April 24, 1951 J. C. COTNER 2,549,758

COLLAPSIBLE FORM

Filed Dec. 16, 1948 2 Sheets-Sheet 1

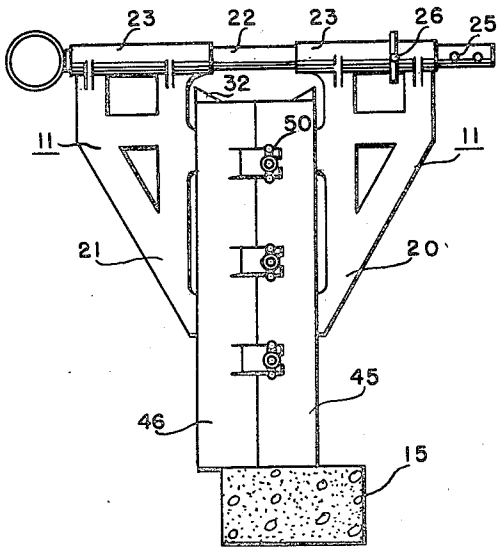


FIG. 1

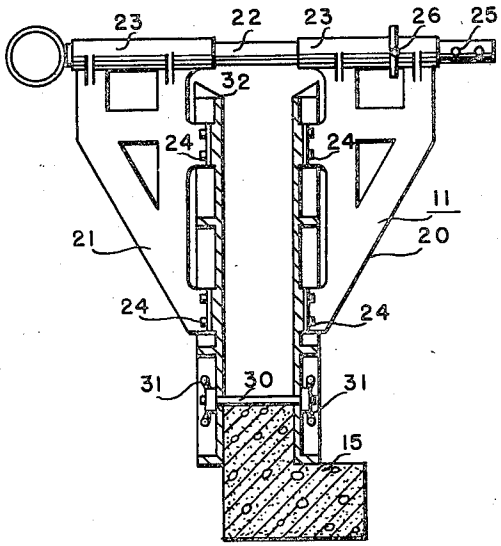


FIG. 2

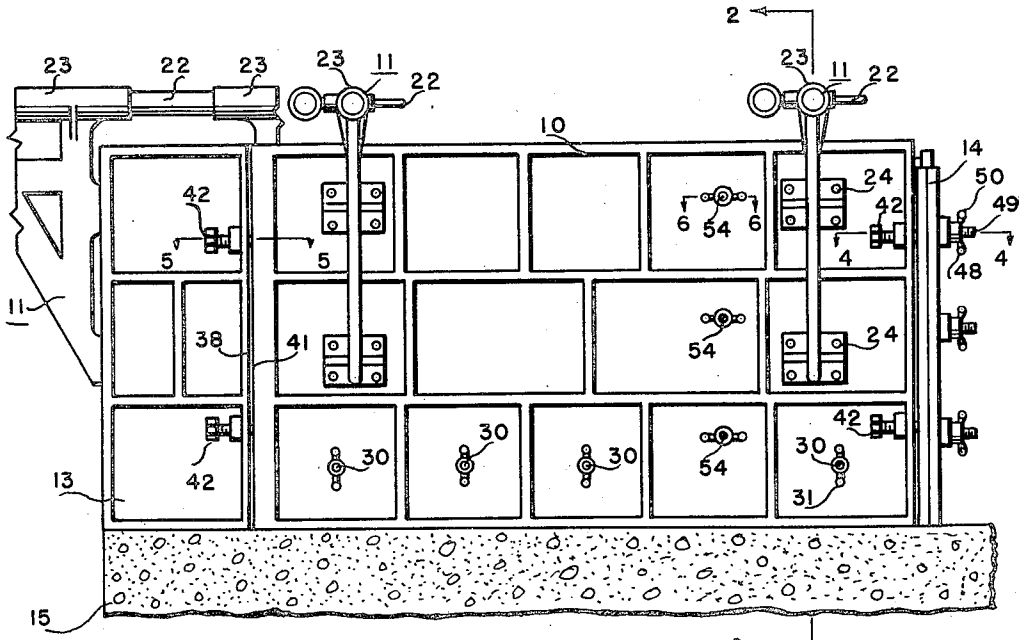


FIG. 3

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April 24, 1951 J. C. COTNER 2,549,758

