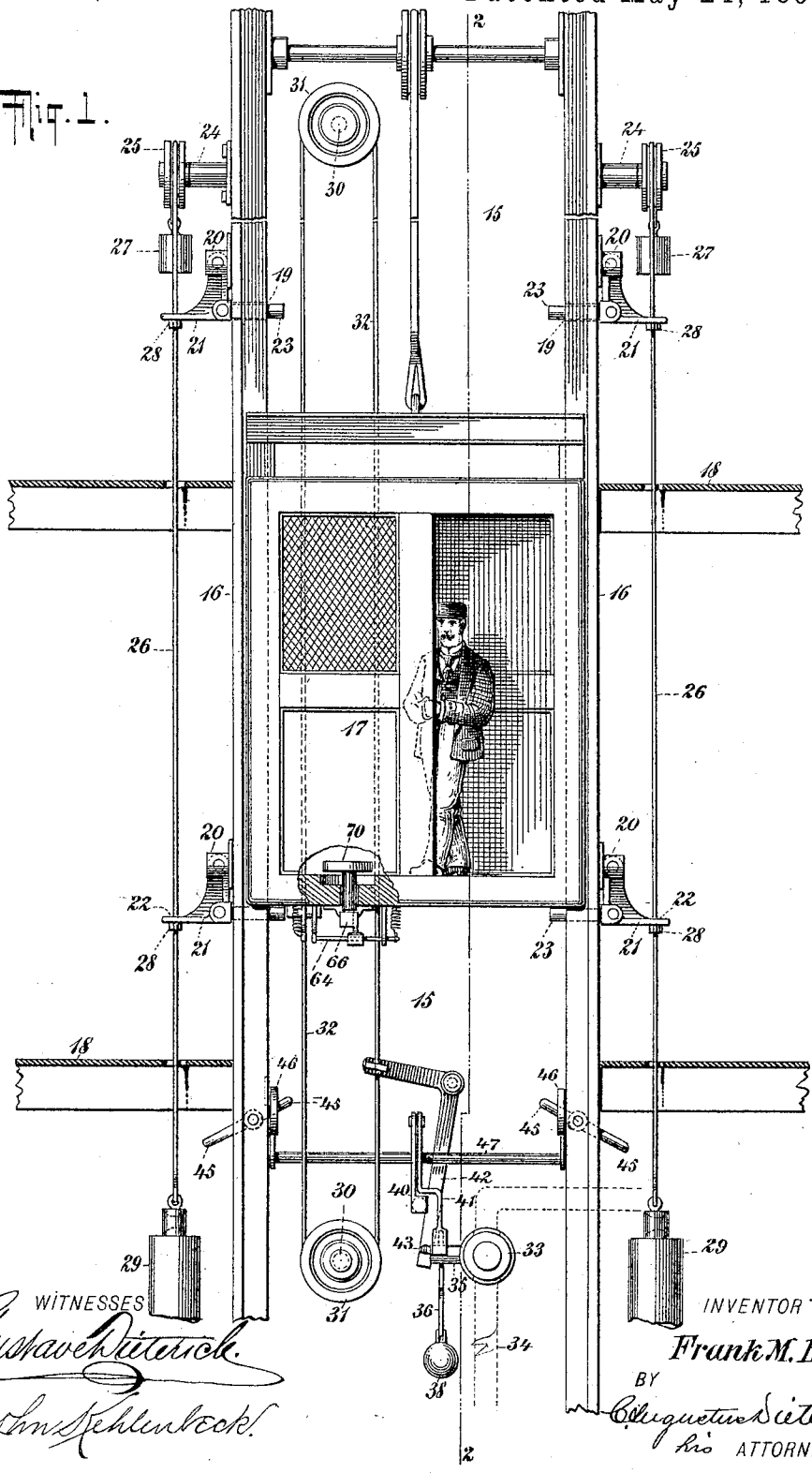
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## SAFETY DEVICE FOR ELEVATORS.

No. 604,360. Patented May 24, 1898.

Fig. 1.




