

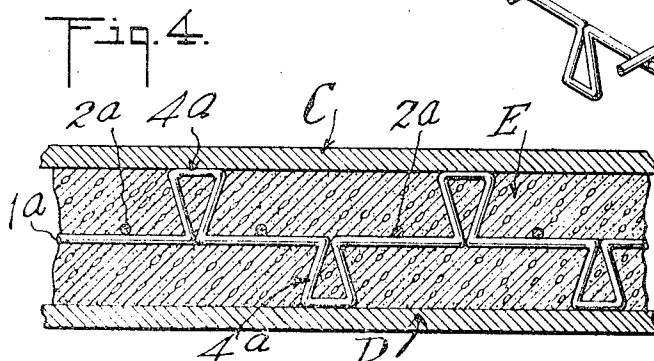
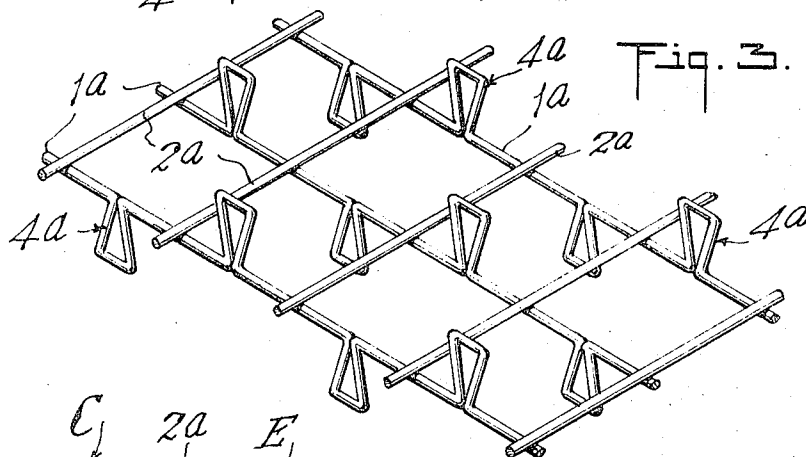
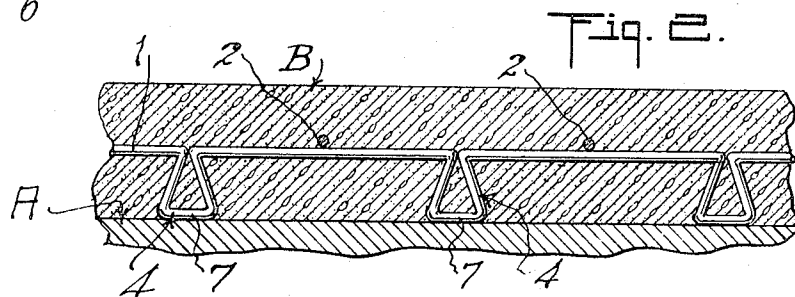
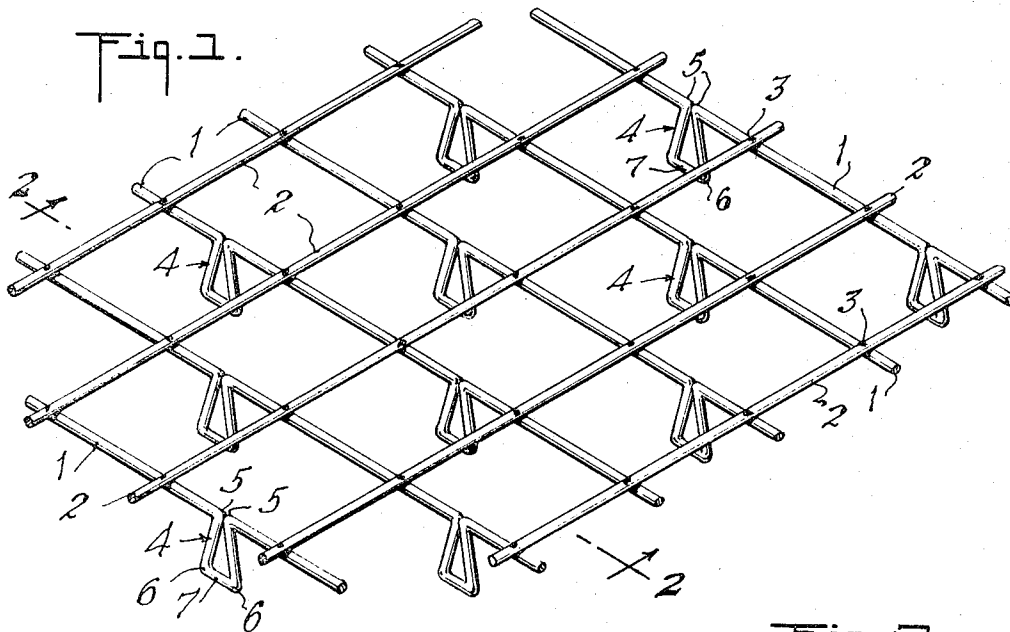
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MESH REINFORCEMENT WITH SPACER FOR CEMENTITIOUS MATERIAL

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MESH REINFORCEMENT WITH SPACER FOR CEMENTITIOUS MATERIAL

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2 Claims. (Cl. 52-664)

This invention relates in general to reinforcements for concrete or cementitious pavements, floors, walls and the like, comprising a plurality of crossed rods, bars or heavy wires constructed and secured together so as to form in effect a fabric having feet for holding or supporting the fabric in spaced relation to a foundation or concrete form so as to become embedded in a layer of concrete or the like poured onto the foundation or form.

A primary object of the invention is to provide a reinforcing fabric of this general character wherein certain of the rods or wires are formed with a plurality of loops spaced longitudinally of the respective wires that are formed in a novel and improved manner to reduce the possibility of extension or collapse of the loops.

