Nov. 4, 1930. P. T. COONS ET AL 1,780,463

CONCRETE REENFORCEMENT SUPPORT

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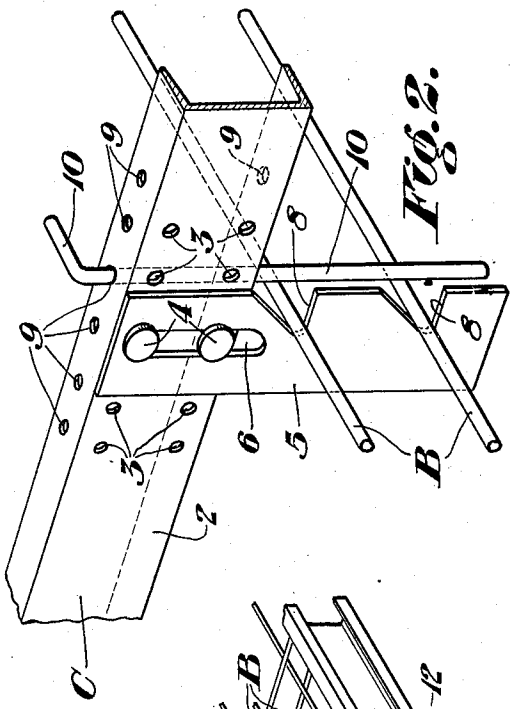


Fig. 2.

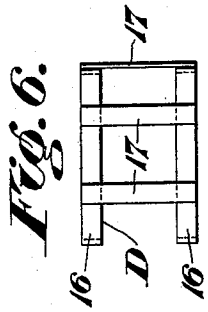


Fig. 6.

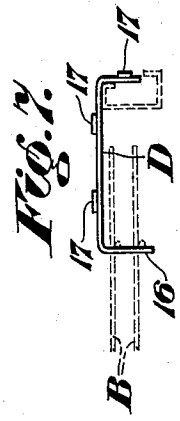


Fig. 7.

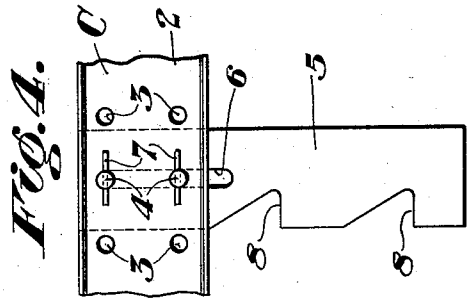


Fig. 4.

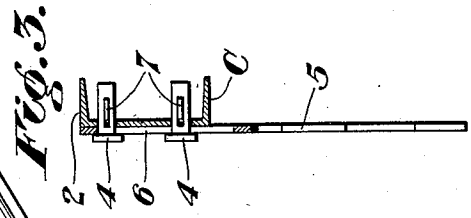


Fig. 3.

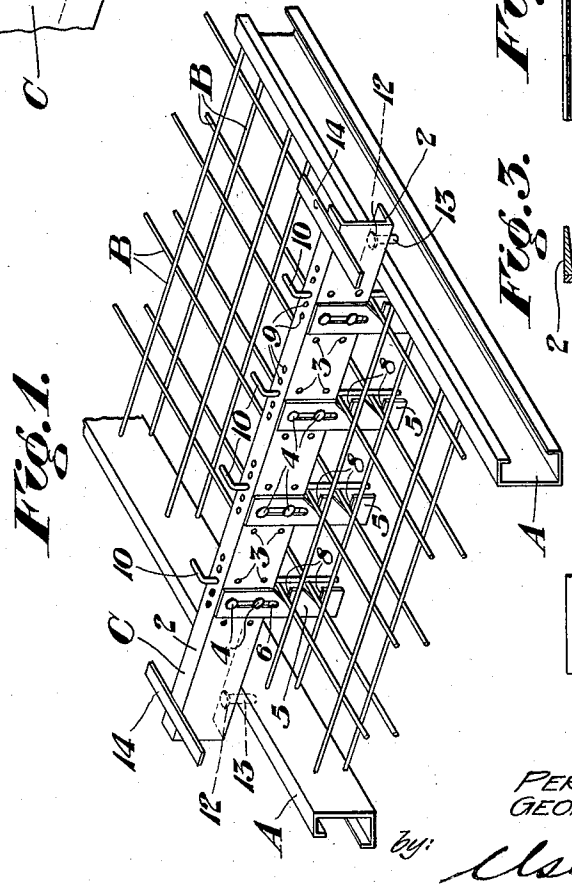


Fig. 1.

