Feb. 19, 1929. 1,702,783

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ELEVATOR GUIDE MEANS

Filed March 9, 1928

Fig. 1.

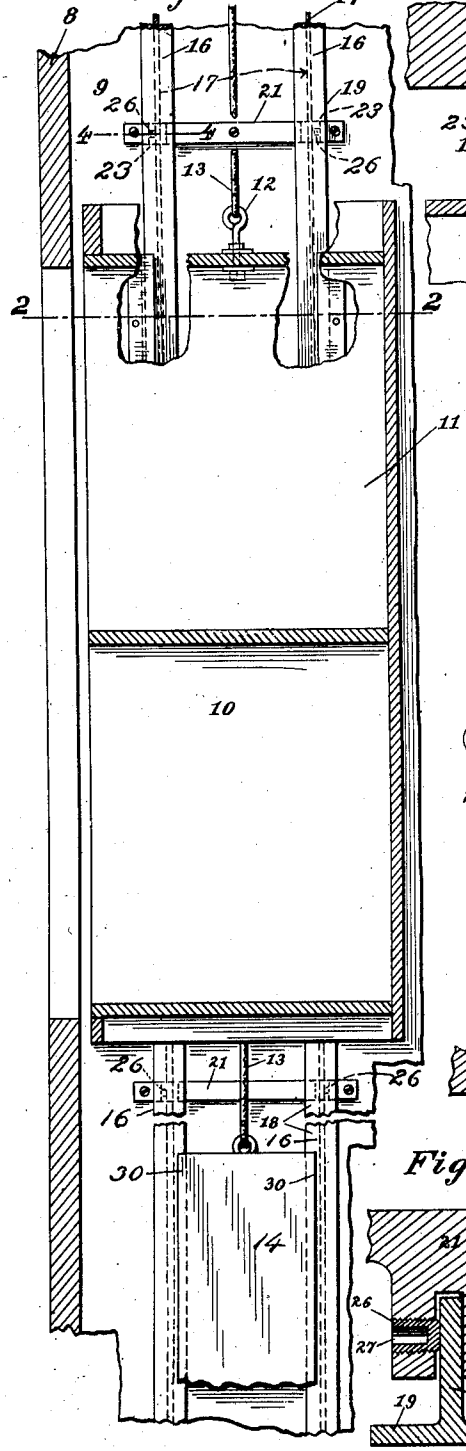

Fig. 2.

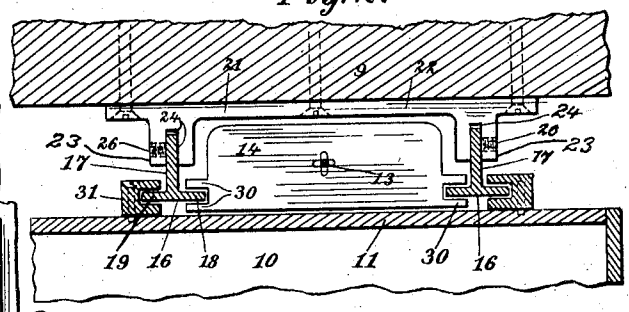

Fig. 3.

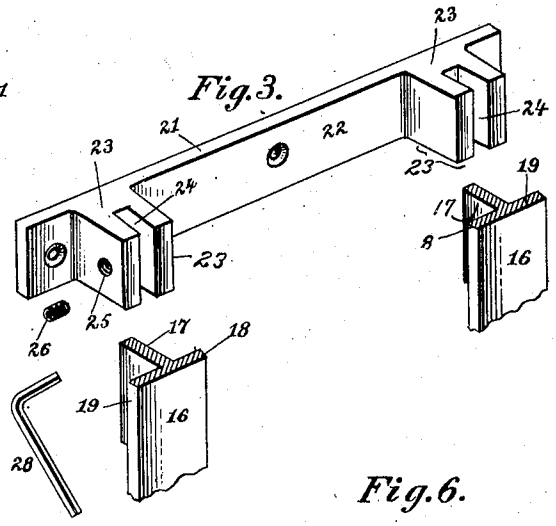

Fig. 6.

