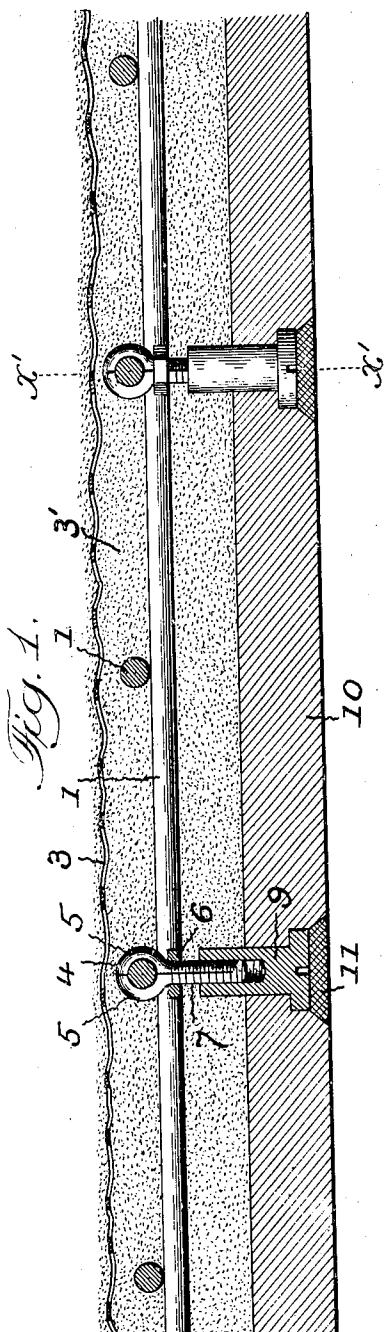


G. M. GRAHAM.
 REINFORCED CONCRETE STRUCTURE.
 APPLICATION FILED DEC. 10, 1907.

938,662.

Patented Nov. 2, 1909.

2 SHEETS—SHEET 1.



Attest:
 John Enders.
 Henry Mor.

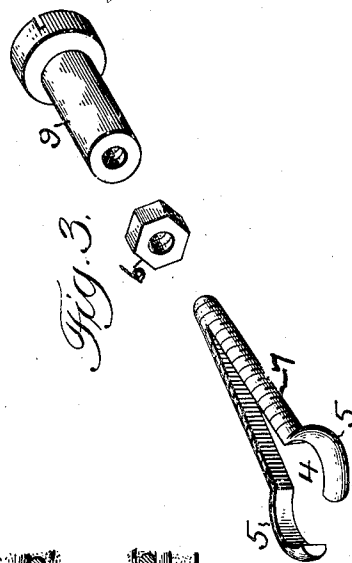
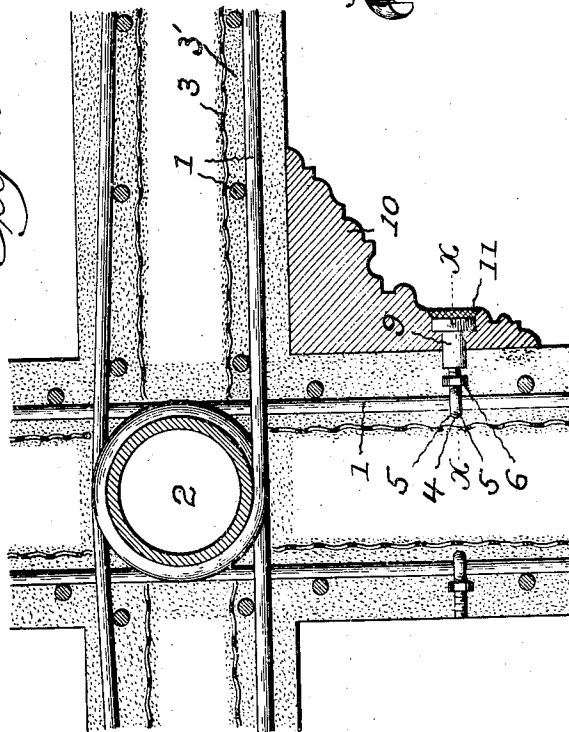


Fig. 2.

