United States Patent [19]

Langford

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[45] **Oct. 7, 1975**

[54] **FORM-WORK WITH STAKE MOUNTING MEANS**

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[30] **Foreign Application Priority Data**

Sept. 6, 1972 Australia 335/72

[52] **U.S. Cl.** **249/7;** 249/208

[51] **Int. Cl.²** **E01C 7/00**

[58] **Field of Search** 249/2–9, 165–166, 249/205, 207–208

[56] **References Cited**

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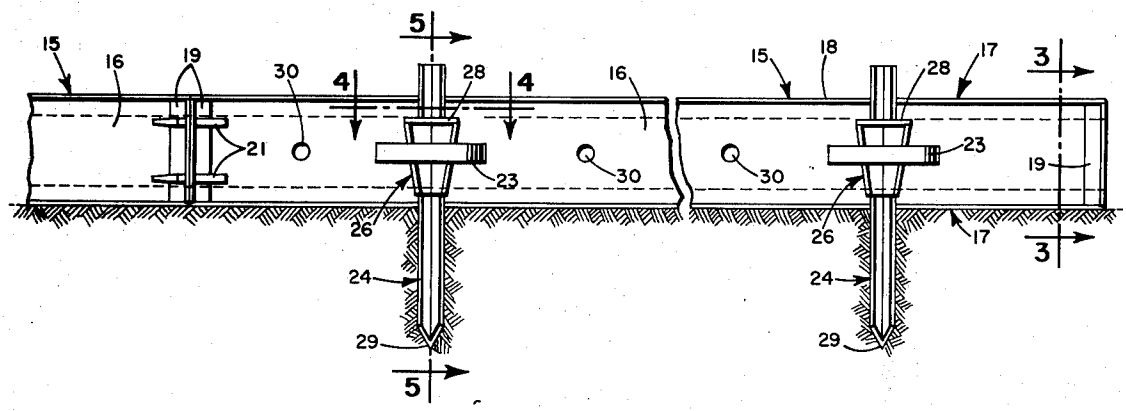
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Primary Examiner—Robert D. Baldwin
Assistant Examiner—John McQuade
Attorney, Agent, or Firm—Stevens, Davis, Miller & Mosher

[57] **ABSTRACT**

Concrete form-work including an edge beam having a stop flange projecting rearwardly from the beam at each of a plurality of pegging stations, each of which has a peg clearance hole, a star-sectioned metal peg, at each station, extending through the clearance hole and a wedge which is driven through the hole to tighten the edge beam against the peg. One of the flanges of the peg is shorter than the other flanges to fit against the rear face of the edge beam and the under face of the stop flange.

