United States Patent [19]

Kuest

[11] **3,871,477**

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[54] **SHEETROCK LIFT AND SCAFFOLD**

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[52] **U.S. Cl.** ..... **182/63,** 182/129, 182/131, 182/141, 214/1 SW

[51] **Int. Cl.** **B66f 9/12,** E04g 1/18

[58] **Field of Search** ..... 182/129, 63, 141, 148, 182/14, 131; 214/1 SW

[56] **References Cited**

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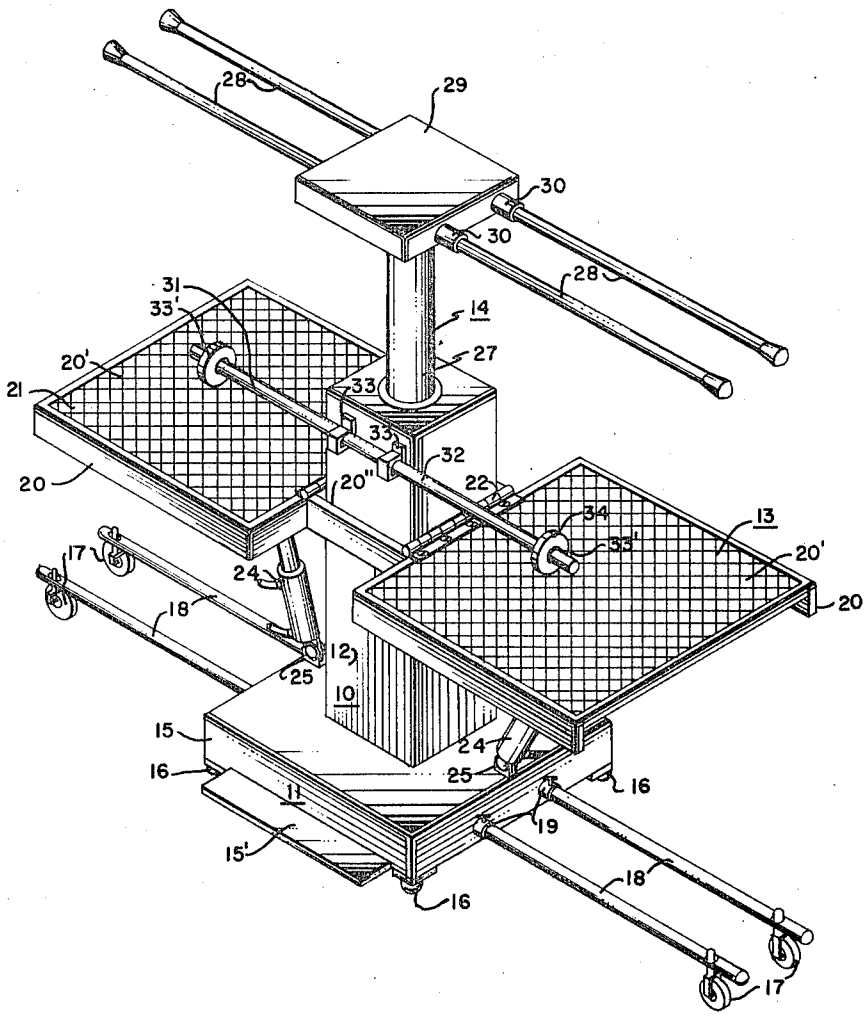
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Primary Examiner—Reinaldo P. Machado
Attorney, Agent, or Firm—John W. Kraft; Charles L. Kraft

[57] **ABSTRACT**

The combination scaffold and lift comprises a truck provided with suitable casters and balance arms to stabilize the truck, a pedestal issuing upwardly from the truck, a platform issuing from opposing sides of the pedestal over the balance arms and being freely slidable along the pedestal and having means for raising and lowering the platform with respect to the pedestal, and a lift assembly including a lift column carried in the pedestal including means for raising and lowering the lift column with respect to the pedestal, and having lift arms issuing from opposing sides of a bracket at the uppermost terminal end of the lift column over the platform and balance arms.

