

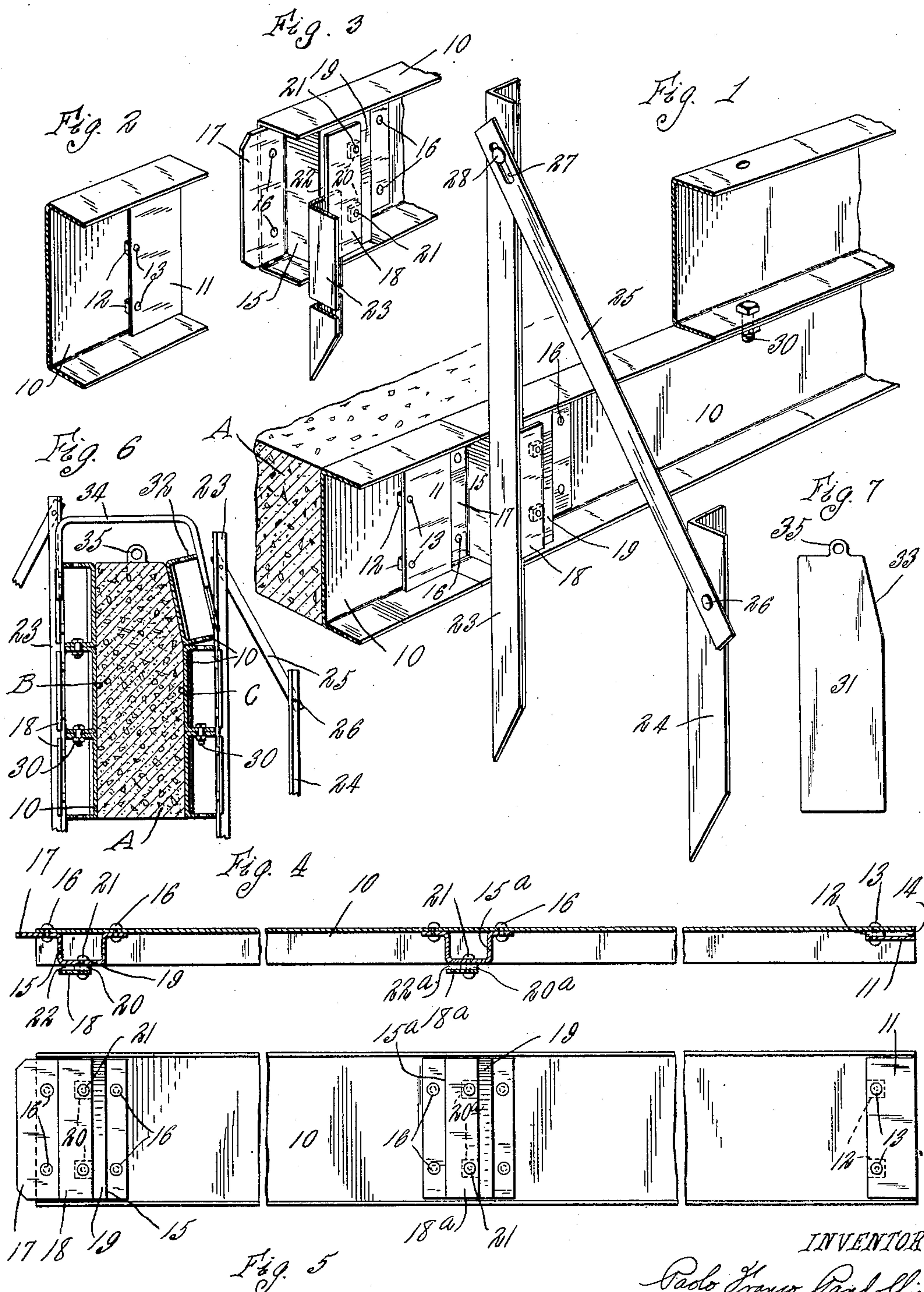
Feb. 14, 1933.

P. F. PANDOLFI

1,897,530

FORM FOR PLASTIC MATERIALS

Filed April 21, 1931



INVENTOR

Paolo Franco Pandolfi

by Parker & Prochnow
ATTORNEYS

UNITED STATES PATENT OFFICE

PAOLO FRANCO PANDOLFI, OF BUFFALO, NEW YORK

FORM FOR PLASTIC MATERIALS

Application filed April 21, 1931. Serial No. 531,697.

