

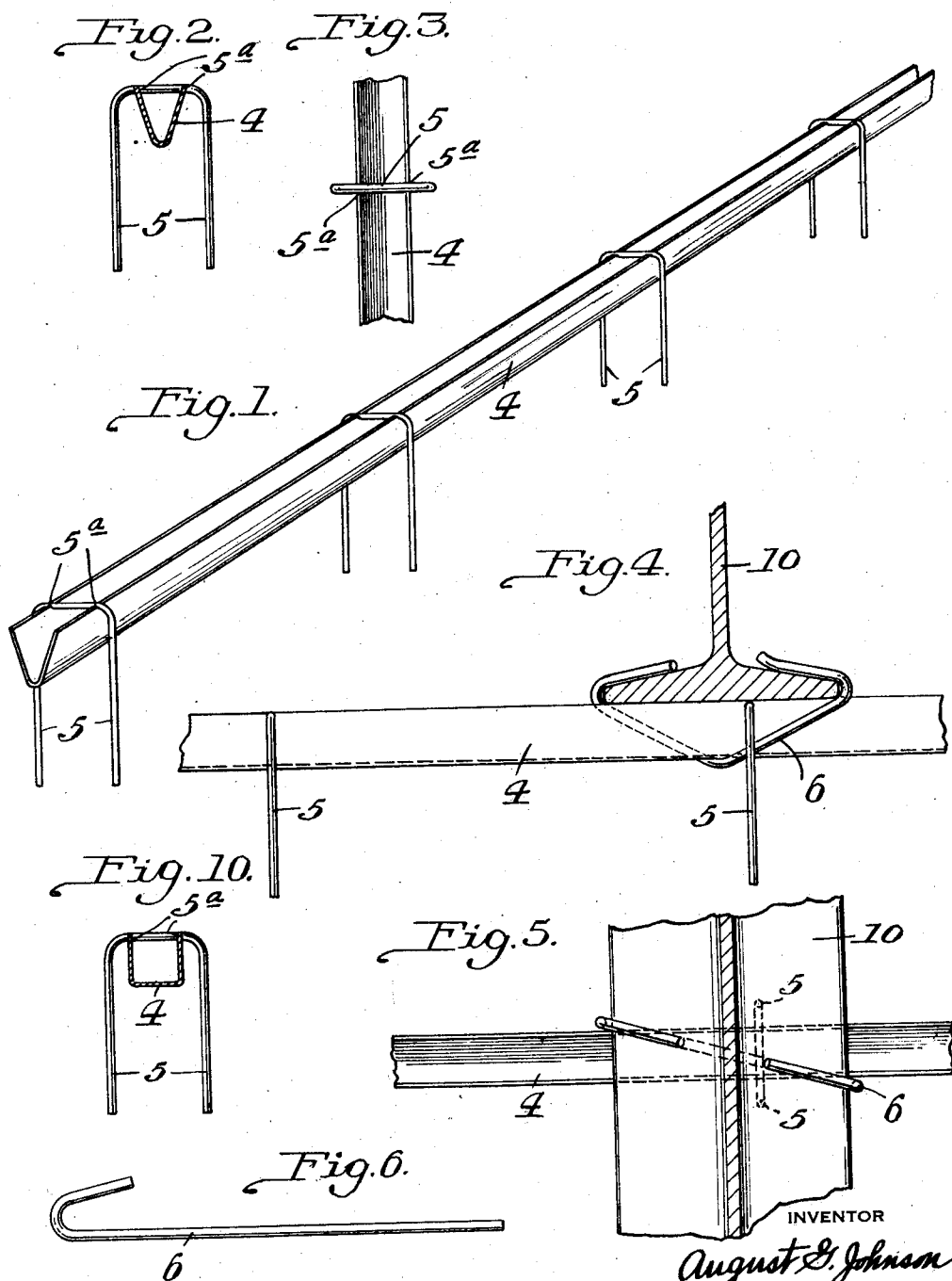
Aug. 26, 1930.

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REINFORCEMENT FABRIC

1,773,897

Filed Feb. 14, 1928

2 Sheets-Sheet 1



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Fig. 7.

