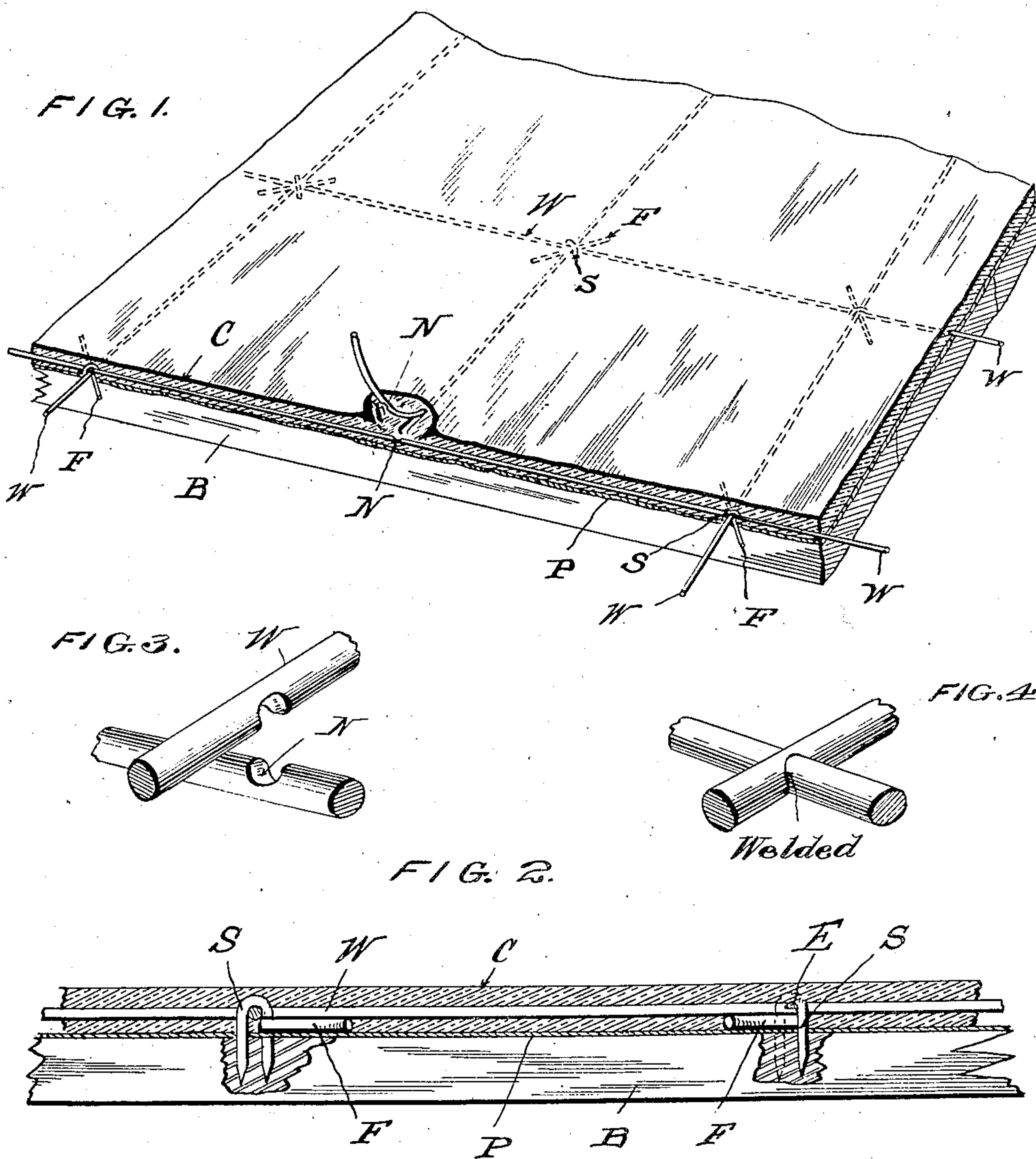


J. GILMORE.
REINFORCED CONCRETE STRUCTURE.
APPLICATION FILED MAR. 25, 1909.

963,218.

Patented July 5, 1910.



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UNITED STATES PATENT OFFICE.

JOHN GILMORE, OF MONTROSE, SOUTH DAKOTA.

REINFORCED CONCRETE STRUCTURE.

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Specification of Letters Patent.

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Application filed March 25, 1909. Serial No. 485,821.

