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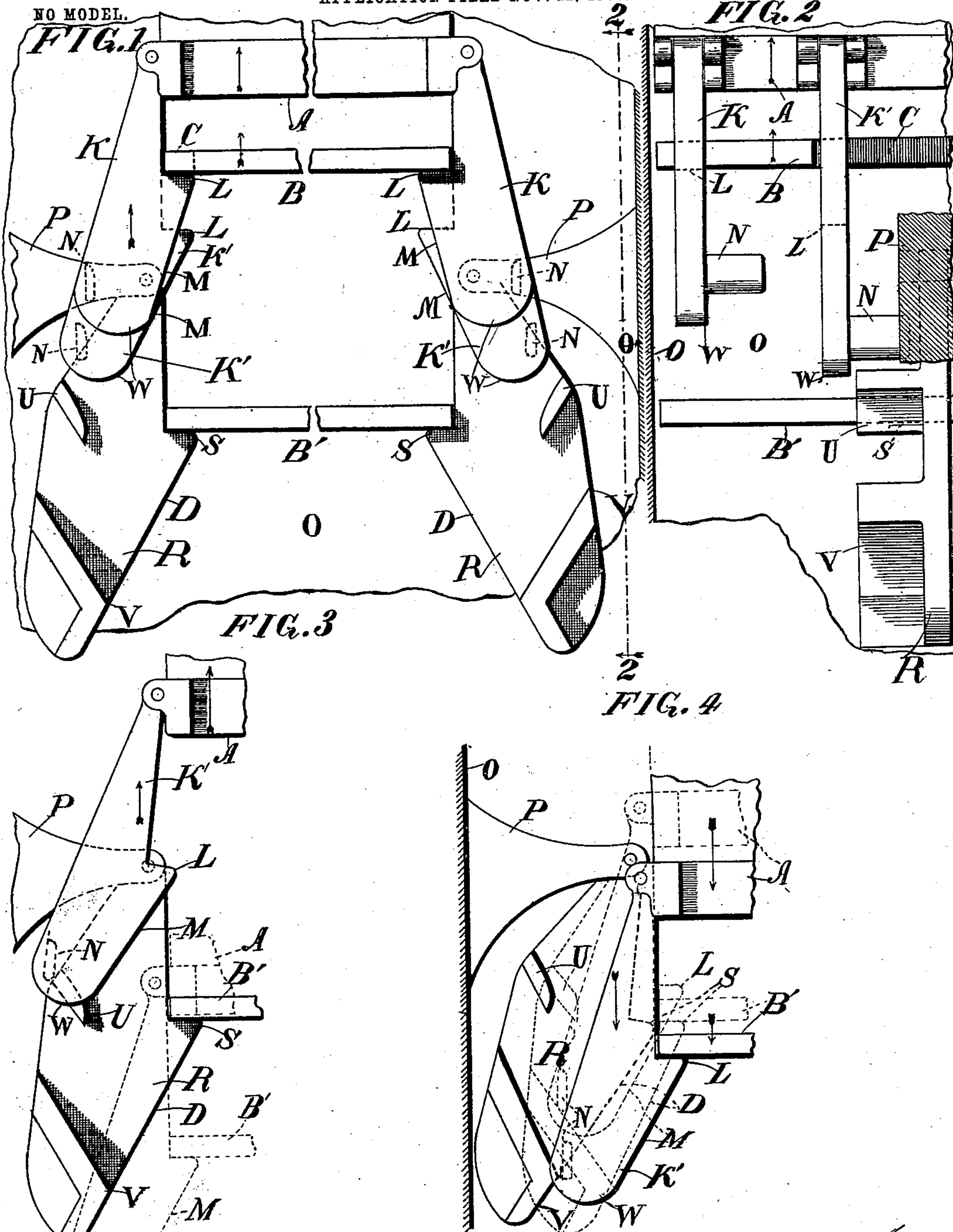
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ELEVATOR SHAFT FLOOR COVERING AND THE LIFTING AND
DEPOSITION OF SAME.

APPLICATION FILED NOV. 12, 1901.