6 Claims, 3 Drawing Figures



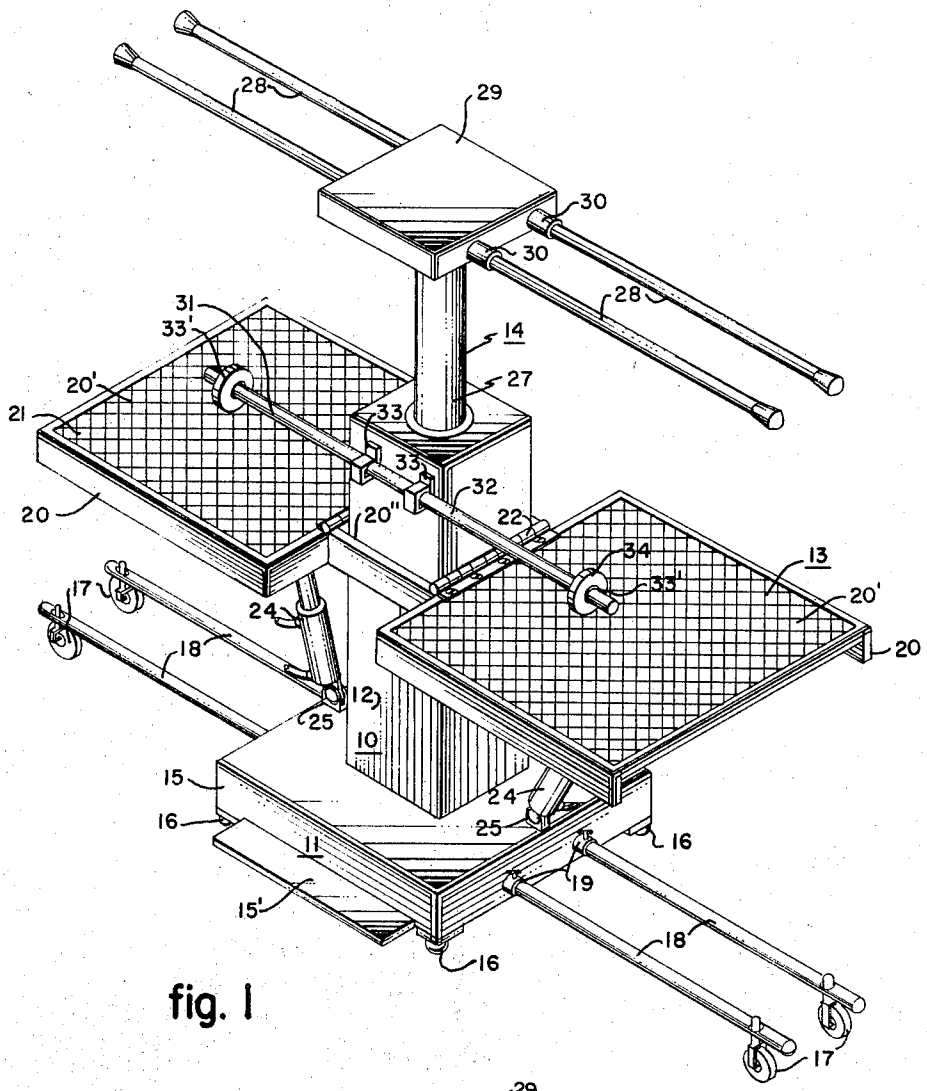

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fig. 1

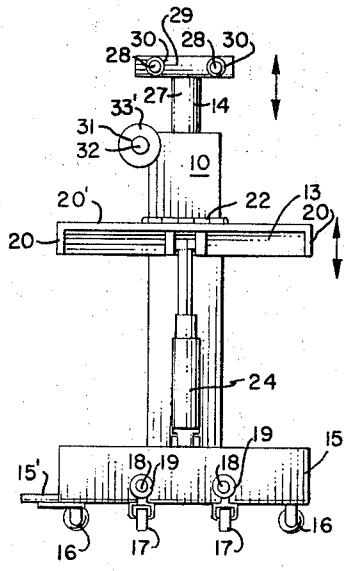

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fig. 2

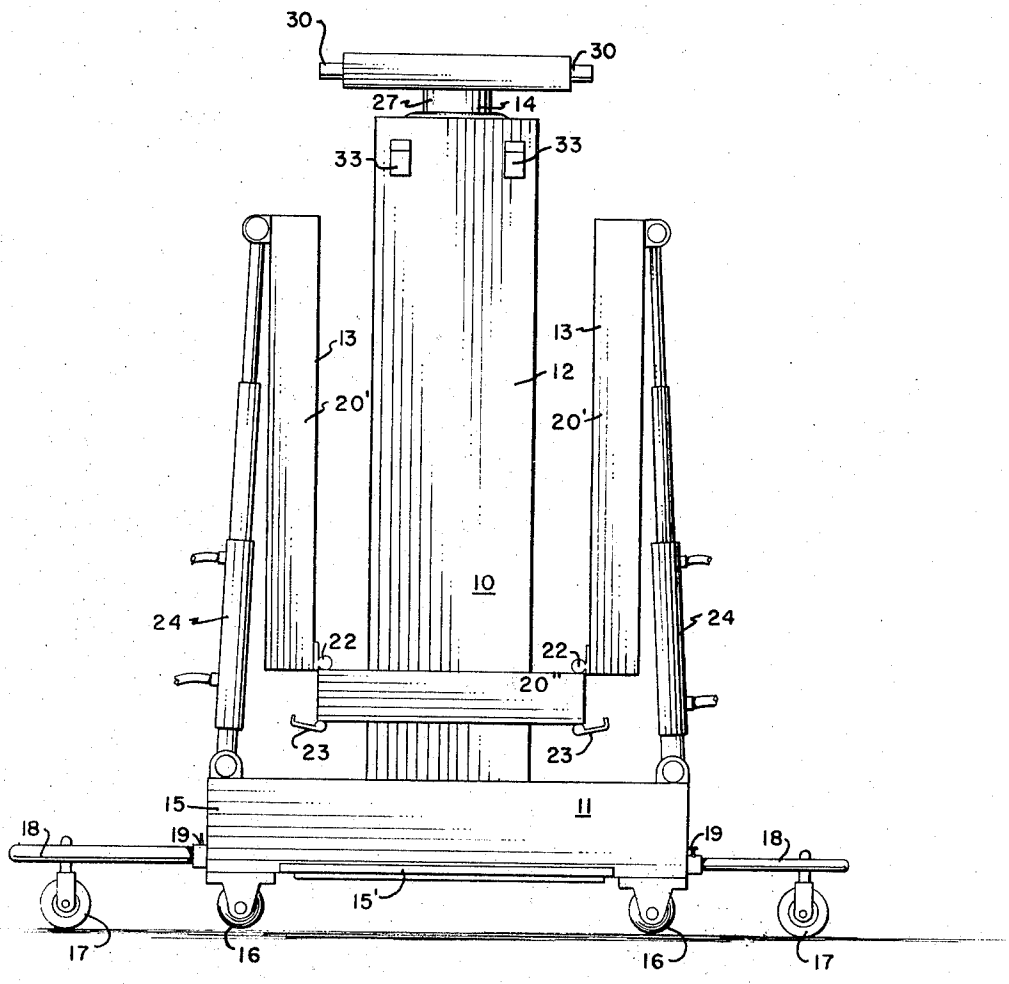

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fig. 3

SHEETROCK LIFT AND SCAFFOLD

FIELD OF INVENTION

The present invention relates to gantries, and more particularly to gantries provided with a scaffold in combination with lift means for handling panels and the like along a substantially horizontal plane.