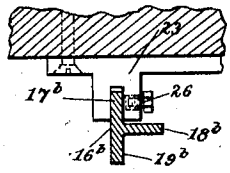

Fig. 5.

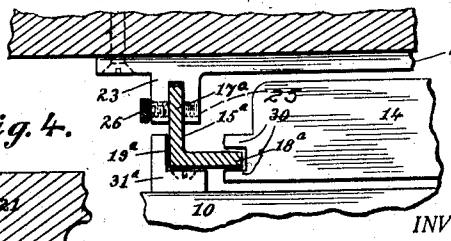

Fig. 4.

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ELEVATOR GUIDE MEANS.

Application filed March 9, 1928. Serial No. 260,530.

This invention is a novel elevator guide means, and relates more especially to the guiding track construction for dumbwaiters, lifts or other elevators and the counterweights thereof.

The general object of the present invention is to improve and simplify known elevator guiding means, to cheapen the cost of manufacture of the parts thereof, and to render easier and quicker the labor of erecting and installing the elevator, all without impairment of efficiency, working qualities and durability.

A particular object is to afford a construction of elevator guiding means wherein the tracks, preferably two in number, for the car and weight, are readily and effectively mounted and secured by the erector, and without the need of drilling or other machining operations, and without the usual difficulties in properly spacing, alining and fixing the tracks in place.

Other and further objects and advantages of the invention will be apparent to those conversant with the subject matter to which the invention relates. To the attainment of such objects and advantages the present invention consists in the novel elevation guide means, and the novel features of combination, arrangement, construction and detail herein described or illustrated.

In the accompanying drawings Fig. 1 is a side elevation, partly broken away and partly in section, showing an elevator of the dumbwaiter type, and its counterweight, mounted for operation according to the principles of this invention.

Fig. 2 is a transverse section taken at the line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the tracks and their spacing and holding means, disassembled.

Fig. 4 is an enlarged section view taken on the line 4—4 of Fig. 1.

Fig. 5 is a view similar to Fig. 4, but showing a modified construction.

Fig. 6 is a similar view showing a further modification.

In the drawings corresponding reference characters designate corresponding parts in the several figures.

In Fig. 1 is represented any usual elevator or dumbwaiter shaft, comprising a front wall 8 with hatch opening for access to the car, and side walls 9, and which may be composed of various materials, as wood, metal, plaster, brick or cement. The dumbwaiter car 10 is shown open at the front, but having side wall 11, and at the top, by an attachment 12, is secured the usual cable 13 running around overhead sheaves, not shown, and thence down to the counterweight 14.

The present invention is shown applied more particularly to elevator guiding means of the type having a pair of tracks in spaced relation, preferably both at the same side of the car, but in some cases there may be a complementary guide means at the opposite side. Referring first to the main embodiment of Figs. 1 to 4 each of the tracks or guide rails 16 is shown as comprising three main portions, first the holding rib or flange by which the track is mounted, projecting outwardly or toward the opposite shaft wall, second a rib or flange 18 guiding the weight 14 and third the flange or portion 19 guiding the car.

An important feature of the present invention is a unitary bracket or hanger 21 having a horizontal body or connecting bar 22 and, formed integrally thereon, at spaced points, inward projections or lugs 23, each formed with an open vertical slot 24 for the reception of the clamping rib or flange 17 of the T-shape track.

Another important feature resides in the manner of securing or clamping the holding ribs 17 of the tracks in proper adjustment in the slotted lugs 23 of the double bracket or hanger. It is possible to clamp and firmly hold the tracks in position by mere friction, and this has the advantage of permitting free adjustment, not only vertically but inwardly and outwardly in the process of setting up the guiding means. This feature is herein shown embodied by the provision of a threaded bore 25 at one side of each slotted lug 23, this bore being engaged by a screw or bolt 26 adapted readily to be turned to apply pressure to one side of the inserted rib 17, forcing it toward the other side of the slotted lug, and thus clamping it firmly in its adjusted position.