COLLAPSIBLE FORM

Filed Dec. 16, 1948 2 Sheets-Sheet 2

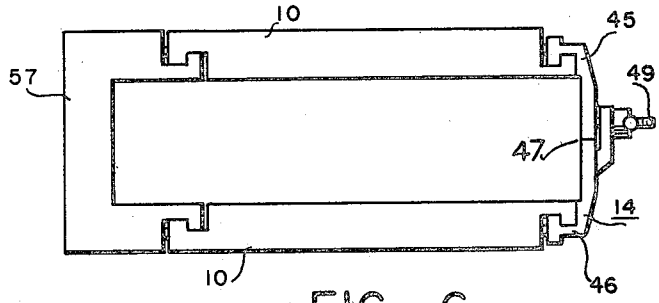
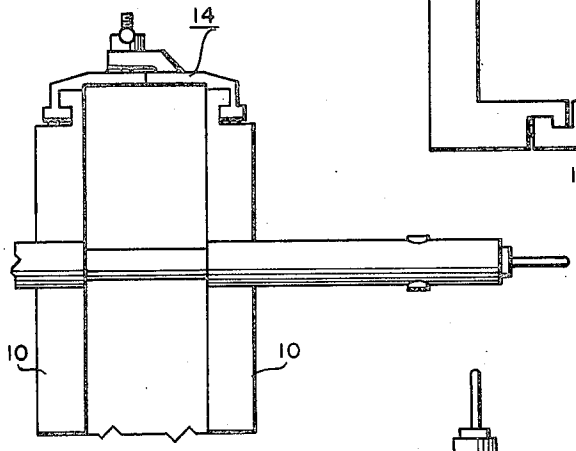


FIG. 6



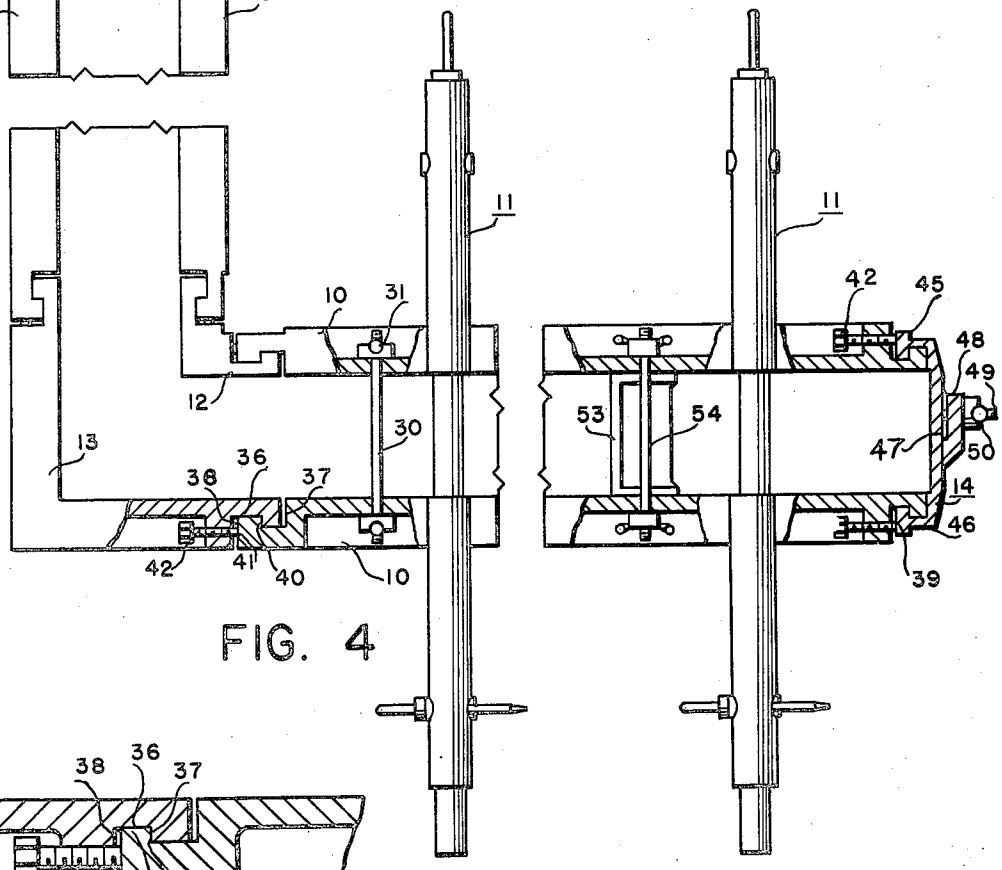


FIG. 4

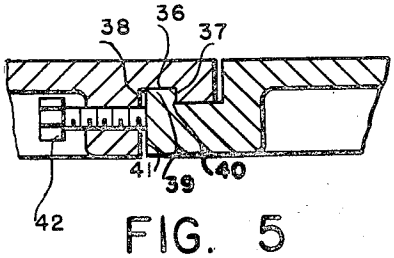


FIG. 5

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UNITED STATES PATENT OFFICE

2,549,758

COLLAPSIBLE FORM

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Application December 16, 1948, Serial No. 65,682

2 Claims. (Cl. 25—131)

1

My invention relates to collapsible wall forms for molding walls of material such as concrete.