NO MODEL.



WITNESSES

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ELEVATOR-SHAFT FLOOR-COVERING AND THE LIFTING AND DEPOSITION OF SAME.

SPECIFICATION forming part of Letters Patent No. 722,850, dated March 17, 1903.

Application filed November 12, 1901. Serial No. 81,986. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM GREGORY KETT, residing at 46 Gipps street, East Melbourne, and LÉON ROBERT HOSSENLOPP, residing at 25 Albert road, Albert Park, Melbourne, in the county of Bourke, State of Victoria, and Commonwealth of Australia, subjects of the King of Great Britain and Ireland, have invented certain new and useful Improvements in Elevator-Shaft Floor-Coverings and the Lifting and Deposition of Same, of which the following is a specification.

This invention is an improvement in elevator-shaft hatchway-coverings, its object being to provide a hatchway-covering for each floor which will be automatically placed in position as the elevator-car rises and be automatically picked up by the elevator-car and lowered therewith as the elevator-car descends.

The invention comprises hatchway-coverings, means for hanging same from stationary supports adjacent to the hatchways, and means for suspending the coverings from the elevator-car and for automatically transferring the coverings from the stationary to the movable supports as the elevator-car rises and descends.

The invention is summarized in the claims, and the following description of the devices, illustrated in the accompanying drawings, will impart a clear understanding thereof. We do not, however, restrict ourselves to the specific construction shown.

In said drawings, Figure 1 is a detail sectional elevation of parts of an elevator car, shaft, and hatchway-coverings, indicating two hatchway-coverings, one carried by the elevator-car, the other just released and carried by the hangers. Fig. 2 is a detail sectional view on line 2 2, Fig. 1. Figs. 3 and 4 are detail views.

A represents part of the lower portion of an elevator-car, O the walls of the shaft, and B B' the hatchway-coverings below the car. These coverings may be of any desired construction. We prefer light metallic frames, plates, or grills. From the car are suspended sets of hangers K K', preferably four in a set and arranged one near each corner of the car. There is a set of such hangers for each

hatchway to be controlled by the car. For example, if there be two hatchways and coverings there should be two sets of hangers, as shown. Adjacent to each hatchway in the shaft and suspended from suitable brackets P or other supports attached to the side of the shaft is a set of stationary hangers R, (stationary in the sense of having no movement except a swinging movement on their supports,) the sets of hangers R being located so that each set will correspond and coact with one of the sets of hangers K or K' on the car.

When there are two or more sets of hangers K K', they are so located that each set will coact only with its related set of hangers R, and it is advisable that the hangers K K' in successive sets should be of successively-greater length or hung one below the other, so that the hangers K for the upper hatchway-coverings will be above or shorter than the hangers K' for the lower hatchway-coverings, and so on.

The hangers K are provided on their inner faces with shoulders L, adapted to support hatchway-covering B, as shown in Fig. 1, when the hangers K are in their normal position. The hangers K' for the next lower hatchway-covering are arranged or constructed so that their shoulders L are lower than the hangers for the superimposed hatchway-coverings. Each hanger K K' is preferably beveled outwardly below shoulder L, as shown at M, and is rounded on its lower end, as at W, and is provided with a laterally-projecting lug or pin N on the side which passes adjacent to the related hanger R. The hangers R are also provided with shoulders S, adapted to support a covering B or B', and with a laterally-projecting downwardly and inwardly inclined flange V, which is adapted to be engaged by the relative hanger K or K', as hereinafter described. Each hanger R is also beveled below shoulder S, as at D, and each has a laterally-projecting downwardly and inwardly inclined cam-flange U above and shorter than cam V, adapted to be engaged by the lug N of a related hanger K or K', as hereinafter explained.

The hangers K, K', and R will swing inward by gravital action, so as to present their

shoulders beneath and in position to receive and sustain the related coverings B B'.

In operation when the car is at the bottom of shaft the several coverings B B' will be suspended one above the other on the respective sets of hangers K, the sets of stationary hangers R hanging idly above the car at the several hatchways.

