Sept. 22, 1970 G. F. ADAMS 3,529,392

PLASTIC SUPPORT BRIDGE FOR CONCRETE REINFORCING RODS

Filed Oct. 11, 1968

Fig. 1

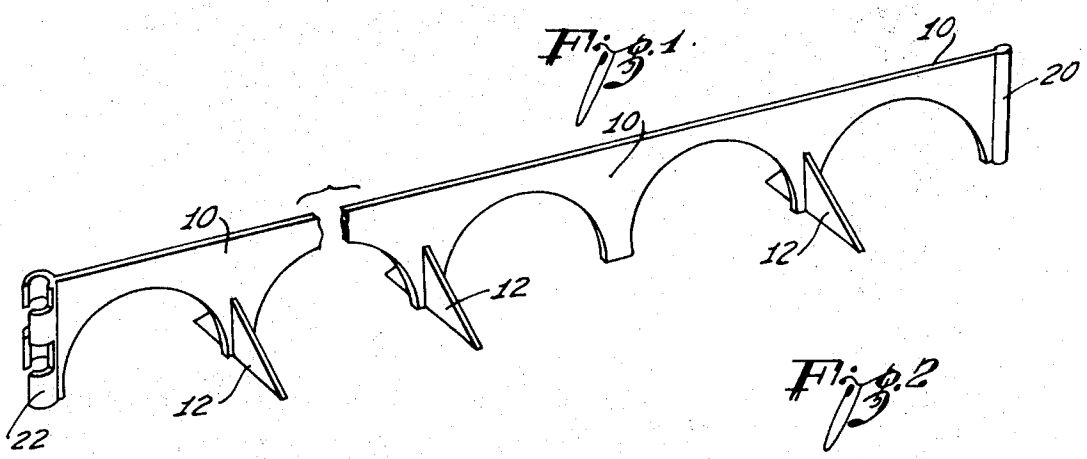


Fig. 2

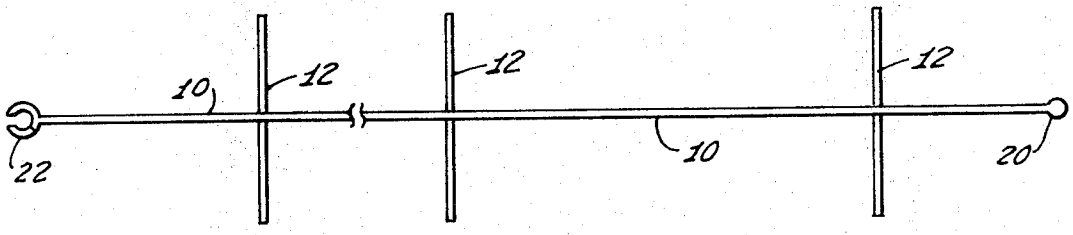


Fig. 4

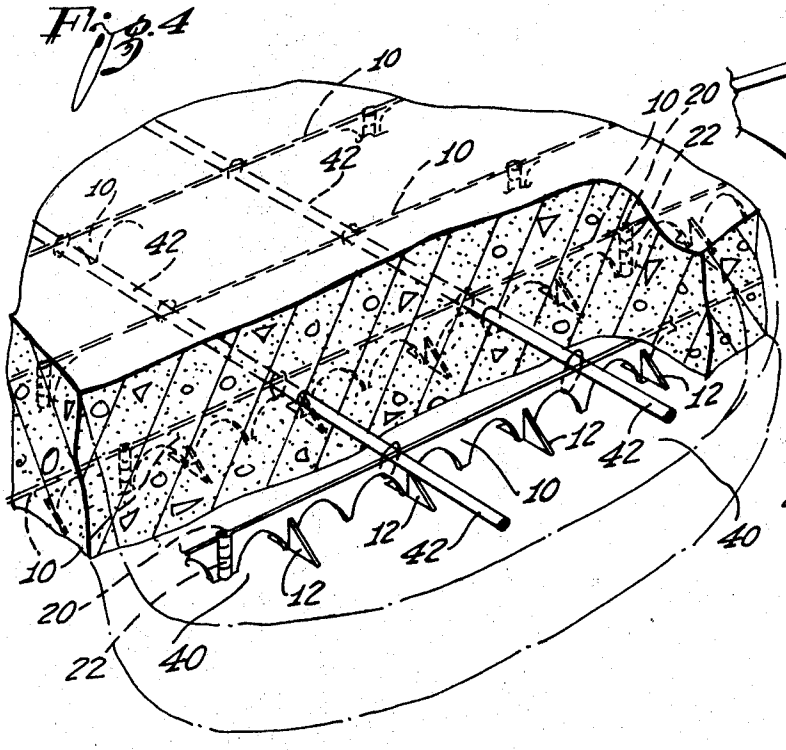
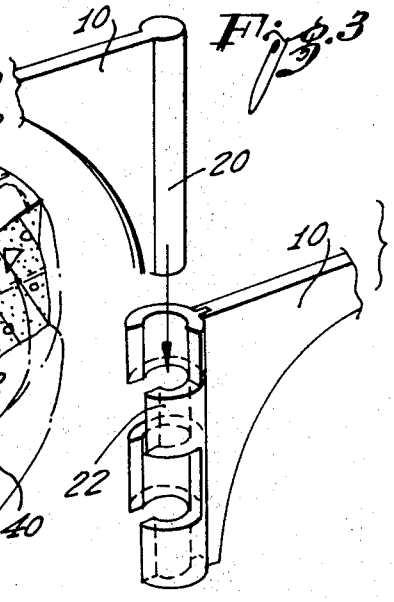


Fig. 3



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PLASTIC SUPPORT BRIDGE FOR CONCRETE REINFORCING RODS

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Int. Cl. E04c 5/16, 2/38
U.S. Cl. 52—687 4 Claims

ABSTRACT OF THE DISCLOSURE

A plastic support bridge is provided for supporting a multiplicity of concrete reinforcing rods in an elevated position up from a supporting surface as the concrete is being poured, in order that the reinforcing rods may be properly positioned within the concrete when it sets. The bridge to be described is intended to extend transversely across the supporting surface, so that when it, and other like bridges, are spaced along the supporting surface they may support the reinforcing rods in, for example, spaced parallel positions, and in a plane parallel to the supporting surface and displaced up from the supporting surface. The bridge to be described is capable of being attached to other similar bridges in a linear relationship, so that as many bridges as are necessary may be used at each point along the supporting surface to extend across the width of the supporting surface on which the concrete is being poured.