BACKGROUND OF THE INVENTION

It is a primary object of this invention to provide an improved gantry providing a scaffold in combination with lift means for handling panels and the like along a substantially horizontal plane.

It is another object of this invention to provide the aforesaid invention in a structurally simple design, which is highly stable in operation.

It is a further object that the aforesaid lift means have a design which has an inherently high load capacity vis-a-vis the size of supports.

These and other objects shall become apparent from the description following, it being understood that modifications may be made without affecting the teachings of the invention here set out.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front perspective view of the apparatus of this invention.

FIG. 2 is an end elevational view of the lift and scaffold of FIG. 1.

FIG. 3 is a front elevational view of the lift and scaffold having pivotal platform panels in the folded position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings and more particularly to the FIGS. 1 and 2, the combination scaffold and lift of this invention is shown to advantage and generally identified by the numeral 10. The combination 10 comprises a truck 11, a pedestal 12, a platform assembly 13, and a lift assembly 14. It is to be understood that, while hydraulic cylinders are disclosed herein, any of a number of prime movers may be employed to advantage, such as electric motors, gears, ratchet levers, and the like.

The truck 11 provides the undercarriage and foundation support for the remainder of the combination 10. The truck 11 comprises a rectangular or square frame 15 having casters or wheels 16 mounted at each corner of the frame 15. As shall become apparent, the proportional area of the frame 15 should be related to the rectilinear length of the main portion of the combination 10. It may also be seen that it is to advantage to provide wheels 16 which operate in all directions. The wheels 16 may also include means for selectively locking the truck 11. Two pairs of horizontally and parallelly disposed balance wheels 17 are mounted on arms 18 which issue from opposing sides of the frame 15. The arms 18 may be so mounted as to telescope into the opposing arm 18, and to be selectively locked by a clamp 19.

The pedestal 12 is a framework issuing upwardly from the center of the truck 11. The pedestal 12 may have a rectangular or square cross-section. The platform 13 is a horizontally disposed member slidably mounted about the pedestal 12 and issuing outwardly

over and distally above the balance arms 18. The platform 13 comprises a frame 20 and a deck 21 which is fastened to the frame 20. It may be seen that the frame 20 may be fabricated in a pair of substantially identical rectangular panels 20' and a central collar 20'' which is slidably mounted about the pedestal 12 and to which the panels 20' are mounted with their respective rectilinear axes disposed along the major rectilinear axes of the combination 10. The platform 13 may include hinges 22 which mount the panels 20' to the collar 20'' such that the panels 20' pivot upwardly and urged catches 23 rigidly lock the panels 20' in a horizontal position. Thus, when the collar 20'' is at its lowermost position, adjacent the upper side of the truck 11, the panels 20' may be pivoted adjacent the vertical walls of the pedestal 12. The platform 13 may be opened as indicated above. This provides an exceptionally compact structure for transport and storage. The pins may be removed from hinges mounting the panels 20' to make the platform demountable. The collar 20'' may be provided with frictionless guide means to facilitate its free sliding on the pedestal 12. The deck 21 may be fabricated of a sheet material or of grating; either may be provided with a suitable surface to enhance sure footing.

The platform 13 is raised and lowered by actuator means such as hydraulic cylinders 24. Each cylinder 24 is pivotally mounted by its base to a clevis 25 which is fastened centrally to the sides of the frame 15 having the balance wheels 17, and by its piston to a bracket 26 which is fastened centrally and distally from the outer terminal ends of the panels 20'. The cylinders 24 should be controlled from the outer terminal end of the panel 20'. The cylinders 24 should be controlled from a common means (not shown) to insure even actuation of the platform 13 with respect to the pedestal 12. In operation the cylinders 24 may be extended to both raise and support the panel 20'. Lowering of the platform 13 is accomplished by gravity controlled by the cylinders 24. In embodiments in which the panels 20' are hingedly mounted to the collar 20'', the cylinders 24 may be employed to raise the outer terminal ends of the panels 20' to fold the structure. It may be seen that other suitable adjustable bracing means may be employed.

