Nov. 2, 1926. 1,605,283

H. H. ROBINSON

PLASTER REENFORCEMENT

Filed Jan. 13, 1926

FIG. I.

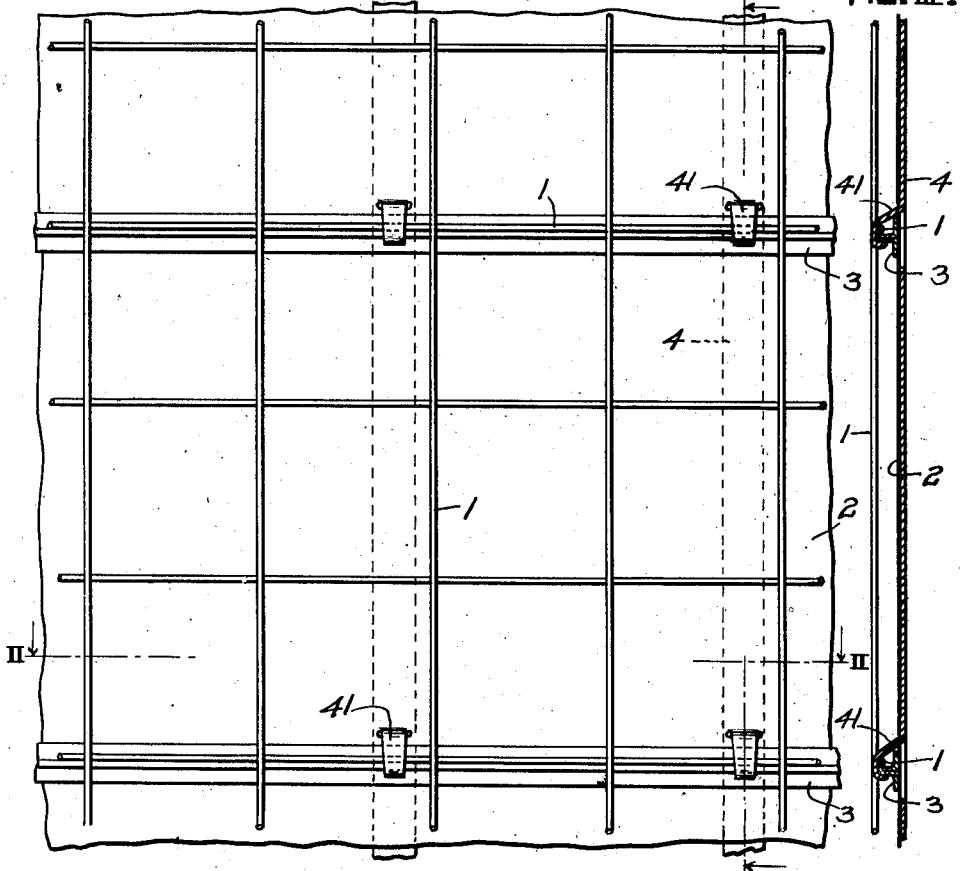


FIG. III.

FIG. II.

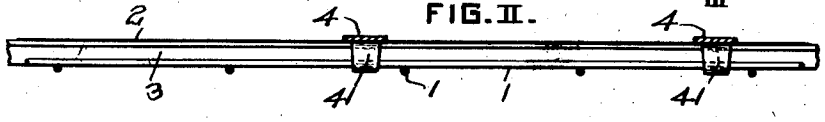


FIG. IV.

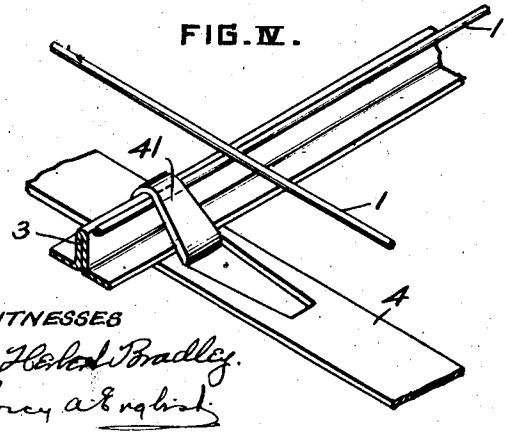
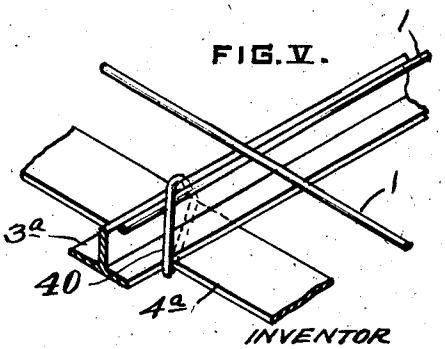