BACKGROUND OF THE INVENTION

As is well known, concrete is strong in compression but weak in tension, and it also exhibits a tendency to crack due to normal shrinkage as it sets, and also due to expansion and contraction from ambient temperature changes. Therefore, in order to avoid cracking, or when the concrete is to be subjected to tension, it has been the usual practice for many years to incorporate steel reinforcing rods or bars within the concrete. The resulting concrete and steel bar combination is commonly known as reinforced concrete.

It is clear that some means must be provided to hold the steel reinforcing bars or rods in position while the concrete is being poured, and until the concrete has set. In the past, this was achieved by wires or other means. However, the use of wires constitutes an awkward and clumsy way of providing an adequate support for the reinforcing rods. Also, the wires tend to corrode, so that stains often appear on the exposed surface of the resulting concrete structure after it has set.

Copending application 766,806, filed Oct. 11, 1968 discloses and claims a simple palstic bracket which is used in a snap-on relationship with the reinforcing rods, so that the rods may be held in position while the concrete is being poured. The plastic bridge of the present invention is intended to be used for the same general purpose as the individual brackets of the copending application. The bridges of the present invention, for example, find utility in structures in which a large number of reinforcing rods are to extend in a generally uniplanar relationship throughout the structure.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view, taken from one side, and showing one embodiment of the plastic supporting bridge of the present invention;

FIG. 2 is a plan view of the bridge;

FIG. 3 is a fragmentary representation showing the manner in which the bridge of FIGS. 1 and 2 may be attached to other like bridges so as to extend across the entire width of a supporting surface; and

FIG. 4 is a fragmentary representation, partly in section, showing a concrete block in which reinforcing rods are supported by the bridge of the invention.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

As shown, for example, in FIGS. 1 and 2, the plastic support bridge of the present invention includes a first upright planar member **10**, and a plurarility of interesting triangular-shaped planar members **12**. The planar member **10** and the intersecting members **12** may, for example, be formed by high density polyethylene plastic, or other suitable material. The bridge may be injection molded, with the planar members **10**, **12** and other components all being integral with one another.

As also shown in FIG. 1, the planar member **10** has arch-shaped openings formed in it between the support members **12**. The support members **12**, as shown, may each have an isosceles triangular configuration, and may extend at right angles to the member **10**. The planar member **10** has a bead **20** formed at one end, and a socket **22** formed at the other end. This permits the bridge to be removably attached to other like bridges, so as to extend across the entire width of a supporting surface. The attachment is achieved, as shown in FIG. 3, merely by inserting the bead **20** of one of the planar members **10** into the socket **22** of another planar member.

As shown in FIG. 4, for example, the various bridges including the planar members **10** are placed at spaced positions along a supporting surface **40**. Also, as many planar members are used at each position, as are required to extend completely across the supporting surface. The adjacent support members are releasably intercoupled in a linear relationship through their respective beads **20** and sockets **22**.

The various bridges spaced along the supporting surface **40** support a plurality of reinforcing rods, such as the rods **42** in, for example, a spaced and parallel relationship, and in a plane displaced up from the surface **40**. Then, the concrete may be poured, with the reinforcing rods **42** being held in the proper positions up from the surface **40**. The configuration of the bridge is such that the concrete flows through the arch-shaped openings, and around the planar components, in a manner such that a minimum cavity is introduced into the concrete by the various bridges. This permits the concrete to flow snugly and securely around the reinforcing rods, and its assures that the various support bridges have no material effect on the homogeneous nature of the resulting structure.

The invention provides, therefore, a simple and inexpensive support bridge for use in the support of the reinforcing rods while reinforced concrete is being poured. The bridges of the invention are extremely easy to handle at the construction site, it being merely necessary to string the bridges across the supporting surface at spaced positions along the surface, and then to lay the reinforcing rods across the bridges. After the concrete has been poured, there is no danger whatever of corrosion or staining due to the bridges, and the planar nature thereof assures that the resulting concrete structure will be homogeneous and firmly bonded to the reinforcing rod.

What is claimed is:

1. A plastic support bridge for supporting a plurality of concrete reinforcing rods in generally spaced and parallel relationship, said bridge comprising a first flat planar upright member defining a plurality of arch-shaped openings along the length thereof, and a plurality of additional flat planar members intersecting said first planar member at spaced positions along the length thereof be-

tween the aforesaid arch-shaped openings and extending transversely to said first planar member for supporting said first planar member in an upright position, said first flat planar member and said additional planar members being integral with one another and formed of a molded plastic material.

2. The plastic support bridge defined in claim 1, in which said additional planar members each have a generally triangular shape.

3. The plastic support bridge defined in claim 1, in which said additional planar members each have a generally isosceles triangular shape and each extends at right angles to said first planar member.

4. The plastic support bridge defined in claim 1, in which said first planar upright member has a bead formed at one end thereof and socket means formed at the other end thereof, so as to permit said support bridge to be attached in a linear relationship with other like support bridges.

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