

July 4, 1944.

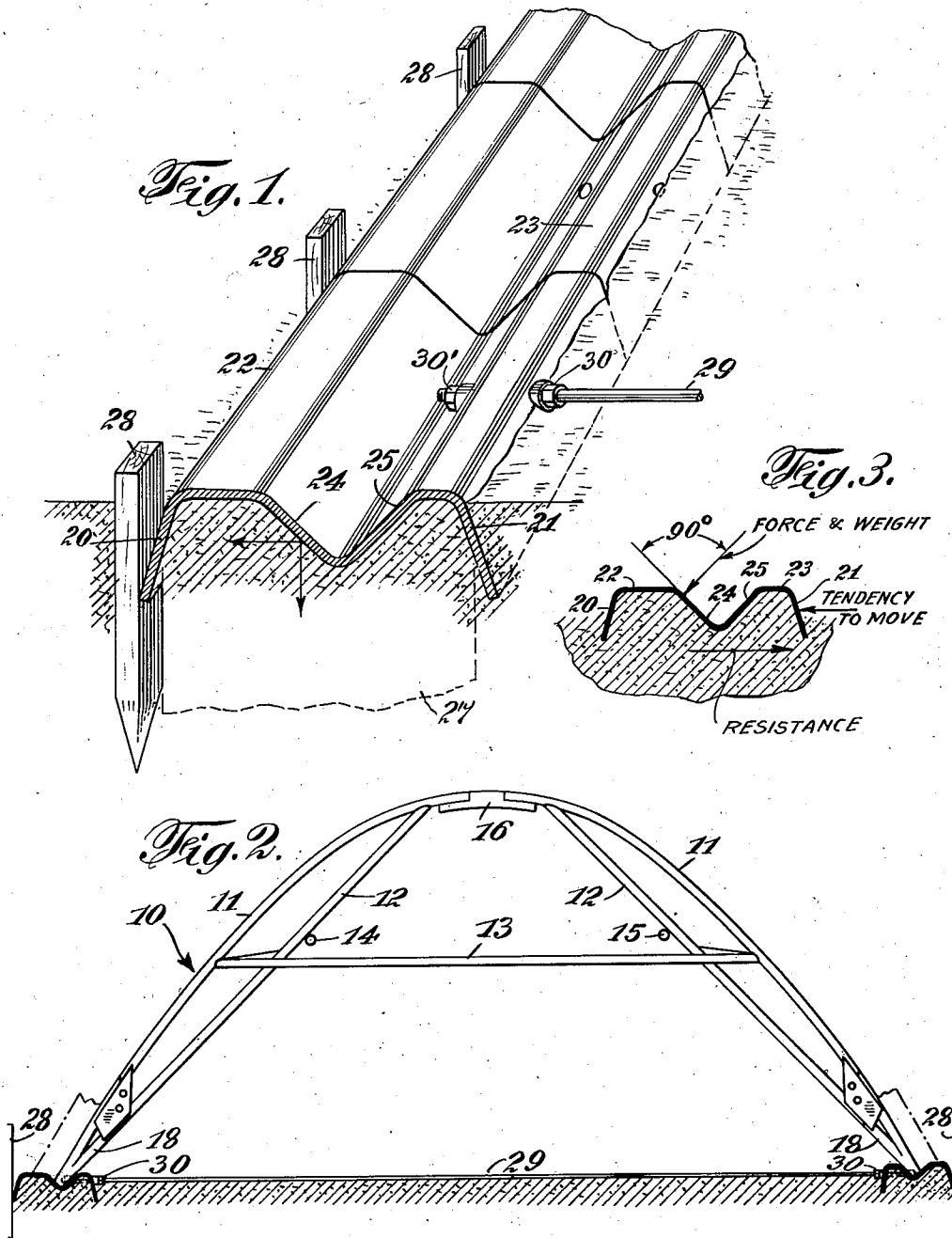
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2,353,073

METALLIC SILL MEMBER FOR FRAMES IN BUILDING CONSTRUCTIONS

Filed July 1, 1943

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 4.