FIG. V.



WITNESSES

J. Herbert Bradley.

Percy A. English

INVENTOR

Herbert H. Robinson

by Christy and Christy

his attorneys

Patented Nov. 2, 1926. 1,605,283

UNITED STATES PATENT OFFICE.

HERBERT H. ROBINSON, OF MOUNT LEBANON, PENNSYLVANIA.

PLASTER REENFORCEMENT.

Application filed January 13, 1926. Serial No. 80,984.

My invention relates to re-enforcement for plaster, and consists in a structure such in character that in the building of the walls of houses lath may be dispensed with; the structure of my invention may be applied directly upon the studding, and plaster may be spread upon it. It constitutes then a base and support for the plaster and a re-enforcement for the plaster as well. In speaking of it as a structure useful in the forming of plaster walls, I am merely alluding to an exemplary application. The invention is of wider applicability; it may similarly serve in the facing with stucco of the outer walls of house, and generally in the spreading of material which hardens after the manner of plaster, whether the surface over which the material is spread be a wall surface or a floor surface, or a surface elsewhere situated. The objects of my invention are cheapness of production, and strength and durability of the finished structure.

In an application for Letters Patent of the United States, filed December 5, 1925, Serial No. 73,351, I have described such a structure, embodying features which constitute invention as therein claimed; in this application I shall describe a structure differing from that in detail and embodying other features which also are new with me and which I shall here define in my claims.

In the accompanying drawings Fig. I is a view in side elevation, Fig. II a view in horizontal section, and Fig. III a view in vertical section of a structure embodying my invention. The plane of section of Fig. II is in Fig. I indicated by the dotted line II—II, and similarly the plane of section of Fig. III is indicated by the line III—III. Figs. IV and V are views in perspective, and to larger scale, and illustrate, in alternative form, a detail of structure. From the showing of Figs. IV and V a certain component has, for clearness of showing, been omitted. The particular form shown in Fig. IV is that which is present in Figs. I–III also.

The re-enforcement of my present invention consists of four component parts or elements; a fabric to give strength, penetrable by the plaster or other material to be spread; a flexible backing of sheet material; spacers, arranged between fabric and backing; and securing strips. The fabric 1 in the specific embodiment here shown is the familiar square-mesh wire fabric. This article is intended for use as re-enforcement of the plaster upon the wall of a room of an ordinary dwelling house, and accordingly the fabric may be understood to be formed of 14 gauge wire, with meshes two inches square, and with welded crossings. The particular metal employed, the size of the wire, the shape and dimensions of the mesh, and the means of forming it into a so-called "fabric", may be varied to suit particular circumstances.

The backing of flexible sheet material is in this particular instance a sheet 2 of paper. The paper is rather coarse in texture, heavy, and strong to sustain the pressure of wet plaster when being spread upon it. The requisites of this backing sheet are that it shall be impenetrable by plaster, or substantially so, and that being attached at intervals to the wire fabric, it shall, when the plaster is applied through the meshes of the wire fabric, while yielding slightly, still define the inner face of the spread sheet of plaster. The sheet of plaster so spread will of course surround and embed the wire fabric. Manifestly other material than paper may be employed for the flexible sheet 2, but the paper is adequate and is particularly serviceable in that, capable of being made strong enough, it is cheap, and may be waterproofed. It offers a good bonding surface, permitting the plaster to harden and dry in a natural manner.

