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Hedstrom

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[54] **METHOD AND ARRANGEMENT FOR SHORING UP THE BASE FRAME OF LIFTS HOISTS AND THE LIKE**

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[52] **U.S. Cl.** **182/141,** 182/63, 187/2.9

[51] **Int. Cl.** **E04g 1/24**

[58] **Field of Search** 182/141, 148, 63, 17, 103, 182/178; 187/2, 9; 52/741, 749

[56] **References Cited**

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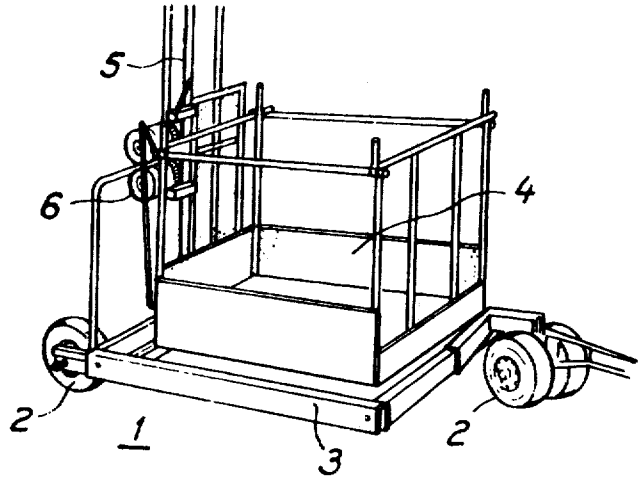
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Attorney, Agent, or Firm—Eric Y. Munson

[57] **ABSTRACT**

A method and apparatus for shoring up the base frame of hoists and similar devices which can be towed about a site and which are provided with a horizontal platform arranged for vertical displacement along a mast attached to a wheeled base frame structure. The means provided for raising and lowering the horizontal platform the mast is also adapted to raise the base frame structure above the level of the hoist supporting surface so that props or similar support members can be inserted between the base frame and the supporting surface. Further activation of the horizontal platform drive means then lowers the base frame onto the props.

