

July 4, 1944.

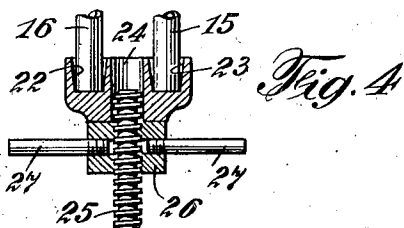
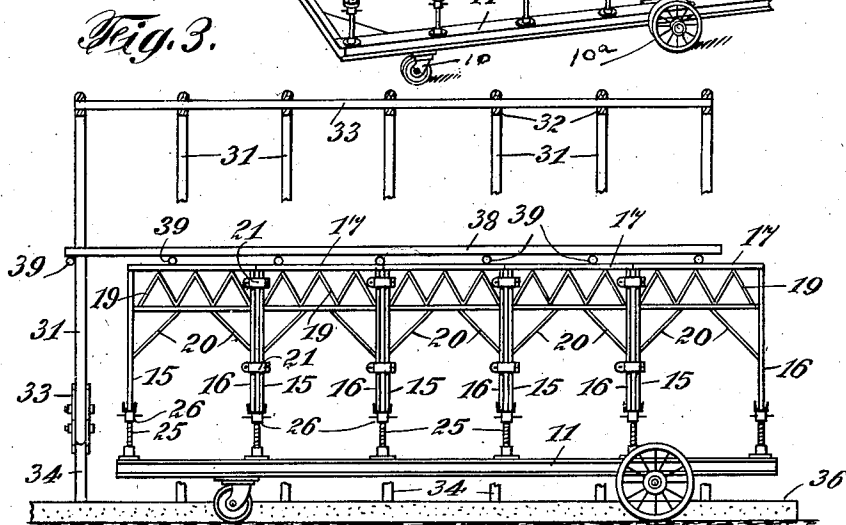
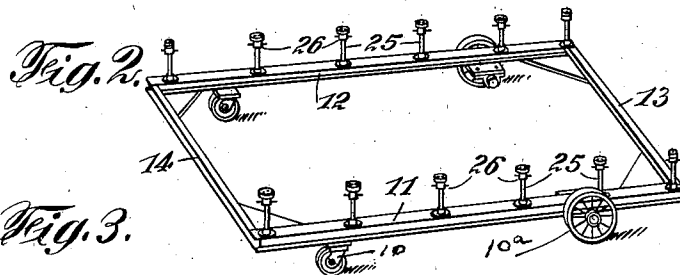
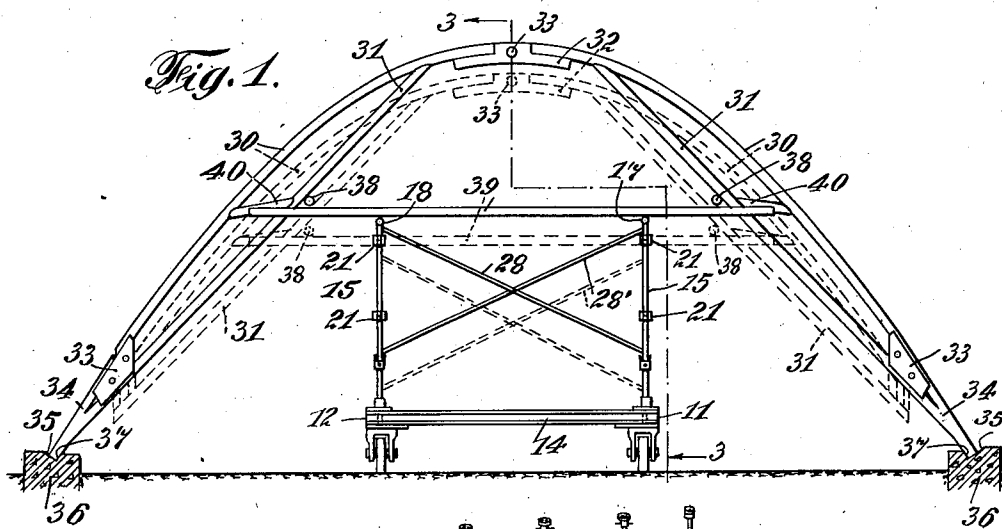
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2,353,072

TRUCK FOR MOVING SKELETON FRAMES FOR HUT CONSTRUCTIONS

Filed July 1, 1943

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 5.

