E. N. HESCOCK.

PORTABLE ELEVATOR.

APPLICATION FILED DEC. 7, 1920.

1,381,552. Patented June 14, 1921.

FIG 1

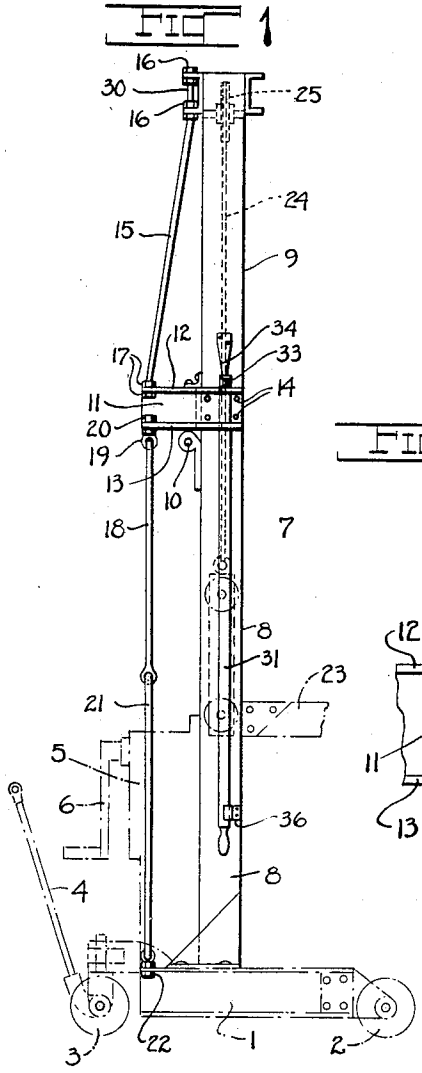


FIG 2

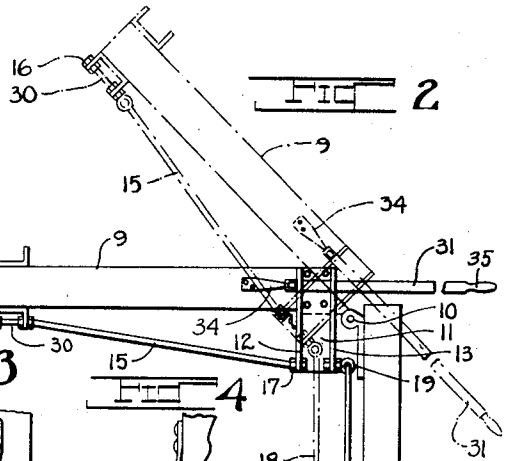


FIG 3

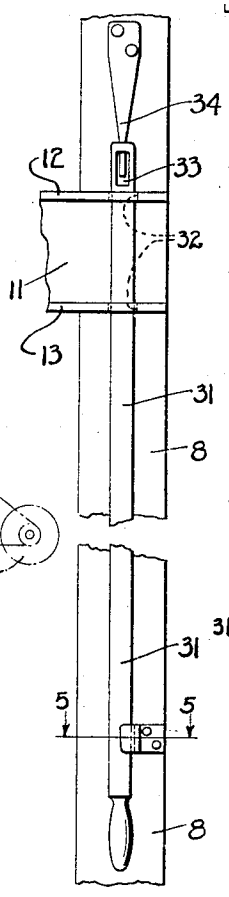


FIG 4

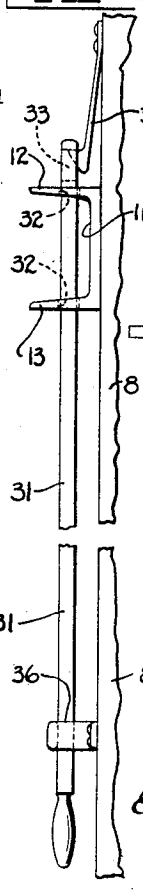
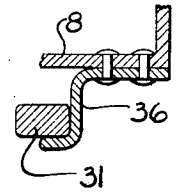


FIG 5



Ethan N. Hescock
Inventor

By Attorney Alan McJohnson

UNITED STATES PATENT OFFICE.

ETHAN N. HESCOCK, OF WESTFIELD, NEW JERSEY, ASSIGNOR TO NEW JERSEY FOUNDRY AND MACHINE COMPANY, A CORPORATION OF NEW JERSEY.

PORTABLE ELEVATOR.