10 Claims, 14 Drawing Figures



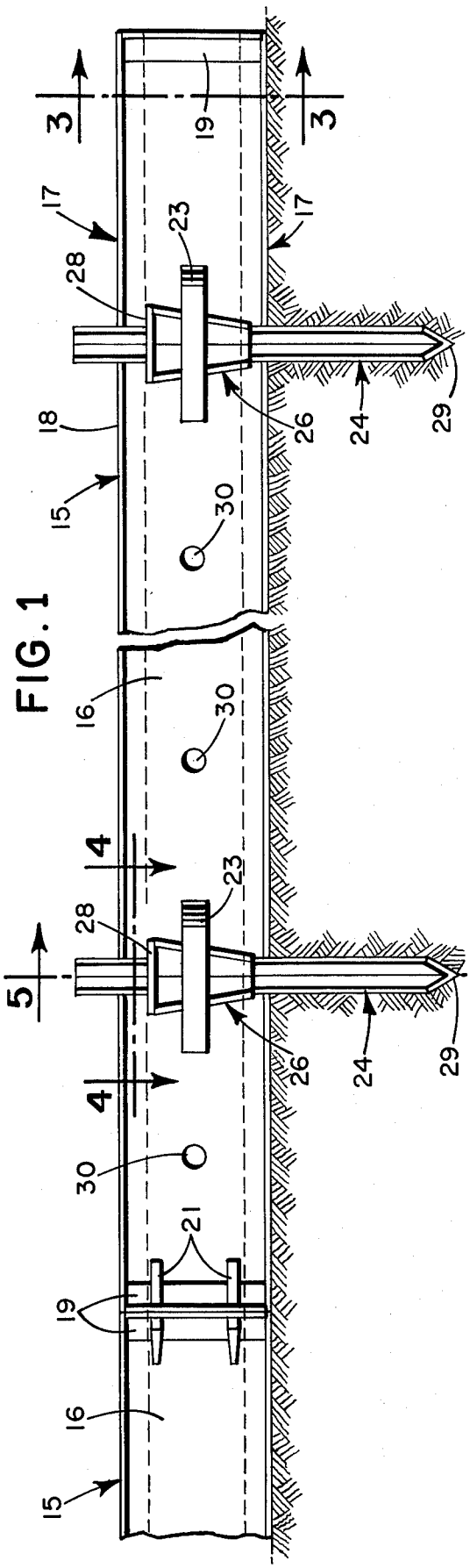


FIG. 1

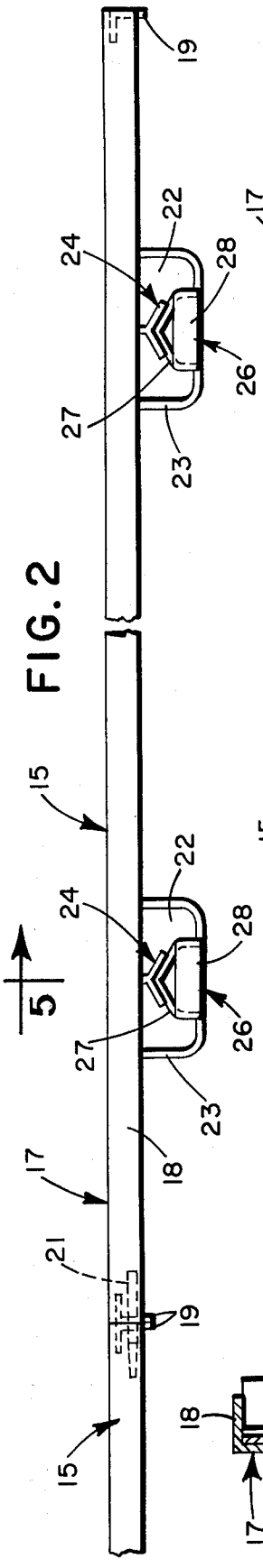


FIG. 2

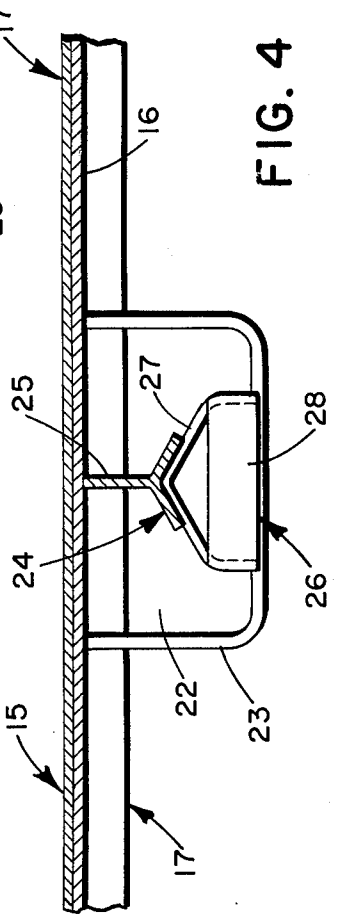


FIG. 4

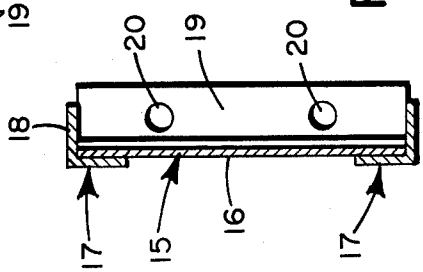


FIG. 3

FIG. 5

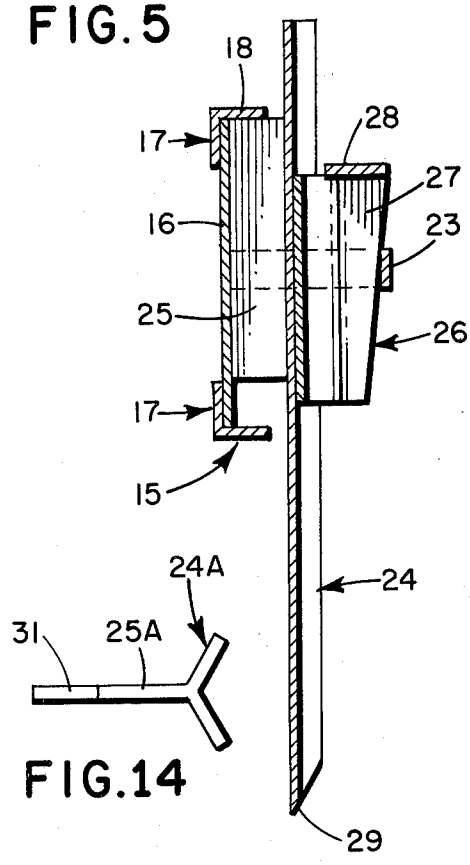


FIG. 14

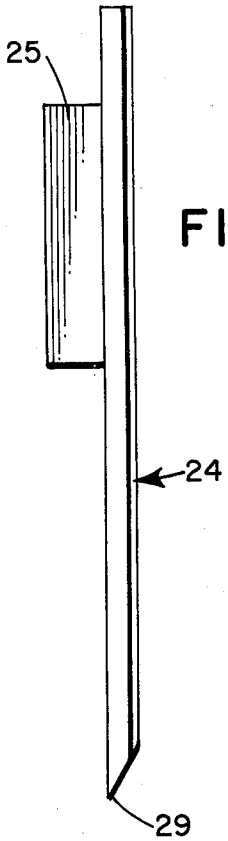


FIG. 6

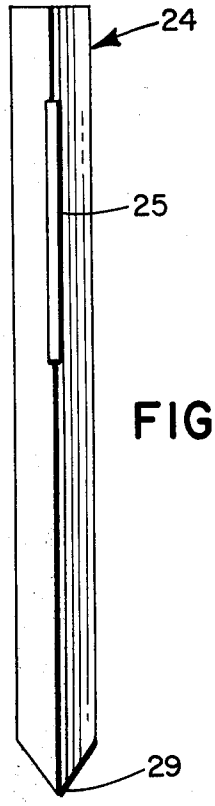


FIG. 7

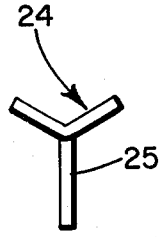


FIG. 8

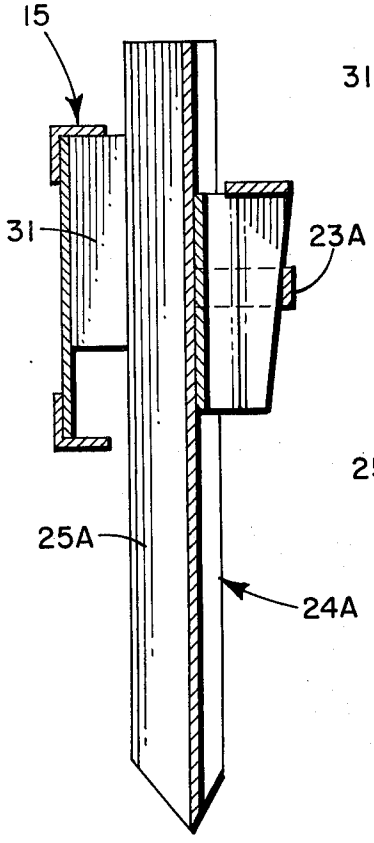


FIG. 12

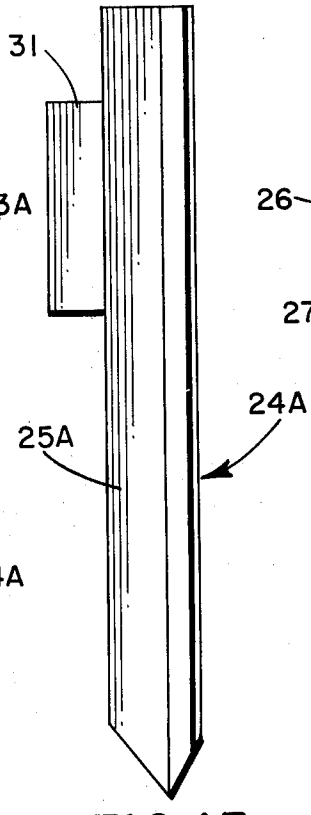


FIG. 13

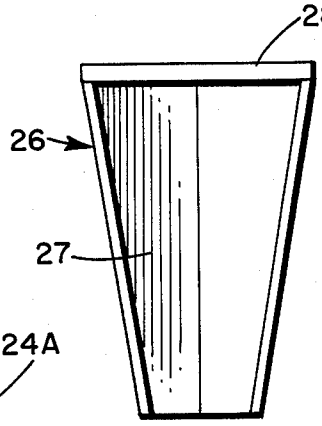


FIG. 9

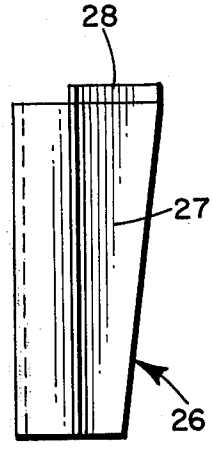


FIG. 10

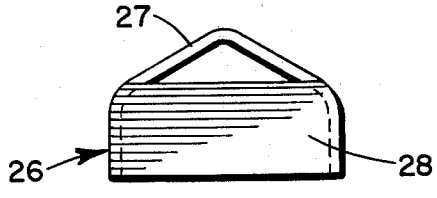


FIG. 11

FORM-WORK WITH STAKE MOUNTING MEANS

This invention relates to form-work of the kind used at building sites and the like to contain concrete foundations and floor slabs during the in-situ casting thereof. Conventionally, such form-work comprises edge beams of timber, which are placed as a boundary to the concrete work and supported or fixed in place by pegs, which conventionally are also wood, driven into the ground and secured usually by nails to the edge beam.

Prior known timber form-work has been inconvenient due to the fact that it is usually damaged sufficiently during dismantling after a particular job is finished to render it unfit for further use, or at the best, its life is limited to a small number of individual usages.

An object of the present invention is to provide form-work which is economical and is conveniently assembled and which may be just as conveniently disassembled and thereafter used a considerable number of times before it is worn to a point requiring it to be scrapped.

