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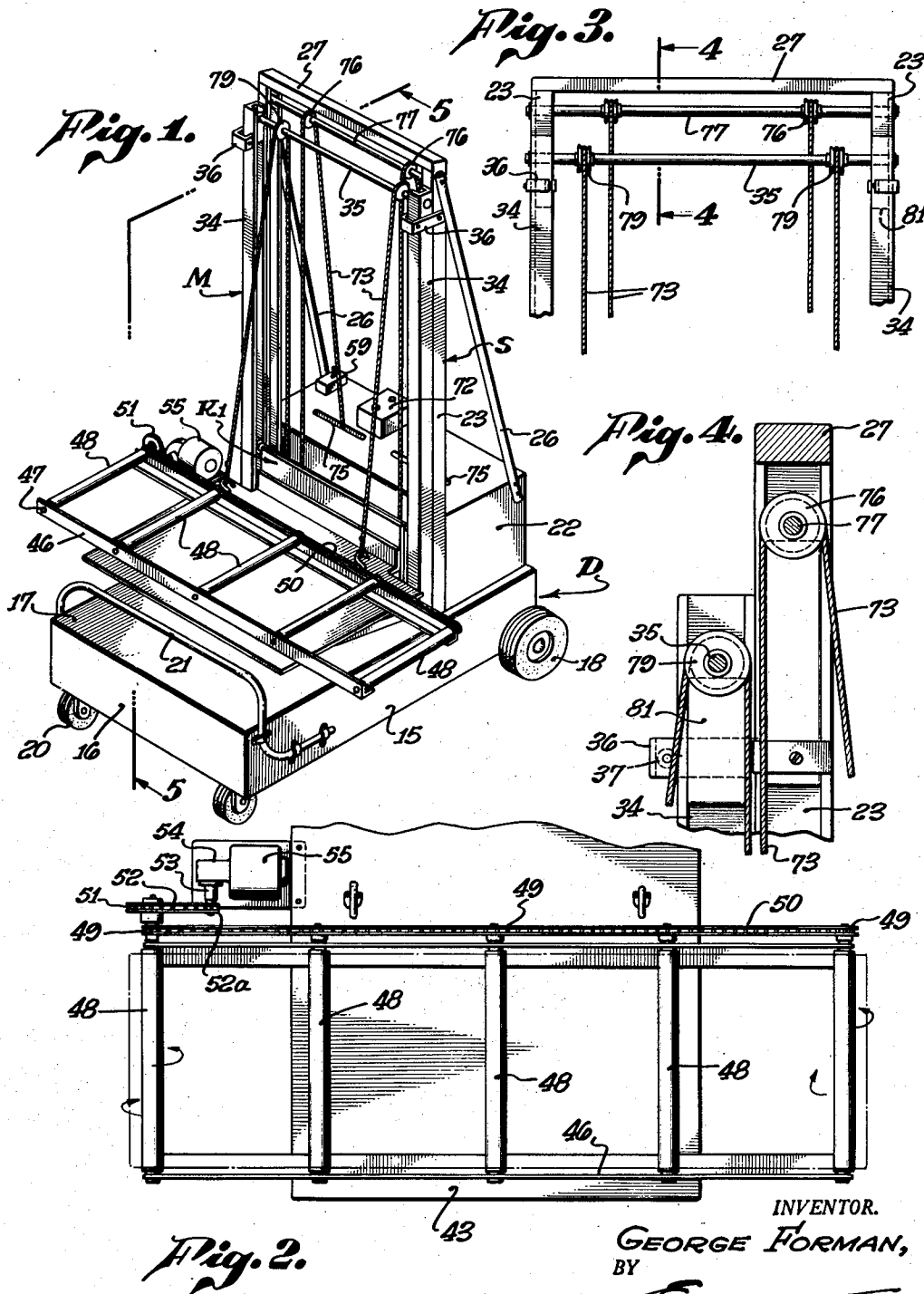
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2,599,052