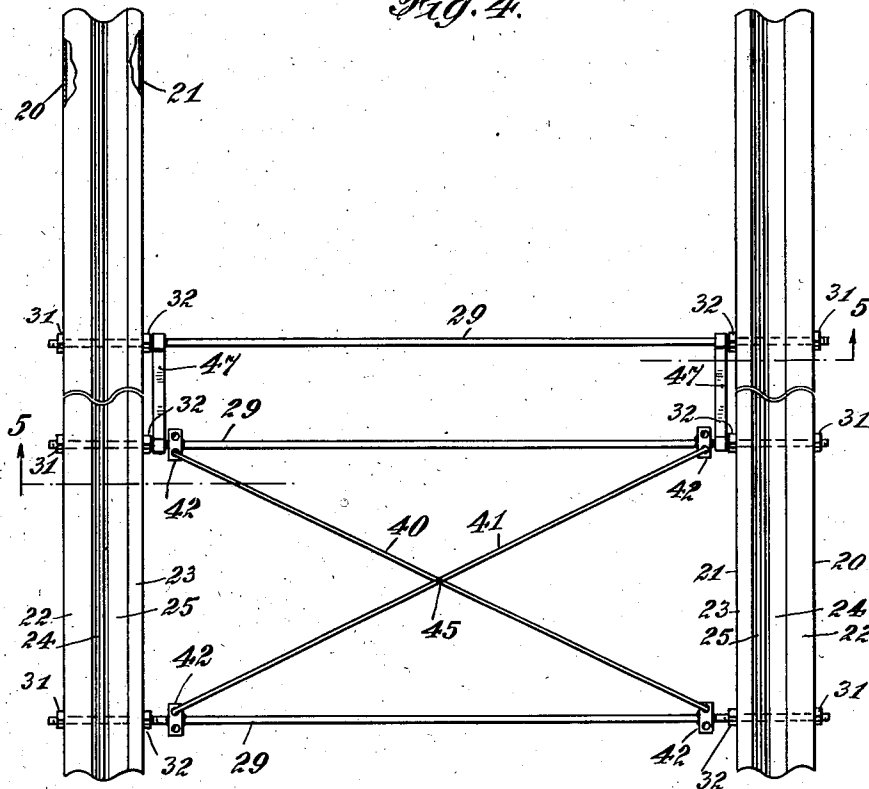


Fig. 5.

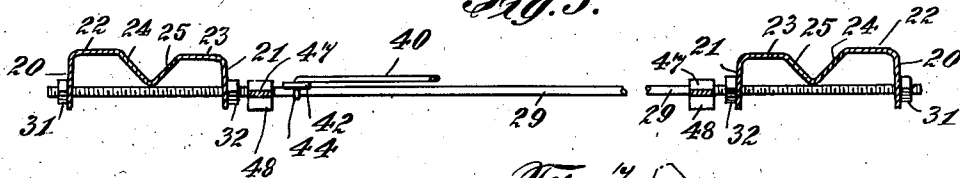


Fig. 6.

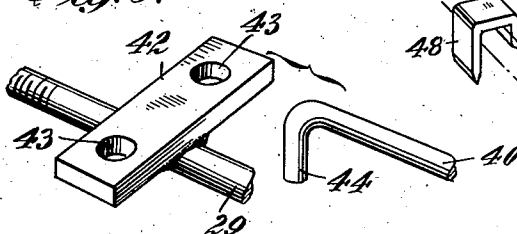
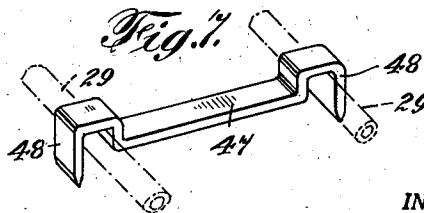


Fig. 7.



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UNITED STATES PATENT OFFICE

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METALLIC SILL MEMBER FOR FRAMES IN
BUILDING CONSTRUCTIONSEugene Pitou, New York, N. Y., assignor to The
Patent Scaffolding Co. Inc., Long Island City,
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Application July 1, 1943, Serial No. 493,956

4 Claims. (Cl. 189-1)

This invention relates to metallic sill members adapted for the support of skeleton frames for the building of huts and the like, and the object of the invention is to provide a sill member which may be readily made, easily installed and conveniently transported.