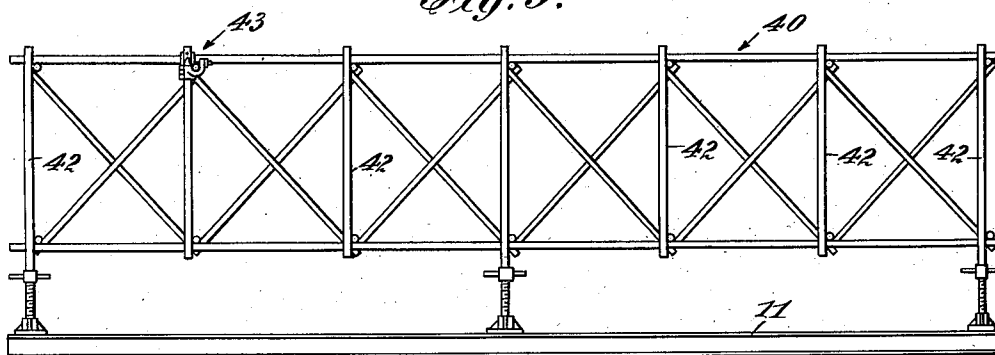


Fig. 6.

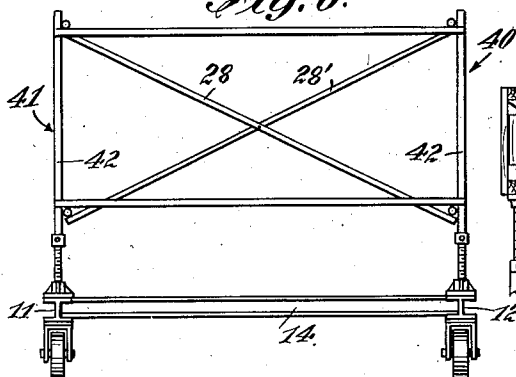


Fig. 7.

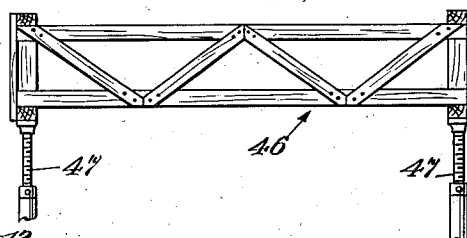
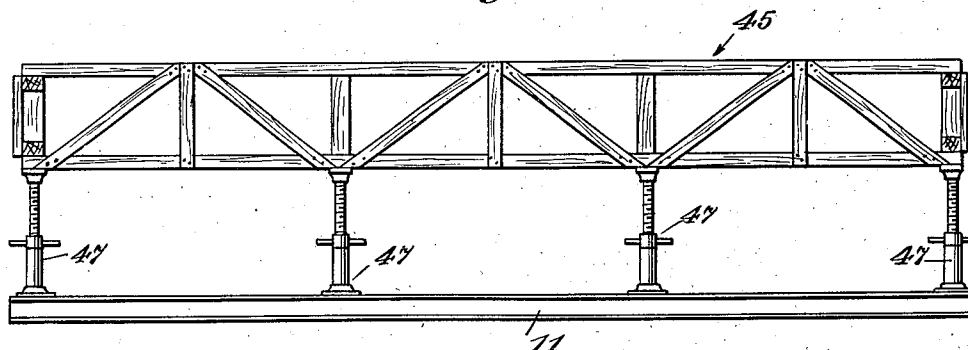


Fig. 8.



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UNITED STATES PATENT OFFICE

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TRUCK FOR MOVING SKELETON FRAMES
FOR HUT CONSTRUCTIONSEugene Pitou, New York, N. Y., assignor to The
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Application July 1, 1943, Serial No. 493,055