CASKET TRANSPORTING AND HOISTING VEHICLE

Filed June 29, 1948

3 Sheets-Sheet 1



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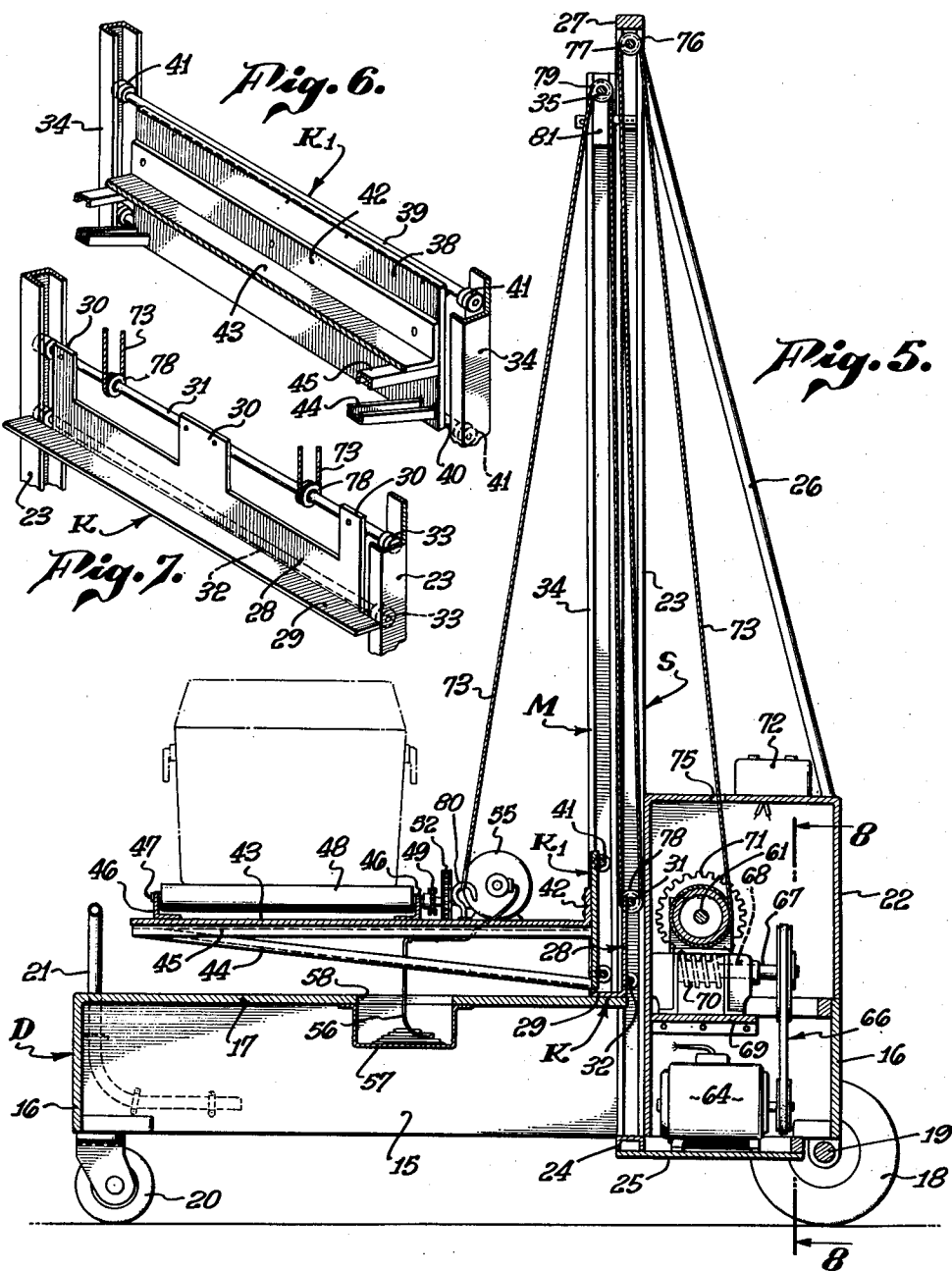
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CASKET TRANSPORTING AND HOISTING VEHICLE