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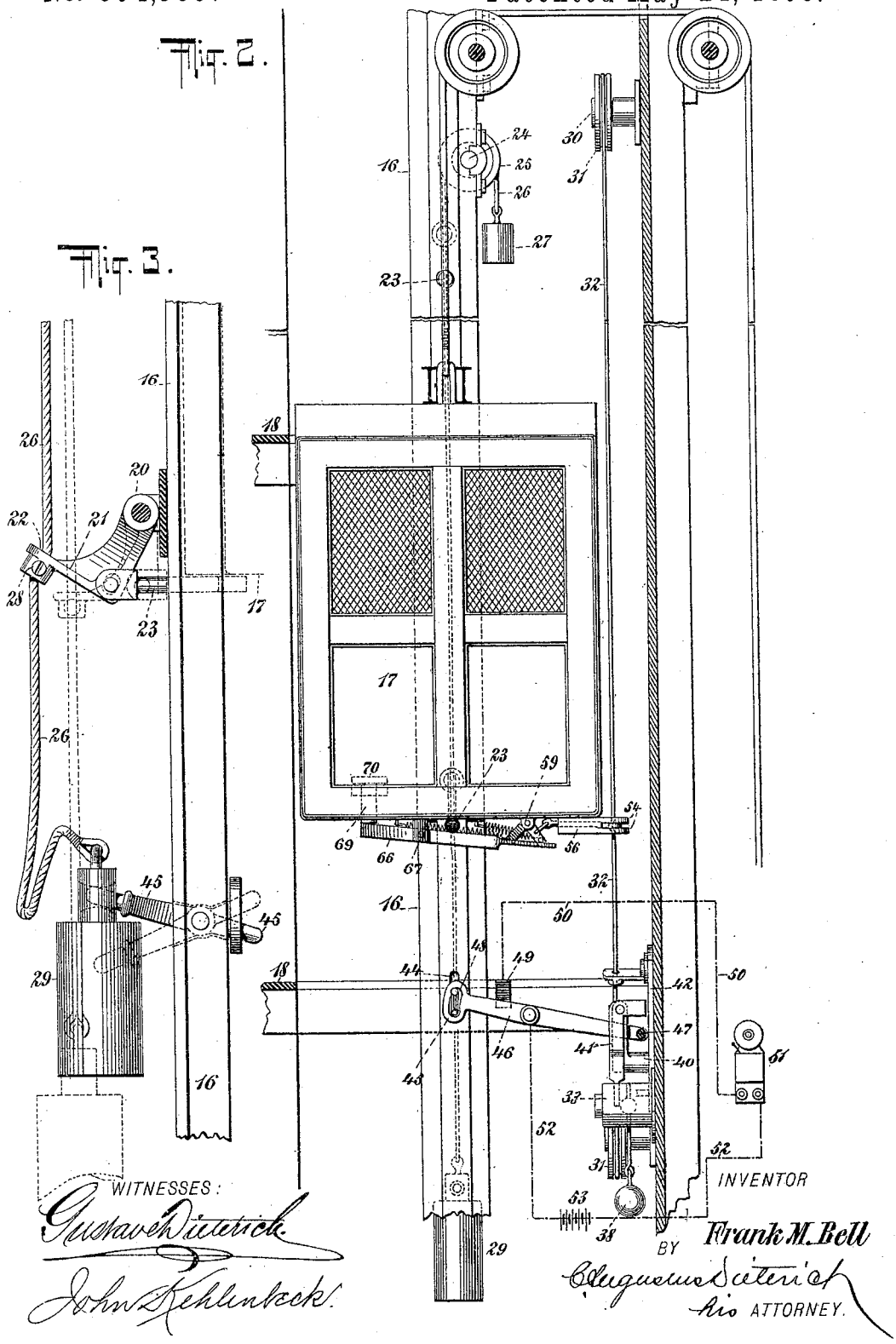
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## SAFETY DEVICE FOR ELEVATORS.

No. 604,360. Patented May 24, 1898.

Fig. 2.

Fig. 3.




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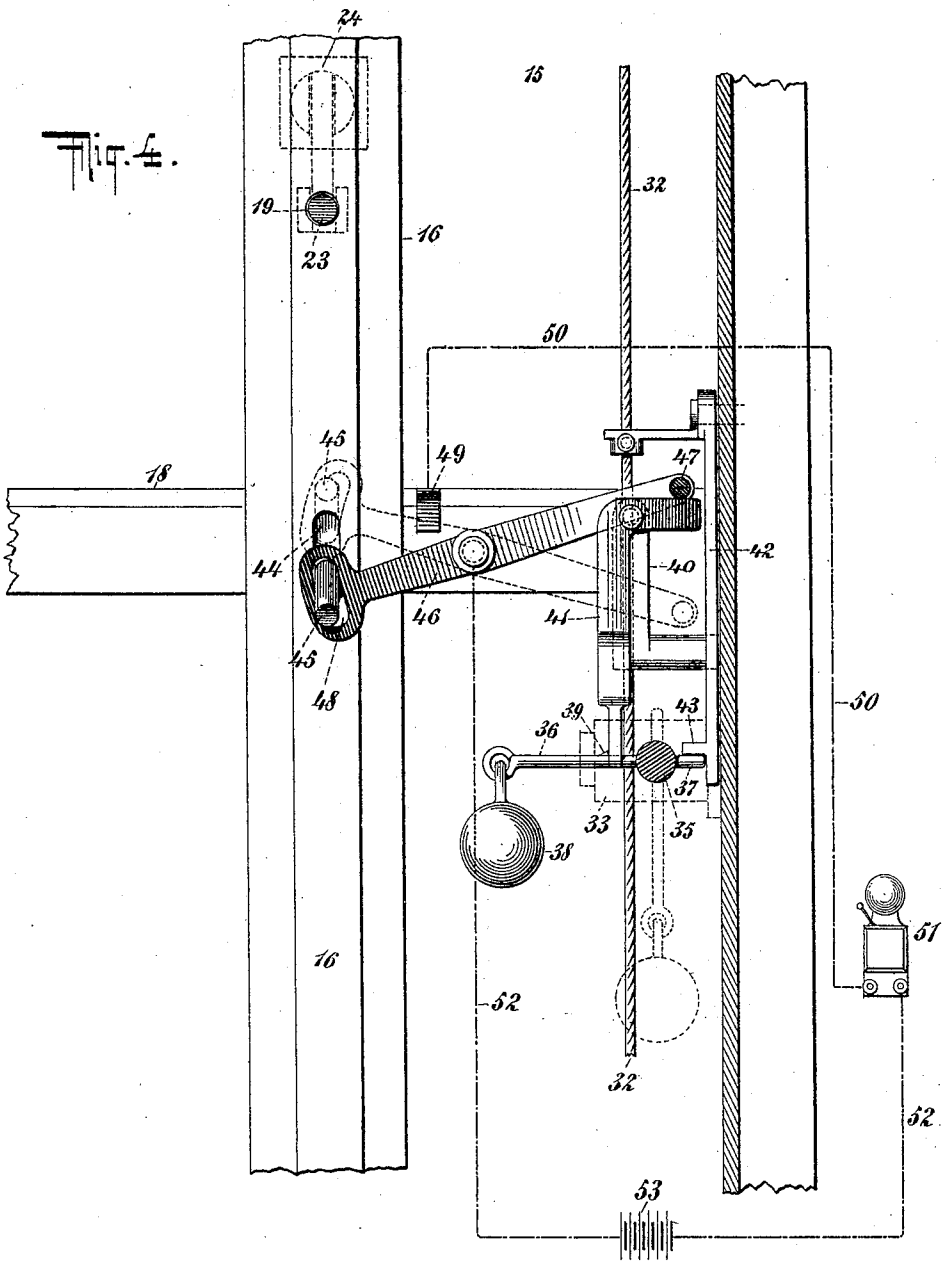
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# F. M. BELL.

