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A. S. WOLF

1,833,509

FORM CONSTRUCTION FOR CONCRETE CURBING

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Fig. 1.

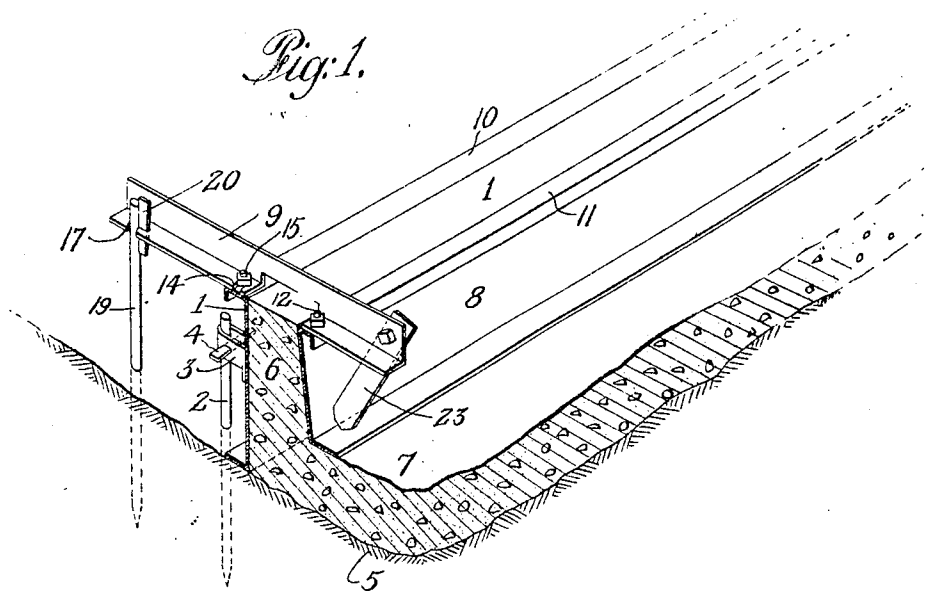


Fig. 2.

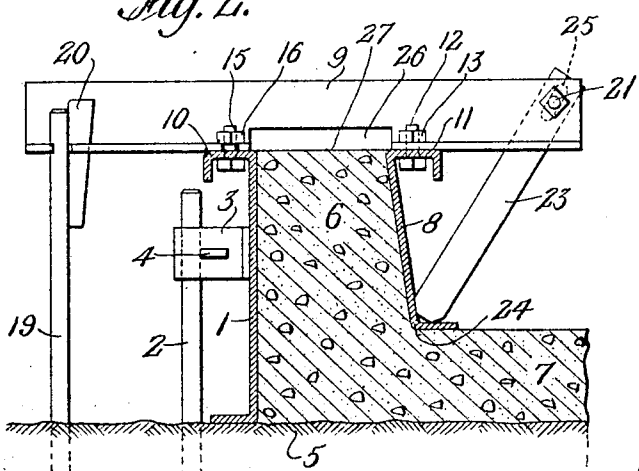


Fig. 3.

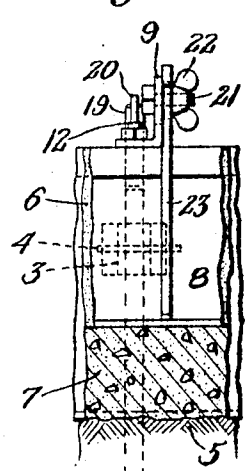
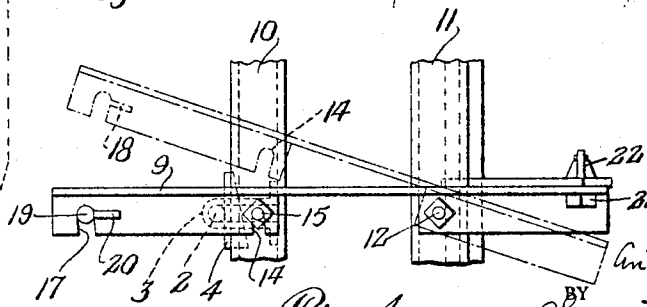


Fig. 4.