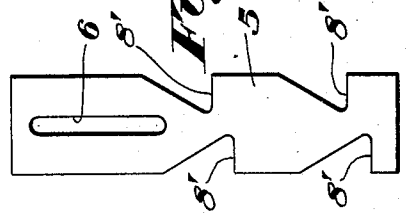


Fig. 5.

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Fig. 9.

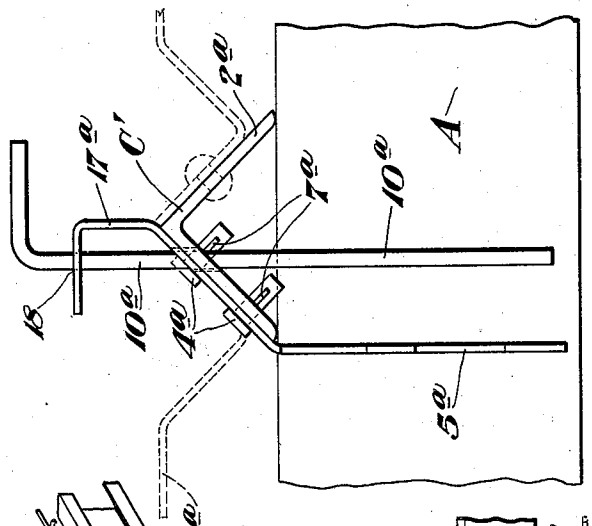


Fig. 8.

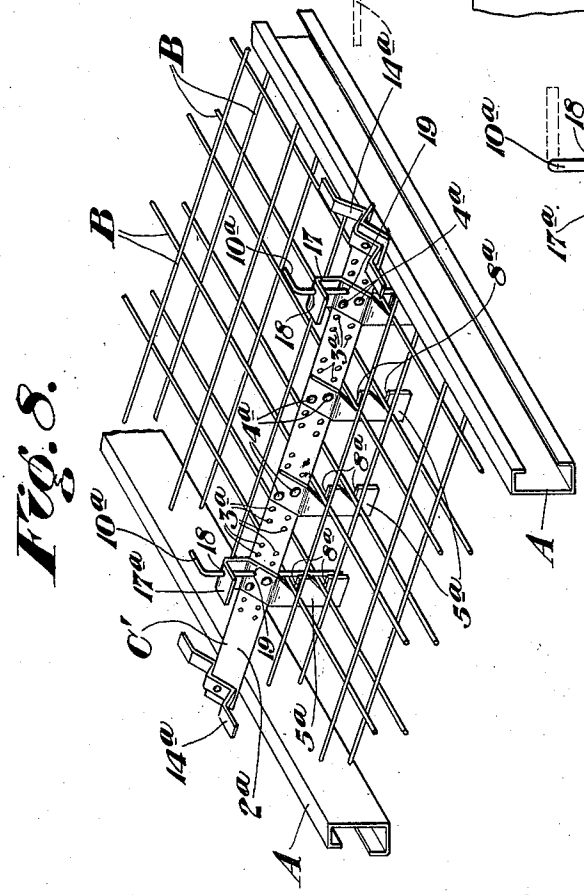
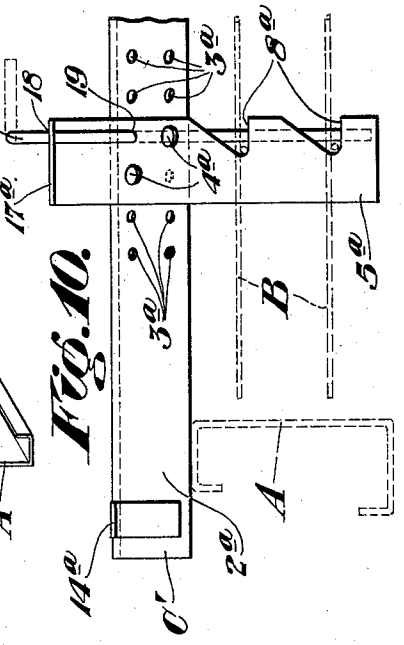


Fig. 10.