## SAFETY DEVICE FOR ELEVATORS.

No. 604,360. Patented May 24, 1898.

Fig. 4.




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## SAFETY DEVICE FOR ELEVATORS.

No. 604,360. Patented May 24, 1898.

Fig. 5

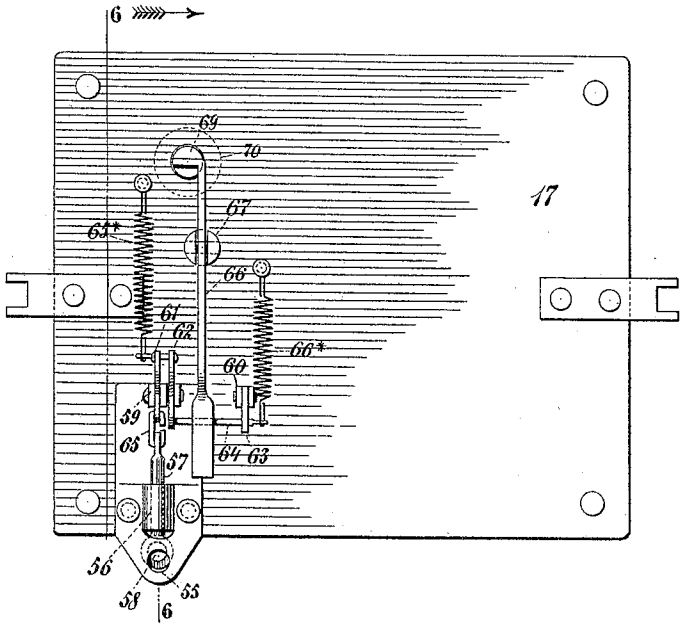



Fig. 6.

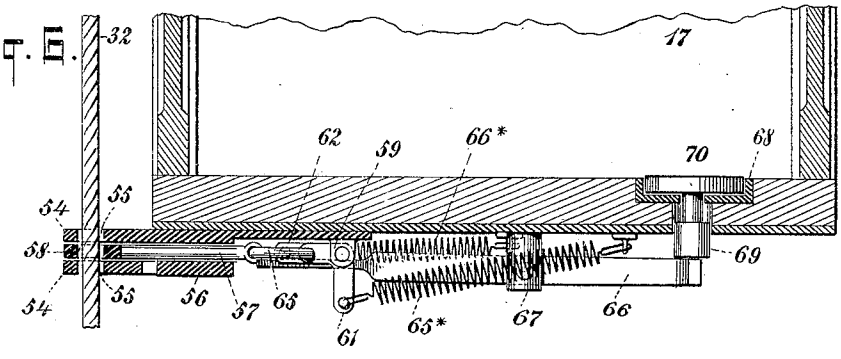
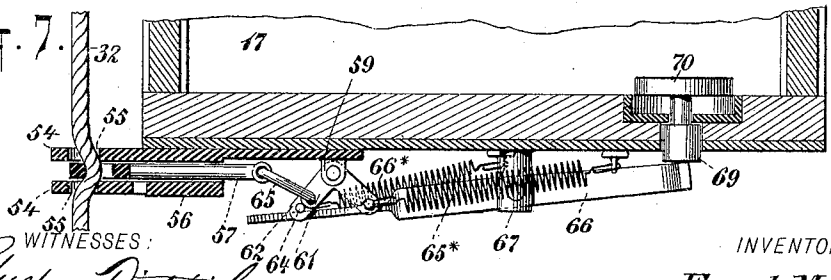



Fig. 7.




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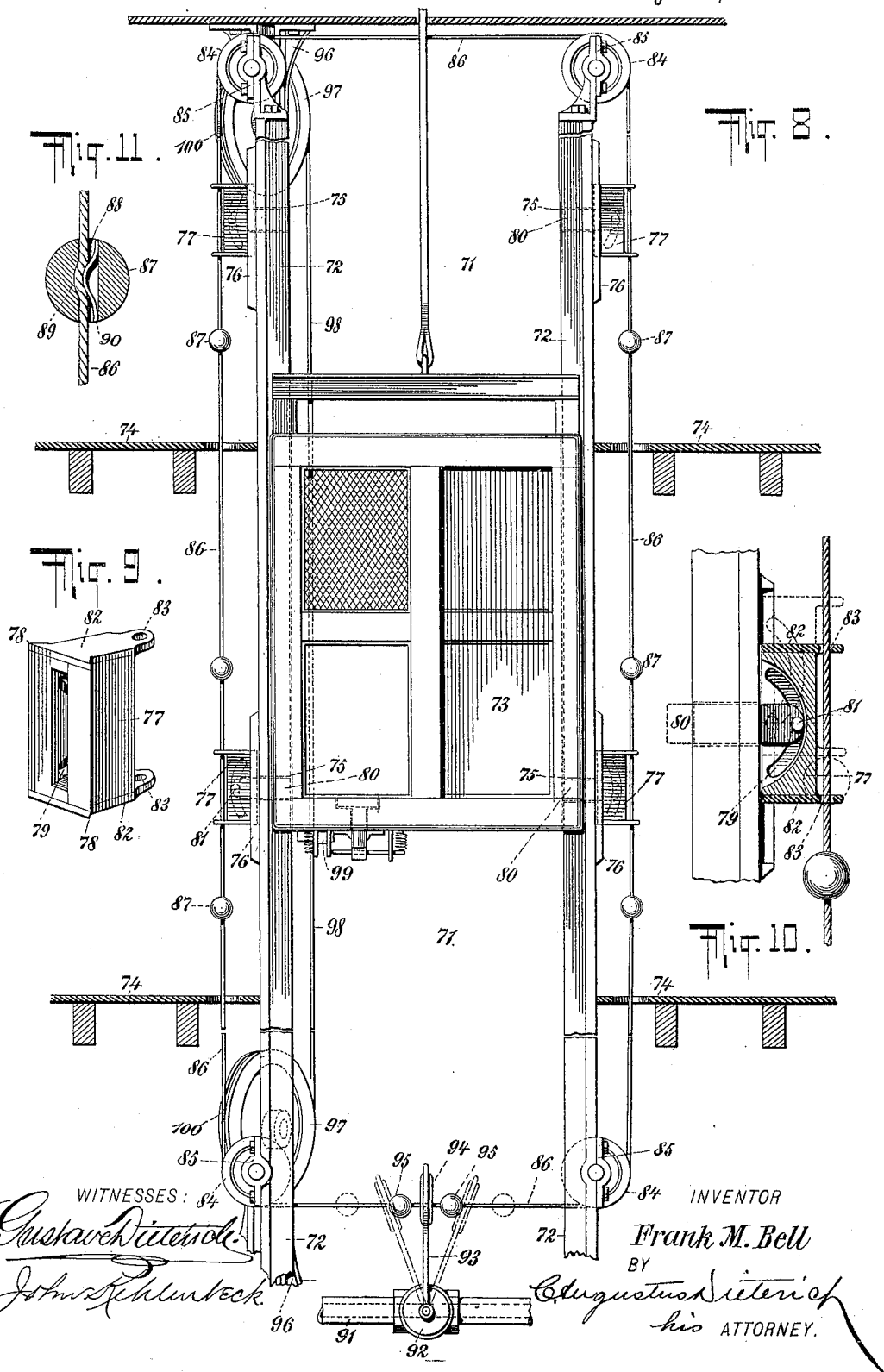
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(No Model.) 6 Sheets—Sheet 5.

