May 24, 1960 J. J. TRENTACOSTI 2,937,430

CONCRETE CONSTRUCTION FORM

Filed July 29, 1957

Fig. 1

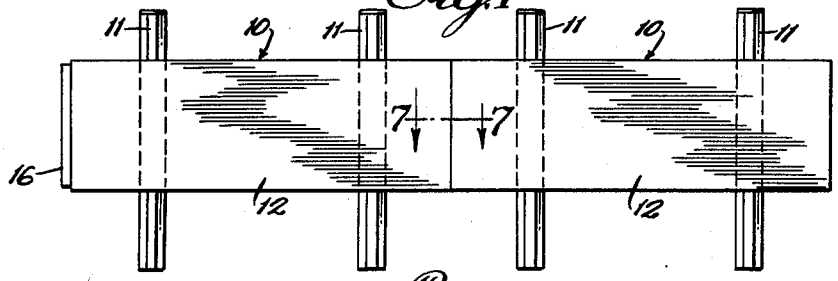


Fig. 2

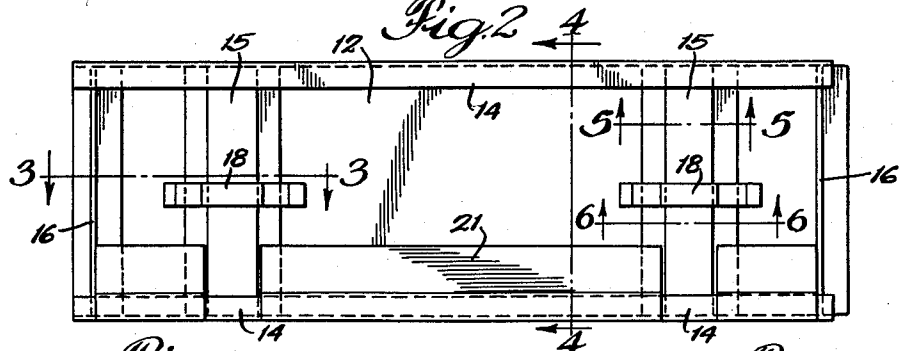


Fig. 3

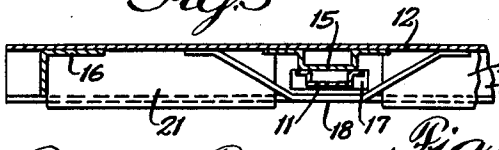


Fig. 4

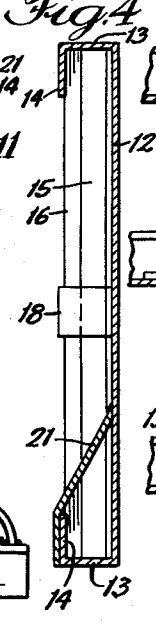


Fig. 5

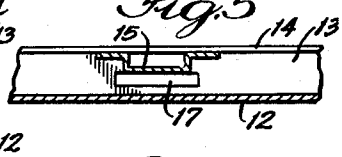


Fig. 11

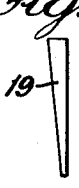


Fig. 6

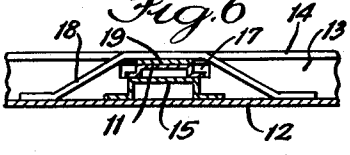


Fig. 8



Fig. 9

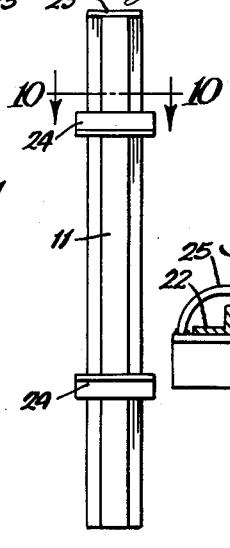


Fig. 10

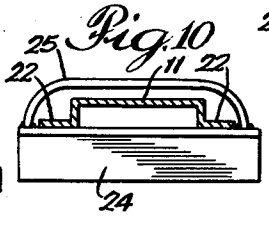
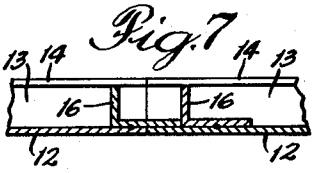


Fig. 7



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CONCRETE CONSTRUCTION FORM

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2 Claims. (Cl. 25—118)

This invention relates to concrete forms, and more particularly to strip forms of the type employed in pouring curbings, walks and the like.