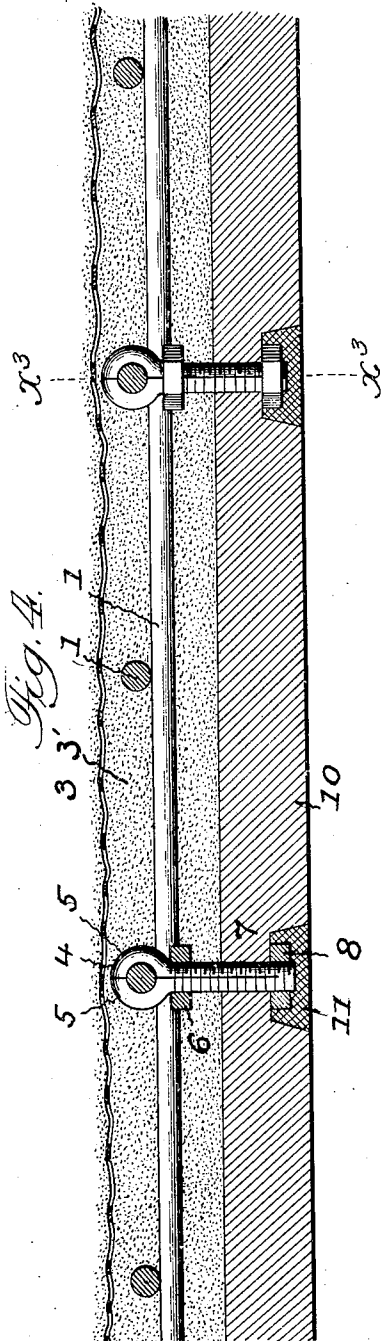


Inventor:
 George M. Graham,
 by Robert Burns
 Attorney.

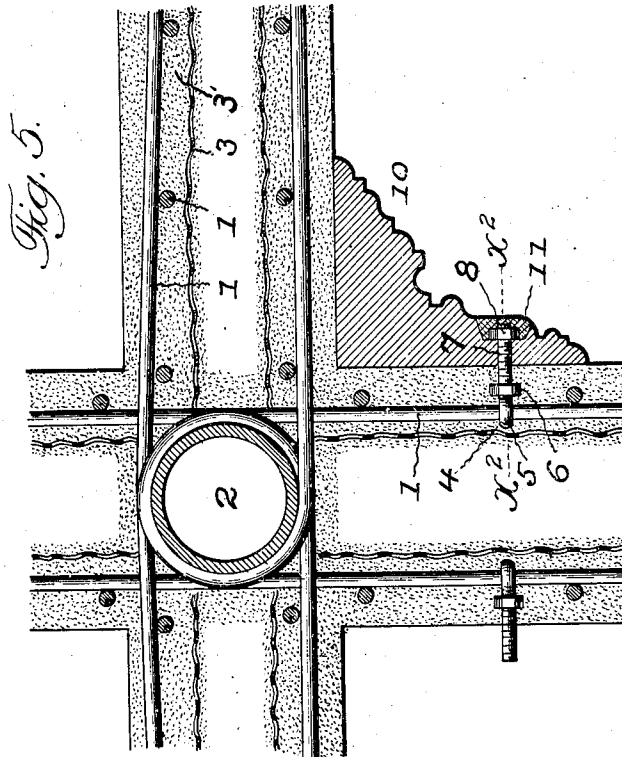
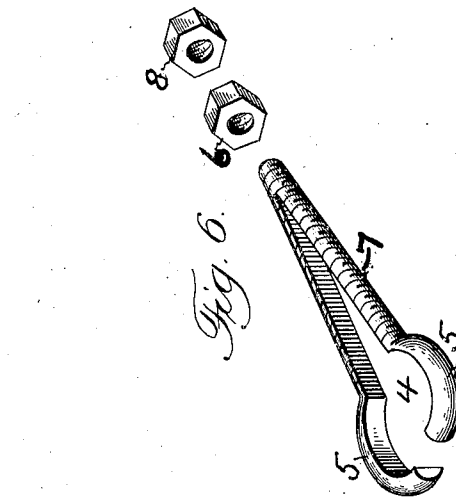
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Attest:
 John Enders,
 Henry Moore.



Inventor:
 George M. Graham,
 by Robert Burns
 Attorney.

UNITED STATES PATENT OFFICE.

GEORGE M. GRAHAM, OF CHICAGO, ILLINOIS, ASSIGNOR TO G. A. EDWARD KOHLER, OF CHICAGO, ILLINOIS.

REINFORCED CONCRETE STRUCTURE.

938,662.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed December 10, 1907. Serial No. 405,890.

To all whom it may concern:

Be it known that I, GEORGE M. GRAHAM, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reinforced Concrete Structures, of which the following is a specification.

This invention relates to the particular type of reinforced concrete structures which forms the subject matter of my prior patent No. 865,490 of Sept. 10, 1907, and has for its object to provide a simple and efficient structural arrangement and combination of parts whereby cornices, base boards, and other like interior or exterior trimmings of a building can be secured in a substantial and ready manner to the walls and other parts of the structure, all as will hereinafter more fully appear.

