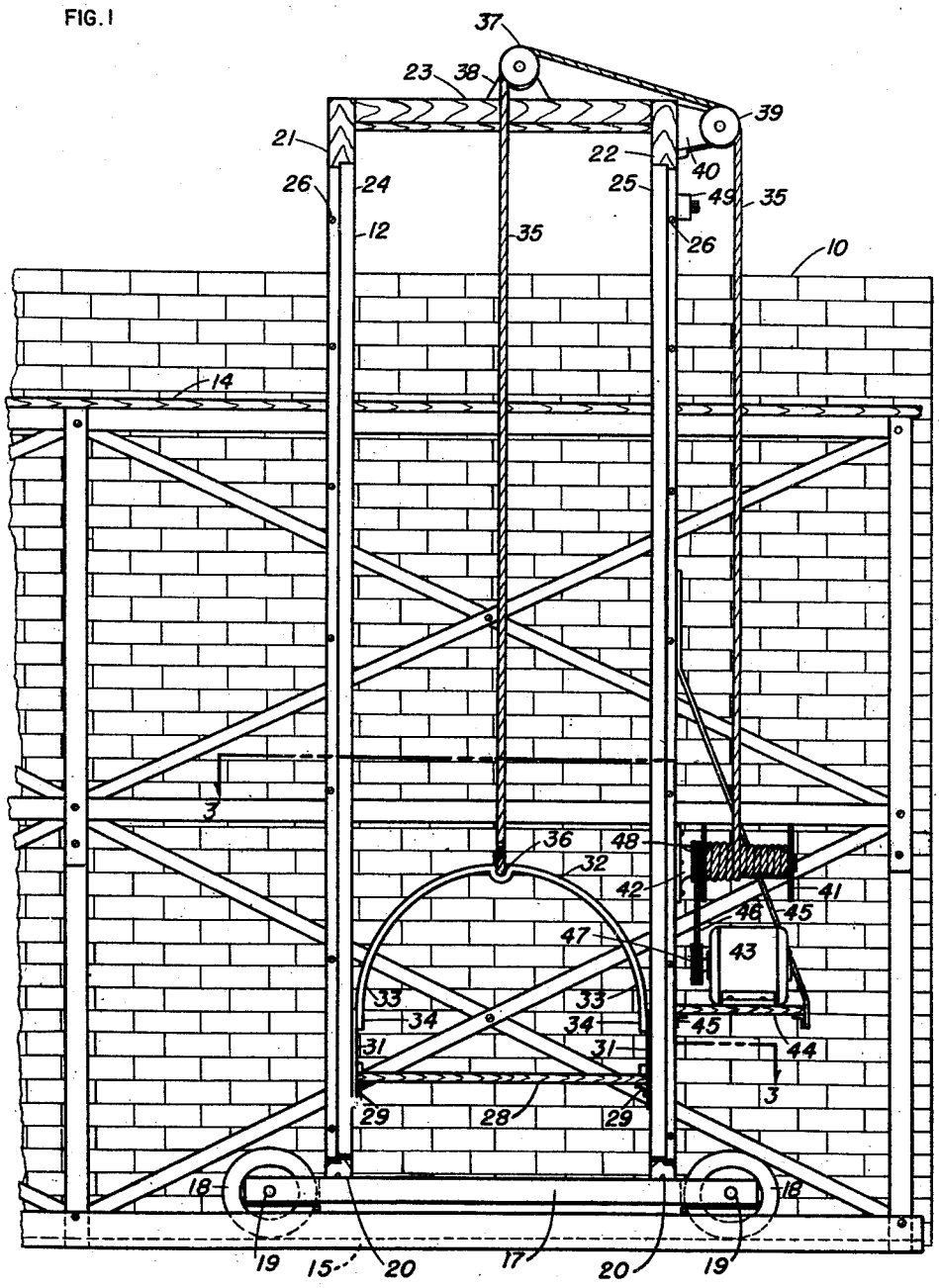
Dec. 5, 1944. H. R. OLSEN 2,364,547

COMBINATION HOIST AND SCAFFOLDING

Filed Dec. 27, 1943 2 Sheets-Sheet 1

FIG. 1



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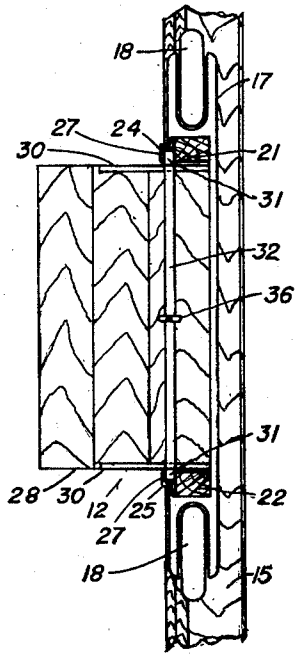