This invention relates to sectional forms for laying plastic material, such as concrete. Such forms are commonly used, for example, in confining plastic concrete until it hardens during the construction of concrete roads, sidewalks, platforms, etc.

An object of the invention is to provide an improved form for holding plastic material in the desired shape until it has hardened, which is formed of sections easily assembled or taken apart, which may be formed of different desired heights, which will resist large collapsing forces, and which will be relatively simple, rigid, durable and inexpensive.

A further object of the invention is to provide an improved form for confining plastic materials while hardening, with which the walls may be accurately located, and then easily secured against displacement without further movement of the walls, with which the walls may be disassembled before the stakes are pulled out, with which the walls may be separated from the stakes by either horizontal or vertical movements, of the wall section, and which may be formed largely from simple metal forms.

Various other objects and advantages will be apparent from the following description of an embodiment of the invention, and the novel features will be particularly pointed out hereinafter in connection with the appended claims.

In the accompanying drawing:

Fig. 1 is a sectional perspective of part of a curbing form, constructed in accordance with this invention;

Fig. 2 is a perspective of one end of one of the sections;

Fig. 3 is a perspective of the abutting end of another section and illustrating the connection between the section and one of the stakes;

Fig. 4 is a sectional plan of one of the wall sections;

Fig. 5 is an inside face elevation of the same;

Fig. 6 is a transverse cross sectional elevation through a curbing being formed in accordance with this invention; and

Fig. 7 is an elevation of one of the spacer plates of the same.

In the illustrated embodiment of the invention the vertical wall for holding the plastic material A in shape while it hardens is formed of a plurality of channel bars or strips 10 disposed on edge and arranged end to end in abutting relation, such a channel strip being shown separately in Figs. 4 and 5. These channel bars may have any desired height across the channel from edge to edge, and the bottom walls of the channels form vertical walls against which the concrete is laid, as shown in Fig. 1. Each channel bar may be formed of a rolled bar, which is a common article of commerce in the steel industry.

A plate 11 is disposed within the channel of each strip or bar 10 in parallel relation to the bottom wall of the channel and adjacent one end thereof, and spacing means in the form of small blocks 12 are disposed between the plate 11 and the bottom of the channel, as shown clearly in Figs. 2 and 4, so as to separate or space the plate 11 from the channel wall by a distance equal to the thickness of the blocks. Plate 11 and blocks 12 are secured to one another and to the channel strip or bar in any desired manner, such as by rivets 13, the spacing blocks and the rivets 13 being arranged along the vertical edge of plate 11 which is furthest from the adjacent end of the channel bar. The plate 11 thus forms with the bottom or vertical wall of the channel bar a socket or cavity 14 which receives a tongue from the abutting end of next channel, as will be presently explained.

A plate 15 is disposed crosswise within the channel at the opposite end of the channel bar so as to extend vertically between the side walls of the channel bar, and is secured along its vertical side edges to the bottom or vertical wall of the channel of the bar 10 in any suitable manner, such as by rivets 16. That vertical edge 17 of the plate 15, which is nearest to the adjacent end of the channel bar projects somewhat beyond that adjacent end of the channel bar to which it is attached, so as to form a projecting tongue which may be received in the socket 14 of the

adjacent or abutting end of the next adjacent channel bar, as shown in Fig. 1.

The section of the plate 15, between its secured edges, is offset outwardly within the channel of the bar 10, usually until its outer face is flush with the open or vertical face of the channel of the bar 10, and if desired the bar 15 may be offset even outwardly beyond the vertical open face of the channel bar. A plate 18 is disposed parallel to the offset section 19 of the plate 15. Suitable spacer means 20, such as small blocks, are disposed between one vertical edge of the plate 18 and the offset section 19 of the plate 15.

The plate 18 and the spacer means 20 may be secured to the offset section 19 in any suitable manner, such as by rivets 21, so that the plates 15 and 18 will form between them a slot or guide 22 which extends vertically and is open at the top and bottom as well as along one vertical edge of the plate 15. Thus, the slot 22 may be entered from either the top or the bottom, or in a horizontal direction and parallel to the vertical bottom wall of the channel bar, that is, by a horizontal movement parallel to the open face of the channel of bar 10.