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3 Sheets-Sheet 2



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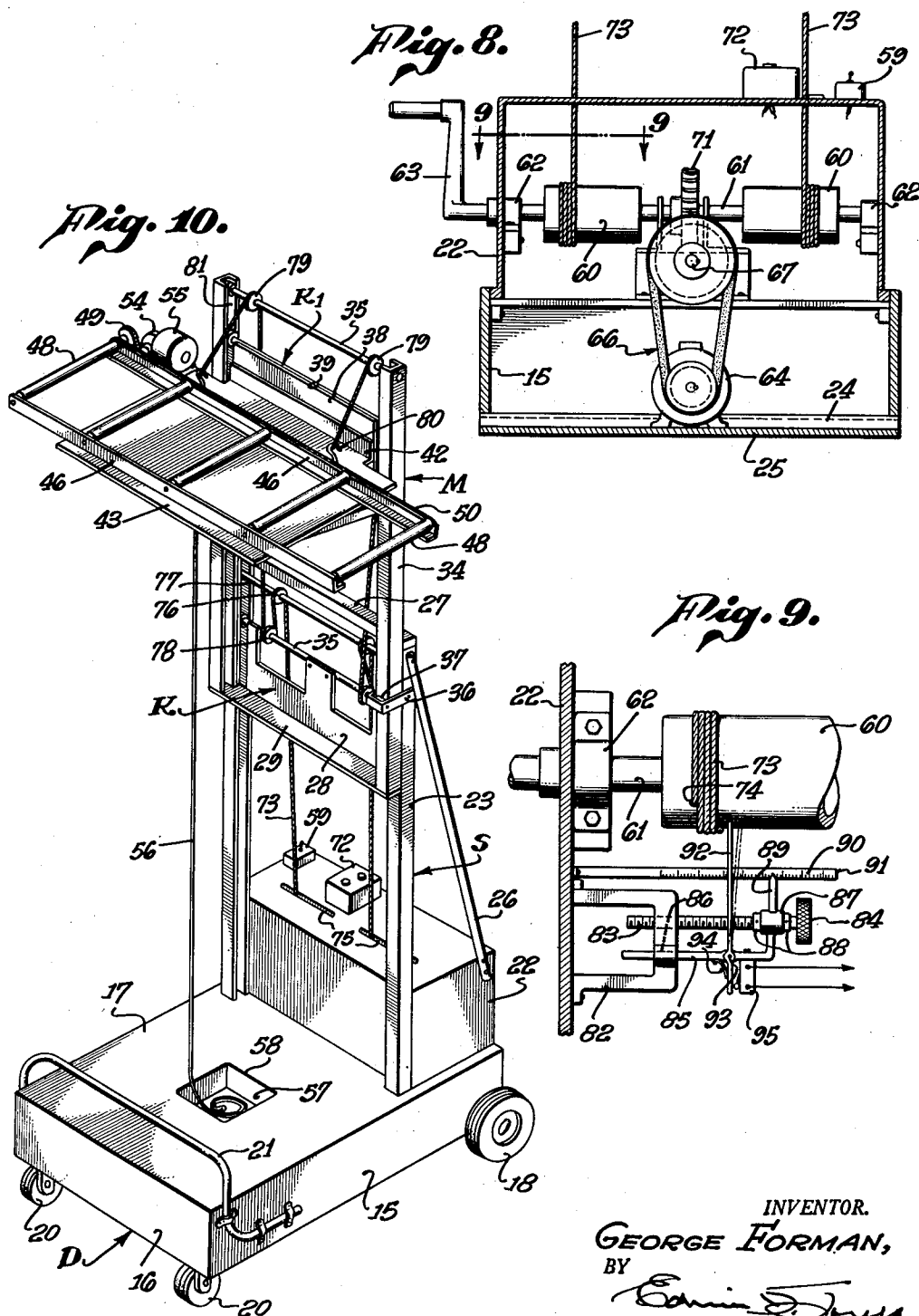
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CASKET TRANSPORTING AND HOISTING VEHICLE