The operation is as follows: On the ascent of the elevator-car, with the several coverings B B' supported by the holders K K', the edges of the lowermost covering engaging the beveled faces D of the lowermost set of holders R forces them outward until the covering rises above the shoulders S. Then holders R swing inward by gravity, with shoulders S in position to support the coverings. The inward swing of the hangers R is assured by lugs N on hangers K, which engage the under side of the upper cams U on hangers R as the car ascends and compels the hangers R to move inward and at the same time forces the hangers K to swing outward, so that the lowermost covering B' slips off the shoulders L of its hangers K' and onto the shoulders S of hangers R, thus leaving the lowermost covering suspended on the lower hangers R at the lowermost hatchway. The same operation is repeated between the proper sets of hangers at each hatchway, so that when the car is at the top of the shaft the several coverings are left suspended at their proper hatchways. As the car descends the several coverings B B' are successively picked up and lowered with the car by a reverse action, as follows: The beveled edges M of the hangers K ride over the edges of the covering B until shoulders L pass below it, and at that instant the lugs N engage the cams V and as the car further descends force hangers R to swing outward and hangers K to move inward, so that the cover slips off shoulders S onto shoulders L, and being then suspended on the hangers K it descends with the car. The same operation is repeated between the sets of hangers K' and R at the lower hatchway, so when the car reaches the bottom of shaft all the hatchway-covers are suspended therefrom. In order to prevent one cover or set of covers interfering with others, the superimposed covers may be cut away at the points when they might interfere with other hangers, as indicated at C in Fig. 2.

These coverings, if necessary, may vary in area for each floor, or there may be incuts therein. The inclined edges of R would not, therefore, be engaged by a cover belonging to another floor and forced back. The covers are or may be cut away to prevent R being forced back before N would engage T. The inward-swinging movements of the hangers may be limited by chains or other suitable devices.

There are four hangers K to each cover. In other words, each cover has its own set of supports holding it to the car and its own set

of supports holding it in the shaft. The former increase in length with the number of the covers, or they may be the same length, but pivoted lower down the side of the car. Each series of holders K is so arranged around the sides of the car that it clears the other series. An elevator-car carrying beneath it six covers would carry also twenty-four hangers K.

It must be borne in mind that hanger K is hung to the car and hanger R to shaft. Both hangers K and R are so hung or loaded that when they are not kept apart by covers, as shown in Fig. 1, they fall toward the car.

Having thus described our invention, what we therefore claim as new, and desire to secure by Letters Patent thereon, is—

1. In combination, an elevator-car, a movable hatchway-covering, and a series of hangers each having an inclined face, and a shoulder or step to support said covering, said holders being so hung that gravity tends to maintain the shoulder under said covering, with means for taking the covers from or delivering same to said hangers as the car ascends and descends, substantially as described.

2. The combination of the elevator-car, the hatchway-covering, and a series of hangers each having a shoulder or step thereon adapted to support the covering, and laterally-projecting upper and lower inclined cams, said hangers being so hung that gravity tends to maintain the shoulders under said covering, with means for taking the covers from or delivering same to said hangers as the car ascends and descends, substantially as and for the purpose described.

3. The combination of an elevator-car, a hatchway-covering, and a series of hangers hung to the car each having a shoulder adapted to support the covering, an inclined face and laterally-projecting lug; with a series of stationary holders beside the hatchway each having a shoulder thereon adapted to support the covering, and an upper and a lower laterally-projecting cam, substantially as and for the purpose described.

4. The combination of a hatchway-cover and an elevator-car, with a series of hangers hung to the car, each having a shoulder thereon adapted to support a covering, an inclined face, and a laterally-projecting lug, and a series of stationary hangers hung in the shaft beside the hatchway, each hanger having a shoulder thereon adapted to support a covering, an inclined face and a pair of laterally-projecting cams, all substantially as and for the purpose described.

In witness whereof we have hereunto set our hands to this specification in the presence of two witnesses.

WILLIAM GREGORY KETT.

LÉON ROBERT HOSSENLOPP.

Witnesses:

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CECIL W. LE CLASTRIER.