Jan. 14, 1930. E. T. HARROLD 1,743,136

WALL FORM

Filed Jan. 23, 1928

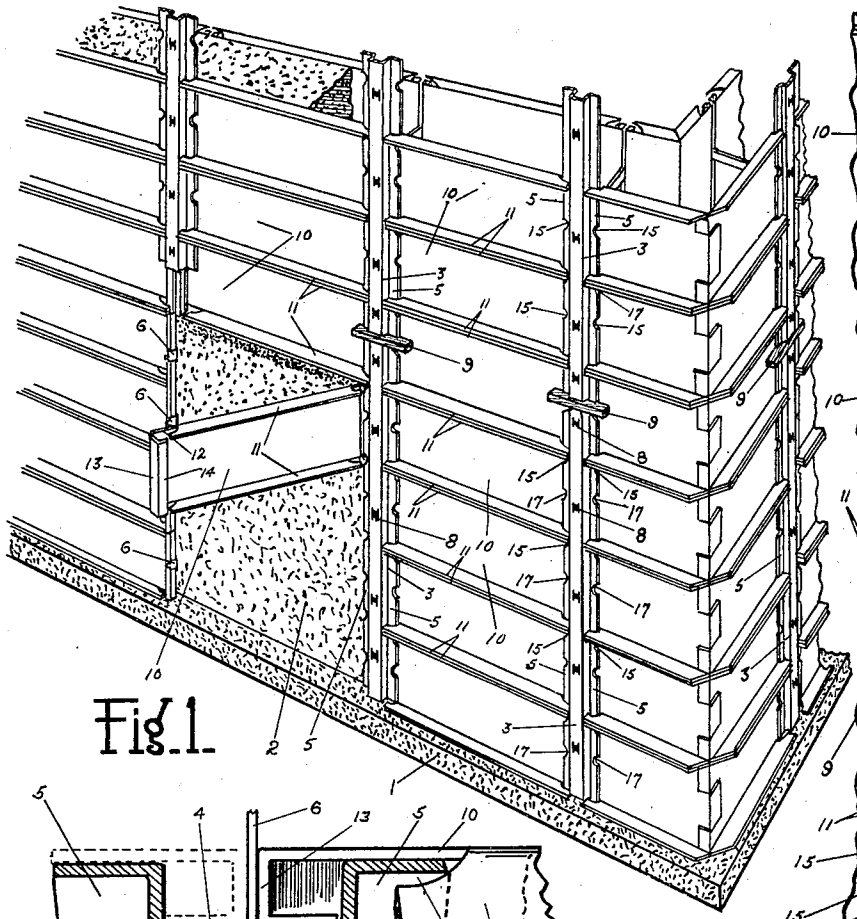


Fig. 1.

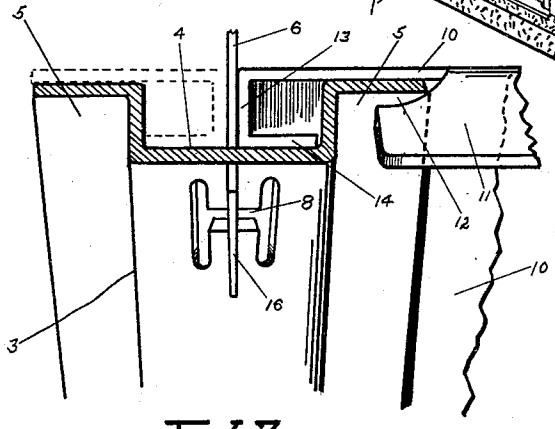


Fig. 3.

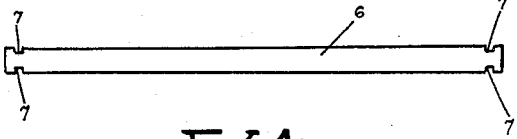


Fig. 4.