1 Claim. (Cl. 304—9)

This invention relates to movable jack vehicles primarily intended to be used for the moving of skeleton frames used in the building of concrete huts for army encampments or air shelters. In the construction of such huts, a tubular metallic skeleton frame is set up upon sills and the tubular members of the frame are covered with a sheathing or the like, upon which liquid concrete is poured and permitted to set. When set, the frames may be separated from the concrete, and again erected at some other locality to act again as a support for the formation of a new hut. Instead of dis-assembling the parts and again assembling them for the construction of each hut, a truck structure is used to convey the entire skeleton of tubes to a new position. Various truck constructions may be used, but in accordance with this invention, a truck construction consisting of a rectangular frame having depending brackets for the wheels, and supporting a plurality of jacks provide a structure which in itself may be readily assembled and dis-assembled. Hut structures of the kind described are used in encampments at distant places where shipping space is at a premium, and by the use of four I bars, bracket members and wheels, together with the necessary number of jacks, these parts may be readily and compactly shipped, and when they reach their destination, may be readily assembled. In addition to such truck structures, intermediate scaffolding members are used to bridge the space between the jacks and the skeleton frame, allowing for sufficient height to support such frames and convey them without touching the ground during their movement from the place where a hut has been completed and the place where a new hut is to be built. According to the invention, such intermediate scaffolding structure may consist of a plurality of separate frames, or a built-up truss member utilizing tubes and clamping devices, or in certain cases by the use of wooden timbers.

The invention then consists of a frame structure truck having wheels below and jacks above, and the invention also consists in the provision of an intermediate scaffolding truss or the like, supported by the jacks in turn supporting the scaffolding.

The invention will be more fully described hereinafter, embodiments shown in the drawings, and the invention will be pointed out in the claim.

In the accompanying drawings—

Figure 1 is an end view of a skeleton frame structure made of tubular parts, having horizontal cross-beams, adapted to be engaged by the intermediate scaffolding supported by the truck;

Figure 2 is a perspective view of the improved truck;

Figure 3 is a side view of Figure 1, partly in section taken on line 3—3 of Fig. 1;

Figure 4 is a sectional view of the holding member for the frames of Figure 3;

Figure 5 is a side view of an intermediate scaffolding structure formed of a truss member made up of tubes and clamping members;

Figure 6 is an end view of the same;

Figure 7 is an end view of a truss member made of wood; and

Figure 8 is a side view of Figure 7.

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

Referring to the drawings, and more particularly to Figures 1, 2 and 3, the improved truck consists of a frame, comprising two longitudinal I bars 11 and 12, and two transverse I bars 13 and 14. To the lower surface of the two longitudinal bars suitable wheel supporting members 10, and wheels 10a, held therebetween are attached. These are preferably separate wheel units, so that it is simply necessary to bolt the same to the longitudinal bars. A plurality of known jacks are attached by bolts to the upper surface of the longitudinal bars. Such jacks may be readily attached to the bars by the bolts. They, like the wheel units are shipped separately. In a truck, about the kind shown in Figure 3, twelve jacks and four wheel units are used, with the front wheel units differing from the rear wheel units as shown. The use of two such types of wheel units give greater flexibility of movement to the truck.

In the embodiment of Figures 1 and 3, a plurality of welded tubular frames are utilized. These are end to end, as shown in Figure 3. Each consists of two uprights 15 and 16, two longitudinals 17 and 18, with lattice diagonals 19 therebetween, and of two struts 20. These parts are made of light weight tubing and preferably welded together and form an integral end frame. Connectors 21 join two adjacent uprights. The adjacent uprights are spaced from each other, and their lower ends seat in cup-shaped sockets 22 and 23, leaving a space 24 therebetween slightly larger than the diameter of the jack spindle 25. An interiorly screw-threaded nut 26, having handle bars 27, rotates on the spindle 25, and when moved upwardly causes the sockets and the frames supported thereby to ascend. A reverse movement of the nut lowers the frames.

After the end frames are thus joined together, the end uprights are further connected by diagonal braces 28 and 28', as shown in Figure 1, and such cross or transverse braces may be applied to each of the uprights of the end frames. Preferably the point of intersection of the cross braces may be joined by a rivet or pin.

The use of such a jack structure truck and intermediate scaffolding is to receive the low-

ered skeleton tubular frame used in the construction of concrete huts for encampments or air shelters. The parabolic shaped tubular members 30 have chords 31, and joining members 32, having openings for the passage of an electric light conduit 33. The lower ends of these members 30 and 31 enter sheaths 33 of feet 34. The lower ends of the feet 34 rest against angular surfaces 35 of sills 36 and against shoulders 37. Longitudinal members 38 are connected with each parabolic member and transverse horizontal members 39 are connected with braces 40 which are between the outer parabolic shaped tubes and the chord tubes. By the longitudinal members 38 joining all of the parabolic and chord members, and the horizontal transverse members 39 being below the longitudinal members 38, any raising or lowering of the horizontal transverse members will raise or lower the entire skeleton structure.