1,381,552. Specification of Letters Patent. Patented June 14, 1921.

Application filed December 7, 1920. Serial No. 428,901.

To all whom it may concern:

Be it known that I, ETHAN N. HESCOCK, a citizen of the United States, residing at Westfield, in the county of Union and State of New Jersey, have made certain new and useful Improvements in Portable Elevators, of which the following is a specification, taken in connection with the accompanying drawings.

My invention relates to elevators and more particularly to portable elevators in which the upright section has a hinged portion adapted to be let down to get the elevator through doors or other openings.

My invention further relates to means to raise and lower the hinged section and lock said hinged section in its vertical position.

My invention further relates to a safety portable elevator in which the lowering and raising of the hinged section is so controlled that accidents to the workmen, due to a sudden accidental dropping of the hinged section, are avoided.

My invention further relates to certain details of construction and combinations which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings in which one embodiment of my invention is shown by way of example, but to which my invention is not to be limited:

Figure 1 is a side elevation of one form of portable elevator equipped with my invention;

Fig. 2 is a side elevation with the carriage partly broken away and showing the hinged section swung down to a horizontal position;

Fig. 3 is a front elevation of a detail on an enlarged scale;

Fig. 4 is a side elevation of the same detail;

Fig. 5 is a horizontal section on line 5—5 of Fig. 3.

My invention is adapted for universal application. It can be used on any portable elevator in which the upright has a hinged section.

For purposes of illustration only I have shown my invention in connection with the type of portable elevators covered by U. S. Patent 1,356,281, patented Oct. 19, 1920, to myself and E. F. Smith as joint inventors. It is to be distinctly understood, however, that my invention is not to be confined to the particular type of portable elevators shown in that patent.

In all portable elevators having a hinged section to permit them to pass through doors or other openings, it is the common practice to raise and lower the upper section by placing a stick of wood under the upper section at the front 30 and push on the stick or piece of timber, as for example a 2″ x 4″, to raise the upper section 9 into its vertical position. To lower the upper section of any elevator having a pivoted section it is the common practice to place the stick of wood at the front 30 and gradually lower the upper section until it is in a horizontal plane, as is section 9 in Fig. 2. The wood or stick is then discarded and the workmen grab the upper section in their hands and lower it still further until it assumes the position of repose, as shown for example in Fig. 2 of my patent previously referred to.

This raising and lowering of the pivoted section of any elevator has to be done with care. Accidents have occurred by the end of the stick slipping from engagement with the pivoted section which immediately causes the section to drop and hurt the workman before he can get out of the way. This slipping of the stick is liable to occur either in raising or lowering the pivoted section of any such elevator.

By my invention, I employ a safety device to raise and lower the pivoted section so that even if the section should fall, which it will not if the operator continues to grasp the safety device, he cannot be injured.

In my invention, the means to raise and lower the upper pivoted section to a horizontal position where it is grasped by the hands of the workman also serve to preferably lock the upper section in its vertical or operative position.

I will describe my invention in connection with the type of portable elevator shown in my patent previously referred to. It is to be understood, however, that it is adapted to be applied to other forms of portable elevators.

In the illustrative embodiment of my invention shown in the drawings, 1 is a movable carriage of the portable elevator having traction wheels 2 and 3 and a handle 4, with which to move it. All these elements may be of any improved construction as well as the hoisting mechanism 5 operated

by the crank 6 as they form no part of my invention.

In the form of my invention shown in the drawing the vertical upright 7 is formed of a section 8 rigidly secured to the carriage 1, and the section 9, which is pivoted to the section 8 by means of the hinge 10. On the lower end of the section 9 I mount a single arm 11 which preferably, though not necessarily, is a channel iron with flanges 12 and 13. This arm 11 is secured to the hinge section 9 in any suitable manner such as by the rivets 14, 14. At the other end of section 9 I secure in any suitable manner the tension rod 15 as by means of the nut 16, 16, the other end of the tension rod 15 being secured to the flange 12 of the arm 11 by nuts 17, 17.

To the flange 13 of the arm 11 I secure a tension rod 18 by means of the eyebolt 19 and nut 20. Another tension rod 21 is pivotally connected to the end of the rod 18 and is also pivotally connected by means of the eyebolt 22 to the carriage 1.

In the operative position of the parts shown in Fig. 1, when the crank 6 is turned the hoist mechanism 5 will raise or lower the movable platform 23 by means of the rope 24 passing over the pulley 25.