FIG. 3

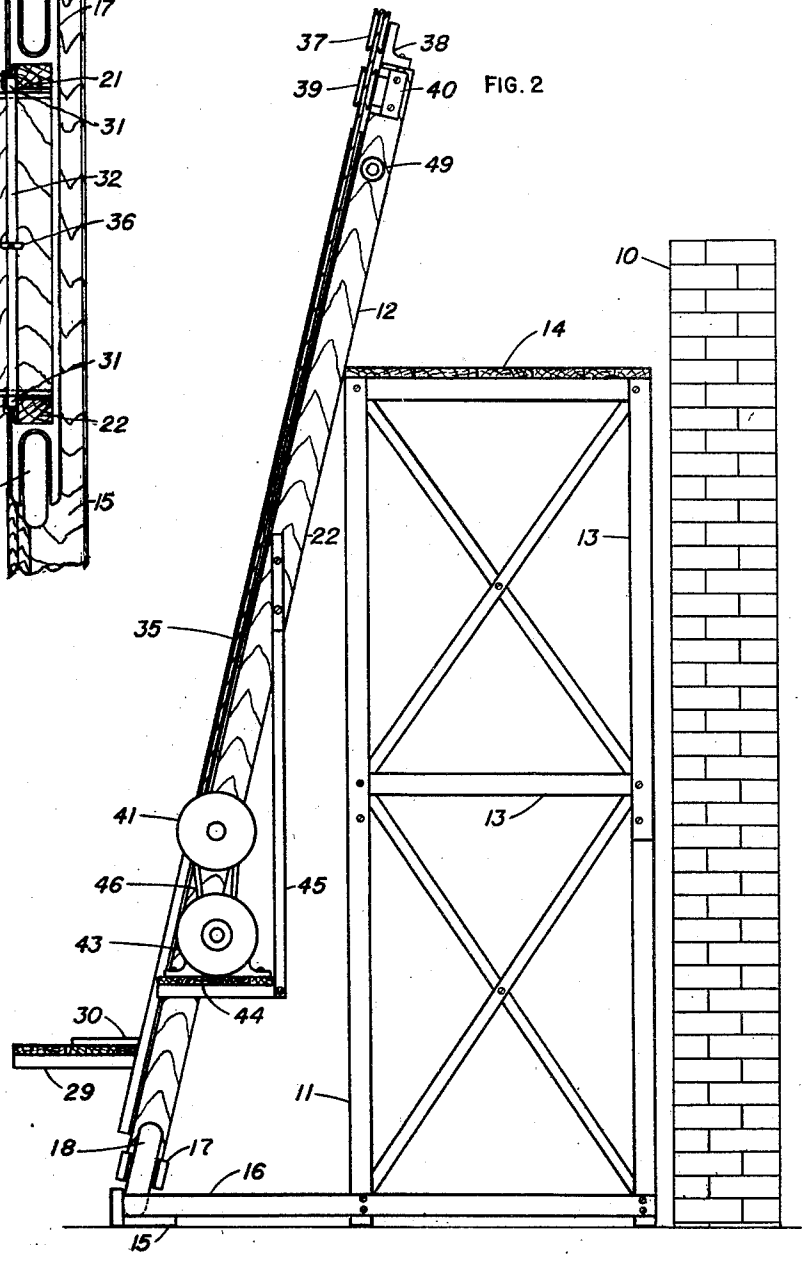

FIG. 2

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COMBINATION HOIST AND SCAFFOLDING

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Application December 27, 1943, Serial No. 515,771

8 Claims. (Cl. 304—29)

This invention has relation to a hoist for material, such, for example, as brick or concrete blocks. More explicitly, the present invention relates to a combination of hoist and scaffolding.

The general object of the invention is to provide a combination hoist and scaffolding construction and arrangement which can be employed to great advantage by workmen engaged in the building industry.

An object of the invention is to provide a new and improved hoist adapted to be used in connection with scaffolding in novel and improved manner.

A further object is to provide a combination hoist and scaffolding wherein will be incorporated various improved features and characteristics of construction.