The lift assembly 14 includes a lift column 27 which is carried upstandingly in the pedestal 12, and two pairs of horizontally and parallelly disposed lift arms 28 disposed at the uppermost terminal end of the lift column 27, generally over the distally above the platform panels 20' and the balance arms 18. The lift column 27 is frictionlessly, slidably mounted in the pedestal 12 and includes means for raising and lowering the lift assembly 14. Means for raising and lowering may include a hydraulic cylinder (not shown) which may be housed within the pedestal 12. The lift column 27 may be connected to the upstanding hydraulic cylinder (not shown). Other prime moving means may include a rack and pinion, ratchet and pawl, and the like. The arms 28 are mounted in a bracket 29 disposed at the uppermost terminal end of the lift column 27. Each of the arms 28 slidably engage receptacles 30 in the bracket 29.

An idling roller 31 may be mounted horizontally to the upper portion of the pedestal 12, parallel with the major rectilinear axis of the combination 10. The roller 31 may include a shaft or spindle 32 which may be journally mounted in the bracket 33. A plurality of rollers

34 may be individually journally mounted to the rollers 33. Cushioned tires 33' may be provided on the rollers 33 to prevent marking of materials carried thereon. The idling roller 31 may be used as a handling means for lifting panels up to the lift arms 28. It has been also found to advantage to provide a support lip 15' distally below the platform 13 on the frame 15 disposed on the side that is adjacent the side of the pedestal that is provided with the idling roller 31 hereinafter described.

The combination 10 can be rolled into a desired location, and the balance arms 18 may be extended a suitable length to stablize the combination 10. The platform 13 may be raised along the pedestal 12 by the cylinders 24 to a suitable height for work. Likewise, the lift assembly 14 may be extended. Sheeting panels, or structural members, may then be individually loaded onto the lift arms 28, possibly by employing the idling roller 31 when lifting panels from the support lip 15'. The lift assembly 14 may be further lifted until the panel or member is in its location. The combination 10 may be disassembled by either telescoping the balance arms 18 into each other, or removing them from the truck 11. The platform 13 may be disassembled or folded as indicated above. The lift assembly 14 may be collapsed by lowering the lift column 27 and disengaging the arms 28.

Having thus described in detail a preferred apparatus which embodies the concepts and principles of the invention and which accomplishes the various objects, purposes and aims thereof, it is to be appreciated and will be apparent to those skilled in the art that many physical changes could be made in the apparatus without altering the inventive concepts and principles embodied therein. Hence, it is intended that the scope of the invention be limited only to the extent indicated in the appended claims.

I claim:

1. A combination scaffold and lift comprising:
a truck provided with suitable casters and balance arms being in contact with the floor to stabilize said truck;
a pedestal issuing upwardly from said truck;
a platform issuing from opposing sides of said pedestal over said balance arms, said platform being freely slidable along said pedestal and being provided with means for raising and lowering said platform with respect to said pedestal;
and a lift assembly including a lift column carried in said pedestal and including means for raising and lowering said lift column with respect to said pedestal, and having lift arms issuing from opposing sides of a bracket at the uppermost terminal end of said lift column.

2. The apparatus of claim 1 wherein said balance arms issue from said truck, and telescope into each other.

3. The apparatus of claim 1 wherein said platform is demountable from said pedestal.

4. The apparatus of claim 1 wherein said platform is hingedly mounted to said pedestal.

5. The apparatus of claim 4 wherein said hinges are mounted, for vertical pivoting, and wherein said means for raising and lowering said platform is mounted to selectively mechanically pivot panels forming said platform adjacent said pedestal.

6. The apparatus of claim 1 wherein said lift arms are demountable from said bracket.

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