In practice, this skeleton structure is provided with sheathing at its exterior, and then liquid concrete is poured upon the sheathing and allowed to set, the concrete having a suitable thickness.

After the concrete has set, the skeleton with its sheathing or without the same if it is desired to utilize the sheathing as the interior wall of the hut, is then removed from the concrete shell. This is done by disconnecting the lower ends of the skeleton members 30 from their sheaths, which would permit the skeleton frame to drop as shown in dotted lines in Figure 1.

The truck with its intermediate scaffolding is now rolled into the skeleton member supporting the hut. The scaffolding is reasonably low so as to permit convenient entrance. The jacks are then operated to raise the scaffolding until its upper part engages the horizontal transverse members. Then the sheaths with the feet are unbolted, and the skeleton frame then is solely supported by the scaffolding and truck. The jacks are then lowered and the scaffolding descends supporting the skeleton frame. The lower portion of the scaffolding is shown by the dotted lined cross braces and the dotted lines of the skeleton frame show its lowered position. The truck is then moved out from under the concrete hut, and moved to a new position where a new concrete hut is formed around the same skeleton frame, after the sills have been laid, and the feet applied to the skeleton frame, the jacks first raising the scaffolding to a higher position to enable the skeleton frame to enter the sheaths of the feet and be bolted thereto, and then the jacks are lowered to remove the truck and scaffolding from the skeleton frame to enable the concrete to be formed, or, the truck can remain until the concrete is set, it being of no active use during that time. Then, the foregoing operation is repeated to remove the skeleton frame and set it up elsewhere.

It will be noted that the truck longitudinal sides and the longitudinal sides of the intermediate scaffolding, together with the jacks, form the weight supporting parts of the assemblage.

In the embodiment shown in Figures 5 and 6, the intermediate scaffolding is made up of two longitudinal truss members 40 and 41, each built up by tubular members 42, coupled together by clamp members 43, preferably of the known "Tube-lox" type. These permit the separate tubes of suitable lengths and the separate clamp-

ing members to be shipped separately. The jacks in this case are provided with single sockets upon which the end uprights seat. If desired, such jacks may be used in any number, as seven, for example, on one side, or three on one side. The longitudinally arranged trusses are held together by diagonal braces as shown and as described in connection with Figure 1.

In the embodiment of Figures 7 and 8, the longitudinal truss member 45 may be built up from timbers nailed together, with the uprights joined by a timber cross-bar 46, as shown in Figure 7. The jacks 47 have handles to raise or lower the same. Again such a wooden intermediate scaffolding may be readily assembled.

The embodiments of Figures 5, 6, 7 and 8, operate in the same manner as the embodiment of Figures 1 and 3 and are used for the same purpose.

It will have been seen that the invention consists in a jack scaffolding truck having strong lateral longitudinal members held spaced apart by weaker members, with the wheels directly below or closely adjacent to the stronger side members; that the jacks are arranged in spaced relationship on said stronger members, and that these support the weight supporting intermediate scaffolding trusses, also held in spaced relationship by cross bracing. The two longitudinal I beams and the two lighter transverse I beams may be readily assembled to form the square or rectangle. The wheel units may be readily applied to the lower part thereof, and the jacks applied to the upper part thereof. The thus assembled truck unit then stands ready for use. The scaffolding trusses may be also readily assembled, and then supported by the jacks at the proper height to enable the transverse members of the skeleton frame to be supported and lowered away from the set concrete hut shell, and moved to the next position for the forming of a new concrete hut shell.

Applicant has pending applications Serial No. 491,456, filed June 19, 1943, allowed May 8, 1944, and Serial No. 493,056, filed July 1, 1943, allowed May 22, 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 claim.

What I claim is:

In a jack truck the combination of longitudinal lateral I beams laterally spaced apart the width of a truss structure intended to be supported thereby, transverse beams of a length equal to said width connecting the longitudinal beams to form a frame, all of said beams being in horizontal plane, wheel supporting brackets connected with said frame and extending below the lower part of the frames and downwardly from said plane, lifting jacks connected with said frame and extending above the upper part of said frames, and extending upwardly from said plane, terminating in a plane parallel therewith, and a self contained scaffolding truss structure having weight supporting longitudinal lateral trusses, transverse braces holding the longitudinal trusses spaced apart, and vertical depending members, supported at their lowermost ends upon said jacks.

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