A further object is to provide a hoist, adapted to be moved substantially horizontally along scaffolding, having means for receiving a load and mechanism for causing said means, while supporting or not supporting said load, to be moved selectively upwardly or downwardly, in substantially vertical direction, relative to said scaffolding.

A further object is to provide a hoist adapted to be supported for movement to selected location along scaffolding and including a platform, or equivalent, for receiving material and a construction and arrangement for moving the platform in direction vertically of the scaffolding.

A further object is to provide a combination hoist and scaffolding wherein the hoist will be supported at least in part by the scaffolding for movement to selected location along said scaffolding and will have means for receiving material and mechanism for causing said receiving means to be moved selectively upwardly or downwardly relative to the scaffolding.

A further object is to provide a combination hoist and scaffolding consisting of entities adapted to be associated together and arranged with respect to each other to attain more advantageous results than heretofore have been attained in the handling of material, such as brick or concrete blocks, and delivery of the material at selected location accessible to workmen upon scaffolding.

And a further object is to provide a combination hoist and scaffolding bearing relation to each other designed to insure the conveyance of material, such, for example, as brick or concrete blocks, to intended locations by the expenditure of but a minimum of effort.

With the above objects in view, as well as others which will appear as the specification proceeds, the invention comprises the construction, arrangement and combination of parts as now to be fully described and as hereinafter to be specifically claimed, it being understood that the disclosure herein is merely illustrative and intended in no way in a limiting sense, changes in details of construction and arrangement of parts being permissible so long as within the spirit of the invention and the scope of the claims which follow.

In the accompanying drawings forming a part of this specification,

Fig. 1 is a front elevational view of a combination hoist and scaffolding made according to the invention;

Fig. 2 is a view of the hoist and scaffolding of Fig. 1 as they would appear from the right side in said Fig. 1, disclosing said hoist in side elevation and said scaffolding in end elevation; and

Fig. 3 is a detail sectional view, taken on line 3—3 in Fig. 1.

With respect to the drawings and the numerals of reference thereon, 10 denotes a masonry wall, 11 represents scaffolding, which may be of ordinary or preferred construction, adjacent and parallel to said masonry wall, and 12 indicates a hoist designed for use in connection with scaffolding such as 11 and including features and characteristics of the invention.

As disclosed, the scaffolding 11 consists of a usual frame 13 adapted to rest upon the ground or other surface supporting a customary floor 14 of the scaffolding for workmen. A track or travel rail 15 for the hoist 12 is disposed adjacent to and forwardly of the scaffolding 11 at or close to the ground, or other supporting surface for said scaffolding, and is arranged parallelly of the scaffolding. The track or travel rail 15 is as shown made rigid with said scaffolding through the instrumentality of forwardly projecting members 16 of the frame 13.

The hoist 12 includes an elongated base 17 supported by spaced apart, alined wheels 18, 18 at opposite ends of said elongated base. The wheels 18, 18 are arranged tandem, each wheel is rotatably assembled, at 19, with the elongated base, and said wheels desirably may be at the midwidth of the elongated base 17. Said elongated base rigidly supports, as at 20, 20, spaced apart uprights, designated 21 and 22, respectively, of said hoist 12. The uprights 21, 22 are disposed inwardly of and between the wheels 18, 18 and as disclosed said uprights are equidistantly spaced

from said wheels. The uprights 21, 22 are as shown perpendicular to the elongated base 17, parallel with each other, and of equal length. A head frame or cross-beam 23, parallel to said elongated base, rigidly connects the upper end portions of said uprights 21 and 22 to each other and retains the uprights in fixed, spaced, parallel relation. Stated otherwise, the hoist 12 includes a rigid rectilinear body constituted as the elongated base 17, supported for longitudinal movement upon the wheels 18, 18, the spaced apart, parallel uprights 21, 22 and the head frame or cross-beam 23 perpendicular to said uprights and spaced from said elongated base. All of the elongated base 17, the uprights 21, 22 and the head frame or cross-beam 23 lie in a single plane.

Each of the uprights 21, 22 supports an angle bar, represented 24 and 25, respectively, upon its forward surface. The angle bars 24, 25 extend longitudinally of the uprights and may be secured to said uprights in any suitable and convenient manner, as at 26. Each angle bar provides, together with the adjacent forward surface of the corresponding upright, a guide way 27 of the hoist which faces inwardly and extends longitudinally of said corresponding upright. Stated differently, the uprights 21, 22 and the angle bars 24, 25 together provide oppositely disposed guide ways 27, 27 of the hoist which face toward each other.

