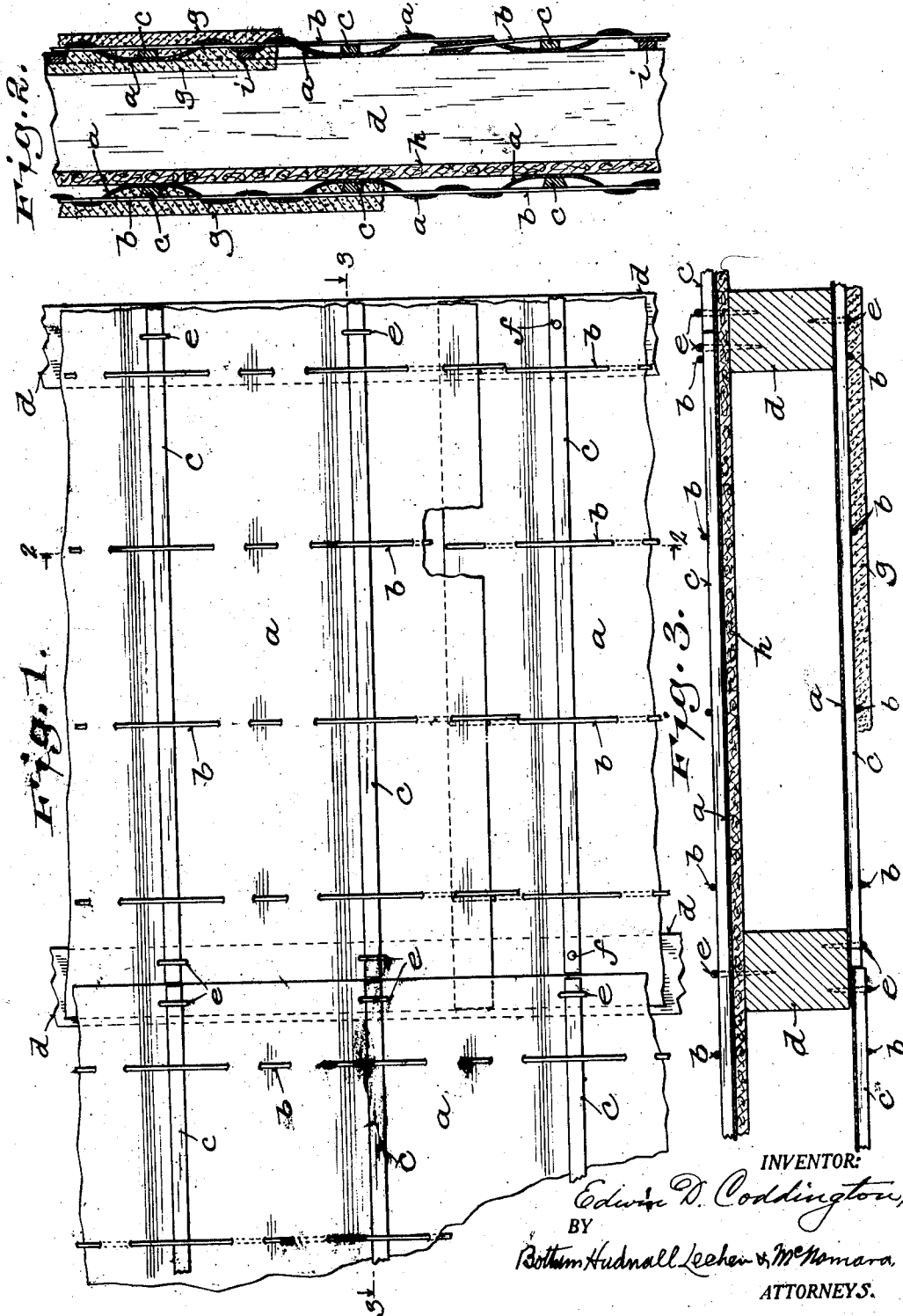


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E. D. CODDINGTON
REINFORCED BUILDING FABRIC

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INVENTOR:
Edwin D. Coddington,
BY
Bottum Hudnall Lecher & McNameara
ATTORNEYS.