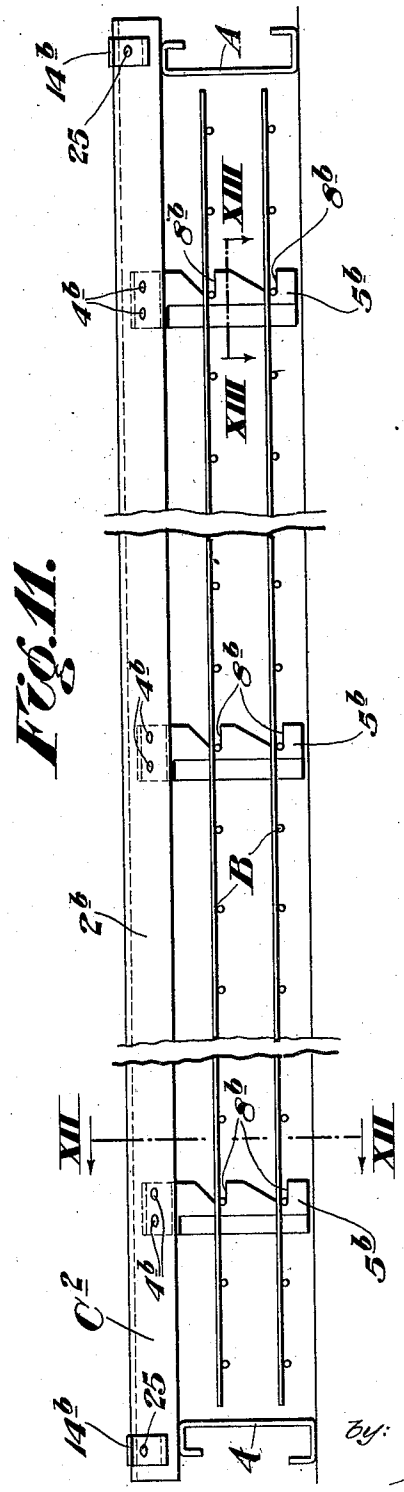


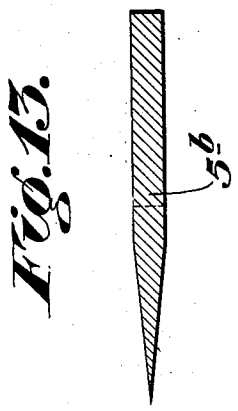
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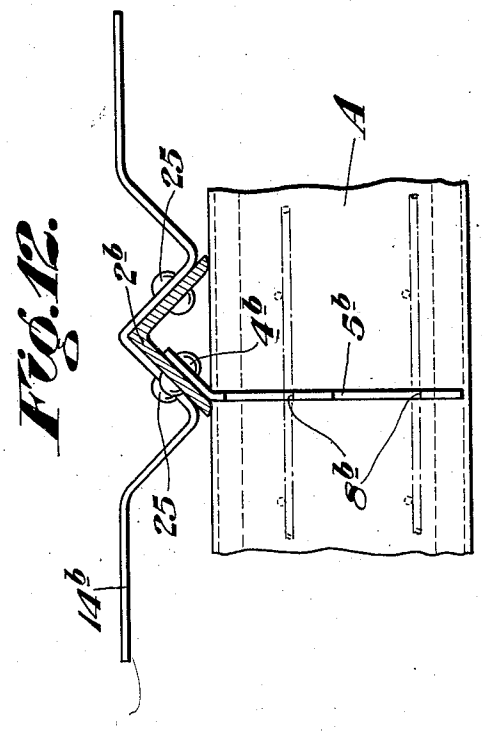
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CONCRETE REENFORCEMENT SUPPORT

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Patented Nov. 4, 1930 1,780,463

UNITED STATES PATENT OFFICE

PERRY T. COONS, OF MONTCLAIR, NEW JERSEY, AND GEORGE H. ROSE, OF CLEVELAND, OHIO, ASSIGNORS TO THE AMERICAN STEEL AND WIRE COMPANY, OF NEW JERSEY, A CORPORATION OF NEW JERSEY

CONCRETE REENFORCEMENT SUPPORT

Application filed October 16, 1929. Serial No. 400,062.