The arm 11 secured to the hinged section 9 is provided with engaging surfaces to cooperate with the lever 31. Preferably this arm 11 is a channel iron having the flanges 12 and 13 within which I form alined holes 32, 32 through which the end of the lever 31 is adapted to be passed.

The end of the lever 31 is provided with a hole 33 which coöperates with the spring catch 34. The other end 35 of the lever 31 is sprung over the catch 36 secured to the upright 8, see Fig. 1. In this position of the parts the lever 31 positively locks the hinged section 9 to the upright section 8.

When it is desired to let the hinged section 9 pivot on the hinge 10, so that the elevator may pass through a door or other opening, the end 35 of the lever 31 is sprung so as to escape the catch 36. The operator still holding the lever, gradually lowers the hinged section 9 into the horizontal position shown in full lines in Fig. 2. The spring catch 34 is then ordinarily depressed to release the end of the lever 31 from the catch so that it can be withdrawn from the alined holes 32, 32. When the hinged section is in the horizontal position as shown in full lines in Fig. 2, it is grasped by other operators and lowered by hand until it assumes the angle of repose, shown for example in Fig. 2 of my patent previously referred to.

To again raise the hinge section to its operative vertical position it is simply necessary to reverse the operation previously described. The hinged section is brought by hand into the horizontal position shown in full lines in Fig. 2. The lever 31 is then threaded through the alined holes 32, 32 until the catch 34 engages with the slot 33. By then pulling down on the end 35 of the lever 31 the hinged section 9 is raised into its vertical position and locked in that position by the end 35 of the lever 31 being sprung over the catch 36.

It will be noted that in my invention the movement of the hinged section from the horizontal to the vertical is controlled by the operator grasping the lever 31 standing on the opposite side of the elevator from that on which the hinged section 9 drops. Even if the operator accidentally lets the lever 31 slip from his hands he will not be injured by the falling of the hinged section for he is not under it. In accordance with the common practice of raising and lowering the hinged section by a rod or piece of timber, if the end of the timber slipped the operator would be caught by the pivoted section 9 before he could move out of its path.

The lever 31 is preferably removed from the alined holes 32, 32 when the hinged section is to be lowered from the horizontal position shown in Fig. 2 for the reason that as it is further lowered by the hands of the operators grasping it, to bring it to its angle of repose (Fig. 2 of my said patent) the end 35 of the lever would be elevated to such a height that it could not be grasped by the operator standing on the floor.

Having thus described this invention in connection with an illustrative embodiment thereof, to the details of which I do not desire to be limited, what is claimed as new and what is desired to secure by Letters Patent is set forth in the appended claims.

What I claim is:—

1. In a movable elevator, the combination of an upright section, a section hinged thereto, locking means to lock the sections together, said locking means also serving to raise and lower the upper section.

2. In a movable elevator, the combination of an upright section, a section hinged thereto, locking means to lock the sections together, said locking means including a lever adapted to raise and lower the upper section.

3. In a movable elevator, the combination of an upright section, a section hinged thereto, locking means to lock the sections together, said locking means including a removable lever carried by the pivoted section and adapted to raise and lower said section, and also to lock said pivoted section to the upright section when the elevator is in its operative position.

4. In a movable elevator the combination of an upright section, a section hinged thereto, said hinged section being provided with an arm extending out from said hinged section, and locking, elevating and lowering

means coöperating with said arm and adapted to raise and lower the hinged section and lock it to the upright section when it is in its operative vertical position.

5. In a movable elevator, the combination of an upright section, a section hinged thereto, said hinged section being provided with an arm extending out from said hinged section, and a lever coöperating with said arm and adapted to raise, lower and lock said hinged section to the upright section when it is in its vertical position.

6. In a movable elevator, the combination of an upright section, a section hinged thereto, said hinged section being provided with an arm extending out from said hinged section, and provided with engaging surfaces to removably engage a lever, and a lever adapted to removably engage said surfaces on the arm to raise and lower the hinged section, and to lock it in its vertical position.

7. In an elevator the combination of a hinged section adapted to be dropped to lower the height of the elevator, and safety means forming a part of the elevator adapted to raise and lower the hinged section.

8. In an elevator the combination of a hinged section adapted to be dropped to lower the height of the elevator, and safety means forming a part of the elevator adapted to raise and lower the hinged section, said safety means also locking the hinged section in its vertical position.

ETHAN N. HESCOCK.

Witnesses:
B. GOSLING,
R. IRWIN.