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3 Sheets-Sheet 3



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CASKET TRANSPORTING AND HOISTING
VEHICLE

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Application June 29, 1948, Serial No. 35,842

4 Claims. (Cl. 214—84)

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My invention relates to and has for a purpose the provision of a vehicle particularly designed, although not necessarily, for transporting caskets from place to place in mausoleums, and hoisting and moving them into crypts.

It is also a purpose of my invention to provide such a casket handling vehicle which embodies a vertically extensible frame that normally occupies a retracted position, and, hence, a minimum height, to allow the frame and the vehicle to pass through relatively low archways in a mausoleum in transporting a casket to or from a crypt.

A further purpose of my invention is the provision of a casket transporting vehicle that has a casket supporting platform mounted for elevating movement on the extensible frame, a mechanism for elevating the platform on the frame, and also vertically extending the frame to effect further elevation of the platform to lift a casket to relatively high crypts, and a control means for the mechanism which can be manually set to discontinue operation thereof at a predetermined time so that the platform is hoisted to a preselected crypt for movement of a casket on the platform into such crypt.

Another purpose of my invention is the provision in such a vehicle of means for moving a casket onto and off of the platform and irrespective of the elevation thereof.

I will describe only one form of casket transporting vehicle, and one form of automatic control device for the hoisting mechanism thereof, each embodying my invention, and will then point out the novel features thereof in claims.

In the accompanying drawings:

Fig. 1 is a view showing in perspective one form of casket transporting vehicle embodying my invention in which the casket supporting platform and the extensible frame are in their lowermost positions of adjustment.

Fig. 2 is an enlarged fragmentary horizontal plan view of the vehicle more particularly showing the platform and the casket moving means.

Fig. 3 is a fragmentary elevational view of the upper part of the extensible frame.

Fig. 4 is an enlarged fragmentary vertical sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 1.

Fig. 6 is a fragmentary perspective view of the platform and the carriage therefor.

Fig. 7 is a fragmentary perspective view of the elevating carriage for the platform carriage.

Fig. 8 is a vertical sectional view taken on the line 8—8 of Fig. 5.

Fig. 9 is a horizontal sectional view taken on the line 9—9 of Fig. 8.

Fig. 10 is a view similar to Fig. 1 showing the platform elevated to its uppermost position and the extensible frame extended upwardly.

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Having specific reference to the drawings, my invention in its present embodiment comprises a dolly designated generally at D, and comprising a body having sides 15, ends 16, and a top 17, the body being supported for rolling movement by wheels 18 on an axle 19 and castors 20 which render the dolly dirigible. A bar 21 is secured to one end of the dolly body and bent to form an upstanding handle 21 by which the dolly may be pushed from place to place. One end of the top 17 is open but closed by a housing 22 in which is partly contained a hoisting mechanism.

My vehicle includes a vertically extensible frame made up of a stationary part S and a movable part M. The stationary frame part is best shown in Figs. 5 and 10 as comprising a pair of vertically extending and parallel spaced channelled side rails 23 with their lower ends extending downwardly through the top 17 adjacent the housing 22, and fixed at their lower ends to a cross member 24 secured to a platform 25. The side rails 23 may be braced by rods 26 secured to the housing 22 and to the upper end of the rails as shown in Fig. 10, and the upper ends of the rails are connected by a cross bar 27.