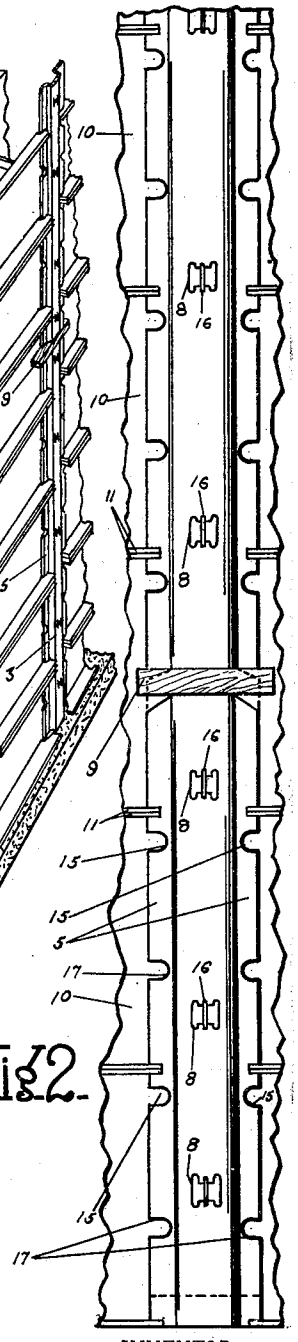


Fig. 2.

INVENTOR.
EDWARD T. HARROLD.

BY Philip S. Hopkins
ATTORNEY

Patented Jan. 14, 1930 1,743,136

UNITED STATES PATENT OFFICE

EDWARD T. HARROLD, OF BINGHAMTON, NEW YORK, ASSIGNOR TO HOTCHKISS STEEL PRODUCTS COMPANY, OF BINGHAMTON, NEW YORK

WALL FORM

Application filed January 23, 1928. Serial No. 248,689.

My invention is an improvement upon that shown and described in Patent No. 1,588,229 dated June 8, 1926.

The primary object of my invention is to provide a wall form for use in constructing concrete walls which can be set up or dismantled with ease and rapidity and the lower sections of which when set up may be removed and placed above the upper sections for continued use.

Another object of my invention is to provide a form of great simplicity in use, thereby reducing to a minimum the time and materials required in construction work of this character.

Still another object of my invention is to provide a novel and efficient type of upright support for cooperating with the panels and the wall form.

Other objects and advantages in details of construction and arrangement of parts will be apparent as the description proceeds, reference now being had to the figures of the accompanying drawing wherein like reference numerals indicate like parts.

In the drawing:

Figure 1 is a detail perspective view of one corner of a wall form "set up" wherein my invention is used.

Figure 2 is a detail plan view illustrating the application of my improved upright support.

Figure 3 is a detail perspective, partly in section, illustrating the cooperation between my improved upright support and the wall form panels.

Figure 4 is a detail plan view of the tie rod used in connection with my invention.

The reference numeral 1 indicates a base or surface upon which a wall 2 of concrete is to be built.

Mounted at suitably spaced intervals upon the base 1 are the upright supports 3. These upright supports are preferably made of heavy sheet metal, cold rolled or otherwise pressed in the form of channel bars having their channel portions 4 facing inwardly and having their inner edges bent outwardly to form laterally projecting flanges 5 on either side. It will be understood of course that similar upright supports are positioned directly opposite these first named supports and spaced therefrom, the desired thickness of the wall to be formed. These oppositely positioned upright supports are held against inner or outer displacement by means of tie rods 6 connecting them. These tie rods 6 are provided adjacent their ends with notches 7 cooperating with the H slots 8 located at spaced intervals along the length of the channel portion 4 of the upright supports. It will be understood particularly with reference to Figure 3 that these tie rods 6 may be inserted through either of the vertical legs of the H slots and then, due to the notches 7 in the tie rods, may be moved inwardly to a position intermediate these vertical legs, in which position of course the tie rods cannot be withdrawn.

If the height of the wall to be built is greater than the length of a given set of upright supports, another set of such supports may be positioned on top of the first set as shown clearly in Figures 1 and 2, a spacing bar 9 being placed between the adjoining ends of such uprights for a purpose to be described.

Any desired or suitable means for bracing the sets of upright supports may be used such as for instance the braces shown and described in the above mentioned patent. These braces form no part of this invention and have therefore not been shown for the sake of clearness.