4 Claims, 4 Drawing Figures



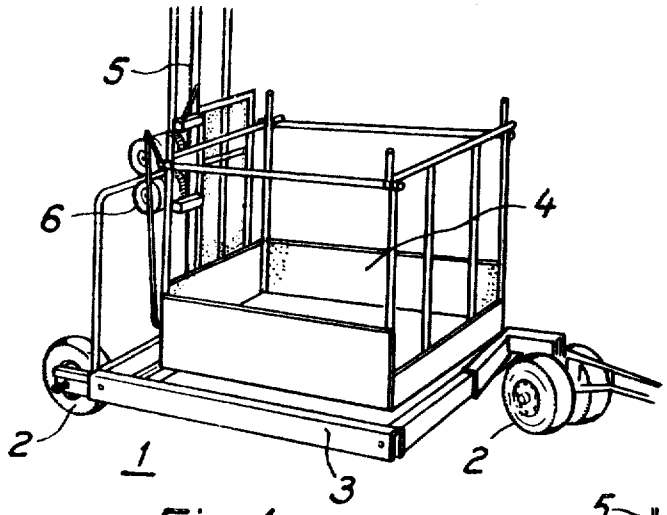


Fig. 1

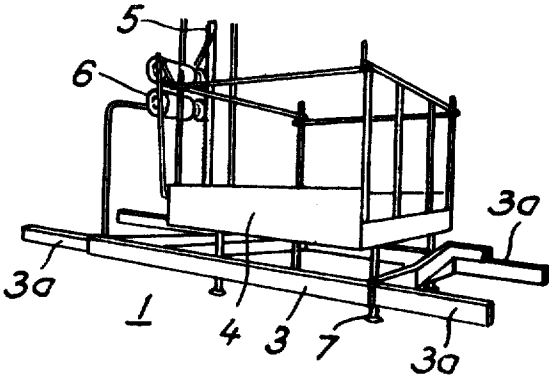


Fig. 3

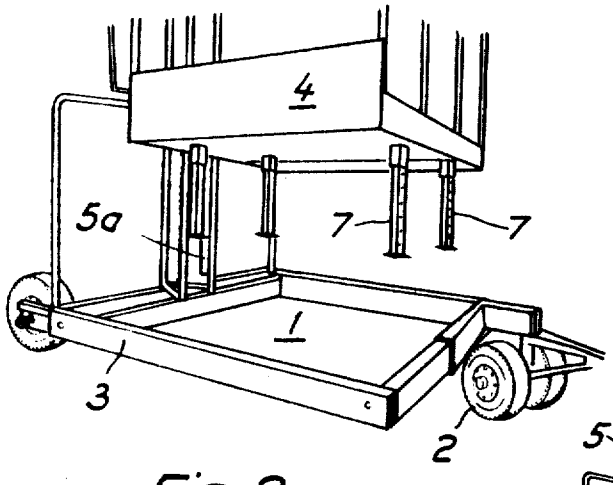


Fig. 2

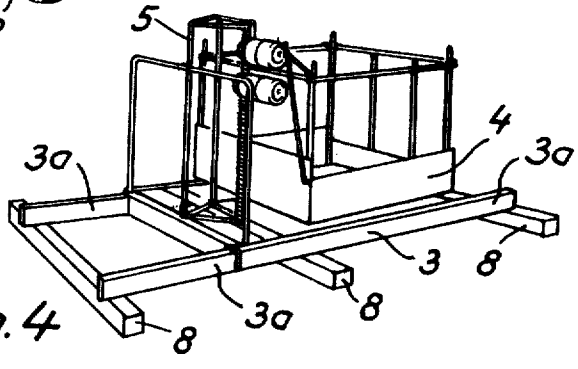


Fig. 4

METHOD AND ARRANGEMENT FOR SHORING UP THE BASE FRAME OF LIFTS HOISTS AND THE LIKE

BACKGROUND OF THE INVENTION

The present invention relates to a method of shoring up the base frame of lifts, hoists and the like, and further relates to an arrangement for shoring the base frame of lifts, hoists and the like in accordance with the method. Although the invention is described in the following description solely with reference to a hoist, it should be understood that the concept of the invention can be applied to any similar device where appropriate means are provided.

The present invention is thus concerned with the possibility of shoring up the base frame of hoists. The hoists usually comprise a lift cage and drive means for moving the cage up and down one or more masts or guides. The drive means may advantageously comprise a motor having a number of gear wheels co-acting with a rack arranged along one of the masts.

It is a recognized fact that the task of shoring up the base frame of hoists is particularly time consuming and troublesome, especially when the hoist is constructed so that it can be readily towed or otherwise moved from place to place. When shoring up hoists, it is necessary to lift the base frame, hoist and masts together by means of jacks, whereafter the props are placed beneath the base frame between the base frame and a supporting surface. The jacks are then removed and the hoist is ready for use. If, for some reason, the props should sink into the supporting surface, it is necessary to lift the base frame again by means of the jacks and to insert additional props.

SUMMARY OF THE INVENTION

The main object of the present invention is to provide a method and an arrangement whereby the task of shoring up the base frame is considerably simplified by using the hoist drive means to lift the base frame clear of the supporting surface while the props are positioned, as described more specifically below.

The method of the invention is mainly characterized by lifting the hoist base frame above the hoist supporting surface by means of the hoist drive means, inserting the necessary props between the base frame and the supporting surface, and by lowering the base frame onto the props, preferably by means of the hoist drive means. The arrangement for carrying out the method of the invention is mainly characterized by the fact that the hoist drive means is arranged so that with the lift cage resting on a support surface it is capable of lifting the base frame a distance above the support surface sufficient to permit props to be inserted between the base frame and the supporting surface and to allow the base frame to be lowered into a position of rest upon the supporting surface.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a side view of a transportable hoist.

FIG. **2** illustrates the cage of the hoist in a lowered position.

FIG. **3** illustrates the cage of the hoist in a lowered position, and the base frame in a raised position, and

FIG. **4** illustrates the hoist resting on props.

