure 1 is a horizontal section taken on the line x^1-x^1 of Fig. 2; through a wall designed in accordance with my invention; Fig. 2 is a vertical section taken on the line x^2-x^2 of Fig. 1; and Fig. 3 is a transverse vertical section taken through the wall on the line x^3-x^3 of Fig. 2.

The wall shown has two vertical wall plates and a single intermediate air space, but it will, of course, be understood that the wall may have more than two vertical wall plates and hence more than one intermediate air space.

As shown, the numerals 1 and 2 indicate, respectively, the inner and outer vertical plates of the wall, and the numeral 3 indicates the continuous air space between the same. The inner and outer plates 1 and 2 are tied together by numerous rows of cross ties 4. These cross ties 4 are arranged both in vertical and horizontal rows,

but the cross ties of adjacent rows are staggered both in respect to vertical and horizontal lines. This gives the greatest strength with a minimum number of cross ties and gives a chance for a free circulation of air.

By referring particularly to Fig. 1, it will be noted that the adjacent cross ties of the horizontal rows form a series of longitudinally spaced elongated air passages and that these air passages, at the corners of the wall, are open from top to bottom thereof. Also it will be noted that the horizontal slots between the cross ties of adjacent longitudinal rows overlap at their ends, so that there is complete open vertical space from top to bottom of the wall. Furthermore, it is important to note that the cross ties flare and widen at their junctions with the wall plates (see particularly Fig. 1), to thereby reduce the tendency toward forming cracks between the cross ties and wall plates.

A wall constructed as above described will have a maximum strength with a minimum amount of concrete and will be nearly or quite frost proof, that is proof against the passage of moisture through the wall under the action of frost. It, of course, therefore, follows that the wall will be a warm wall in the winter time and a cool wall in the summer time.

What I claim is:

A monolithic concrete wall comprising vertical plates spaced laterally to form an intervening air space and connected by staggered vertical and horizontal rows of integrally formed cross ties, said cross ties being made flaring at their junction with the said wall plates, the flaring portions of the cross ties of one of the horizontal rows extending substantially into the flaring portions of the cross ties of the adjacent horizontal rows.

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

JOHN A. PETERSON.

Witnesses:

EDITH E. HANNA,
HARRY D. KILGORE.