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## SAFETY DEVICE FOR ELEVATORS.

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## SAFETY DEVICE FOR ELEVATORS.

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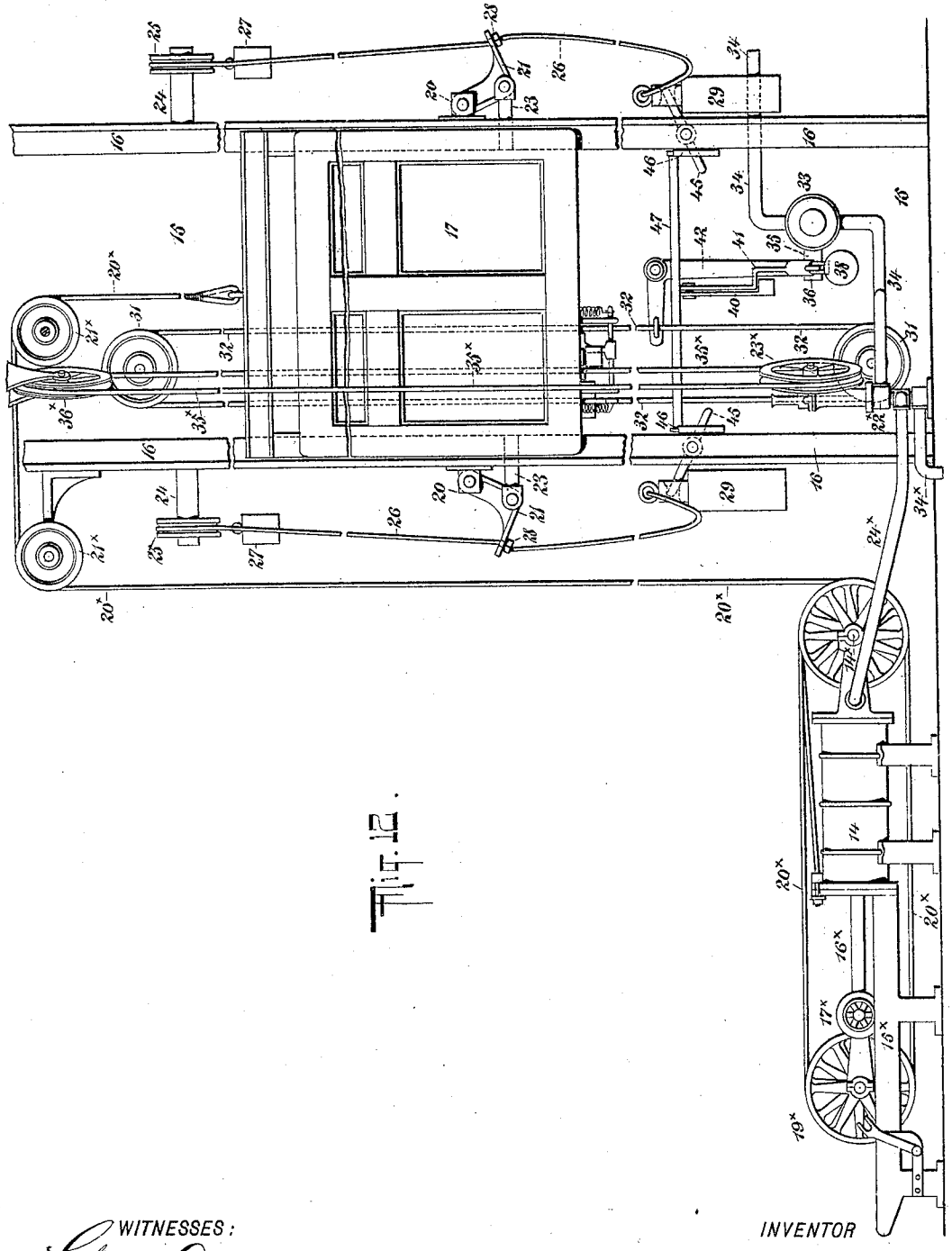


Fig. 12.

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# UNITED STATES PATENT OFFICE.