As shown in Figs. 5 and 7, an elevating carriage, designated generally at K, is mounted for vertical movement in the side rails 23. This carriage consists of a vertical plate 28 having on its lower edge a flange or lip 29 of greater length than the plate to completely span the rails 23. The upper edge of the plate 28 is formed with a plurality of upstanding extensions 30 which are riveted, welded or otherwise secured to an axle 31. Similarly fastened to the lower edge of the plate 28 is a second axle 32. These axles are of such length as to span the rails 23, and journalled on their ends are rollers 33 which ride in the channels of the rails 23 so that the carriage as a unit can be moved vertically therein.

The movable frame part M is best shown in Figs. 5 and 10 as comprising a pair of channelled side rails 34 held in fixed parallel spaced relationship by an axle 35, and telescopically associated with the side rails 23 of the stationary frame part by L-shaped brackets 36 fixed to the rails 23 and carrying rollers 37 which bear against the rails 34, as best shown in Fig. 4.

A carriage designated generally at K1 is mounted for vertical movement in the rails 34. This carriage, as best shown in Fig. 6, comprises a vertical plate 38 disposed between the rails 34 and carrying axles 39 and 40 on the ends of which are journalled rollers 41 which ride in the channels of the rails 34. To one side of the plate 38 is riveted or otherwise secured an upstanding flange 42 of the platform 43 disposed horizontally above the body top 17 supported and braced by channel beams 44 and 45.

This platform 43 is designed to support a casket, shown in phantom in Fig. 5, and through

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the medium of a mechanism by which the casket may be fed or moved onto or off the platform. This mechanism comprises a pair of angle bars 46 secured to the upper side of the platform in spaced parallel relation to each other and in which shafts 47 are journaled. These shafts are arranged at regular spaced intervals along the length of the rails, and to each shaft is fixed a roller 48. One end of each shaft projects beyond its respective bar 46, where it is provided with a sprocket wheel 49. Engaging all of the sprocket wheels 49 for all of the shafts is an endless chain 50, and this chain in turn is driven by extending one of the endmost shafts 46, and providing it with a sprocket wheel 51 which, through a chain 52, and a sprocket 52a is operatively connected to a shaft 53.

The shaft 53, in turn, is connected to a housed reduction gearing 54 providing an operative connection with the shaft of a motor 55 supported on the platform 43. Current to the motor 55 is supplied through an electric cord 56 (see Fig. 5) secured to the underside of the platform 43 and extending downwardly so that it can be coiled in a well 57 secured to the under side of the body top 17, with the latter provided with an opening 58 to allow the extension of the cord into the well. From this well the cord is extendable to a switch 59 on the top of the housing 22, which, in turn, is connected to a source of current such as a wall plug (not shown) through a cord (not shown). The switch 59 is of the reversible type to supply current to the motor 55 in one direction or the other, and thereby drive the rollers in either direction.

For hoisting the platform 43 on the frame part M, and extending the latter vertically on the frame part S, a hoisting mechanism is provided wholly mounted on the dolly and comprising a winch having two drums 60 (see Fig. 8) fixed in spaced relation along the length of a shaft 61 journaled in bearings 62 in the housing 22. This shaft 61 may be manually rotated by attaching a crank 63 thereto, or by a motor 64.

The motor is secured on the platform 25 in the dolly body, and it is operatively connected to the shaft 61 by a pulley and belt connection 66 between the motor shaft and an intermediate shaft 67, journaled in bearings 68 (see Fig. 5) supported on a platform 69. Fixed to the shaft 67 between the bearings is a worm 70 which meshes with a worm wheel 71 fixed on the shaft 61. The motor 64 is adapted to be electrically connected to a reversing switch 72 by which current from a suitable source remote from the dolly can be supplied to drive the motor in either direction, and, hence, the winch drums 60.

Two cables 73 have one end anchored to the drums as indicated at 74 in Fig. 9, and they are wound in the same direction about such drums. From its respective drum each cable extends upwardly through a slot 75 in the top of the housing 22 and over a sheave 76 rotatable on an axle 77 extending between and secured at its ends to the side rails 23 adjacent the cross-rail 21. From the sheave 76 the cable 73 extends downwardly and then upwardly around a sheave 78 on the axle 31 to a sheave 79 on the axle 35, whence it extends downwardly to the platform 43 where it is anchored thereto by a hook 80.

