May 16, 1933. J. J. RILEY 1,909,121

SPACING REENFORCEMENT FOR CONCRETE STRUCTURES

Filed Jan. 29, 1930

FIG. 1.

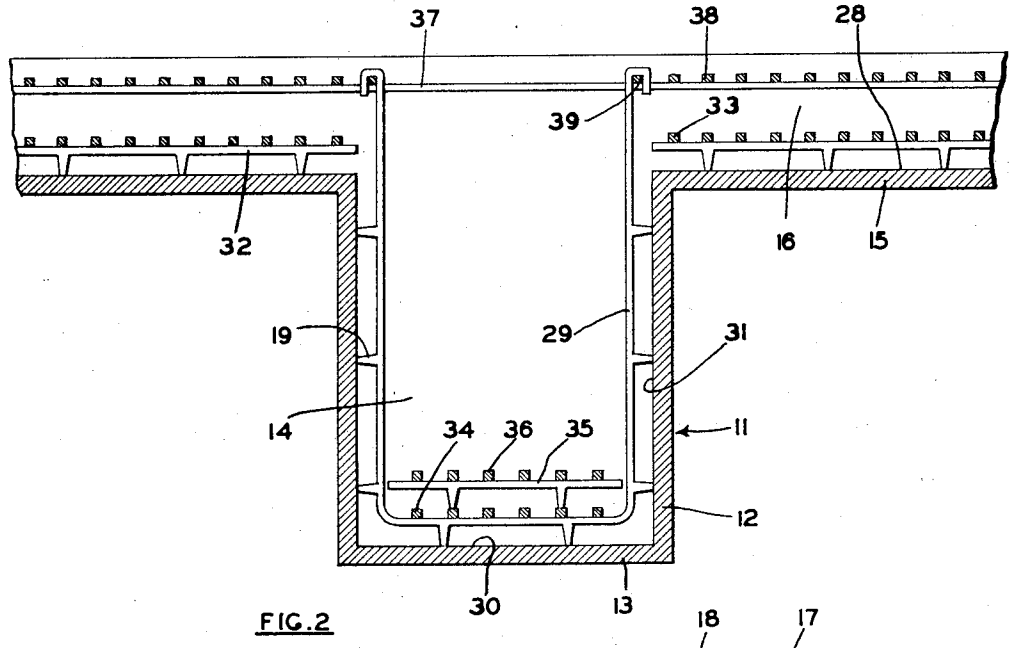


FIG. 2

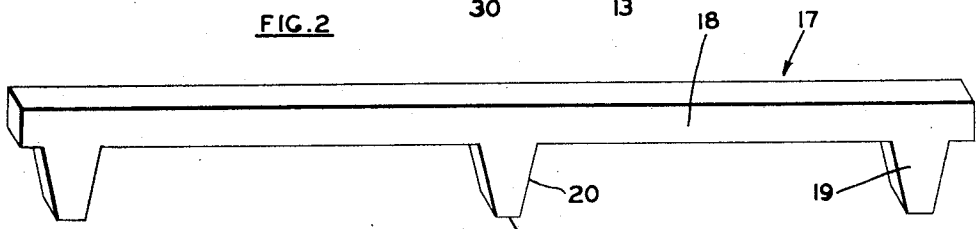


FIG. 3.

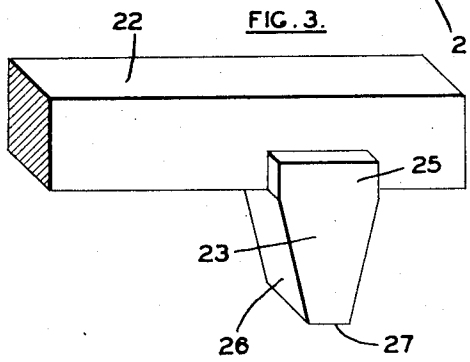
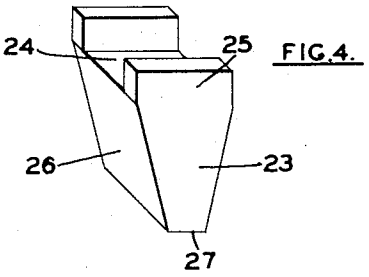


FIG. 4.



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UNITED STATES PATENT OFFICE

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SPACING REENFORCEMENT FOR CONCRETE STRUCTURES

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My invention pertains to a spacing for reenforcements for concrete structures.

An object of my invention is a spacing device which may be incorporated with the metal reenforcement for a concrete structure so that the reenforcement will be spaced the proper distance from the forms. In constructing beams or the like or floor slabs in which a wooden or other form is used, it is a matter of considerable trouble to properly space the reenforcement from the form so that it will be the proper distance from the exposed surface of the finished concrete structure. My invention therefore is designed to overcome this difficulty and is particularly adapted for use with the bar type of reenforcement in which the bars are positioned in the concrete structure, set inwardly from the finished surface.