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EDWIN D. CODDINGTON, OF NORTH MILWAUKEE, WISCONSIN.

REENFORCED BUILDING FABRIC.

Application filed February 20, 1922. Serial No. 537,717.

To all whom it may concern:

Be it known that I, EDWIN D. CODDINGTON, a citizen of the United States, residing at North Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Reenforced Building Fabrics, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates to substitutes for wood and metal lath of the class and for the general purposes of the reenforced fabric shown in United States Letters Patent No. 1,164,334, issued to me December 14, 1915.

The main objects of the improvements constituting the present invention are to stiffen and lighten the construction of such reenforced fabric and the walls or structures in which it is incorporated; to facilitate the application of plaster or cement coatings to the fabric; to admit of the use of thinner coatings and thus effect a saving of plaster or cement; to provide for a more effective bonding of the plaster or cement to the fabric; to produce a reenforced fabric that will not shrink or buckle; and generally to improve building fabric of this class.

It consists in the construction, arrangement and combination of parts as herein-after particularly described and pointed out in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is an elevation or face view of portions of adjoining sheets of reenforced building fabric embodying the invention as applied to the studding, frame-work or supporting structure of a wall, partition or roof; Fig. 2 is a vertical section on the line 2—2, Fig. 1; and Fig. 3 is a horizontal section on the line 3—3, Fig. 1.

The fabric comprises flexible sheets *a*, of suitable fibrous material, such as the well known building felt or paper of commerce, which is ordinarily and preferably saturated or coated with tar, asphalt or the like, to make it impervious to moisture.

The sheets are reinforced at suitable intervals with hard drawn resilient, or annealed or partially annealed and more or less flexible, metallic wires *b*, of any suitable size and cross section, woven in and

out through the sheets. As shown by the accompanying drawing, the reenforcing wires *b* run crosswise of the sheets parallel with one another and with the ends or shorter edges of the sheets, but may be variously arranged and spaced, as illustrated in said Letters Patent, according to the character and purpose of the structure to which the fabric is applied.

Between one side of the sheets *a* and the reenforcing wires *b*, auxiliary reenforcing and stiffening strips *c*, of wood or other suitable non-metallic material of greater cross section than the wires are inserted lengthwise of the sheets and transversely to the wires, which impart a corrugated or undulatory form to the sheets, the stiffening strips passing through and deepening the depressions or undulations produced by the wires in the exposed sides of the sheets.

To prevent the sheets *a* from loosely bellying or bulging outwardly too far, to increase the stiffness and stability of the sheets and thus facilitate the application of plaster thereto, and to reduce the thickness and hence the quantity of plaster required to properly coat the sheets, the reenforcing wires *b* are woven at closer intervals or in shorter stitches through the outwardly bulged or protuberant portions of the sheets than through the inwardly sunken portions or depressions, thereby producing narrower and shallower undulations between such depressions, and affording additional clenches for the plaster around the wires.

The wood or non-metallic stiffening strips *c*, being of greater width than the diameter of the wires, afford convenient means for securely fastening the sheets to the studding or frame members *d* of a partition, wall or other structure, with staples *e* or nails *f*, as shown in Figs. 1 and 3.

The sheets *a* are lapped at their ends or shorter edges over the studs *d* or other frame members to which they are fastened, one edge of each sheet preferably extending beyond the stiffening strips *c* and being overlapped by the adjoining sheet or sheets, so that the stiffening strips of each sheet may be placed end to end and in alignment with the strips of adjoining sheets.

At the sides or longer edges, the sheets are also lapped transversely to the reenforcing wires which extend at one end beyond the

overlapping edges and terminate at the other end with the underlapping edges, thus forming in effect, continuous reinforcements parallel with the studding or frame members across the otherwise unsupported lapped joints along the sides of the sheets.

Together the sheets *a*, reinforcing wires *b* and stiffening strips *c*, form a beam-like structure producing a base or foundation sufficiently stiff or rigid and stable to withstand trowel pressure and to admit of the application of plaster in two coats instead of three or more coats, as required with other reinforced building fabrics or with metal lath, partial coatings *g* of plaster being shown in Figs. 2 and 3.