A platform 28, for receiving material, such, for example, as brick or concrete blocks, situated between the uprights 21, 22 to extend to position forwardly of said uprights, is mounted for slidable movement in direction longitudinally of the uprights. The platform 28 is supported by angle pieces 29, 29 beneath the opposite side edge portions of said platform. Side strips 30, 30, just above the platform, are as disclosed situated directly opposite the angle pieces 29, 29. Guide strips 31, 31, including a guide strip slidably disposed in each of the guide ways 27, 27, are suitably welded, or otherwise secured, to the outer surfaces of the angle pieces 29, 29 and side strips 30, 30. Each guide strip 31 extends vertically upward from the angle piece and side strip to which secured and is parallel to the corresponding upright 21, 22, as the case may be. The guide strips 31, 31 are perpendicular to the platform 28, and said guide strips are of sufficient length to effectively retain said platform in substantially perpendicular relation to the uprights 21, 22.

A part-circle yoke 32 includes spaced apart, lower end portions 33, 33 secured, as at 34, 34, to upper portions of the guide strips 31, 31, respectively.

A cable 35, secured, as at 36, to the upper, central portion of the part-circle yoke 32, extends upwardly over a sheave 37 rigidly supported, as at 38, upon the midlength of the head frame or cross-beam 23, and then downwardly over a sheave 39 rigidly supported, as at 40, upon an upper portion of the upright 22. The end portion of the cable 35 opposite the part-circle yoke 32 is wound upon and about a winch 41 rigidly supported, as at 42, upon a lower portion of said upright 22.

An electric motor 43, for operating the winch 41, is mounted upon a ledge 44 itself rigidly secured, as at 45, upon the upright 22. The electric motor 43 is as shown situated below and in spaced relation to the winch 41. A drive belt 46 which rides over a pulley 47 fixed upon the shaft of the motor 43 also rides over a pulley 48 adapted to be rotated to cause the winch 41 to be operated. Clearly, the platform 28 will be caused to move longitudinally of the hoist in response to actuation of the electric motor 43. The construction and arrangement can be such that said electric motor and the winch will cause the platform to remain in any position to which moved by the electric motor. The motor employed could be an ordinary electric motor adapted to rotate in a single direction. In such an instance, the platform 28 would be elevated in response to operation of the motor and allowed to become depressed by gravity when released by the motor and winch. Or, the motor employed could be of type adapted to be rotated in either of opposite directions. A switch for the motor 43 is denoted 49.

It will be evident that the hoist 12 can be readily and easily moved along the full length of the scaffolding 11. In practical use, said hoist can be manipulated along the scaffolding by a workman standing upon the scaffolding floor 14. Normally, the hoist will be disposed in oblique or tilted relation to the scaffolding so that upper portions of the uprights rest against the forward edge of the floor, such as 14. Clearly, a workman situated upon said floor can grasp the hoist and cause it to be rolled, upon the wheels 18, 18, along the track or travel rail 15, in direction lengthwise of the scaffolding. In instances where preferred, the hoist can include rollers upon the uprights 21, 22 adapted to be ridable over or along the front edge of the scaffolding floor, in a manner which will be obvious. However, a workman can push or swing the upper portion of the hoist forwardly slightly until clear of the scaffolding floor, and, while the hoist is so positioned, the workman can cause it to be rolled upon the track or travel rail. A workman upon the ground, or other supporting surface for the hoist, can, obviously, cause said hoist to be rolled along the track or travel rail just as readily and easily as can a workman situated upon the scaffolding floor.

It also will be evident that the platform 28 can be readily and easily raised and lowered no matter at what position the hoist may be situated along the length of the scaffolding.

The hoist, while supported for movement to selected location along scaffolding, is, at the same time, equipped with a platform, or equivalent, for receiving material, such as brick or concrete blocks, and with mechanism for raising and lowering the platform. As shown in the drawings, the hoist is supported upon the track or travel rail 15 and normally rests against the floor of the scaffolding.

The combination hoist and scaffolding as illustrated and described is adapted to the purpose of attaining quite advantageous results when employed by workmen engaged in erecting or repairing buildings. The hoist can be readily and easily rolled to any desired location along scaffolding, and then the platform, with load, can be elevated to location where a workman has found use for material, such as brick or concrete blocks, for accomplishing a job. The necessity for transporting material along the scaffolding floor, as by wheelbarrow, or otherwise, with the attendant labor cost, is eliminated.