The invention achieves that object by providing form-work including metal pegs and edge beams adapted to be fixed thereto by wedges.

The invention consists in concrete form-work comprising an edge beam having a stop flange, projecting rearwardly from the beam at least each of a plurality of pegging stations, means defining a peg clearance hole at each pegging station through which a peg may extend downwardly, a star-sectioned metal peg, as defined herein, at each station extending through said clearance hole and with at least one of its flanges stepped to fit against the rear face of the edge beam and the under face of the stop flange and a wedge adapted to be driven through said clearance hole to tighten the edge beam against the peg.

According to some embodiments of the invention the clearance hole is formed in the stop flange itself which, thus, serves not only as a stop contacting the top of the step in the peg to fix the height of the edge beam relative to the peg but also as the means defining the peg clearance hole.

In other embodiments of the invention those means may comprise a bridge-piece, or the like, extending horizontally rearwardly from the rear face of the edge beam.

References herein to a star-sectioned peg are intended to be references to any metal peg having three or more flanges which, when seen in cross-section, extend outwardly from a more-or-less common point. For example, each peg may be cruciform in cross-section, it may be of tee-section, but for preference it is of three flanges radiating from a more-or-less central spine with included angles between the flanges of approximately 120°. Such three flanged star-sectioned material is well known and is conventionally used as metal fence posts or droppers for post and wire fences.

By way of example, two embodiments of the invention are described hereinafter with reference to the accompanying drawings.

FIG. 1 is a rear elevation of a length of form-work according to the invention.

FIG. 2 is a plan view of the form-work of FIG. 1.

FIG. 3 is a sectional view taken on line 3—3 of FIG. 1.

FIG. 4 is a sectional view taken on line 4—4 of FIG. 1 drawn to a larger scale.

FIG. 5 is a view taken on line 5—5 of FIG. 1 drawn to a larger scale.

FIG. 6 is a side elevation of a peg having a component of the form-work of FIG. 1.

FIG. 7 is a front elevation of the peg of FIG. 6.

FIG. 8 is a plan view of the peg of FIG. 6.

FIG. 9 is a front elevation of a wedge, having a component of the form-work of FIG. 1.

FIG. 10 is a side elevation of the wedge of FIG. 9.

FIG. 11 is a plan view of the wedge of FIG. 9.

FIG. 12 is a view similar to FIG. 5 of a second embodiment of the invention.

FIG. 13 is a view similar to FIG. 6 of the peg of the FIG. 12 embodiment.

FIG. 14 is a plan view of the peg of FIG. 13.

The embodiment of the invention illustrated by FIGS. 1 to 11 comprises two lengths of edge beam 15, each comprising a sheet metal strip 16 with two rolled steel angles 17 welded to it. In use, the projecting horizontal flange 18 of the upper angle 17 constitutes the edge beam's stop flange.

