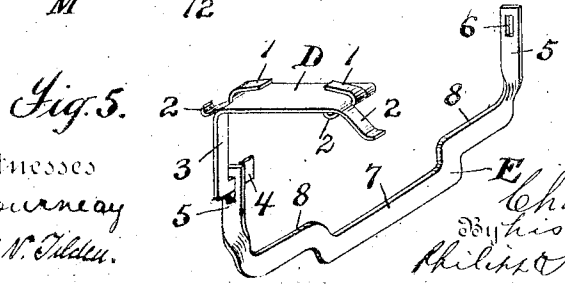
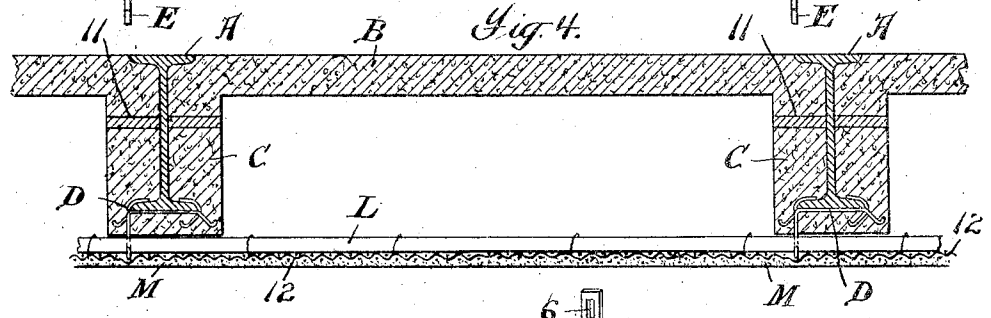
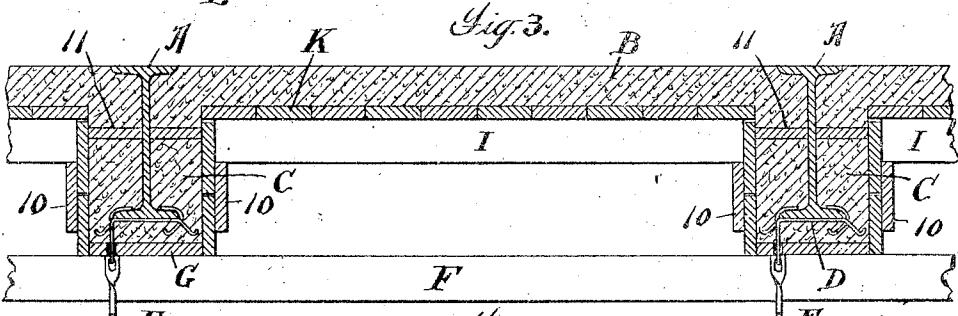
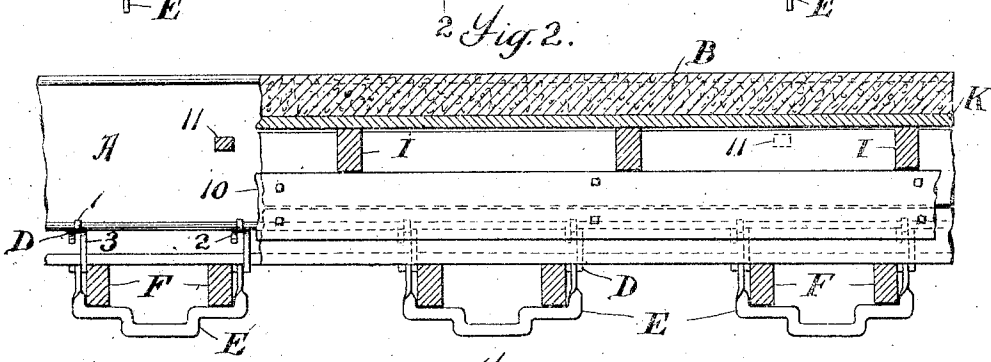
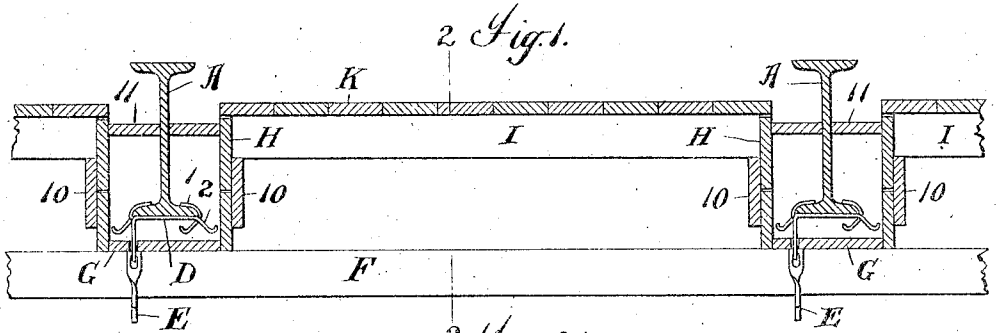