One important object of this invention is to provide a wall form which is readily adaptable for the continuous construction of the wall. This is obtained by tamping concrete into the wall form producing a substantially solid homogeneous mass which is self-supporting when the wall forms are removed. Reinforcing steel or other element may be used in the wall if desired, but it is usually not necessary to obtain the desired result from my invention.

A further object of my invention is to provide a collapsible wall form that is self-aligning with the previously made foundation or wall, in that a portion of the collapsible wall form laps the previously made foundation or wall thus properly locating the collapsible wall form relative to the previously made foundation or wall.

A further object of my invention is to provide a collapsible wall form with corner units and side panels, as well as end stop sections, all being provided with a tongue and groove design to permit ready interchange of parts.

Another object of my invention is to provide a tongue and groove system which permits ready locking or clamping of the side panels in multiple for long runs of wall.

A further object of my invention is to provide a means of adjusting the wall form for various widths of wall.

Another object of my invention is to provide an end stop section made in at least two separable parts, whereby the tongue and groove system or connection may be readily assembled or disassembled.

A still further object of my invention is to provide an angular or funnel lip at the top of the wall form to provide a funnel or bell mouth for easy pouring of the concrete into the wall form.

Other objects and a fuller understanding of my invention may be had by referring to the following description and claims, taken in conjunction with the acompanying drawing, in which:

Figure 1 is an end view of a collapsible wall form embodying the features of my invention, the end view in Figure 1 being the view of the right-hand end of the form shown in Figure 3 looking from right to left;

Figure 2 is a cross-sectional view of the collapsible wall form taken along the line 2—2 of Figure 3; the Figure 2 being similar to the Figure 1;

Figure 3 is a side elevational view of my collapsible wall form;

2

Figure 4 is an enlarged plan view of the wall form shown in Figure 3 part of the wall form being shown in section, the section being taken along the lines 4—4, 5—5, and 6—6 of Figure 3;

Figure 5 is an enlarged sectional view which is taken along the line 5—5 of Figure 3, and

Figure 6 is a plan view showing my invention with a continuous end corner section which is connected to the two side panels.

With reference to the drawings, my invention comprises two substantialy parallel spaced panels 10 which are held together by split yokes 11, and tie bolts 30 which extend through the spaced panels for clamping or adjusting the collapsible wall form to the previously made foundation or wall. The split yokes 11 comprise two yoke side members 20 and 21 which are respectively connected to the outside of the side panels 10 by means of cap screws 24 or any other suitable means. The top of the yoke side members 20 and 21 terminate into a hollow bracket 23 through which extends an adjustable connection rod 22. As illustrated in the drawings, the adjustable connection rod 22 is provided with a series of spaced openings 25 through which a cross pin 26 extends for anchoring the two side members of the yoke together. The openings 25 in the adjustable connection rod and the cross pin 26 provide for adjustably varying the space between the side panels 10 which form the width of the wall being constructed.

As shown in Figure 4, end sections are provided for making a corner for the wall. As illustrated in Figure 4, the inside corner section is designated by the reference character 12 and the outside corner section is designated by the reference character 13. The ends of the panel sections may be provided with end stop sections 14 which determine the end terminus of the wall which is being constructed. Depending upon the length of the wall to be constructed, the side panels 10 may be arranged in multiple units all being joined together by the illustrated tongue and groove assembly (see enlarged view in Figure 5). As illustrated, the groove portion is represented by the reference character 36 and has a first wall 37 and a second wall 38 spaced from each other to receive a tongue portion 39 which has first and second walls 40 and 41, respectively. The first walls 37 and 40 are arranged to abut each other and this abuttable engagement is effected by means of a tightening bolt 42 which extends through the second wall portions 38 for abuttably engaging the second wall portion 41 of the tongue portion 39. The tightening bolt

forces the first wall portions abuttably against each other for making a good tight joint. While not shown, all of the tongue and groove joints are like that shown in Figures 4 and 5.

The end stop section 14 comprises separable section members 45 and 46 which have an adjoining edge 47. The end separable section member 46 is provided with overlapping wing brackets 48 which straddle a screw thread 49 that is anchored to the end section member 45. The two separable end section members 45 and 46 are clamped together by means of a wing nut 50. The separable section members 45 and 46 permit the end stop section 14 to be assembled by the same tongue and groove construction as shown in Figure 5. In this application, the sections of the side panels, the corner sections, and the end stop sections will be all referred to as sections in the claims.