A further object is to provide such a fabric wherein the loops provide a firm support for the fabric and shall have a minimum of tendency to penetrate or dig or sink into the foundation, such as sand or a wooden form or other supporting structure.

Another object is to provide a fabric of the character described which shall be constructed in a novel and improved manner to permit rolling of the fabric in one direction and passage of the loops through openings between the crossed wires or rods without engagement or interference of the loops of any wire or rod with any other wires or rods.

Other objects, advantages and results of the invention will be brought out by the following description in conjunction with the accompanying drawings in which:

FIGURE 1 is a fragmentary perspective view of the reinforcement or fabric embodying the invention;

FIGURE 2 is a sectional view taken approximately on the line 2-2 of FIGURE 1, showing the fabric set on a roadway or pavement foundation and embedded in and reinforcing a concrete layer thereon;

FIGURE 3 is a view similar to FIGURE 1 showing a modification of the invention especially for use in walls; and

FIGURE 4 is a view similar to FIGURE 2 showing the fabric secured between two support sections of a form or wall.

Specifically describing the embodiment of the invention showing FIGURES 1 and 2, the reinforcement for concrete or cementitious materials embodying the invention is shown as comprising a plurality of parallel and equidistantly spaced support elements 1, such as rods, bars or heavy wires, and a plurality of parallel and equidistantly spaced tie elements 2 that are disposed at right angles to the support elements 1 and rigidly connected thereto. As shown, the support elements are disposed approximately in a common plane and the tie elements 2 are laid across the support elements at the same side of said plane. Preferably the tie elements are welded to the support elements at the zones of crossing or intersection as indicated at 3. The support elements arranged and secured together as so far described, provide a fabric.

Each of the support elements 1 is provided with a plurality of loops 4 preferably equidistantly spaced longitudinally of the support element and between two adjacent tie elements with the loops in each support element disposed in staggered relation to the loops of the next adjacent support elements as shown in FIGURE 1. The loops are of the same size and project from the same side of the fabric. Preferably the loops are approximately tri-

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angular and each loop is formed by bending the support element at two spaced points 5 to form a loop and then bending the loop at the two spaced points 6 so that the bight end of the loop is approximately straight as indicated at 7 and parallel to the support element and the arms of the loop converge from said bight to the support element. The bent portions 5 at the junctures of the loop with the support element preferably are in contact with each other and rigidly secured together, in any suitable manner for example by welding, soldering or tying.

With this construction, it will be seen that the reinforcement or fabric can be laid on a foundation such as a layer of sand or gravel on a floor or roadway, with the loops 4 serving as feet to rest upon the foundation and hold the main portion of the fabric in spaced relation to the foundation as best shown in FIGURE 2. Then concrete or other cementitious material B may be poured around and upon the fabric in the usual way so that the fabric thereafter will serve as a reinforcement for the concrete or cementitious material.

FIGURES 3 and 4 show a modification of the invention where the support elements 1a have loops or feet 4a that are spaced longitudinally of the support elements and extend alternately at opposite sides of the plane of the fabric that is formed by the securing together of the support elements 1a and the tie elements 2a.

This form of the invention is especially useful in structures where it is desired to locate the plane of the fabric accurately with respect to the thickness of the wall or a layer of cementitious material E, as shown in FIGURE 4. Here the main portion of the fabric is held in equidistantly spaced relation to two support structures C and D for example, the form boards of a wall form pouring a concrete wall.

In both forms of the invention, it will be seen that the fabric can be easily rolled lengthwise of the flexible but self-sustaining tie wires 2a and that the loops 4a pass into spaces between the crossed wires so as not to contact or interfere with other wires in such a way as to hinder the rolling of the fabric. The flat bight portions of the loops 4 provide firm supports of a relatively large area to reduce the tendency of the loops to penetrate or dig into the supporting surfaces such as sand or earth foundation or a wooden form board. The rigidly connected portions 5 of the loops restrain any tendency of the loops to collapse or spread open either longitudinally or laterally of the support elements. Also the rigid connections of the tie elements to the support elements resist any tendency of the support elements to tip or fall laterally about the bights 7 of the loops as fulcrums, which is particularly important during the pouring of concrete on the fabric.

It will be understood by those skilled in the art that the now preferred embodiments of the invention have been illustrated primarily to explain the principles of the invention and that modifications and changes can be made in the form and arrangement of the tie elements, support elements and loops, within the spirit and scope of the invention.

I claim:

1. A reinforcement for cementitious materials comprising a plurality of elongated support elements disposed in a common plane, and tie elements in crossed perpendicular relation to said support elements and rigidly secured to said support elements at the zones of crossing of the elements, said support elements having a plurality of loops therein projecting equidistantly therefrom at one side of said plane and between said tie elements, the loops in each support element being disposed in staggered relation to the next adjacent support elements, said loops having arms each connected at one end to the support element and connected at its other end by a bight to the other arm, and the bights of said loops being straight and parallel

to the respective support elements providing for large areas of contact of the loops with a supporting surface.

2. A reenforcement for cementitious materials comprising a plurality of elongated support elements disposed in a common plane, and flexible but self-sustaining tie elements in crossed perpendicular relation to said support elements and rigidly secured to said support elements at the zones of crossing of the elements, said support elements having a plurality of loops therein projecting equidistantly therefrom at one side of said plane and between said tie elements, the loops in each support element being disposed in staggered relation to the next adjacent support elements, said loops having arms each connected at one end to the support element and connected at its other end by a bight to the other arm, and said support elements being heavy wires and the arms of said loops converging from the corresponding bights to the supporting element and being rigidly secured together at their junctures with the support element to positively resist opening or collapsing of the loops.

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