Another object therefore of my invention is to form a reenforcing member with a series of pegs, prongs or studs which extend from one side of the reenforcing bar and these pegs or the like are designed to either rest upon or engage the inner surface of the wood or other form in which the concrete structure is cast or molded. For instance, by this arrangement the reenforcing bars designed to be positioned closest to the exposed surface of the concrete structure, are provided with peg-like projections, which in horizontal work rest on the upper surface of the form and in vertical faces may engage the vertical surface of the form. This holds the reenforcing member the proper distance from the form and hence from the exposed surface of the finished work. These bars having the spacing pegs thereon may also be utilized to support various transverse and longitudinal other reenforcing members. In some of the structures such as in beams, the reenforcing members each having their own pegs, may be super-imposed and thus facilitate the spacing of such reenforcing members.

Another feature of my invention is in having the pegs separate from the reenforcing bar, such pegs being preferably arranged so that they may be nipped or pressed with a pressed fit against the metal reenforcing bars, so that when placed in position in the work, the pegs with their bars may be handled as a unit. This construction allows the use of standard reenforcing bars with the addition of the attachable pegs. These pegs are of small area on the end contacting with the form so that they do not show or have any detrimental effect at the surface of the finished concrete structure.

My invention is illustrated in the accompanying drawing, in which,

Fig. 1 is a section through a form having reenforcement for a concrete structure such as a beam in a floor slab;

Fig. 2 is a perspective view of a reenforcing bar with the pegs integral therewith;

Fig. 3 is a perspective view of a reenforcing bar with the pegs separate or attachable thereto;

Fig. 4 is a perspective view of one of the attachable legs.

Referring first to Fig. 1, this illustrated a form 11 which may be utilized to construct a beam or the like. This has vertical walls 12 and a bottom wall 13 and has a space 14 therein, in which a floor beam may be molded. The structure has a horizontal form 15 which is adapted to form a floor slab, there being a space 16 above such form for molding such slab. In Fig. 2 I illustrate a form of reenforcing bar 17. This is indicated as being formed of a metal bar structure 18 of generally rectangular section and having pegs 19. These pegs are illustrated as having a considerable taper 20 and a small outer or lower end 21.

In Fig. 3 I illustrate a reenforcing bar 22 which is engaged by attachable pegs 23. These pegs are illustrated as having a top surface 24 and upstanding side flanges 25. The pegs are downwardly tapered on opposite sides as indicated at 26 and have a comparatively small surface 27 to engage the form. The square rod 22 is placed in the channel portion of the peg formed by the surface 24 and the side flanges 25. This structure is preferably made of a soft grade of casting or forging and when fitted on the square reenforcing member may be struck by a hammer so as to slightly spring the flanges 25 inwardly and thus causing the peg to

tightly grip the reenforcing bar so that the two may be inserted as a unit in the form.

Referring again to Fig. 1, it will be seen that the lower end of the pegs rest on the upper surface 28 of the horizontal form 15 to form the floor slabs. In the beam construction there is a U-shaped bar 29 which has pegs on the bottom portion which rest on the bottom surface 30 of the lower portion 13 of the form and have side pegs which rest on the inside surface 31 of the side portion 12 of the form. This holds these various parts properly separated and spaced from the form, both of the floor slab and of the beam. The reenforcing members 32 of the floor slab are illustrated as having cross reenforcing bars 33 thereon and the lower section of the U-shaped bar 29 is illustrated as having longitudinal reenforcing bars 34 and an upper transverse bar 35 having peg rests on the lower reenforcement and on top of this latter bar there are placed a second set of longitudinal reenforcing members 36. Extending across the floor slabs and the beam there are illustrated reenforcing bars 37 which are spaced in any suitable manner above the form 15. These have reenforcing bars 38 thereon and from a pair of these bars 39 the U-shaped reenforcing bar 29 depends. It is to be understood that the peg which is attachable to the reenforcing bar as in Figs. 3 and 4, may be utilized as well as the bar having the integral peg.

Various changes may be made in the principles of my invention without departing from the spirit thereof as set forth in the description, drawing and claims.

I claim:

1. In a spacing reenforcement for concrete structures, a bar rectangular in cross section, a peg having a flat rectangular top surface with upstanding flanges, the top surface engaging the lower side of the bar and the flanges engaging two sides of the bar with a frictional fit, the top of the peg and the flanges forming a channel, said peg having sides tapering downwardly with a flat rectangular end surface to engage a form.

2. In a spacing reenforcement as claimed in claim 1, the tapered sides of the peg being those below the channel, the sides outside of the flanges being substantially parallel.

In testimony whereof I have signed my name to this specification.

JOHN J. RILEY.