C. H. SCAMMELL.
CENTERING CONSTRUCTION.

APPLICATION FILED JULY 7, 1906.



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UNITED STATES PATENT OFFICE.

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CENTERING CONSTRUCTION.

No. 856,371.

Specification of Letters Patent.

Patented June 11, 1907.

Application filed July 7, 1906. Serial No. 325,073.

To all whom it may concern:

Be it known that I, CHARLES H. SCAMMELL, a citizen of the United States, residing at New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Centering Constructions, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to the construction of fire-proof floors, ceilings, arches and similar structures in which a temporary framework or centering is used to support the material of the structure during the making of the same and during the setting of the concrete or other plastic material, if such plastic materials be used, the object of the invention being to provide a simple, cheap and efficient centering construction adapted especially for making concrete floors with the concrete extending downward from the floor web so as to cover and fireproof the lower portions of the beams, and with a fireproof ceiling suspended below the beams.

For a full understanding of the invention a detailed description of a construction of the preferred form, embodying all the features of the same, will now be given, in connection with the accompanying drawings forming a part of this specification, and the features forming the invention particularly pointed out in the claims.

In the drawings:—Figure 1 is a cross section of the beams and centering, ready for filling in the concrete. Fig. 2 is a section on the line 2 of Fig. 1 with the concrete filled in on the centering, the centering and concrete being partly broken away to show the construction. Fig. 3 is a cross section similar to Fig. 1 with the floor completed before removal of the centering. Fig. 4 is a view similar to Fig. 3, with the centering removed and a suspended ceiling in place. Fig. 5 is a perspective view of one of the centering supporting clips and hangers.

Referring to the drawings, A are the common flanged beams and the floor is shown as consisting of the ordinary web of concrete B at the tops of the beams, and the bodies of concrete C extending downward along the webs of the beams and around and under the bottom flange of the beams, so that, the

beams are covered and protected on their under sides by a substantial layer of concrete. The concrete surrounding the lower flanges of the beams is supported by the clips D placed on the beam flanges at a suitable distance so as to permit the concrete to be worked under the beam and around the clips in filling it in. These clips D are preferably of the form shown, and consist of narrow metal plates extending under the beams and slit at their opposite ends to form arms 1 by which the clips are supported on the beam flanges, and to provide pairs of arms 2 extending below the beams, the arms 2 being preferably inclined outward and inward and hooked as shown, and the arm 3 being extended downward and formed with a hook 4 adapted to support the centering hanger, and a suspended ceiling if the latter be used, as described hereafter. These clips, except as modified in accordance with the present invention, are fully described and claimed in United States Letters Patent No. 786,289.