At each end of length of edge beam 15 an upright angle 19 is welded to the strip 16. The protruding flange of each angle 19 is pierced by two holes 20, through which tapered tommy bars 21 may be driven to align one length with another. Thus, each beam 15 has a stop flange extending for its full length and not only at the respective pegging stations. However, at each pegging station there is a peg clearance hole 22 defined by a bridge piece 23.

In another embodiment that hole may be in the form of a longitudinally extending slot piercing the stop flange.

Also, at each pegging station a three flanged star-sectioned metal peg 24 is provided with one of its flanges 25 cut away at the ends so that it is in effect shorter than the other two flanges. The arrangement is such that the shorter flange 25 of the peg 24 may fit neatly against the back face of the edge beam 15, with the upper end of the shorter flange 25 contacting the underside of the beam's stop flange and at the same time the remaining two flanges of the peg 24 protrude upwardly through the hole 22.

Thus the pegs 24 may be driven into the ground in alignment and to a predetermined depth and thereafter the edge beams 15 may simply be placed upon the pegs to rest loosely in position. Thereafter a wedge 26 may be driven into the hole 22 at each station until it is tight against the peg projecting upwardly through it.

For preference, the wedge 26 may comprise a partly folded vee-shaped metal sheet 27, adapted to fix snugly against the two longer flanges of the peg and an anvil piece 28 adapted to be struck by a hammer to drive the wedge home. For preference each wedge is secured loosely by a chain or the like to its peg to prevent the two from becoming separated.

The lower end of each peg 24 may be tapered or each flange may be individualy tapered to provide in the first case a single point 29, and in the other case three separate points.

If desired, the edge beam may be pierced at intervals by clearance holes 30 through which re-inforcing rods for the concrete may extend.

In some cases, the stop flange may be integral with the main body portion of the edge beam so that the latter has a completely planar front face. However, for preference, the stop flange is one flange of a conven-

tional rolled steel angle as illustrated, with the other flange of the angle overlying the upper edge margin of the front face of that strip. Thus, the finished edge beam has a shoulder extending along the upper edge of its front face which produces a corresponding recess in the edge of the concrete contained by the form-work during the pouring operation.

The embodiment shown in FIGS. **12, 13** and **14** is the same as that shown in FIGS. **1–11** except for the flange **25A** and flag **31.** As illustrated, flange **25A** is equal in length to the other two flanges of peg **24A.** Flag **31** extends from flange **25A** and is shorter than the other flanges so that it may fit neatly against the back face of the edge beam **15,** with the upper end of the flag **31** contacting the underside of the beam's stop flange. The three flanges of the peg **24A** protrude upwardly through the hole provided by bridge piece **23A.**

I claim:

1. Concrete form-work comprising an edge beam having a stop flange projecting rearwardly from the beam at least at each of a plurality of pegging stations, means defining a peg clearance hole at each pegging station through which a peg may extend downwardly, a star-sectioned metal peg having a plurality of flanges, said metal peg at each station extending through said clearance hole and with at least one of its flanges stepped to fit against the rear face of the edge beam and the under face of the stop flange, and a wedge adapted to be driven through said clearance hole to tighten the edge beam against the peg.

2. The apparatus of claim **1** wherein said star-sectioned metal peg comprises three flanges radiating from a central spine, said peg having included angles between the three flanges of approximately **120°.**

3. The apparatus of claim **2** wherein said one flange is shorter than the other two flanges.

4. The apparatus of claim **3** wherein the other two flanges protrude upwardly through said clearance hole.

5. The apparatus of claim **4** wherein said wedge comprises a V-shaped metal sheet, said sheet fitting snugly against said other two flanges.

6. The apparatus of claim **5** wherein the lower end of the peg is tapered to a single point.

7. The apparatus of claim **5** wherein the lower end of each of the flanges is tapered to a single point.

8. The apparatus of claim **6** wherein said stop flange is integral with said edge beam.

9. The apparatus of claim **6** wherein said stop flange comprises one flange of a rolled steel angle, the other flange of the angle overlying a face of the edge beam.

10. Concrete form-work comprising an edge beam having a stop flange projecting rearwardly from the beam at least at each of a plurality of pegging stations, means defining a peg clearance hole at each pegging station through which a peg may extend downwardly, a star-sectioned metal peg having a plurality of flanges and a flag connected to one of the plurality of flanges, said metal peg at each station extending through said clearance hole and with said flag fitted against the rear face of the edge beam and the under face of the stop flange, and a wedge within said clearance hole to tighten the edge beam against the peg.

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