A supporting stake 23 is disposed in each guide slot 22 and driven into the ground. The stake will hold the channel bar against tipping either forwardly or rearwardly yet the bar may be quickly and easily disengaged from the stake merely by moving the bar horizontally. The stake may be an angle bar of standard construction with one arm of the bar extending into the slot 22 and the other arm preventing flexure of the stake.

Another plate 15a, similar to the plate 15, is fitted into the interior of the channel of the bar 10 approximately midway between the ends of the channel bar, but the plate 15a need not have the tongue corresponding to the tongue 17. A plate 18a and spacers 20a, similar to the plate 18 and spacers 20, are secured to the offset part of the plate 15a, so as to form the guide or slot 22a, similar to the guide or slot 22, in which a stake 23 may be placed.

Where one channel bar, when disposed on edge, does not give the desired height, several bars may be superposed edgewise to one another as shown in Fig. 1, and the abutting side walls of the channels may be secured together, such as by bolts 30. It is sometimes necessary, especially when the channel bars are superposed upon one another, as shown in Fig. 1, to trace the upper ends of the stakes 23, and for that purpose additional brace stakes 24 may be driven into the ground relatively short distances from the stakes 23, as shown in Fig. 1. A link or brace bar 25 is pivotally connected by a bolt or pin 26 to the upper end of each stake 24, and at its other end is provided with a slot 27 which

extends in a direction endwise of the link. A bolt 28 passes through the slot 27 in the brace bar 25, and through an aperture in the upper end of the stake 23, and after the brace stake 24 has been driven, the bolt 28 may be tightened so as to rigidly clamp the brace bar 25 to the stake 23.

In use the channel bars, formed as in Figs. 4 and 5, are disposed end to end and resting on edge, as shown in Fig. 1, in the desired position to form the wall for the plastic materials or body A. The tongue 17 on one end of each channel bar is inserted in the socket 14 in the abutting end of the next adjacent channel bar, so that all the channel bars will be connected, yet may be separated by endwise movement of one bar from the other. After the channel bars are assembled in this manner in the desired positions, the stakes 23 are inserted in the guide slots 22 and 22a and driven into the ground far enough to give the desired support to the channel bars. If necessary, the brace stakes 24 are also driven and connected to the stakes 23, as shown in Fig. 1.

After the plastic material has been poured and has hardened, the channel bars may be separated by pulling them endwise one from the other and this movement of the bars at the same time separates them from the stakes 23. This avoids the necessity of lifting the channel bars over the tops of the stakes.

In the laying of concrete curbing, the forms may be assembled and used in the manner shown in Fig. 6. For such curbing having one upright face beveled along its upper edge, the two face walls B and C are of unequal height, the wall B being the taller of the two by an amount equal to the height of the beveled portion of the other face. Each wall may be formed of channel bars superposed edge to edge and connected at abutting edges by bolts 30 as in Fig. 1. The walls B and C are supported in upright positions by the stakes 23, the same as in Fig. 1, and divider or spacer plates 31, Figs. 6 and 7, are interposed crosswise of the curbing and spaced apart at intervals along the length of the same, to hold the walls apart and divide the curbing into sections.

A channel bar or wall member 32 is disposed edgewise upon the upper edge of the shorter wall C and rests in an inclined position against a beveled edge portion 33 of the spacer plates 31. A number of U-shaped clamps 34, with diverging arms, are disposed in inverted positions over the upper edges of the wall B and the wall member 32, so as to confine or wedge the upper edge of the wall member 32 removably against the beveled edges 33 of the spacer plates 31. Each spacer plate 31 also has an apertured lug 35 projecting from its upper edge by which it may be withdrawn after the concrete has

partly set and the clamp 35 and wall member 32 have first been removed.

It will be obvious that various changes in the details, which have been herein described and illustrated in order to explain the nature of the invention, may be made by those skilled in the art within the principle and scope of the invention as explained in the appended claims.