In pouring concrete curbings, walks and the like, it has been the common practice to drive wooden stakes into the ground and to nail boards or planks thereto against which the concrete is poured. Forms of this type are difficult to erect and to disassemble and are expensive due to their limited reusability.

It is one of the objects of the present invention to provide a concrete form which can be erected and disassembled quickly and easily without the use of any tools other than a hammer or mallet.

Another object is to provide a concrete form in which all of the parts are formed of sheet material such as metal and are capable of extensive reuse.

A further object is to provide a concrete form in which strips of sheet material are reinforced at one side by transverse reinforcing bars, and stakes engage and are secured to the bars to mount the strip.

According to one feature of the invention, straps extend across the bars in spaced relation thereto, and the stakes extend loosely between the straps and bars with wedges engaging the straps and stakes to press the stakes tightly against the bars.

According to another feature, the strip is formed with edge flanges having openings through which the stakes extend, and the lower flange is provided with an apron joined to the strip at an acute angle thereto to prevent the accumulation of concrete on the lower flange.

According to a further feature, supporting elements may be connected to the stake to support planks or the like thereon for use in forms.

The above and other objects and features of the invention will be more readily apparent from the following description when read in connection with the accompanying drawing, in which:

Figure 1 is an elevation of a concrete form assembly embodying the invention;

Figure 2 is an elevation of a single strip looking from the rear side thereof;

Figures 3 to 6 are sections on the lines 3—3 to 6—6 respectively of Figure 2;

Figure 7 is a partial section on the line 7—7 of Figure 1;

Figure 8 is an elevation of a stake embodying the invention;

Figure 9 is an elevation of a stake with plank supporting elements attached thereto;

Figure 10 is an enlarged section on the line 10—10 of Figure 9; and

Figure 11 is a side elevation of a wedge.

The concrete form of the present invention comprises a plurality of strips indicated generally at 10, which may be assembled in end to end relation with each other to form a continuous confining surface for concrete to be poured. The strips are supported by stakes 11, there being two or more stakes for each strip as shown to secure the strips in position.

Each of the strips, as best seen in Figures 2 through 7, is formed of sheet metal with a flat inner surface 12 against which concrete may be poured and with flanges 13 extending from its opposite or rearward surface to reinforce and strengthen the strip. Preferably, each flange includes a bent over edge portion 14 extending parallel to and spaced from the main body portion of the strip to provide smooth upper and lower edges as well as additional reinforcement.

The strip is transversely reinforced by reinforcing bars 15 extending transversely across the strip at spaced points with the ends of the bars underlying the rebent flanges 14 as shown in Figure 4. Each reinforcing bar 15, as best seen in Figures 3, 5 and 6, has a channel section central portion with side flanges projecting outward therefrom and lying against the main body portion of the strip. Preferably, the reinforcing bars are permanently secured to the strip by welding, riveting or the like to provide a permanent assembly.

At its opposite ends the strip is reinforced by L section reinforcing members 16. As best seen in Figure 7, one of the L section reinforcing members is spaced from the end of the strip to which it is secured with its flange adjacent the end of the strip and spaced therefrom. The other L section member is secured to its corresponding strip with one of its flanges projecting beyond the end of the strip. When two adjacent strips are assembled, the projecting flange will engage the inner surface of the main body portion of the adjacent strip to align the strips accurately so that the surfaces 12 thereof will constiute in effect a smooth continuous surface.

To mount the strips on the stakes, the flanges 13 thereof are formed with openings 17 spaced slightly rearwardly of the outer surfaces of the reinforcing bars 15. The stakes 11 may extend through the openings 17 so that they will overlie the outer or rearward surfaces of the bars 15 and will engage the bars.

To secure the strip to the stakes, straps 18 are secured to the inner or rearward surface of the strip 10 by welding or the like and extend across the reinforcing bars with their central portions in spaced relation to the reinforcing bars. The stakes 11 will fit loosely between the reinforcing bars and the straps leaving a space into which wedges 19 may be driven. The wedges are driven in between the straps and the outer surfaces of the stakes and will wedge the stakes tightly against the reinforcing bars to secure the reinforcing bars and the form strips securely to the stakes.