Thus, FIG. **1** illustrates in side view a transportable hoist. The hoist is shown resting on a support surface **1** by means of a suitable number of wheels **2**. The wheels **2** co-operate with a base frame structure **3** serving to support the hoist. The hoist also includes a cage **4**. The cage is moved up and down a mast or guide by means of a drive means **6**, the mast being indicated by the reference numeral **5**. Although only one mast has been shown, it is of course possible to arrange for the cage to move along two or more such masts or guides.

The drive means **6** is provided with gear wheels at its driving shafts, the gear wheels co-acting with a rack securely connected to the mast or guide **5**. The rack can be seen from FIGS. **2** and **4** and is identified by the reference numeral **5***a*.

When practising the method and using the arrangement of the present invention, the hoist is towed on wheels **2** to the site where it is to be used and the cage raised to an upper position (FIG. **2**) by means of the drive means. A number of support legs **7** are then mounted to the bottom surface of the cage **4**, the legs suitably being four in number. The support legs **7** may also be adjustable vertically, so that irregularities in the supporting surface **1** can be compensated for.

FIG. **3** illustrates the cage in its lowered position with the support legs **7** engaging the support surfaces **1**, lowering of the cage being effected by means of the drive means **6**. By continued actuation of the drive means **6**, the cage will continue to direction the base frame **3** will be raised from the support surface **1**. When the hoist has been moved to this position, the wheels **2** can be readily removed. To provide for additional support of the base frame on the supporting surface extendable beams **3***a* are arranged in the base frame structure, these beams being extended in the raised position of the hoist to assist in supporting the same. Subsequent to supporting the hoist as a whole on the support legs **7** mounted on the cage **4**, suitable props (FIG. **4**) can be inserted beneath the base frame structure **3** and the extendable beams **3***a*. The props are identified by the reference numerals **8** (FIG. **4**). When placing the props in position, it should be made sure that they lie firmly on the supporting surface **1**. Subsequent to positioning the props **8** in the desired spaced apart relationship, the drive means **6** is activated to lift the cage **4**. This causes the base frame structure to be lowered onto the stools **8**, whereafter the cage **4** is raised on the mast **5**. Subsequent to the cage **4** reaching the raised position illustrated in FIG. **2**, the support legs **7** are removed and the hoist is ready for use.

Thus when practising the inventive method for shoring up the base frame of a hoist provided with a cage and having drive means for moving the cage up and down at least one mast, the base frame structure, with the cage **4** resting on the support surface, is lifted above the support surface by means of the drive means a distance sufficient to permit props to be placed between the base frame structure and the supporting surface. The base frame structure is then lowered onto the props, preferably by means of the drive means. To support the cage on the supporting surface in the raised position of the cage, the cage is provided with a number of support legs which are preferably individually adjustable vertically to compensate for irregularities in the supporting surface.

The invention is not restricted to the described and illustrated embodiment, but can be modified within the scope of the following claims.

What is claimed is:

1. A method of shoring up the base frame of lifts, hoists and the like on a supporting surface, said base frame having guide means, a cage mounted on said guide means for up and down movement and drive means for moving the cage, characterized by activating the drive means to lift the cage from the base frame, connecting support means to said cage, lowering said cage with said support means into engagement with the supporting surface to life the base frame, introducing props between the base frame and the supporting surface, raising the cage and lowering the base frame onto the props.

2. An arrangement for shoring up the base frame of lifts, hoists and the like on a supporting surface according to the method described herein, said lift, hoist or the like comprising: guide means carried by said base frame, a cage mounted on said guide means for up and down movement and having support means for engagement with the supporting surface and drive means for raising and lowering the cage along said guide means, said drive means being effective to raise said base frame a predetermined distance above said supporting surface as the cage is lowered with said support means into engagement with the supporting surface to permit props to be inserted between the base frame and the supporting surface and to lower the base frame onto the supporting surface by the raising operation of the cage.

3. An arrangement according to claim **2**, in which the cage is provided with legs for supporting the cage on the supporting surface when it has been lowered to a predetermined distance above said surface and being effective to produce the raising operation of the frame.

4. An arrangement according to claim **2**, in which the support legs are adjustable vertically to compensate for irregularities in the supporting surface.

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