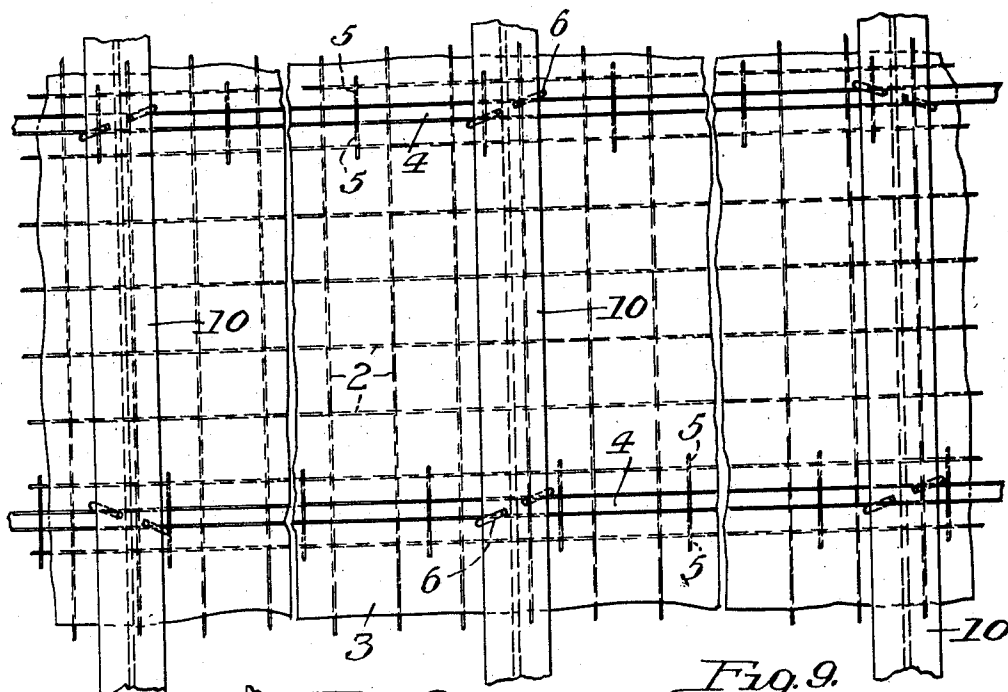


Fig. 8.

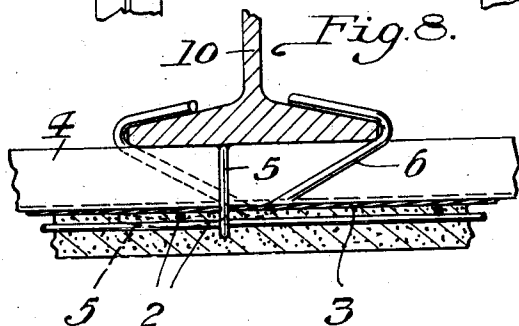


Fig. 9.

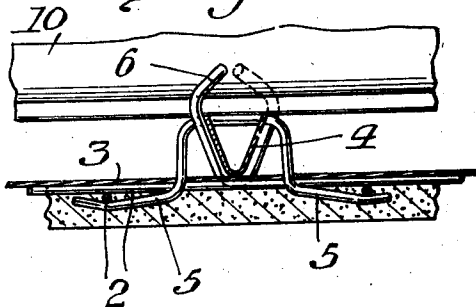
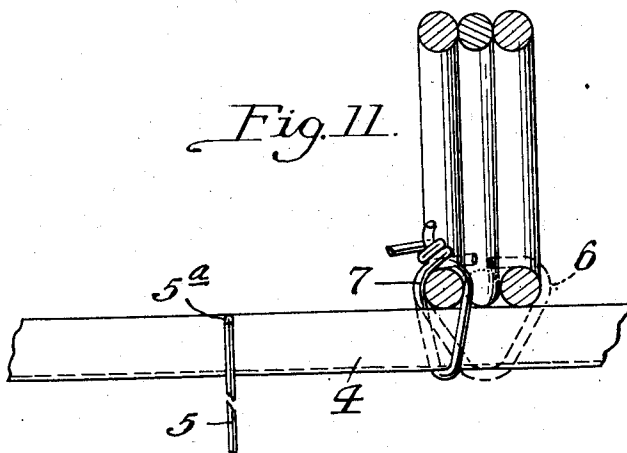


Fig. 11.