FRANK M. BELL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO WILLMA POLLACK, OF SAME PLACE.

## SAFETY DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 604,360, dated May 24, 1898.

Application filed November 22, 1897. Serial No. 659,358. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK M. BELL, a citizen of the United States, residing at the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Safety Devices for Elevators, of which the following is a full, clear, and exact specification.

My invention relates to improvements in hoisting apparatus, and has for its objects more particularly to provide a simple, efficient, and positive means for shutting off the energy or power operating the hoisting engine or motor, arresting the movement of the car itself when ascending or descending where the customary means provided for that purpose fail through any cause to operate, to cause a signal, to warn the engineer, to become operative, and the car and mechanism for operating the same to be rendered inoperative until the cause of the stoppage has been remedied.

The objects above set forth I am enabled to attain by means of my invention, which consists in the novel details of construction and in the combination, connection, and arrangement of parts, as hereinafter more fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, wherein like numerals of reference indicate like parts, Figure 1 is a front view of an elevator shaft and car, showing my invention applied thereto. Fig. 2 is a section taken on the line 2 2 of Fig. 1. Fig. 3 is an enlarged detail front view of a portion of the shaft, showing one of the devices for arresting the movement of the car and the means for projecting the same into the path of the car. Fig. 4 is an enlarged detail side view of the lower portion of the shaft, showing the mechanism for shutting off the power. Fig. 5 is an inverted plan view of the car-bottom, showing the grip mechanism carried thereby. Figs. 6 and 7 are enlarged detail sections, taken on the line 6 6 of Fig. 5, looking in the direction of the arrow and respectively showing the grip mechanism out of engagement and in engagement with the cable operating the mechanism for shutting off the power and devices for arresting the movement of the car. Fig. 8 is a view similar to Fig. 1, illustrating a modification. Fig. 9 is a perspective view of one of the modified devices arranged at the side of the shaft for operating the bolts to be projected into the path of the car. Fig. 10 is a side view, partly in section, showing a complete device with the bolt in its normal position and in broken lines in one of its projected positions. Fig. 11 is a central section showing one of the buttons for operating the devices for arresting the movement of the car; and Fig. 12 is a diagrammatic view showing an elevator-shaft, a car adapted to work therein, means for operating the car, and my invention applied thereto.

In said drawings, 15 denotes a shaft or well provided at its opposite sides with the customary guides 16. 17 denotes a car adapted to work within said shaft, and 18 denotes the several floors of the building.

Adjacent to the base of the shaft 15 is arranged the means for operating the car, and comprises a hydraulic-elevator engine of the multiple-sheave pattern, consisting of a horizontally-supported cylinder 14, provided at one end with suitable bearings, in which is mounted a shaft carrying a plurality of sheaves $14^{\times}$, and at the opposite end of said cylinder 14 is provided a platform $15^{\times}$. Within said cylinder works a piston having a rod $16^{\times}$, provided at its outer end with a cross-head carrying rollers $17^{\times}$ upon its ends adapted to ride upon the edges of the platform $15^{\times}$. $19^{\times}$ denotes a plurality of sheaves carried by said cross-head, which sheaves correspond in size with the sheaves $14^{\times}$ at the opposite end of the cylinder, and $20^{\times}$ denotes the hoisting-cable, having one end secured to the cylinder 14 and its other end passed across the cylinder 14 and over the sheaves $14^{\times}$ and $19^{\times}$, and thence upward over pulleys $21^{\times}$, provided at the top of the shaft 15, and its end secured to the top of the car 17.

$22^{\times}$ denotes a valve arranged at the base of the shaft, having a projecting stem and a sheave $23^{\times}$ for raising and depressing the same, the operating fluid being received by the pipe 34 and conducted into the cylinder 14 by a pipe $24^{\times}$ and discharged from said cylinder by the pipe $24^{\times}$ and the pipe $34^{\times}$.

$35^{\times}$ denotes an endless cable passing through the car 17 and over a sheave $36^{\times}$ at

the top of the shaft and the sheave $23^{\times}$ of the valve $22^{\times}$.

The guides 16 are provided at intervals with openings 19, extending entirely through the same, and upon the outer surfaces of said guides, directly above the openings 19, are secured bearings 20, within which are pivotally supported the upper ends of bell-crank levers 21, the outer ends of which levers are provided with eyes or loops 22, and 23 denotes bolts adapted to work within the openings 19, having their outer ends forked and pivotally secured to the levers 21, at the apexes thereof.

24 denotes short shafts secured to the outer side of the elevator-shaft, near its top, having pulleys 25 mounted upon the ends thereof, and 26 denotes cables arranged one at each side of the shaft, with their upper ends passed over the pulleys 25 and provided with counterweights 27, and their other ends extending downwardly through the eyes 22 of the levers 21, to which they are secured by screws 28, and their extreme lower ends provided with weights 29 of greater weight than the weights 27.

Upon the rear wall of the shaft is arranged the means for operating the cut-out mechanism, comprising the short shafts 30, secured to said rear wall near the top and bottom of the shaft, having mounted thereon pulleys 31, carrying an endless cable 32. Near the base of the shaft adjacent to the rear wall is arranged the cut-out mechanism for controlling the supply of power or energy to the hoisting engine or motor and is here shown as a valve 33, arranged in the pipe 34, connecting the source of water-supply with the engine, (see Fig. 12,) said valve 33 having a stem 35, to which is secured an arm 36, passing entirely through said stem and having a projecting portion 37 extending beyond the same at the rear. To the forward end of said arm 36 is attached a weight 38, and intermediate its end and the valve-stem 35 is provided a spring-actuated catch 39.

40 denotes a bracket secured to the rear wall of the shaft above the valve 33, having a bell-crank lever 41, pivotally secured at its apex to the upper end of the bracket 40, and 42 denotes a similar lever pivotally supported at its apex upon the rear wall of the shaft, having the end of its horizontal member secured to the endless cable 32 and the end of its vertical member provided with a toe 43, against the under side of which the short rearwardly-projecting portion 37 of the valve-stem arm 36 is adapted to rest.