When starting a wall, my collapsible wall form is placed on the previously made foundation such as illustrated by the reference character 15 in Figures 1, 2 and 3. The tie bolts 30 rest upon the top of the previously made wall and serve as the supporting member for the side panels. The concrete is poured and tamped, producing a solid homogeneous mass which is self-supporting when the wall forms are removed. After the concrete is poured and tamped the sections of the wall form may immediately be moved to a new position, a portion of the wall form lapping the wall just finished. This procedure continues until the wall is finished; that is to say, one complete pouring of the wall has been made around the entire building or other structure. By the time that one complete pouring has been made, the concrete first poured is then sufficiently hard to permit placing of the wall form on it and another segment of the wall may be completed as just described above. This procedure is continued until the height of the wall is completed. The tie bars 30 are provided with wing nuts 31 and may be adjustably turned to clamp the sections of the side panels against the previously poured foundation or wall. To facilitate the pouring of the concrete between the panel sections the top of the side panels 10 are provided with angularly disposed lips which provide a funnel or bell-mouth effect for easy pouring of the concrete into the wall form. The funnel is illustrated by the reference character 32.

A stop off divider such as illustrated by the reference character 53 may be mounted between the side panels and anchored in place by means of anchoring bolts 54 which are provided with wing nuts 55 for clamping the sides of the panels. The stop off divider 53 may be used for terminating the wall for doors or windows or other openings. Instead of anchoring the stop off divider 53 in place by means of the anchoring bolts, it is to be understood that any other means may be employed for this purpose.

In Figure 6 I show a continuous end corner 57 which is adapted to be joined to the side panels 10 having the end stop section 14 provided on the opposite end from the continuous end corner 57. The purpose of the Figure 6 is to show that the end corner may be of any shape or design.

In my invention it is to be observed that I have provided a wall form comprising spaced panels, in which the spaced panels may comprise sections which include the side plates in multiple as well as the end stop section 14 and the inside and outside corner sections 12 and 13 or the continuous end corner sections 57. A split yoke is

provided for holding the side members together which may be made adjustable by varying the opening 25 in which the cross pin 26 fits. The lower part of the sections are held together by the tie bolts 30 which adjust the side plates against the side of the previously made wall or foundation. The various sections of my wall form are held together by the illustrated tongue and groove assembly which is locked in place by the tightening bolt 42. In this manner, it is not necessary to vertically separate the joint sections by sliding them up or down relative to each other, but the side sections may be readily removed by loosening the tightening bolt 42.

Although the invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention as hereinafter claimed.

I claim as my invention:

1. A wall form comprising two substantially parallel spaced panels, a split yoke having side members fastened respectively to the spaced panels, adjustable connection means above the spaced panels for adjustably securing the side members of the yoke together, adjustable tie members extending through the spaced panels for adjustably holding the spaced panels in spaced relation, said panels each comprising a plurality of abuttable sections removably connectable at their abuttable ends, one of said abuttable ends having an inwardly extending groove defined by first and second spaced opposing side wall portions and the other of said abuttable ends having an inwardly extending tongue portion defined by first and second spaced side wall portions, said groove and said tongue portion constituting interlocking engagement means with said first side wall portions being directly abuttable against each other, and threadable means threadably engaging one of said second side wall portions and abuttably engaging said other second wall portions for forcing said first side wall portions against each other, said threadable means and said adjustable tie members upon release of same permitting said tongue portion to move outwardly from said interlocking engagement with said groove and free said panels from each other.

2. A wall form comprising two substantially parallel spaced panels, a split yoke having side members fastened respectively to the spaced panels, adjustable connection means above the spaced panels for adjustably securing the side members of the yoke together, adjustable tie members extending through the spaced panels for adjustably holding the spaced panels in spaced relation, said panels each comprising a plurality of abuttable sections removably connectable at their abuttable ends, one of said abuttable ends having a groove defined by first and second spaced opposing side wall portions and the other of said abuttable ends having a tongue portion defined by first and second spaced side wall portions, said first side wall portions being directly abuttable against each other, threadable means threadably engaging one of said second side wall portions and abuttably engaging said other second wall portions for forcing said first side wall portions against each other, one of said abuttable sections comprising end stop means extending

laterally of the spaced panels, said end stop means comprising at least two separable members, having respectively a tongue portion extending inwardly into the mating grooves of said one of said abuttable ends of the abuttable sections and means for releasably clamping the members together, said clamping means upon release permitting said separable members to move outwardly and free said tongue portions respectively from said mating grooves.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
812,365	Richardson	Feb. 13, 1906
1,033,385	Cook	July 23, 1912
1,123,769	Lightbody	Jan. 5, 1915