This invention relates to concrete reenforcement supports and more particularly to such supports for supporting mesh reenforcement material in the making of concrete roads, slabs and the like, and has for its object the provision of a support which will suspend the reenforcing material in the form until the concrete has been poured, after which the support may be bodily removed and relocated to support other reenforcement as the pouring progresses.

Another object of the invention is to provide a support of this class which is composed of standard rolled metal sections and short lengths of rolled metal strips or sheets either welded, riveted or bolted together so as to reduce the first cost to a minimum.

In the drawings—

Figure 1 is a perspective view showing one embodiment of our invention.

Figure 2 is a perspective view showing a detail in the construction of the apparatus of Figure 1.

Figure 3 is an end elevation and Figure 4 a side elevation showing further details in the apparatus of Figures 1 and 2.

Figure 5 is a plan showing a modified form of supporting leg.

Figure 6 is a plan and Figure 7 a side elevation, showing details in the construction of the reenforcement clamp forming part of our improved reenforcement supporting mechanism.

Figure 8 is a perspective view similar to Figure 1, showing a modified form of concrete reenforcement support embodying our invention.

Figure 9 is an end elevation and Figure 10 a side elevation showing details in the construction of the apparatus of Figure 8.

Figure 11 is an end elevation showing our improved apparatus as applied for use in supporting the metal reenforcement of a concrete roadway in readiness for applying the concrete.

Figure 12 is a transverse section on the line XII—XII of Figure 11.

Figure 13 is a transverse sectional elevation on the line XIII—XIII of Figure 11, showing a constructional detail.

Referring more particularly to Figures 1, 8, 10 and 11 of the drawings, the letter A designates the side forms for a concrete roadway having two layers of reenforcing mesh B suspended therebetween by the novel supporting structure C of this invention.

The support C comprises a beam 2 composed of a section of rolled metal channel which is of a length to bridge across the side forms A of the roadway. The beam 2 is adapted to be positioned with its flanges horizontal and its web or back vertical. The back or web of the beam 2 is provided at spaced intervals with a plurality of series of holes 3 to receive key bolts or pins 4 for attaching supporting legs 5. The legs 5 are provided with a vertically extending slot 6 to receive the bolts or pins 4. The pins 4 are adapted to be passed through the slots 6 and through selected ones of the holes 3 to secure the legs 5 in position and wedges 7 are driven into slots in the pins 4 on the opposite side of the beam web or back to releasably lock the legs in position. The legs 5 may be adjusted horizontally along the beam 2 by mounting the pins 4 in different ones of the holes 3 and they may be adjusted vertically by sliding the legs vertically relative to the pins 4 within the limits of the slots 6.

The legs 5 have one edge notched, as at 8, to form recesses to receive the longitudinal members of the reenforcing material and thereby support said material in suspended position between the forms.

The top and bottom flanges of the beam 2 are provided with a series of holes 9 adjacent each leg 5 to receive locking pins 10 which extend downwardly parallel with the legs 5 on the opposite side of the longitudinal reenforcing member entered into the notches 8 so as to prevent accidental displacement of said members from said notches.

The bottom flange of the beam 2 is provided with holes 12 adjacent each end adapted to receive a pin 13 to prevent accidental movement of the beam 2 in a direction transversely of the roadway.

Handles 14 are shown at each end of the beam 2 to facilitate handling and movement of the support.

In operation, when it is desired to mount the support C, the pins 10 and 13 are removed and the support is bridged across the forms A so that its legs 5 extend through the openings in the mesh reenforcement. The support C is then moved bodily sidewise either by sledging the end thereof or by manually pulling on the handles 14 until the notches 8 receive the longitudinal members of the mesh reenforcement. When the support C is thus finally positioned the pins 10 and 13 are mounted to prevent displacement of the mesh from the notches 8 and to prevent displacement of the support.