This arrangement can be prepared in the manufacturing design, and needs no machining or alteration at the place of erection, and any desired number of clamping screws may be employed in either side or both sides of the slotted lug. The parts are readily mounted, adjusted and set by hand. The ease of erection and the permanence of the structure are improved by the employment of a bolt of the blind or socket head type,

and bolt 26 is shown as formed with a hexagonal recess or socket, which is readily engaged by a simple key or bar wrench 28 inserted in the socket and turned to tighten the bolt.

Cooperating with the described guiding means, the counterweight 14 is shown as constructed for guiding engagement with both tracks, by having a pair of outstanding vertical ribs 30 at each side embracing the guiding flanges 18 of the two tracks, so that the counterweight is kept to its true path of up and down movement without horizontal play. The car 10 is similarly shown provided with a pair of shoes or grooved bars 31, each engaging and embracing the guiding portions or flanges 19 of the track, and so holding the car against all horizontal movement.

Various modifications are possible, two of them being shown in Figs. 5 and 6. In Fig. 5 the guide or track element 16^a is shown of L-shape instead of T-shape, having a rib 17^a clamped in the lug 23 and a flange 18^a guiding the counterweight and an angle portion 19^a guiding an L-shape shoe 31^a on the car. In this case the guidance of the car requires it to be supplemented by a suitable guide means at its opposite wall, such as a simple sliding shoe on the car engaging a vertical rail or rib in the shaft.

In the modification of Fig. 6 is shown a T-shape guide rail 16^b with extensions 17^b and 18^b similar to Figs. 1—4, but with a car guiding extension or flange 19^b projecting outwardly for engagement with a grooved shoe on the car; and in this case, as with Fig. 5, the car will require complementary guidance at its opposite side.

The installation of an elevator is so much simplified by the present invention as to afford substantial labor saving in addition to the economies of construction, and any given installation is more workable, accurate and permanent due to the features hereof. It is only necessary to mount horizontally at conveniently but not accurately spaced points at the shaft wall a vertical series of the horizontal double bracket hangers 21 of this invention, by means of screws, as indicated, or otherwise, and then to apply thereto the two vertical guide tracks 16, which are readily inserted in the clamping slots of the hanger lugs and there secured by the mere turning of the clamping bolts 26. The spacing apart of the tracks is necessarily accurate, while each track is readily adjustable upwardly and downwardly to any position during the process of erection, and quickly securable at any adjusted position, without the necessity of drilling holes or otherwise machining any part of the tracks or clamping means, while a sufficient degree of inward and outward adjusting for relative alining purposes is possible.

There has thus been described an elevator or dumb-waiter guiding means embodying the principles and attaining the objects and advantages of the present invention. Since various matters of combination, arrangement, construction and detail may be modified without departing from the principles of the invention it is not intended to limit the invention to such matters except so far as set forth in the appended claims.

What is claimed is:

1. Guiding means for an elevator and connected counterweight running in a shaft, comprising a transverse hanger bar attachable to the shaft wall and having extensions enclosing upright grooves spaced apart to receive tracks, and upright tracks each having a flange engaging one of such grooves and freely adjustable therein both up and down and horizontally toward and from the wall, and said tracks shaped to engage and guide the elevator and counterweight, and said hanger extensions having a device at one side of each groove operable to thrust the contained flange into frictional clamping engagement against the opposite side of the groove and thereby hold the adjusted track against both up and down and horizontal displacement.

2. Guiding means for an elevator and connected counterweight running in a shaft, comprising a transverse hanger bar attachable to the shaft wall and having unitary extensions enclosing spaced apart upright track receiving grooves, and upright tracks having continuous flanges engaging such grooves and freely adjustable therein both vertically and horizontally toward and from the wall, and having portions engaging slidingly the elevator and counterweight, and said hanger extensions having threaded perforations each receiving a threaded clamp member or screw adapted to be forced into abutting contact with said track flange at one side of such groove and thereby to thrust such flange into frictional clamping pressure against the opposite side of the groove and hold the adjusted track against both up and down and horizontal displacement.

In testimony whereof, I have affixed my signature hereto.

LE ROY H. KIESLING.