The invention consists of a metallic sill member having two external leg members to engage the ground and having disposed between these external leg members an inclined wall of such an inclination or angularity as to resist the forces and weight of a skeleton frame the lower ends of which engage the inclined wall of the sill. Preferably this angularity forms with the line of forces of the skeleton frame an angle of about 90°. Another angular wall forms a trough with the first angular wall, and the frame aligns itself with said second angular wall.

The invention consists further in the assembly means of such sills, enabling the sills to be held in position by means which may be readily assembled.

The invention will be more fully described hereinafter, embodiments thereof will be shown in the drawings, and the claims will be finally set forth in the appended claims.

In the accompanying drawings—

Fig. 1 is a perspective view of my improved metallic sill member placed butt-end to butt-end, aligned with other sill members of like kind;

Fig. 2 is an end view of a skeleton frame, such as is intended to rest upon the improved sill members;

Fig. 3 is a diagrammatic end view of the sill member applied to the ground;

Fig. 4 is a plan view of the assembling means;

Fig. 5 is a vertical section taken on line 5—5 of Fig. 4;

Fig. 6 is a perspective view of a bracket welded to a tie rod; and

Fig. 7 is a perspective view of a bracer joining two tie-rods.

Similar characters of reference indicate corresponding parts throughout the various views.

Referring to the drawings and more particularly to Fig. 2, the skeleton frame generally indicated by 10 consists of a series of separate component parts like the parabolic shaped tube 11 having a chord 12, a transverse binder 13, longitudinal binders 14 and 15, and a vertical spacer and binder 16. The lower ends of the curved tubular member 11 and chord member 12 are connected in a manner so that they may be readily separated from a foot extension member 18.

This foregoing description applies to a pre-

ferred form of skeleton frame. Such a frame is used for the molding of concrete or the like, sheathing being used to bridge the tubes. When the concrete is set, the skeleton frame is removed.

The lowermost end of the foot extension member 18 of such a skeleton frame rests upon a sill and the improved form of sill consists of a metallic member having a wall of such angularity as to resist any force or weight resulting from the skeleton frame just described. In addition, the length of this inclined portion must be such as to accommodate the lowermost end of a concrete or cement shell wall resulting from the application of liquid concrete to the skeleton frame as described.

In ordinary construction the sill would be made entirely of concrete, but the construction of concrete sill takes time and such a sill cannot be used until the concrete sets. Metallic sill members are prepared and these due to their configuration may nest on each other and thus take up very little shipping space. These metallic sill members may be made of any length, but preferably of such a length that one person can easily carry one of them and place them in position on the sand or dirt ground surface.

In the embodiment shown in Figs. 1 and 3, these metallic sill members have leg portions 20 and 21 and disposed between these are two horizontal surfaces 22 and 23, and two inclined surfaces 24 and 25 forming a trough. The angularity of the surface 24 is such that it forms a 90° angle with the line of force developed by the force and weight of the hut, as is seen in Fig. 3, by the line marked "Force and weight." The inclination of the member 25 is such that it closely approximates the inclination of the inner surface of the foot extension 18. These sill members are aligned on the ground and then are subjected to pressure so that the leg portions 20 and 21 enter into the ground and act as anchors for the sill member. Preferably the ground is slightly scooped in conformity with the angularity formed by the surfaces 24 and 25, or the ground may be provided with a channel of small depth and the angular portions 24 and 25 will displace the same, or a flat top concrete foundation shown in dotted lines and indicated by 27 may be first provided which would then be engaged by the downwardly extending legs 20 and 21. The surface 24 is large enough to have the concrete hull wall abut against it outside of the tubular member. Between the tubular members the entire surface 24 is covered by the concrete wall. For further security posts 28 may be driven

at the external side of the sill members along the leg 20 so as to resist any pressure applied to the sill member. Furthermore, the sill members may be provided with openings for the passage of tie rods 29 secured by nuts 30 and 30', the tie rods 29 extending from one sill member to its opposed sill member so as to space these apart and also prevent them from spreading away from each other. The nut 30 is applied against the leg 20 and the nut 31 is applied against the leg 21. The tie rod is suitably screw-threaded for the nuts.