After the support or several of such supports are thus positioned the concrete will be poured between the forms and, before the concrete sets or hardens, the pins 10 and 13 will be removed and the support will be shifted transversely of the roadway to disengage the longitudinal reenforcing members from the support, and the support will be lifted vertically leaving the reenforcement suspended in the concrete.

In Figure 5 we have shown a modified form of mesh supporting leg 5 having notches 8′ in its opposite edges so that it may engage the longitudinal mesh members at either side of the opening through which it projects.

In Figures 6 and 7 we have shown a reenforcement clamp D adapted to be used to hold the reenforcement in position in the notches 8 of the legs 5 instead of the pins 10.

This clamp comprises a pair of inverted U-shaped members 16 secured in fixed spaced relation by transverse bars 17. In use, the reenforcement mesh is first positioned in the notches 8 of the legs 5 and the clamp D is positioned so that one set of its legs extend down along the outside of one of the side forms A while its other set of legs extend down through the reenforcement mesh and engage one of the longitudinal members thereof so as to prevent transverse movement thereof.

In Figures 8 to 10 we have shown a modified form of support C′ composed of a beam 2^a formed from a rolled metal angle-bar. The beam 2^a is positioned with its flanges extending downwardly and with its apex forming its top edge or ridge. One flange of the beam 2^a is provided with a plurality of spaced series of holes 3^a to receive key bolts or pins 4^a for attaching supporting legs 5^a. The pins 4^a are adapted to be passed through holes in the legs 5^a and through selected ones of the holes 3^a to secure the legs in position, and wedges 7^a are driven into slots in the pins 4^a on the opposite side of the beam flange to lock the legs in position.

The endmost ones of the legs 5^a are provided with extensions 17^a consisting of a vertical back portion and a horizontal flange portion. The flange portion of the extension 17^a is provided with a hole 18 alined with a hole 19 in the portion of the leg overlying the beam and said holes 18 and 19 are so spaced relative to the bolt or pin holes in the leg that they will aline with one of the holes 3^a in the beam. The legs 5^a have one edge notched, as at 8^a, to form recesses to receive the longitudinal members of the reenforcement and thereby support said material in suspended position.

Reenforcement locking pins 10^a are adapted to be mounted through the holes 18 and 19 and to extend downwardly parallel with the legs 5^a on the opposite side of the longitudinal reenforcing member entered into the notches 8^a so as to prevent displacement of the reenforcement from the support.

Handles 14^a are provided at each end of the beam 2^a to facilitate the handling of the support.

In Figures 11 to 13 we have shown a still further modified form of the support C^2 which comprises a beam 2^b formed from a rolled metal angle-bar having legs 5^b permanently secured thereto by rivets 4^b. The legs 5^b have one edge notched, as at 8^b to form recesses to receive the longitudinal members of the reenforcement.

Handles 14^b are secured at each end of the beam 2^b by rivets 25.

While the legs 5^b and handles 14^b are shown permanently riveted to the beam 2^b it will be understood that, if desired, said parts may be secured in position by welding or bolting.

It will be understood that the locking pins 10 and 10^a may be omitted from the structures above described, if desired, since in some instances they may be unnecessary.

While we have shown and described certain specific embodiments of our invention it will be understood that we do not wish to be limited thereto since various modifications may be made without departing from the scope thereof, as defined in the appended claims.

We claim:

1. A concrete reenforcement support for supporting reenforcement in concrete roads and the like, comprising a supporting beam adapted to be bridged across the side forms of the road, and a plurality of depending vertical legs removably and adjustably mounted on said supporting beam, key pins for securing said legs on said beam, said pins extending through alined apertures in said legs and said beam and being slotted to receive wedge members for preventing displacement thereof.

2. A concrete reenforcement support for supporting reenforcement in concrete roads and the like, comprising a supporting beam formed from a rolled metal angle-bar which is positioned with its flanges extending downwardly and its apex forming the top edge or ridge, said beam being adapted to be bridged

across the side forms of a road, and a plurality of depending vertical legs secured on said beam, said legs being composed of short lengths of flat strip metal arranged so that their flat faces are parallel with the longitudinal axis of said beam, and the edges of said legs being notched to form recesses adapted to receive and support longitudinal members of the reenforcement.

In testimony whereof, we have hereunto set our hands.

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GEORGE H. ROSE.