For the dual purpose of limiting elevation of the carriage K1 in the frame part M and then causing such frame part to be extended on the stationary frame part S through lifting of the carriage K, abutment or stop blocks or strips 81

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are provided. These stop blocks are secured in the channels of the side rails 34 just below the axle 35, to be engaged by the upper rollers 41 and thus limit further ascending movement of the carriage K1 and, hence, the platform 43 on the frame part M.

Referring now to Fig. 9, I have here shown a control device for effecting automatic cessation in operation of the hoisting mechanism once the platform reaches a predetermined height so that a casket can be elevated to a preselected crypt. This device comprises a bracket 82 secured to the housing 22 and in which is screw-threaded a shaft 83 having on one end a knurled head 84. An L-shaped member 85 has a long leg movable in an opening 86 in the bracket 82, while the short leg is fixed in a sleeve 87 loosely receiving the shaft 83, but confined to move axially therewith by a pair of collars 88 pinned to the shaft. The free end of the short leg is pointed to form an indicator 89 for a scale 90 on a rod 91 secured to the housing 22 and paralleling one of the winch drums 60. The graduations of the scale 90 may be numbered to correspond to the horizontal tiers of crypts in a mausoleum.

A lever 92 is pivoted at 93 on the long leg of the member 85, and by a spring 94 the short arm thereof is urged into engagement with a switch 95 for the motor 64. The switch of itself is urged to open position so that under the urging action of the spring 94 it is normally closed. Further, the switch is adapted to be connected in series with the manual switch 72 so that once the latter is closed the control device can operate as intended. The long arm of the lever extends across the scale 90 with its free end disposed transversely of the cable 73 where it extends upwardly from the drum 60.

In the use of my invention, when the platform 43 and the extensible frame part M are in the lowered positions shown in Figs. 1 and 5, one end of a casket may be moved onto some of the rollers 48 where the operator closes the switch 59 to so energize the motor 55 as to drive the rollers in a direction thereby moving the casket completely onto the platform when the switch is opened to discontinue driving of the rollers.

Once the casket is completely moved onto the platform as described, the dolly can be pushed to that part of the mausoleum where the tiers of crypts are situated whereupon, the dolly is positioned so that one end of the casket faces the crypts. Depending upon the height of the particular crypt in which the casket is to be placed determines the elevation to which the platform is to be lifted, so that by manual operation of the crank 63 or by energizing the motor 64 in the proper direction through closure of the switch 72, the hoisting mechanism will be operated as follows:

Under rotation of the winch drums 60 in a clockwise direction as when viewed in Fig. 5, the cables 73 will be wound thereon to shorten the stretches between the hooks 80 and the sheaves 79 and exert a pull upwardly on the carriage K1 thereby causing the platform 43 with the casket thereon to be lifted on the frame part M. If the height of the crypt into which the casket is to be deposited is within the height of the frame part M when the latter is in the retracted position shown in Fig. 5, then the hoisting mechanism is caused or allowed to operate until the platform is lifted to the required height on the frame part M. With the casket elevated to the designated crypt, the operator, through closure

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of the switch 59, now causes the motor 55 to be operated in such direction that the rollers 48 move the casket lengthwise off of the platform and into the crypt.

If the crypt into which the casket is to be moved is above the height of the stationary frame part S the hoisting mechanism is operated to cause the upper rollers 41 of the carriage K1 to engage the stops 31 and under continued rotation of the drums 60, the stretches of the cables 73 between the sheaves 31 and 76 will be shortened to now lift the carriage K in the stationary frame part S and as the lip 29 abuts the lower ends of the side rails 34, the movable frame part M will be elevated on the frame part S, as illustrated in Fig. 10. As the platform 43 is now movable upwardly with the frame part S, it will be clear that the platform with the casket can be elevated beyond the limit of the frame part M to any height substantially within the combined lengths of the two frame parts M and S. By now operating the rollers 48 in the proper direction the casket can be moved from the platform into the preselected crypt.