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UNITED STATES PATENT OFFICE

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REENFORCEMENT FABRIC

Application filed February 14, 1928. Serial No. 254,216.

My invention relates broadly to reenforcement structures such as metal fabrics, which may or may not be provided with a paper backing, and more particularly to means for attaching such fabrics to joists, studding, etc.

In those cases wherein it is desired to provide reenforcement fabric for plaster, stucco, etc., in connection with buildings having wooden framework, such fabric is commonly attached by staples, furringnails, and the like. However, the framework of many buildings is of metal throughout, with the result that nails and staples cannot be employed, and the attaching of reenforcing fabric to such metal structures has heretofore presented a difficult problem; the principal difficulty arising through the necessity of providing means for attaching the fabric, under tension, to support the finished ceiling or wall in a flat plane, without sagging between the points at which the fabric is connected to the joists or studding.

One object of the present invention is to provide an improved form of attaching means for economically attaching reenforcing fabric to a supporting framework, whereby said fabric may be rigidly anchored and so supported as to prevent sagging of the finished work.

Another object of the invention is to simplify and improve generally the manner of applying a reenforcing fabric to a supporting framework.

In the accompanying drawing there is shown, for purposes of illustration, a preferred embodiment of my invention, it being premised, however, that changes may be made in the structure shown and described, without departing from the invention as claimed.

In the accompanying drawing, Figure 1 is a perspective view of one of the fabric attaching members; Fig. 2 is an enlarged cross section of the member of Fig. 1; Fig. 3 is a plan view of Fig. 2; Fig. 4 is a sectional elevational view showing the attaching member as applied to steel framework; Fig. 5 is a plan view of Fig. 4; Fig. 6, shows, in elevation, a partially formed fastener for connecting fabric-attaching members to steel joists;

Fig. 7 is a plan view of a typical floor and ceiling structure of steel framing, showing my invention applied thereto and supporting a reenforcing fabric; Fig. 8 is an enlarged sectional view through a finished ceiling constructed according to Fig. 7; Fig. 9 is a sectional view, in a plane transverse to that of Fig. 8; Fig. 10 shows a modified form of attaching member, and Fig. 11 shows my invention employed with a truss type of joist.

It will be understood that the invention may be employed in connection with reenforcing bars or fabrics of various form, either with or without paper backing, some of such forms of fabric being disclosed in the Benedict Patents Nos. 1,502,012 of July 22, 1924, and 1,597,507 of August 24, 1926.

It will also be understood that the invention may be employed in connection with the formation of reenforced plaster or stucco walls, ceilings, columns, etc.

Referring to Figures 7, 8 and 9, I have shown a wire-reenforcing fabric 2 against which a paper backing 3 may be placed, either loosely or attached thereto, as in the manner shown in one of said patents.

The means by which the fabric is attached to the supporting framework is best shown in Fig. 1 and comprises a channel-like member 4 which may be formed in any desired length to meet various building conditions. The member 4 is formed from thin gauge metal and preferably bent substantially to channel shape so as to provide stiffness of body for supporting the work without flexing. The member 4 is provided with a series of prongs 5 which provide the means by which the fabric is secured to said members. These prongs preferably are formed of short lengths of wire which are arranged to overlies the open side of the channel transversely thereof and are welded to the edges of the channel as at 5^a. The wires are bent to form a pair of spaced prongs which extend downwardly below the channel and which are adapted to be forced through the reenforcing fabric and are of such length as to be readily grasped by the hand and clinched or bent back against the fabric to fasten and tension it securely to the member 4.

In the employment of my invention in ceiling and wall structures, the members 4 are suitably arranged to extend transversely of the joists or studding, spanning several of the studding or joists with the open side of the channel against the joists or studding, and may be attached thereto in any desired manner. With steel framework, the members 4 preferably are wired to the framing, and in wood framing, the members 4 may be attached by staples which span the channel member.

In either manner of fastening the welded prongs 5 serve to prevent spreading of the edges of the members 4.

In steel framing, a wire connection such as the hook 6 (Fig. 6) may be employed for attaching the members 4 to the joists and studding. This hook preferably is formed of wire and is adapted to be hooked over one flange of an I-beam joist and bent around beneath the members 4, and then bent over the other flange of the I-beam. In this manner of fastening, the members 4 are tightly bound to the joist, economically, and with little manual labor.