10 Claims:

1. A sectional form for masses of plastic material, comprising a plurality of channel strips disposed end to end, and a plate bent upon transverse lines to form a U-shape with outwardly and laterally extending flanges along the free ends of the arms of the U, said U-shaped plate being disposed within the channel of a strip at one end thereof, with one flange of the U-shaped plate extending beyond the end of the channel strip and serving as a tongue interlocking with the adjacent end of the next channel strip, the flanges of the U-shaped plate being secured to the channel strip within which it is placed, and the depth of the U of such plate being at least equal to the depth of the channel in the channel strip, said U-shaped plate having a vertical guideway along its outer face, in which guideway a stake may move vertically and may be driven into the ground while the channel strip is resting upon the ground.

2. A sectional form for the molding of plastic materials comprising a plurality of walls disposed upon a surface on which the plastic material is to be laid and supported thereby, each wall having along its outer face a fixed vertical guide which is open in a direction lengthwise of the wall, and a stake drivable into said surface, engaged in said guide and slidable vertically therein, and detachable from the wall by relative movement of the wall in said lengthwise direction.

3. A form for use with plastic materials, comprising a wall supported on edge upon the surface on which the material is to be laid, said wall having on its outer face a vertically extending guide open at top and bottom and also along one side to provide a slot opening into the guide in a direction lengthwise of said wall, a stake drivable into said surface, insertable into said guide through the open side thereof in a direction lengthwise of said wall and movable vertically in said guide, whereby said stake may be moved vertically in said guide while said wall is in position as in driving said stake, and said wall and stake engaged or disengaged by relative endwise horizontal movements of the wall and stake.

4. A form for plastic materials, such as concrete, comprising a vertical wall resting upon the surface upon which the material is to be laid, said wall upon its outer face having a vertically extending guide open at top and

bottom and also along one side so as to form a slot which may be entered from the top or bottom or in a horizontal direction parallel to a face of the wall, and a stake removably engaged in said slot and slidable vertically therein.

5. A form for plastic materials, such as concrete, comprising a channel shaped strip disposed on edge with its open face on the outside of the space in which the plastic material is to be laid, a plate disposed in the channel of said strip, so as to extend in a direction between the opposite sides of the channel of the strip, the opposite side edges of the plate being secured to the bottom of the channel and the section between the secured edges of said plate being offset outwardly at least to the outer face of the channel of the strip, a second plate disposed against the offset section of the first plate, spacer means between the second plate and the offset part of the first plate, and means for securing said second plate and said spacer means to the offset portion of the first plate and provide between said plates a vertical stake receiving guide.

6. A form for plastic materials, such as concrete, comprising a channel shaped strip disposed on edge with its open face on the outside of the space in which the plastic material is to be laid, a plate disposed in the channel of said strip, so as to extend in a direction between the opposite sides of the channel of the strip, the opposite side edges of the plate being secured to the bottom of the channel and the section between the secured edges of said plate being offset outwardly at least to the outer face of the channel of the strip, a second plate disposed approximately parallel to the face of said offset section, spacer means between one edge portion of said second plate and said offset section, said second plate and said spacer means being attached to one another and to said offset section at said spacer means to provide between said plates a vertical stake receiving guide which is open at the top and bottom and along one side.

7. A form for plastic materials, such as concrete, comprising a series of elongated wall members having releasable interlocking connections with one another when disposed end to end and separable by relative movement of said members in a direction parallel to the plane of the wall face of the plastic material which the members form, each member having a vertically extending guide slot open at its top and bottom and also through one side thereof in a direction parallel to said plane of the wall face, and a drive stake sliding vertically in each slot and engageable therein and separable therefrom by endwise movement of that wall member to which the stake is attached by said guide slot.

8. A form for plastic materials, such as concrete, comprising an elongated wall member resting upon a side edge thereof on a sur-

face on which the material is to be placed, and
formed at its ends to interlock with the abut-
ting ends of adjacent abutting wall members,
said wall having a guide slot for a stake ex-
5 tending vertically along its exposed face and
open at its top and bottom and also along its
side in a direction approximately parallel to
the plane of the wall face which is defined
by the wall member, and a stake formed of a
10 length of angle iron, one leg of which is re-
ceived in said slot through the open side there-
of and movable vertically therein, and the
other leg of which projects approximately
crosswise of the length of said wall member.

15 PAOLO FRANCO PANDOLFI.

20

25

30

35

40

45

50

55

60

65