What is claimed is:

1. A hoist comprising a frame constituted as a base, spaced apart uprights upon said base, each of said uprights including a forward surface adapted to be slid along scaffolding, supporting wheels upon said base, a platform upon said

frame mounted for slidable movement along said uprights, said platform being situated rearwardly of said forward surfaces of said uprights and extending away from one side only of the uprights, and mechanism for causing said platform to be moved longitudinally of said uprights.

2. A hoist comprising a frame constituted as a base, spaced apart uprights upon said base and a cross-beam spaced from said base and rigid with said uprights, supporting wheels upon said base, a platform upon said frame mounted for slidable movement along said uprights, said platform extending from one side only of said uprights, a sheave upon an upper portion of said frame, a cable secured to said platform and ridable upon said sheave, and mechanism for actuating said cable to cause said platform to be moved along said uprights.

3. A hoist adapted to be supported for movement to selected location along scaffolding, comprising a frame constituted as a base, spaced apart uprights upon said base each including a forward surface adapted to be engaged against said scaffolding, spaced apart supporting wheels upon said base and arranged tandem, a platform upon said frame between said uprights mounted for slidable movement along the uprights, said platform being situated rearwardly of said forward surfaces of said uprights and extending away from one side only of the uprights, and mechanism for causing said platform to be moved longitudinally of said uprights.

4. A hoist adapted to be supported for rolling movement to selected location along scaffolding, comprising a frame constituted as an elongated base, spaced apart uprights upon said base each including a forward surface adapted to rest against said scaffolding, spaced apart supporting wheels upon said base and arranged tandem in direction longitudinally of the base, said uprights being spaced inwardly of said supporting wheels, a platform upon said frame between said uprights mounted for slidable movement along the uprights, said platform being situated rearwardly of said forward surfaces of said uprights and extending away from one side only of the uprights, and mechanism for causing said platform to be moved longitudinally of said uprights.

5. A hoist adapted to be supported for rolling movement to selected location along scaffolding, comprising a frame constituted as an elongated base, spaced apart uprights upon said base each including a forward surface adapted to rest against said scaffolding, spaced apart supporting wheels upon said base and arranged tandem in direction longitudinally of the base, said uprights being spaced inwardly of said supporting wheels, a platform upon said frame between said uprights mounted for slidable movement along the uprights, said platform being situated rearwardly of said forward surfaces of said uprights and extending away from one side only of the uprights, a sheave upon an upper portion of said frame, a cable secured to said platform and ridable upon said sheave, and mechanism for actuating said cable to cause said platform to be moved along said uprights.

6. A hoist adapted to be supported for rolling movement to selected location along scaffolding, comprising a frame constituted as an elongated base, spaced apart uprights upon said base each including a forward surface adapted to be engaged against said scaffolding, spaced apart supporting wheels upon said base and arranged tandem in direction longitudinally of the base, said uprights being spaced inwardly of said supporting wheels, guideways upon said uprights, a platform upon said frame between said uprights mounted for slidable movement along said guideways, said platform being situated rearwardly of said forward surfaces of said uprights and extending away from the rearward side only of the uprights, and mechanism for causing said platform to be moved longitudinally of said uprights.

7. A hoist adapted to be supported for rolling movement to selected location along scaffolding, comprising a frame constituted as an elongated base, spaced apart uprights upon said base each including a forward surface adapted to be engaged against said scaffolding, spaced apart supporting wheels upon said base and arranged tandem in direction longitudinally of the base, said uprights being spaced inwardly of said supporting wheels, guideways upon said uprights, a platform upon said frame between said uprights mounted for slidable movement along said guideways, said platform being situated rearwardly of said forward surfaces of said uprights and extending away from the rearward side only of the uprights, a sheave upon an upper portion of said frame, a cable secured to said platform and ridable upon said sheave, and a motor supported by one of said uprights for actuating said cable to cause said platform to be moved along said uprights.

8. A hoist comprising a frame constituted as a base, spaced apart uprights upon said base adapted to be slid along scaffolding situated adjacent forward surfaces of said uprights, supporting wheels upon said base, a platform upon said frame mounted for slidable movement along said uprights, said platform being situated rearwardly of said forward surfaces of said uprights and extending away from one side only of the uprights, and mechanism for causing said platform to be moved longitudinally of said uprights.

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