Adapted to be supported between the adjacent upright supports in such manner as to provide a hollow wall form to receive the concrete mixture, are the panels 10. These panels are provided with outwardly projecting upper and lower flanges 11, which flanges are cutaway as at 12 at their ends. The ends

of the panels 10 are bent outwardly as at 13 and then parallel with the body of the panel as at 14 for engagement within the channel portion of the uprights 3, the portion 13 of the ends lying flat against the tie rods 6, and when the panels are inserted on each side of the upright supports, the tie rods 6 are thus maintained in their position in the center of the H slots 8, thus preventing their displacement. It will be understood that in setting up the wall form, the uprights 3 may be placed in proper position, spaced apart the distance of the length of the panels 10 and such panels then slid into position downwardly from the top of the uprights, or when an upright has been placed in position, the panels may have their ends hooked into the channel portion of the uprights and then swung into position whereupon the next upright may be moved into position for engaging the opposite ends of such panels. The upper and lower flanges 11 of the panels provide supports for holding the panels in proper vertical alignment, one upon the other. The cutaway portions 12 at the ends of the flanges 11 overlie the flanges 5 of the uprights.

If a wall of considerable height is to be built, it is desirable that after the lower portion of the wall has become set and hardened that the forms, that is the panels and uprights, for such lower portion be removed and moved to a position higher up for a continuation of the construction. I have provided means for permitting this, such means comprising a series of oppositely disposed notches 15 in the flanges 5 of the uprights 3. These notches 15 are positioned slightly below the adjoining flanges 11 of the panels. They are spaced below such flanges at a distance equal to the thickness of the spacing bars 9. Therefore, when it is desired to dismantle a lower section of the wall form, the projecting ends 16 of the tie rods 6 are clipped off so as not to interfere with the removal of the uprights, the spacing bar 9 is knocked out of position, whereupon the upright 3 may be lifted upwardly the distance of the thickness of such spacing bar to permit the notches 15 to register with the overlying ends of the flanges 11 of the panels, whereupon the uprights may be freely withdrawn outwardly. The adjacent free ends of the panels 10 are then grasped and the panels swung outwardly as shown in Figure 1, if the adjacent upright has not yet been removed, and if such adjacent upright has been removed, as above described, the panels may be lifted directly away from the wall. The cutaway portion 12 at the ends of the flanges 11 on the panels is large enough to permit an upright which remains in position, to swing outwardly enough to permit the free swinging and removal of the panels connected to the opposite side thereof.

The panels and uprights thus removed may be then mounted on the top of the remaining panels and uprights, the spacing bars being again placed between the uprights as they are built one above the other. It will be observed that the uprights 3 are all provided with an additional set of spaced notches 17 so that when the uprights are moved to a new position on top of those remaining in position, such notches 17 will, due to the spacing bars 9, come in proper position with relation to the flanges 11 of the panels, to permit removal of the uprights and panels in the manner just described, thereby rendering the uprights interchangeable.

It will be clear that by providing this means of removing the uprights and panels, the form may be very quickly dismantled either in whole or in part without disturbing the balance of the form. By this construction, the necessity of removing the panels one by one by sliding them upwardly out of the channeled uprights is eliminated with a real saving in time and effort.

Of course, many changes may be made in details of construction and operation without departing from the spirit and scope of my invention. I do not limit myself, therefore, to the exact structure herein shown and described other than by the appended claims.

I claim:—

1. A wall form comprising an upright support having a channel and side flange, spaced notches in said side flanges, panels having end flanges engageable in said channel, said panels also having upper and lower flanges the ends of which overlie said side flanges, and means for raising said support to bring said notches into register with said overlying flanges, whereby said support can be removed to permit removal of said panels.

2. A wall form comprising an upright support having a channel and side flanges, spaced notches in said flanges, panels having their ends engageable in said channel, flanges on said panels overlying said side flanges, and means for vertically moving said support to bring said notches into registry with said panel flanges whereby said support may be removed to permit removal of said panels.

3. A wall form comprising an upright support having a channel and side flanges, spaced notches in said flanges, a spacer on top of said support and a duplicate upright support on said spacer, spaced notches in the side flanges of said supports, panels having their ends engageable in the channels of said supports, flanges on said panels overlying said side flanges, and means whereby upon removal of said spacer, said lower support may be raised vertically to bring its notches into registry with said panel flanges to permit removal of said lower support and panels.

4. A wall form comprising an upright support having a channel and side flanges, spaced notches in said flanges, a spacer on top of

said support and a duplicate upright support on said spacer, spaced notches in the side flanges of said supports, panels having their ends engageable in the channels of said supports, flanges on said panels overlying said side flanges, and means whereby upon removal of said spacer, said lower support may be raised vertically to bring its notches into registry with said panel flanges to permit removal of said lower support and panels, said supports having an additional series of spaced notches whereby the supports may be interchanged and placed one upon the other.

EDWARD T. HARROLD.