In the accompanying drawings illustrative of the present invention: Figure 1 is a fragmentary horizontal section on line $x-x$ Fig. 2. Fig. 2 is a detail vertical section on line $x'-x'$, Fig. 1. Fig. 3 is a detached perspective of the attaching means. Fig. 4 is a fragmentary horizontal section on line $x''-x''$ Fig. 5 of a modification. Fig. 5 is a detail vertical section on line $x'''-x'''$, Fig. 4. Fig. 6 is a detached perspective view of the modified form of attaching means shown in Figs. 4 and 5.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents the series of reinforcing wires of a wall, partition or other portion of a reinforced concrete building, and which wires arranged in crossed relation and placed under proper and uniform tension between girder members 2, or the like, of the reinforcing frame constitute the skeleton reinforcing centers for said frame, as set forth in detail in my aforesaid Letters Patent No. 865,490 of Sept. 10, 1907. 3 is the perforated lathing secured as usual to said skeleton wire centers and adapted to aid in receiving the imposed mass of concrete, which forms the main portion of the building wall, or the like, and hold said mass in place during the setting or hardening of the same.

The feature of novelty in the present improvement lies wholly in the provision in connection with such tensioned skeleton wire

centers of a series of attachment studs or 55 members 4, attached at one end to said wires, and projecting laterally therefrom, and adapted to afford a ready and convenient attachment for cornices, moldings and like trimming parts of the building subsequent 60 to the erection of the concrete portion thereof. To such end each stud or member 4 is formed with counterpart curved jaws 5 at their inner ends, adapted to spread apart 65 during application, and being drawn together to firmly clasp the wire 1 by means of a screw nut 6 moving on the screw-threaded and divided shank 7 of the stud, as shown in Figs. 1 and 4. The shank 7 is preferably of a length equal to the thickness 70 of the concrete mass outside of the wires 1, and so that the outer end of each shank will be flush with the outer surface of such mass to admit of the free passage of the plasterer's float used in finishing such surfaces; said 75 shanks may, however, have either a greater or less length than that above mentioned without departing from the spirit of the present invention. In some cases it will have the greater length as shown in Figs. 80 4 and 5, and adapted to receive an ordinary screw-nut 8 for the attachment of a molding or other trimming in place.

The form of shank first mentioned is best adapted for general use, and in connection 85 therewith a flanged sleeve nut 9 will be employed to secure the molding or other trimming in place.

10, is the molding or other trimming, of any usual size and form and which is provided with counterbored orifices for the reception of the attaching nuts 8 or 9, so that the same will be below the surface of said molding and capable of being hid from view by suitable inserts 11, of semi-plastic composition, as shown in Figs. 1, 2, 4 and 5. 95

Having thus fully described my said invention what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with the skeleton center of a reinforced concrete structure, of an attaching stud secured to said center and projecting laterally therefrom, said stud comprising a longitudinally split bolt the sections of which are connected together at one end and separated at the other end to form holding jaws, and a nut moving on said bolt to force said jaws together. 105

2. The combination with the skeleton center of a reinforced concrete structure, of an attaching stud secured to said center and projecting laterally therefrom, said stud comprising a longitudinally split bolt the sections of which are connected together at one end and separated at the other end to form holding jaws having a curved form, and a nut moving on said bolt to force said jaws together.
3. The combination with the skeleton center of a reinforced concrete structure, of an attaching stud secured to said center and projecting laterally therefrom, said stud comprising a longitudinally split bolt the sections of which are connected together at one end and separated at the other end to form holding jaws, a nut moving on said bolt to force said jaws together, and a nut arranged on the outer end of said bolt and securing a molding or the like to the surface of the concrete structure.
4. The combination with the skeleton center of a reinforced concrete structure, of an attaching stud secured to said center and projecting laterally therefrom, said stud comprising a longitudinally split bolt the sections of which are connected together at one end and separated at the other end to form holding jaws having a curved form, a nut moving on said bolt to force said jaws together, and a nut arranged on the outer end of said bolt and securing a molding or

the like to the surface of the concrete structure.

5. The combination with the skeleton center of a reinforced concrete structure, of an attaching stud secured to said center and projecting laterally therefrom, said stud comprising a longitudinally split bolt the sections of which are connected together at one end and separated at the other end to form holding jaws, a nut moving on said bolt to force said jaws together, and a flanged sleeve nut arranged on the outer end of said bolt and securing a molding or the like to the surface of the concrete structure.
6. The combination with the skeleton center of a reinforced concrete structure, of an attaching stud secured to said center and projecting laterally therefrom, said stud comprising a longitudinally split bolt the sections of which are connected together at one end and separated at the other end to form holding jaws having a curved form, a nut moving on said bolt to force said jaws together, and a flanged sleeve nut arranged on the outer end of said bolt and securing a molding or the like to the surface of the concrete structure.

Signed at Chicago, Illinois, this 29th day of November, 1907.

GEORGE M. GRAHAM.

Witnesses:

ROBERT BURNS,
HENRY MOE.