In the guides 16, near their lower ends, are provided slots 44, within which are pivotally supported the levers 45, the ends of which project both inwardly and outwardly beyond the sides of the guides and adapted to receive the weights 29 upon their outer ends, and adjacent to the inner ends of said levers 45, upon the sides of the shaft, are pivotally supported levers 46, connected at their rear ends by a rod 47 and provided at their forward ends with slots 48, adapted to receive the inner ends of the levers 45.

Upon the inner side of the shaft, above one of the levers 46, is secured a contact-plate 49, to which is secured one end of a conductor 50, leading to one terminal of an electric bell 51, and to the pivot of said lever is connected one end of another conductor 52, which, after including the battery 53, is connected to the remaining terminal of the bell 51.

Upon the under side of the car (see Figs. 5, 6, and 7) is arranged the grip mechanism, which projects rearward and beyond the outline of the car-body and comprises the bifurcated portion 54, secured to the under side of the car-bottom and provided with apertures 55, a guide 56, arranged within said bifurcated portion, near the middle thereof, and a rod 57, working within said guide 56, having an eye 58 at its outer end in line with the apertures 55 of the bifurcated portion 54.

Adjacent to the inner or rear end of the rod 57, upon the under side of the car, are provided bearings 59 and 60, within which are pivotally supported bell-crank levers 61 and 62 and an arm 63, the lower or free end of which arm is connected with the horizontal portion of the bell-crank 62 by a rod 64 and the short member of the bell-crank 61 connected with the rear end of the rod 57 by a link 65, and $65^{*}$ and $66^{*}$ denote springs having their forward ends secured to the under side of the car-bottom and their rear ends secured to the lower end of the bell-crank 61 and the end of the rod 64, whereby to hold the grip in engagement with the cable 32 when the pressure upon the forward end of the lever 66 is relaxed.

66 denotes a lever pivotally supported in the under side of the car in a depending bearing 67, said lever having its rear in contact with and bearing upon the rod 64, connecting the arm 63 and bell-crank 62, and its other end projecting forward.

68 denotes a bushing countersunk in the floor of the car, and 69 a stem extending through said bushing, provided at its upper end with a foot-plate 70 and its lower end in contact with and bearing upon the forward end of the lever 66.

In the modification illustrated by Figs. 8 to 11, inclusive, 71 designates the shaft or well; 72, the guides at the opposite sides of the shaft; 73, the car adapted to work within said shaft, and 74 the floors of the building.

The guides 72 are provided at intervals with rectangular openings 75, extending entirely through the same, and upon the rear sides of said guides to each side of the rectangular openings are arranged vertical guides 76, within which work blocks 77, provided at their edges with flanges 78, adapted to extend into the guides 76, said blocks 77 being provided with a recessed front and the opposing faces of said recessed front portions provided with cam-grooves 79.

80 denotes bolts having their forward ends supported within the openings 75 and their rear ends provided with laterally-projecting studs 81, extending into the cam-grooves 79 of the blocks 77, and 82 denotes plates secured to the tops and bottoms of the blocks 77, which extend rearwardly beyond the outline of the blocks and provided near their projecting ends with circular apertures 83.

84 denotes sheaves mounted in bearings 85 at both sides of the shaft, near the top and bottom thereof; 86, an endless cable which passes over the sheaves 84 and through the apertures 83 in the blocks 77, and 87 denotes buttons frictionally secured upon the cable 86, above and below each of the blocks 77, said buttons being each provided with a slot 88, having an indentation 89 in one side thereof, and a spring 90, arranged upon the opposite side thereof, adapted to hold the cable 86 pressed into the indentation 89, and 91 denotes the pipe connecting the boiler and engine, provided with a valve 92, having a stem 93, in the outer end of which is a slot 94, through which passes the endless cable 86, and to each side of said stem 93 upon the cable 86 are frictionally secured buttons 95.

At one side of the shaft, near the top and bottom thereof, are mounted in bearings 96 the large sheaves 97, which are arranged at an angle to the sheaves 84 and support a cable-section 98, which extends through the grip mechanism 99, carried upon the car, and has its upper and lower ends spliced to the endless cable 86, near the places indicated by 100, above the lower sheave 97 and below the upper sheave 97.

The grip mechanism upon the car is identical with that of the main structure hereinbefore described.

The operation is as follows: We shall assume that the bolts 23 are all in their normal position, the weights 29 hung upon the outer ends of the levers 45, as indicated at Fig. 3, the cut-out mechanism for controlling the supply of power to the hoisting-engine to be in the position shown at Fig. 4, and the elevator-operator not to be standing upon the foot-plate 70. To operate the car then, the operator must first take his position upon the foot-plate 70 and remain thereon, thus releasing the grip mechanism at the back of the car of its engagement with the cable 32 and permitting the car to go freely up or down without causing any of the mechanism for stopping the car and shutting off the power to become operative, and then operate the valve $21^{\times}$ by means of the cable $20^{\times}$ to set the car in motion. However, as soon as any accident should happen—for example, should the hoisting-cable break or the car become uncontrollable in ascending—it simply becomes necessary for the car-operator to remove his weight from the foot-plate 70 and thereby cause the rod 57 of the grip mechanism upon the under side of the car to be drawn inward by the action of the springs 65* and 66* and engage the cable 32, whereupon the car will move the same along with it, and in so doing cause the vertical portion of the bell-crank 42 to be released of its engagement with the portion 37 of the valve-stem arm 36 and the weight 38, carried upon the end, to fall and shut off the valve. Simultaneously herewith the rod 47, connecting the levers 46, having been released from its engagement with the bell-crank 41, will cause the forward ends of the levers 46 to rise, complete the electric circuit 50 52, and cause the bell 51 to become operative and the outer ends of the levers 45 to be depressed and release the weights 29, carried thereby, and cause all the bell-crank levers 21 to be drawn down and the bolts 23 projected into the path of the car and arrest the movement thereof in either direction. As soon as the cause of the stoppage has been remedied the mechanism can be readjusted, to which end it simply becomes necessary to reset the valve-operating mechanism to the position indicated at Fig. 4, hang the weights 29 upon the outer ends of the levers 45, and as soon as this has been done the counterweights 27 will raise all the bell-crank levers 21 and withdraw the bolts 23 from the shaft.