The centering is supported and formed as follows: The arms 3 of adjacent clips support by their hooks 4 the centering hangers E, which are shown as metal bars arranged edgewise vertically, for securing the required strength with light material, and having at their ends two upwardly extending arms 5 provided with openings 6 to receive the hooks 4. The hangers E also have their middle horizontal portions 7 depressed, with higher portions 8 on each side, the lower and higher portions of the hangers E being of sufficient width to receive the centering joists. Upon the higher portions 8 of the hangers E rest the centering joists F, and upon these joists are supported the soffit boards G below the beams through which the arms 3, pass and the haunch boards H, these haunch boards being shown as vertical, although it will be understood that they may be inclined, if desired. These haunch boards are shown as formed by separate boards arranged edgewise one above the other and held together by nailing boards 10 over the joints, the haunch boards thus being built up to the proper height. The haunch boards are shown as held rigidly in position and properly spaced from the beam webs by braces 11, which may be short pieces of wood, as shown. Upon the boards 10 are support-

ed the cross-pieces I, and upon these and the tops of the haunch boards are laid the horizontal centering boards K.

The method of placing and removing the centering will be understood from the drawings and a brief description. The clips E having been placed in position on the beams and the soffit boards G raised into position on the joists F, the hangers E are hooked on to the hooks 4 by the hanger arms 5, and the centering joists F then placed in position on the higher portions 8 of the hangers, as shown in Figs. 1 to 3. The haunch boards H are then placed in position on opposite sides of the soffit boards G and the other parts of the centering put in place, completing the centering as shown in Fig. 1. The beam protection concrete C and floor concrete B are then filled in, to form the floor and beam protection, and allowed to set. The centering is then removed by first knocking the joists F from the higher portions 8 to the lower portions 7 of the hangers E, which lowers the centering sufficiently so that all the parts of the centering may be withdrawn from between the joists F and the floor, and the joists will then be removed by drawing them out of the hangers and the latter then removed, or by raising the hangers and joists sufficiently to unhook the hangers from the hooks 4 and drop the joists with the hangers.

After the centering has been removed, leaving the floor and beam protection as shown in Fig. 4, a suspended ceiling may be supported by the arms 3, as shown, the ceiling bars L being placed in and supported by the hooks 4 and the usual ceiling of metallic lathing 12 and plaster M supported by these ceiling bars.

It will be understood that the invention is not limited to clips having the arms 2 for supporting the beam protection, nor to the particular form of other details illustrated, but that the construction shown may be varied widely within the scope of the claims.

What is claimed is:

1. The combination with flanged beams, of clips engaging the bottom flanges of the beams and having depending arms, metal hangers extending between and supported by the depending arms of adjacent clips, and centering supported by said hangers.

2. The combination with flanged beams,

of clips engaging the bottom flanges on both sides of the beams and having depending hooked arms, metal hangers extending between and supported by the depending arms of adjacent clips, and centering supported by said hangers.

3. The combination with flanged beams, of clips engaging the bottom flanges of the beams and having depending hooked arms, soffit boards through which the arms extend, metal hangers extending between and supported by the depending arms of adjacent clips, centering joists extending transversely of the beams and supported by said hangers, haunch boards on said joists, and centering supported by said haunch boards.

4. The combination with flanged beams, of clips engaging the bottom flanges on both sides of the beams and having arms extending below the beams for supporting the concrete beam protection, depending hooked arms on the clips extending below the line of beam protection, metal hangers extending between and supported by the depending arms of adjacent clips, and centering supported by said hangers.

5. The combination with beams A, of clips D on the bottom flanges having the depending hooked arms 3, and metal centering hangers E extending between and supported by the arms 3 of adjacent clips.

6. The combination with beams A, of clips D on the bottom flanges having the depending hooked arms 3, and metal centering hangers E, said hangers E having the suspending arms 5, an upper surface or surfaces 8 for support of the centering when in use, and a lower surface 7 for lowering the centering.

7. The combination with beam A, of clips D on the bottom flanges having the depending hooked arms 3, centering hanger E having the suspending arms 5, and supporting surfaces 7, 8, at different elevations, substantially as and for the purposes described.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

CHARLES H. SCAMMELL.

Witnesses:

A. WHITE,
C. J. SAWYER.