The spacing members 3 lie between the wire fabric and the backing sheet. Their function is two-fold: to maintain the fabric and backing sheet spaced apart, and so to insure the deep bedding of the fabric within the plaster when spread, remote from the inner as well as from the outer surface of the spread layer; and their further function is to afford firm anchorage for the securing means. It is desired of the spacing members that they shall be light and rigid and shall occupy little space. I show them to consist of a succession of strips. The particular shape of the strips in cross-section may be such as is desired. I preferably make them T-shape in cross section. They are laid in parallelism one with another and in parallelism with the strand wires of the fabric. Such a T-shaped strip may be formed of sheet metal, bent as indicated in Fig. IV. In the assembly the head of

the T abuts upon the surface of the web of paper, and upon the outstanding stem of the T the wire fabric bears.

The securing strips may be strips of metal 4, extending on the opposite surface of the web 2 of paper, that is to say, on the surface opposite that upon which the spacers 3 and the wire fabric 1 are assembled. They extend in parallelism, spaced apart at suitable intervals, conveniently in parallelism also with the stay wires of fabric 1, and at right angles to the spacer strips 3.

Securing is preferably effected by means of tongues 41, slit from strips 4 and bent aside, thrust through the substance of the paper web 2. and bent about the wires of fabric 1, thus completing the assembly and securing the whole to constitute an integral structure, as it will be perceived to be. The spacer strips 3 preferably are arranged in the assembly immediately adjacent a strand wire, so that a strand wire throughout its length lies close against the stem of the T while the stay wires (the wires running at right angles to the wires spoken of as strand wires) bear upon the end of the stem of the T. The underlying strip 4 passes beneath the spacer strip 3, and there the tongue 41 rises, and at its tip is turned about the end of the stem of the T and about the strand wire also. I use the terms stay wire and strand wire without technical discrimination, meaning merely to differentiate the wires of the fabric running in one direction from those running in the other direction.

In Fig. V various modifications in detail are indicated. The spacing strip 3^a is indicated to be formed otherwise than by bending sheet material to T shape. The securing strip 4^a is not slitted into tongues, but instead a length of wire 40 is shown to surround and to secure the strip 4^a the strip 3^a and the strand wire of fabric 1, at the point of crossing.

The structure is assembled and integrated and is applied as a unit to the wall or other place of service. For use in building the inner walls of houses it may conveniently be made up in units fifty inches square. These ordinarily are nailed to place. The structure may be applied directly against the studding which forms a partition in the structure of a building. It will in such case preferably be applied with the spacing strips 3 extending horizontally and bridging the intervals between the upright structural members. In such case the spacing strips will serve additionally as stiffening members.

It will be remarked that in my completed article the wire fabric is in its entirety arranged on one side of and at an interval from the web of paper. In consequence, when plaster is applied and spread the wire is embedded entirely and deeply within the layer of plaster. Thus the wire is protected from rusting, and the finished wall is not merely stronger and firmer, it is also more durable than otherwise would be the case.

I claim as my invention:

1. A foundation for material adapted to be spread in layer form consisting of a sheet of fabric pervious to the material to be spread, a web of flexible material resistant to penetration by the material to be spread, a spacing member interposed between fabric and web, a strip extending upon the opposite surface of the web of flexible material, and a tie uniting said strip and fabric.

2. A foundation for material adapted to be spread in layer form consisting of a sheet of fabric pervious to the material to be spread, a web of flexible material resistant to penetration by the material to be spread, a spacing member interposed between fabric and web, and a strip extending upon the opposite surface of the web of flexible material, the said strip being provided with tongues bent from the strip and penetrating the web of flexible material and engaging the fabric.

3. A foundation for material adapted to be spread in layer form consisting of a sheet of wire fabric composed of two sets of parallel wires overlaid set upon set and united at the crossing, a web of flexible material, a spacing strip of T-shaped cross-section bearing upon its head upon the said web of flexible material and its stem extending adjacent one of the underlying strands of said fabric, and a securing strip extending upon the opposite surface of said web of flexible material, said securing strip being provided with a bent tongue which penetrating said web is turned about the stem of said T-shaped spacing strip and about the adjacent strand of the fabric.

In testimony whereof I have hereunto set my hand.

HERBERT H. ROBINSON.