In Fig. 11 there is shown a truss form of joist of a type commonly employed in buildings and to which my improved attaching means may readily be applied. Instead of employing hooks 6, the members 4 are wired to the joist by twisting wire around it and one or more of the joist members, as indicated at 7. However, the hook 6 may be employed, if desired, as indicated in dotted lines in this figure.

In Fig. 10, I show a modified form of the member 4. In this instance, the channel is of rectangular shape and may be tightly drawn against steel framing at the point of connection with said framing without liability to spreading. It will be apparent without specific illustration that the member 4 may take other forms or shapes. As an example, the member may be a flat strip having a beading or grooves extending longitudinally thereof to stiffen it.

Referring now to Figs. 4, 7, 8 and 9. In Fig. 4 the attaching member 4 is shown anchored to the underside of an I-beam joist 10, by the fastener 6, the members 4 extending to span several of the joists as desired, and the members 4 are arranged in parallel relation and properly spaced apart to give the desired support for the fabric and the finished ceiling. With the members 4 in place as shown in Fig. 4, the fabric comprising the mesh 2 and backing 3 is pressed upwardly against the prongs 5. The prongs readily pierce the reinforcing element and protrude beneath the same and are bent over and clinched to secure the fabric to the members 4. By this arrangement, I am enabled to apply the reinforcing fabric to framework, under tension, to produce a flat surface, without the necessity of anchoring the fabric and then stretching it to

secure the desired tension before permanently attaching it into position. With my invention, the fabric may be progressively applied and tensioned from the starting point to finish in which case all of the surface of the fabric will have like tension. Furthermore, the fabric may be more economically applied than heretofore, as it will be apparent that as the prongs indicate the points of fastening, it is only necessary to clinch or bend the prongs at these points against the fabric,—the length of the prongs being such as to provide for engagement with the wires of the reinforcement of the fabric to hold the fabric in such manner as to prevent sagging thereof.

An advantage of the invention arises in the provision of a backing or support for the fabric between the joists which in itself forms the means for attaching the fabric—the structure permitting the placing of reinforcement uniformly as to tension through its surface, and in such manner as to prevent sagging thereof.

A further advantage consists in providing a rigid backing for such fabric by which the work of applying plaster or stucco may be accomplished in an advantageous manner.

I claim as my invention:—

1. An attaching unit for reinforcing fabric, comprising a channel member having hook-like means for attaching it to metallic studding, and hook-like means rigidly secured to said members for attaching the fabric thereto.

2. An attaching device for securing reinforcing fabric to framework, which comprises a channel member adapted to be mounted with its edges in abutting engagement with the framework, and prongs welded to the edges of said member and projecting beyond the outermost face thereof.

3. An attaching device for securing reinforcing fabric to framework, which comprises a channel member adapted to be mounted with its edges in abutting engagement with the framework and of a length to span a plurality of framework members, means for maintaining said channel members against spreading, and hook members distributed throughout the length of the channel member and rigidly secured thereto, the ends of the hook members projecting beyond the outermost face thereof.

4. An attaching device for securing reinforcing fabric to framework, comprising a rigid bar adapted to be secured to and transversely span spaced members composing the framework, and prongs rigidly secured to said bar and projecting beyond the outermost surface thereof.

5. An attaching device for securing reinforcing fabric to framework, comprising a channel member adapted to be mounted with its edges in abutting engagement with the framework, and hook members bridging

said edges and rigidly secured thereto and having their ends protruding beyond the outermost surface of the said member.

6. A reinforcement structure comprising in combination, a framework, a reinforcing fabric, channel members arranged to extend transversely of said framework, means for securing said channels to said framework, and hook members rigidly secured to and distributed throughout the length of the said channel members for clamping the fabric thereto.

7. A reinforcement structure comprising in combination, a framework, a reinforcing fabric, channel members arranged to extend transversely of said framework, means for securing said channels to said framework, and hook members rigidly secured to and distributed throughout the length of the said channel members for clamping the fabric thereto at points between the members composing the framework.

In testimony whereof I, the said AUGUST G. JOHNSON, have hereunto set my hand.

AUGUST G. JOHNSON.