In the modified structure as soon as the grip on the car engages the cable-section 98, either in ascending or descending, it will cause the endless cable 86 to be shifted and the buttons 87 brought into contact with the blocks 77, shift the same, and the cam-grooves 79 thereof cause the bolts to be projected into the path of the car, and the buttons 95 in striking against the end of the stem 93 of the valve 92 cause the same to be moved and shut off the power. To reset the entire apparatus, it simply becomes necessary to move the cable 86 sufficiently in the reverse direction to that which it received when causing the car to be stopped.

It is to be observed that the invention herein shown and described is applicable to elevators and hoisting apparatus generally whether the same be operated by steam, water, or electricity, that the devices adapted to be projected into the path of the car may be supported in separate means in any side of the shaft independent of the car-guides, and that the lever for releasing the grip mechanism may be reversed—*i. e.*, caused to engage its cable when depressed instead of released—and to be operated by hand instead of foot.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and the means for operating the car, means arranged within the shaft adapted to operate said interposed cut-out mechanism, and means carried by said car adapted to engage the means arranged within the shaft whereby to operate the interposed cut-out mechanism to shut off the

source of power and render the means for operating the car thereupon inoperable from the car, and arrest the movement of the car, substantially as specified.

2. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and the means for operating the car, means adapted to obstruct the movement of the car within the shaft, and means carried by the car adapted to operate the cut-out mechanism to shut off the source of power and render the means for operating the car thereupon inoperable from the car, and the obstructing means to arrest the movement of the car, substantially as specified.

3. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and means for operating the car, means adapted to obstruct the movement of the car within the shaft, a signal apparatus, means for operating said signal apparatus, and means carried by the car adapted to operate the cut-out mechanism to shut off the source of power, the obstructing means to arrest the movement of the car, and the signal apparatus to become operative, substantially as specified.

4. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and the means for operating the car, obstructing mechanism normally out of the path of the car adapted to be projected into the path thereof, means arranged within the shaft adapted to operate the interposed cut-out mechanism, and the obstructing mechanism, and means carried by the car adapted to engage the means arranged within the shaft whereby to operate the cut-out mechanism to shut off the power, and the obstructing mechanism to be projected into the path of the car, substantially as specified.

5. The combination of a shaft, a car adapted to work therein, and means for operating said car, with cut-out mechanism interposed between the source of power and the means for operating the car, means adapted to obstruct the movement of the car within the shaft, means arranged within the shaft whereby to operate the cut-out mechanism, and the obstructing mechanism, and means carried by the car adapted to engage from any point of the shaft the means for operating the cut-out mechanism, and the obstructing mechanism, and cause the same to shut off the power, render the means for operating the car thereupon inoperable from the car, and arrest the movement of the car, substantially as specified.

6. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and the means for operating the car, mechanism adapted to be projected from the sides of the shaft into the path of the car to arrest the movement thereof, means arranged within the shaft adapted to operate the cut-out mechanism, and the obstructing mechanism, and means carried by the car adapted to engage at any point within the shaft the means arranged therein whereby to simultaneously cause the same to operate the cut-out mechanism to shut off the source of power, and the obstructing mechanism to be projected into the path of the car to arrest the movement thereof, substantially as specified.

7. The combination of a shaft, a car adapted to work therein, and means for operating said car, with cut-out mechanism interposed between the source of power and the means for operating the car, obstructing devices arranged in the shaft, normally out of the path of the car, means for projecting said devices into the path of the car, means arranged at the side of the shaft adapted to operate the cut-out mechanism and the obstructing devices, and means carried by the car adapted to engage the means at the side of the shaft whereby to operate the cut-out mechanism to shut off the power, and the obstructing devices to be projected into the path of the car, substantially as specified.

8. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and the means for operating the car, series of obstructing devices arranged upon opposite sides of the shaft, means for maintaining said obstructing devices normally out of the path of the car, means for projecting said devices into the path of the car, means arranged upon the side of the shaft adapted to operate the cut-out mechanism, and the means for projecting the obstructing devices, and mechanism carried by the car adapted to engage the means arranged upon the side of the shaft and cause the same to operate the cut-out mechanism to shut off the power, and the means for operating the obstructing devices to project said devices into the path of the car to arrest the movement thereof, substantially as specified.

9. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and the means for operating the car, series of obstructing devices arranged upon opposite sides of the shaft, means for maintaining said devices normally out of the path of the car, means for projecting said devices into the path of the car, an endless cable supported at one side of the shaft, extending through said shaft for its entire length, and connected with the cut-out mechanism, and means for operating the obstructing devices, a grip mechanism carried by the car adapted to be maintained out of engagement with the endless cable aforesaid, and means for bringing said grip mechanism into engagement with said

endless cable to operate the cut-out mechanism to shut off the power, and the means for operating the obstructing devices to project the same into the path of the car to arrest the movement thereof, substantially as specified.