After the sill members have been aligned butt to butt as shown in one form in Figure 4, and the tie rods have been applied to the sill members, diagonal braces 40 and 41 are applied. The tie rods 29 are provided with brackets 42 having openings 43, and the brackets are welded to the tie rods. One bracket is applied near each end of a tie rod. The braces 40 and 41 each have a bent portion 44 acting as a hook to engage the holes of the brackets. A pivot pin or rivet or bolt 45 is applied to the braces at their intersection. The advantage of a bolt or pivot pin upset at each end is to hold the braces together when shipping them, and they may readily be opened scissor fashion. These braces hold the tie rods which are connected with a pair of sills, thus forming one unit.

The next unit is similarly assembled, and then the units are assembled by braces 47, each having at each end a holding portion 48, to embrace the tie rods 29. These braces 47 are preferably placed near the sills so as to form a bridge member over the butt ends of the sills.

It will be noted that the parts are such that they may be readily packed and shipped and assembled. Huts of this kind are intended to be constructed during enemy fire, and these parts can be assembled in the dark to form a substantially built sill, to support the skeleton frame and the concrete hut built upon it.

As an alternative form of tie rod binding, shown in Figs. 1 and 2, the form shown in Figs. 4 and 5 is used, in which the parts 25 and 21 of the sill have openings for the tie rod, and nuts 31 and 32 are provided to hold the tie rod to the sill. The form shown in Figs. 4 and 5 are preferred as the tie rods are deeper and thus can be readily covered. The tie rods are suitably screw-threaded.

From the foregoing it will be seen that the improved sill member consists of a metallic pressed steel sheeting spaced in the manner as to provide two anchoring legs and have disposed therebetween a surface of an inclination to resist any force or weight of any body resting thereon like a skeleton removable frame and like a concrete hut or the like, together with another inclined surface forming a trough with the first inclined surface, and generally aligned with said frame.

Applicant has pending application Serial No. 491,456, filed June 19, 1943, allowed May 8, 1944, and Serial No. 493,055, filed July 1, 1943, allowed

January 6, 1944; both issuing on the same date as this application.

I have described several forms of my invention, but obviously various changes may be made in the details disclosed without departing from the spirit of the invention as set out in the following claims.

What I claim is:

1. An improved sill consisting of a metallic member comprising an elongated thin plate having at its margins ground engaging legs substantially at right angles to the face of said plate, and having angular portions therebetween forming a trough, one angular portion of said trough having an angle to the horizontal of about 45° to resist force applied by a structural member normal to that portion and another adjacent angular portion of said trough inclined to the horizontal in line with the structural member so supported by the 45° portion.

2. An improved sill consisting of a metallic member comprising an elongated thin plate having at its margins ground engaging legs substantially at right angles to the face of said plate, and having angular portions therebetween forming a trough, one angular portion of said trough having an angle to the horizontal of about 45° to resist force applied by a structural member normal to that portion and another adjacent angular portion of said trough inclined to the horizontal in line with the structural member so supported by the 45° portion, and horizontal portions laterally disposed adjacent outwardly of said angular portions and inwardly of the legs, the angularity of the angular and horizontal portions and legs enabling said sills to detachably nest upon each other.

3. In a sill, the combination with a metallic member comprising an elongated thin plate having at its margins ground engaging legs substantially at right angles to the face of said plate, and having angular portions therebetween forming a trough, one angular portion of said trough having an angle to the horizontal of about 45° to resist force applied by a structural member normal to that portion and another adjacent angular portion of said trough inclined to the horizontal in line with the structural member so supported by the 45° portion, said metallic member having openings, of tie rods passing through the openings, and means fastening the tie rods to the metallic member.

4. In combination, a plurality of aligned sills parallel with each other, a pair of tie rods secured to each opposed pair of sills holding opposite sills from spreading and from approaching each other, brackets near the ends of and at right angles to said tie rods, cross braces engaging said brackets and crossing each other, connections at the intersections of said cross braces for holding the tie rods against a scissor action, and tie rod braces connecting adjacent tie rods of each pair of sills to hold aligned pairs of sills.

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