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# UNITED STATES PATENT OFFICE

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## FORM CONSTRUCTION FOR CONCRETE CURBING

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This invention relates to form construction for concrete curbing, and particularly to an improved means for supporting and adjusting the inside form in casting a concrete curb.

Before proceeding with a statement as to the objects of the invention, it is desired to point out that the generally accepted way of forming a concrete curb involves the use of an outer form which is lined up and suitably held in position, preferably, by means of a series of stakes to which the form may be detachably secured. The inside form must be properly spaced from the outside form, and where the gutter of the roadway is being formed simultaneously with the curbing, the support for the inside form becomes somewhat of a problem. My invention is particularly useful in a situation of this kind.

The principal objects of the invention involve the provision of an improved spacer member for a pair of forms of the character described which will tie the forms together and automatically space them the correct distance apart; the provision of such a spacer member which will hold the inside form rigidly in position at its proper elevation; the provision of a spacer which will not interfere with troweling or finishing the top of the curb; the provision of a spacer which can be readily applied or removed and which may be shifted, along with the inner form, to a new location with the detachment of a minimum number of parts and with no injury to practically green concrete; and the provision of a spacer which will prevent deflection of the inner form under the pressure of the concrete.

Another object of the invention is to provide a spacer which can be attached to the inner form and remains attached to said form so as to be shifted therewith to a new location.

A further object of the invention is to provide means for preventing the bottom of the inner form from "kicking up" under the pressure of the concrete.

In connection with all of the foregoing it is an object of the invention to provide a spacer member which has a support from the

ground independent of the support for the outer form.

How the foregoing, together with such other objects as may hereinafter appear, or are incident to my invention, are obtained will appear in connection with the following description of the accompanying drawings, wherein—

Fig. 1 is an isometric projection of a pair of curb forms with my invention applied thereto.

Fig. 2 is a vertical cross section through a pair of curb forms illustrating the principal parts of my invention in elevation.

Fig. 3 is an end view of that portion of the structure illustrated in Fig. 2, looking toward the left, and

Fig. 4 is a plan view of that portion of the structure illustrated in Figs. 2 and 3.

By referring to the drawings it will be seen that the outer form or rail 1 is supported from the stakes 2 by means of the U-shaped straps 3 and the wedges 4.

The ground level is indicated at 5 and the concrete is shown as forming the curb 6 and the gutter 7.

On the inside of the concrete and facing the outer form 1 is an inner form or rail 8 which is held in place by means of the spacer member 9 which I prefer to make in the form of an angle having a vertically extending web and a horizontally extending web as shown. The forms have top flanges 10 and 11 upon which the horizontal flange of the spacer member 9 is adapted to rest. Suitable holes are punched in the flanges 10 and 11, and, over the holes in the flange 11, the horizontal web of the angle 9 is provided with cooperating holes through which bolts 12 may be passed. By screwing up on the nuts 13 the spacer member may be rigidly secured to the top flange 11 of the inner form 8.

Over the holes in the flange 10 of the outer rail I prefer to cut slots 14 in the horizontal flange of the angle 9. The bolts 15 pass through the holes in the flange 10 and through the slots 14 and by means of the nuts 16 the spacer member 9 can be secured to the rail 1.

The spacer 9 is extended both outwardly and inwardly beyond the planes of the forms, the outer end being provided with a slot 17 which is set at a slight angle, as shown most clearly in Fig. 4. A smaller slot 18 transverse of the slot 17 is also formed in the horizontal flange of the angle 9.

As will be seen the outer ends of the spacer members 9 are supported independently of the support for the rail 1 by means of the supplemental stakes 19 which pass through the slots 17, the members 9 being secured to such stakes 19 by means of the wedges 20 which are adapted to fit into the slots 18.

The inner end of the vertical web of each spacer member 9 is apertured to receive a bolt 21 provided with a wing nut 22 and mounted upon the projecting end of the bolt 21 underneath the wing nut 22 I provide a short strut or brace 23 which extends downwardly and outwardly toward the bottom of the inner rail 8 where it is adapted to fit into the angle 24 at the bottom of such rail. The strut 23 is slotted as at 25 where it passes over the bolt 21 so that suitable adjustment can be made.