To all whom it may concern:

Be it known that I, JOHN GILMORE, a citizen of the United States, and resident of Montrose, McCook county, State of South Dakota, have invented certain new and useful Improvements in Reinforced Concrete Structures; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to the reinforcing elements used in masonry and concrete structures, and more especially to wire fabric furring and fastenings which form the lathing for supporting such elements; and the object of the same is to produce an improved wall or roof including such furring and fastening.

The invention is described in the following specification and shown in the accompanying drawings, wherein—

Figure 1 is a perspective view of a section of this roofing with portions of the cement broken away; and Fig. 2 is a cross section showing one of the staples in elevation. Figs. 3 and 4 are fragmentary details showing the cross wires before and after welding.

In the drawings the letter B has been used to designate the roof boards or framework of the building. If it is a wall it will be upright, but if it is a roof it will be inclined and may be covered with paper P.

The letter W designates wire fabric of suitable mesh, whose strands where they cross are by preference welded together as at E—thereby obviating the thickness required to pass one strand around or kink it over another or to surround the crossing strands with a tie. In fact, as indicated at one point in Fig. 1, the strands may be indented or notched as at N so that the notches will register with each other, and after being welded together the fabric will possess a general thickness no greater than that of each individual strand. I consider this fabric especially useful as a furring for reinforcing elements because on account of its lack of thickness it does not require a great amount of cement to cover it, and it occupies very little space in storage or during transportation. However, if perfectly made the strands and joints will all lie in a single thin plane so that if stapled flat to an upright wall it would project therefrom so

little that it would hardly hold the concrete in place—especially if the meshes were large; and in connection with it I therefore employ the following type of fastening.

The letters S designate the usual staples driven into the boards of a building such as the wall or roofing B (through the paper P if employed) with their bends standing over the single strands of the fabric as shown at the left of Fig. 2, or over the crossing points if desired, as shown at the right, and by preference I use short pieces F of furring, such as wire of perhaps No. 10 gage, in order to support the wire netting W at a slight distance from the boards B. In applying the netting, I first lay a furring strip across the point where a staple is to be inserted, then press a strand of the wire against it, then pass the tips of the staple over both, and finally drive it home—thus pressing the wire strand firmly down upon the furring strip and perhaps though not necessarily embedding the latter into the board or paper. By preference I place the strip in an oblique position across the strand and set the staple oppositely oblique to the strand and therefore practically across the strip, and when it is driven home it will hold all parts in place. If the wire netting is drawn tightly and attached to the boards by this means at intervals of about sixteen inches apart, it will be found that the netting will stand in a thin plane above or beyond the boards about the thickness of the furring strips. The cement or other plastic C is then applied, and while in its soft state it flows through and behind the strands, and as it sets it clings thereto with greater strength than if the netting laid flat against the boards—yet the use of the netting above described avoids the necessity for applying cement as thickly as or more thickly than usual. It also flows around the furring strips F (except at their actual points of contact with other elements) and almost completely embeds them if they are round as shown, and in the same manner it almost completely embeds the staples S and it covers their upper ends which by preference project as little as possible above the netting. Finally the cement flows against and sticks upon the boards, or the paper if it be used, which it protects from moisture as it does all metal parts. Thus it will be seen that a comparatively thin layer of cement is necessary in a reinforced structure of this character, and yet it protects

all parts against moisture, prevents dislodgment of the furring or the staples in case they should become loose, clings to the greatest degree possible to these elements, and clings with decided force to the netting whose strands it embeds. As above indicated, I do not limit myself to the employment of this reinforced element in any particular place, as it is useful alike for walls or roofs and perhaps for ceilings and floors.

What is claimed as new is:

1. A reinforced plastic structure for buildings comprising the wall or roofing boards, pieces of furring strips disposed at intervals thereon, a wire netting standing wholly in the plane of its strands and disposed over and nowhere contacting with the boards with the crossing points of its strands resting upon said strips, staples set at angles to and inclosing the strands and strips and entering the boards, and a plastic extending over and through the netting, clinging to

said strands and pieces, and sticking to the boards.

2. A reinforced concrete roof comprising the roofing boards, paper thereon, pieces of furring strips disposed at intervals on the paper, a wire netting standing wholly in the plane of its strands and disposed over and nowhere contacting with the paper with its strands resting upon said strips, staples set at angles to and inclosing the strands and entering the boards through the paper, and concrete extending over and through the netting, clinging to said strands and pieces, and sticking to the paper.

In testimony whereof I have hereunto subscribed my signature this the 15th day of March, A. D. 1909.

JOHN GILMORE.

Witnesses:

PETER HENLE,
E. E. ENO.