10. The combination of a shaft, a car adapted to work therein, and means for operating said car with cut-out mechanism interposed between the source of power and the means for operating the car, shafts secured to the outer sides of the elevator-shaft near the top thereof, pulleys mounted upon the ends thereof, cables having their uppermost ends passed over said pulleys and provided with counterweights, and their other ends extending downward and provided with weights, series of bolts arranged in opposite sides of the shaft, bearings secured upon the outer sides of the shaft above said bolts, bell-crank levers having their upper ends supported within said bearings, their apexes pivotally secured to the rear ends of the bolts, and their outer ends secured to the cables, aforesaid, means for supporting the weights secured to the lower ends of said cables, and means carried by the car whereby to operate from any point of the shaft the cut-out mechanism to shut off the power, and release the weights at the lower ends of the cables of their support to project the bolts into the path of the car, substantially as specified.

11. In a safety device for elevators, the shaft and car in combination with an endless cable arranged within the shaft and extending through the entire length thereof, a valve arranged within the shaft for controlling the supply of power to the hoisting mechanism, means for maintaining said valve open to permit of the passage of the fluid to the hoisting mechanism, means for closing said valve, a device having one end connected to the endless cable and another end in contact with the means for maintaining the valve open, said device being adapted to release the means for maintaining the valve open, and cause the valve to close and arrest the passage of the fluid to the hoisting apparatus, and means carried by the car, adapted to engage the endless cable at any point within the shaft to operate said valve to shut off the power, substantially as specified.

12. In a safety device for elevators, the shaft and car in combination with pulleys arranged within the shaft near the top and bottom thereof, an endless cable carried by said pulleys, a valve having a stem, an arm secured thereto and projecting beyond the same at the rear, a weight arranged upon the long end of said arm, and a spring-actuated catch arranged therein between the weight and the valve-stem, a bracket supported above said valve having a bell-crank pivotally supported thereon, the lower end of whose vertical member is adapted to lock against the spring-actuated catch in the valve-stem, a bell-crank supported at right angles to the bell-crank above named having a toe at the lower end of its vertical member against which the rearwardly-projecting end of the valve-stem arm is adapted to rest, and the end of its horizontal member connected with the endless cable, and means carried by the car adapted to engage said endless cable at any point within the shaft to operate said valve to shut off the power, substantially as specified.

13. In a safety device for elevators, the shaft and car adapted to work therein in combination with pulleys supported within the shaft near the top and bottom thereof, an endless cable carried thereby, a grip carried by the car adapted to engage said endless cable, a valve arranged within the shaft intermediate the source of power and the hoisting mechanism, means for maintaining said valve to its open position, means for closing said valve, obstructing devices arranged in the sides of the shaft, normally out of the path of the car, adapted to be projected into the path of the car, means for projecting said devices into the path of the car, pulleys supported upon the outer sides of the shaft near the top thereof, cables secured to and connecting said projecting means having weights at their lower ends, and their upper ends passed over the pulleys, last mentioned, and provided with counterweights, levers pivotally supported in the sides of the shaft near the base thereof adapted to support at their outer ends the weights secured to the lower ends of the cables aforesaid, and levers pivotally supported upon the inner sides of the shaft having their forward ends connected with the inner ends of the weight-supporting levers and their rear ends united by a connecting-rod adapted to be supported by the mechanism for operating the valve whereby to maintain the weights upon the lower ends of the cables in position upon their supporting-levers when the valve is open, substantially as specified.

14. In a safety device for elevators, the shaft and car working therein, means for operating said car, mechanism operable from the car adapted to control the supply of power to the hoisting mechanism, obstructing devices normally out of the path of the car adapted to be projected into the path thereof, means for projecting said devices into the path of the car, combined with an electric signal apparatus, a source of electric supply for operating said signal apparatus, a contact-plate arranged within the shaft, conductors leading from said signal apparatus and including the source of electric supply, and having their terminals electrically connected with said contact-plate and a movable part of the mechanism for releasing the means for maintaining the valve open and the obstructing devices withdrawn from the shaft whereby to complete the electric circuit and cause the signal

to become operative when the valve is closed, or the obstructing devices are projected into the path of the car, substantially as specified.

15. In a safety device for elevators, the combination with a car-body of a grip comprising a rigid member secured to the car-body, provided with a bifurcated portion extending beyond the outline of the car-body, a movable member adapted to work within said rigid member, said grip members having apertures in their projecting portions through which a cable is adapted to extend, means for maintaining said movable grip member normally drawn back and the aperture therein out of register with the apertures in the bifurcated projecting portion of the rigid member to grip the cable, and means operable from the interior of the car for projecting said movable grip member to bring the aperture in the projecting end thereof into register with the apertures in the bifurcated end of the rigid grip member to release the cable and permit of the free and uninterrupted movement of the car within the shaft, substantially as specified.

16. In a safety device for elevators, the combination with a car-body of a grip comprising a rigid member secured to the under side of the car-body having a bifurcated projecting portion, and a guide, a movable member adapted to work in said guide and intermediate the bifurcated projecting portion, apertures provided in the projecting portion of the rigid member, and an aperture provided in outer end of the movable member, through which apertures a cable is adapted to extend, bearings provided upon the under side of the car-body, two bell-cranks and an arm pivotally supported therein, a rod connecting the free end of said arm with the end of the horizontal member of one of said bell-cranks, a rod connecting the ends of the vertical members of the bell-cranks, a link connecting the rear end of the movable grip member with the end of the horizontal member of one of said bell-cranks, springs having their forward ends secured to the under side of the car-body, and their rear ends secured to the rod connecting the ends of the bell-cranks, and the rod connecting one bell-crank with the arm aforesaid, to hold the movable grip member normally drawn back, a bearing provided upon the under side of the car-body, a lever pivotally supported thereby having its rear end in contact with and bearing against the rod connecting one of the bell-cranks with the pivoted arm, and a foot-plate arranged upon the base of the car having a stem extending downwardly therefrom through the base of the car-body and bearing upon the forward end of the lever supported upon the under side thereof, substantially as specified.

Signed at the city of New York, in the county and State of New York, this 19th day of November, 1897.

FRANK M. BELL.

Witnesses:
WILLIAM L. POLLACK,
GEO. C. MARVIN.