Each spacer member 9 is cut away as at 26 so as to provide clearance for troweling or finishing the upper surface 27 of the concrete curb.

It will be seen from the foregoing description that I have provided a construction which is exceedingly simple, yet one which will rigidly hold the inner form 8 in its proper position. The elevation of the inner form can be regulated by moving the outer end of the member 9 upwardly or downwardly along the stake 19 and then wedging it in place by means of the wedge 20. After the concrete is poured and even while it is still practically green, the inner rail 8 may be removed simply by withdrawing the wedge 20, loosening up on the wing nut 22 and on the nuts 13 and 16, and then swinging the spacer upon the bolt 12 as shown in dotted lines in Fig. 4. This involves attention to a very few parts, and the removal of only one, namely, the wedge 20. The rail 8 with the spacers 9 attached thereto can then be moved to a new position as the work progresses. With my improvements, therefore, but a minimum number of inner rails, spacers 9 and supplemental stakes 19 are necessary. It is not even necessary to pull the stakes 19 until after the spacer has been removed. The struts 23 prevent the bottom of the rail 8 from kicking up under the pressure of the concrete, and the whole structure is unusually stable and rigid.

What I claim is:

1. In curb construction, the combination of an outer curb form, means for supporting it, an inner curb form, a spacer member across the top of said forms adapted to be secured to and to swing horizontally on the inner

form, said member extending outwardly beyond the outer form, a stake, and means for securing the extended end of said spacer member to said stake.

2. In curb construction, the combination of an outer curb form, means for supporting it, an inner curb form, a spaced member across the top of said forms adapted to be secured to and to swing horizontally on the inner form, said member extending beyond both of said forms, means for supporting the outer end of said member, and means for bracing the inner form from the inner end of said spacer member.

3. In curb construction, the combination of an outer form, an inner form, a spacer member adapted to be pivoted for horizontal swinging movement to the top of the inner form, means for securing said spacer to the top of the outer form, a stake, and means for securing the outer end of the spacer to said stake.

4. In curb construction, the combination of outer and inner forms having horizontal top flanges, bolts passing upwardly through said flanges, a spacer member extending across the top of said forms, said spacer member being pivoted upon the bolt in the inner form and having slotted engagement with the bolt on the outer form, a stake, a slot in said spacer embracing said stake, and means for securing the spacer to the stake, said spacer being adapted to be swung upon the inner form bolt so as to clear the bolt on the outer form and also said stake.

5. In combination with an outer and an inner curb form, a spacer member therefor extending across their tops and adapted to be secured to the inner form so as to swing in a horizontal plane upon a vertical axis on the inner form, said spacer extending outwardly beyond the outer form, and means for adjusting the height of said extended end with the spacer fulcruming on the outer form whereby to raise or lower the inner form to proper position.

6. In curb construction, the combination of outer and inner forms, a spacer member extending across the top of said forms and adapted to be secured to and to swing horizontally on the inner form and to fulcrum for vertical movement on the outer form, a stake near the outer end of the spacer member, means for vertically adjustably securing said outer end to the stake, and means for bracing the inner form from the inner end of said spacer member.

7. In curb construction, the combination of outer and inner forms, a spacer member extending across the top of said forms and adapted to be secured to and to swing horizontally on the inner form and to fulcrum for vertical movement on the outer form, a stake near the outer end of the spacer member, and means for vertically adjustably and

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detachably securing said outer end to the stake, said member being adapted to free itself of said stake when swung horizontally on the inner rail as aforesaid.

- 5 8. In curb construction, the combination of outer and inner forms, a spacer member extending across the top of said forms and pivoted to swing horizontally on the inner form, an attaching member projecting upwardly  
10 from the outer form, and a stake near the outer end of the spacer member, said spacer member having means for embracing the upwardly projecting attaching member on the  
15 said stake, both of said embracing means being readily detachable to permit said spacer member to swing on said inner form as aforesaid.

In testimony whereof I have hereunto  
20 signed my name.

ANTHONY S. WOLF.

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