In order to prevent accumulations of concrete on the flanges 13 which might be difficult to remove, and to strengthen the strip aprons 21 are provided connecting the outer edge portions of the flanges to the central body portion of the strip. As best seen in Figure 4, the aprons may be in the form of strips of sheet metal overlying and secured to the rebent flange portions 14 of the strip and extending at an acute angle to join the central body portion of the strip. The flanges are cut out in registry with the reinforcing bars 15 as shown in Figure 2, to provide for passage of the stakes. Regardless of which edge of the strip is placed at the top, any concrete spilling over the top of the form in use will be deflected away from the form by the lower apron 21 so that the form will be kept clean and in usable condition at all times.

The stakes 11 are also preferably formed of sheet metal with a section as seen in Figures 3 and 6 similar to the section of the reinforcing bars 15, that is, each stake is formed into a channel in its central portion with flat coplanar flanges as shown at 22 in Figure 10 extending outwardly from the edges of the channel flanges. At its upper end the stake may have welded or otherwise se-

cured thereto a plate **23** by which the stake may be driven without damage thereto.

I have found that with this construction an extremely rigid stake can be made of relatively light metal, and that the stake will drive very easily and without deflecting in the soil. Stakes of this type are capable of repeated reuse and are light and compact to transport from place to place as required.

The same stakes may also be used where desired with wooden planks or strips as may be required in pouring curves or the like. For this purpose supporting bars as shown in Figures 9 and 10 may be employed which are in the form of short strips **24** of L section wide enough to extend completely across the stakes. Straps **25** are secured to one of the flanges of the strips **24** and are spaced sufficiently therefrom to span loosely one of the stakes **11** when the supports are assembled thereon, as shown in Figures 9 and 10. The supports may be secured to the stakes by wedges such as **19** driven between the stakes and the straps **25**, and when assembled as shown in Figure 9, any desired type of plank or board may be supported securely between the outwardly projecting flanges of the supports.

The horizontal flange of at least the upper strip **24** is preferably slit from the edge and bent downward to form teeth **26**. These teeth will enter the edge of a plank or board to grip and hold it securely and are easily withdrawn so that the plank or board may be reused a number of times.

It will be seen that the concrete form of the present invention can be assembled very easily, either by first driving the stakes and then mounting the strips thereon, or by placing the strips in position and driving the stakes through the openings **17** in the flanges of the strips. The only additional operation required is to drive the wedges **19** into place to secure the strips to the stakes, and the form is ready for pouring of concrete.

The form after pouring can easily be disassembled simply by driving the wedges out of place and removing the stakes.

While one embodiment of the invention has been shown and described in detail, it will be understood that this is

illustrative only and is not to be taken as a definition of the scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. A concrete form comprising a strip of sheet material having one smooth surface against which concrete may be poured, a reinforcing bar secured to the other surface of the strip and extending transversely across the strip, a strap secured to said other surface of the strip and extending across the reinforcing bar in spaced relation thereto, a stake extending loosely between the strap and the bar and lying against the outer surface of the reinforcing bar, and a wedge fitting between the strap and the stake and pressing the stake into securing engagement with the bar.

2. A concrete form comprising a strip of sheet material having one smooth surface against which concrete may be poured, a reinforcing bar secured to the other surface of the strip and extending transversely across the strip, flanges on the upper and lower edges of the strip extending over and beyond the ends of the reinforcing bar and formed with aligned openings beyond the reinforcing bar, a stake extending through the openings and along and lying against the outer surface of the reinforcing bar, an apron connecting the lower flange to said other surface of the strip intermediate the top and bottom edges thereof and lying at an acute angle to the strip and formed with an opening through which the stake extends, a strap secured to said other surface of the strip and extending across the stake and reinforcing bar in spaced relation to the stake, and a wedge fitting between the strap and the stake and pressing the stake into engagement with the reinforcing bar.

References Cited in the file of this patent

UNITED STATES PATENTS

1,477,767	Pulis	Dec. 18, 1923
2,031,612	Masor	Feb. 25, 1936
2,637,889	Dulleck	May 12, 1953
2,661,517	Findley	Dec. 8, 1953
2,713,711	Eandi	July 26, 1955