The strips *c* are preferably left rough or are roughened, as by sawing, so that the plaster will adhere more firmly to them, and their frictional engagement with the felt or paper sheets will be increased.

Some or all of the stiffening strips may be dovetailed or beveled on one or opposite sides, as shown at the left in Fig. 2, or otherwise formed so as to afford a firmer clench or hold on the plaster which fills the depressions in the sheets on opposite sides of the strips, and thus adds to the rigidity and stability of the wall or structure.

The coefficient of friction between the wood or non-metallic strips *c* and the felt or paper sheets *a*, is much greater than that between the metal reinforcing wires *b* and the sheets, and the resulting reinforced sheets are thus made much stiffer and firmer before as well as after the plaster coating is applied thereto.

The plaster coating *g* fills the depressions in the sheets *a* and passes around and embeds the reinforcing wires *b*, thus making a strong bond with the reinforced fabric and stiffening and strengthening the coating itself.

The reinforced fabric may be used to advantage in connection with brick-veneered walls, or as shown in Figs. 2 and 3, in connection with building board *h*, such as "Celotex", "Flaxilinum" and the like, for added protection against the transmission of heat, moisture and sound.

Additional wood or non-metallic stiffening strips *i*, may be attached or fastened to the sheets *a*, on the opposite sides thereof from the strips *c*, particularly when it is desired to plaster both sides of the fabric, as shown in Fig. 2.

I claim:

1. A reinforced building fabric comprising a flexible sheet of fibrous material, reinforcing wires woven at intervals through the sheet, and auxiliary stiffening strips of greater cross section than the wires inserted between the wires and sheet.

2. A reinforced building fabric comprising a flexible sheet of fibrous material, re-

enforcing wires woven through the sheet at intervals and imparting an undulatory form thereto, and auxiliary stiffening strips of greater cross section than the wires inserted between the wires and sheet, the wires passing through the outwardly bulged portions of the sheet at closer intervals and forming shallower undulations therein than the depressed portions in which the stiffening strips are located.

3. A reinforced building fabric comprising a flexible sheet of fibrous material, reinforcing wires woven at intervals through the sheet and imparting an undulatory form thereto, and non-metallic stiffening strips of greater cross section than the wires inserted between the wires and one side of the sheet, the whole forming a stiff beam-like structure.

4. A reinforced building fabric comprising a flexible sheet of fibrous material, reinforcing wires woven through the sheet and imparting an undulatory form thereto and auxiliary nailing and stiffening strips of greater width than the diameter of the wires inserted in depressions in one side of the sheet between it and the wires transversely to the wires.

5. A reinforced building fabric comprising a flexible sheet of fibrous material, reinforcing wires woven through the sheet and imparting an undulatory form thereto, and non-metallic stiffening strips of polygonal form and greater cross section than the wires inserted in depressions in the sheet between one side thereof and the wires, and forming therewith a firm beam-like structure.

6. A reinforced building fabric comprising a flexible sheet of fibrous material, metallic reinforcing wires woven through the sheet and imparting an undulatory form thereto, and wooden stiffening strips of greater cross section than the wires inserted between the wires and sheet transversely to the wires and having roughened surfaces.

7. A reinforced building fabric comprising a flexible sheet of fibrous material, reinforcing wires woven through the sheet and imparting an undulatory form thereto, non-metallic stiffening strips of greater cross section than the wires inserted between the wires and one side of the sheet transversely to the wires, and similar stiffening strips attached to the opposite side of the sheet.

8. A reinforced building fabric comprising a flexible undulatory sheet of fibrous material, and reinforcing wires woven through the sheet, the wires passing through the outwardly bulging portions of the sheet at shorter intervals and forming narrower and shallower undulations therein than in the intervening inwardly depressed portions.

9. A reinforced building fabric compris-

ing a flexible undulatory sheet of fibrous material, reenforcing wires woven through the sheet, and non-metallic stiffening strips of greater cross section than the wires inserted between the wires and one side of the sheet and terminating at one end short of one edge of the sheet and at the other end

substantially even with the opposite edge of the sheet, whereby the edges of adjoining sheets may be lapped and the reenforcing strips thereof arranged in alignment. 10

In witness whereof I hereto affix my signature.

EDWIN D. CODDINGTON.