If the control device of Fig. 9 is incorporated in my vehicle in the manner previously described, to operate the hoisting mechanism the operator first sets the indicator 89 through adjustment of the shaft 83, to a point along the length of the scale 90 to indicate the particular horizontal tier of crypts in which a casket is to be deposited. By such setting of the indicator the long arm of the lever 92 is so positioned axially of the drum 60 that when the switch 72 is closed to energize the motor 64 the hoisting mechanism will be operated until the casket reaches a height corresponding to the preselected crypt, when the cable 73 in its lateral movement as it is wound on the drum, will swing the lever against the tension of the spring 94, as shown in broken lines in Fig. 9, to move the short lever arm out of engagement with the switch 95. Thus the switch now opens to disrupt further current supply to the motor 64 to discontinue further elevation of the casket. By now closing the switch 59, the rollers 48 are operated to move the casket into the crypt.

The vertical extensibility of the frame part M not only provides the advantage of increasing the height to which a casket can be elevated beyond that of a non-extensible frame, but in transporting a casket to or from a crypt or when otherwise moving the vehicle from place to place in a mausoleum having doorways or arches of less height than the frame part M when in any degree of extended position it can, by moving it to completely retracted position, be readily passed through such doorways or arches.

Manifestly, my invention is not only operable to elevate a casket to a crypt at any height within the range of vertical extension of the frame part S, but by reversing operation of the motors 55 and 64, it is operable to lower a casket from an elevated crypt once one end of the casket is placed on the rollers 48, and to transport and discharge the casket from the platform.

Although I have herein shown and described only one form of casket transporting vehicle, and one form of automatic control device for the hoisting mechanism thereof, it is to be understood that various changes and modifications may be made therein without departing from the spirit of my invention and the spirit and scope of the appended claims.

What I claim is:

1. A vehicle for caskets, including: a dolly; a

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frame having a stationary part fixed on said dolly, and a movable part vertically extensible on the stationary part, and having a stop thereon; a casket supporting platform movable vertically on said movable frame part and engageable with said stop; mechanism for elevating said platform on said movable frame part, and into engagement with said stop, and for subsequently extending said movable frame part upwardly on said stationary frame part to further elevate said platform, rollers on said platform for supporting a casket, motor operated means on the platform for driving said rollers in either direction, and means on said dolly operable in all elevated positions of said platform for controlling said motor operated means.

2. A vehicle for caskets, including: a dolly; a frame part fixed to and rising from said dolly; a second frame part movable vertically on said fixed frame part; a first carriage movable vertically on said second frame part; stops on the upper portion of said second frame part engageable by said first carriage; a platform fixed on said carriage; a second carriage movable vertically on said fixed frame part and having a portion disposed beneath and contacting the lower end of said second frame part for lifting the latter on the fixed frame part; and a mechanism on said dolly for elevating said first carriage on said second frame part and into engagement with said stops, whereby upon continued operation of said mechanism said second carriage will elevate said second frame part to further elevate said platform.

3. A vehicle for caskets as embodied in claim 2, wherein said platform has rollers thereon upon which a casket is adapted to be supported, and means on said platform and operable from said dolly when the second frame part is elevated for driving said rollers in either direction.

4. In a vehicle for caskets, a dolly, a casket supporting platform movable vertically on said dolly, casket-supporting rollers on the platform, means for driving said rollers in either direction including an electric motor mounted on the platform, and means on the dolly for controlling said motor including flexible electrical conductor means leading from the dolly to said motor, said dolly having a well beneath said platform and into which said conductor means is lowered and from which said conductor means is raised as the platform is lowered and elevated.

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