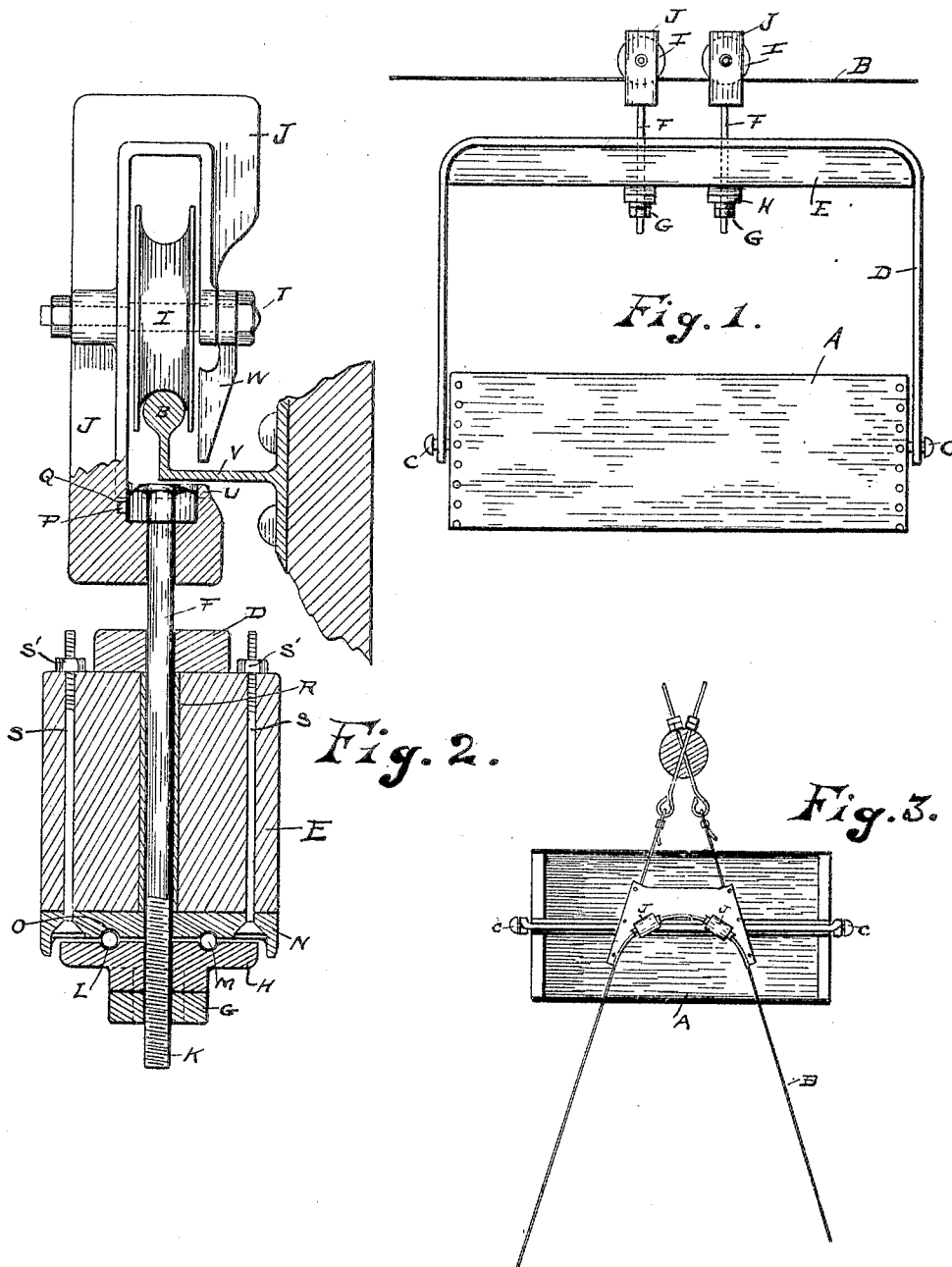


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PATENTED OCT. 24, 1905.

H. G. RYDER & E. F. DOERING.
ELEVATED SUSPENSION CARRIER.

APPLICATION FILED APR. 24, 1905.



WITNESSES:

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ELEVATED SUSPENSION-CARRIER.

No. 802,826.

Specification of Letters Patent.

Patented Oct. 24, 1905.

Application filed April 24, 1905. Serial No. 257,079.

To all whom it may concern:

Be it known that we, HORATIO G. RYDER and ERNEST F. DOERING, citizens of the United States, residing at Waterloo, county of Jefferson, and State of Wisconsin, have invented new and useful Improvements in Elevated Suspension-Carriers, of which the following is a specification.

Our invention relates to improvements in that class of elevated suspension-carriers in which the load is suspended by rollers from a cable or other elevated track; and it pertains, among other things, more especially, first, to the supporting swivel mechanism connected with the roller-retaining bracket, by which the rollers are free to turn in any direction to conform to the line of the track upon which they are being moved without turning the receptacle, which is suspended from such rollers, and whereby the liability of the rollers cramping or binding upon the cable or the track in turning a corner or a bend where two or more rollers are used in connection with a single receptacle is avoided.

Our invention pertains, further, to the mechanism for preventing the rollers from being accidentally disengaged from the supporting cable or track.

The construction of our invention and its use is further explained by reference to the accompanying drawings, in which—

Figure 1 represents a side view thereof in connection with a track and carrier or receptacle. Fig. 2 represents a vertical section of the mechanism for connecting the carrier with the pulley-supporting bracket; and Fig. 3 represents a top view of the carrier in connection with a curved track, showing the position of the roller-retaining brackets as the carrier is passing around a curve on the cable or track.

Like parts are identified by the same reference-letters throughout the several views.

A represents a carrier of ordinary construction, which is connected with the suspension-cable B through the end trunnions C C, bail D, bail-supporting bar E, suspension-rods F F, rod-retaining nuts G and H, suspension-rollers I I, roller-retaining brackets J J, and roller-supporting bolt T. The lower ends of the suspension-rods F are provided with screw-threaded bearings K for the reception of the nuts G and H. The nut H is provided with an annular groove L for the reception of a

plurality of roller-bearings M, while the lower side of the supporting-plate N is provided with an annular groove O, which registers with the lower groove L, for the reception of said roller-bearings M. The upper ends of the suspension-rods F are rigidly affixed to the bracket J and caused to turn therewith by the key P, which key is inserted in the groove Q between the head and its inclosing bearings. The bail-supporting bar E is, when made of wood, preferably provided with a metallic sleeve R, which prevents it from being chafed or worn by the turning movement of the suspension-rods F therein. The bar E is connected with its supporting-plate N by the bolts S and nuts S' or in any other equivalent manner. It will be understood, however, that the plate N, bail D, and bail-supporting bar E may, if desired, be formed of a single piece of metal, in which case the connecting-bolts S and the sleeve R may be dispensed with. It will also be understood that to prevent the carrier A from turning and swinging, as it might otherwise do if suspended from a single roller at its center, it is preferable to suspend the same from the cable with two or more suspension-rollers and connections, as shown in Fig. 1, whereby the receptacle is prevented not only from turning but also from oscillating upwardly and downwardly. It will, however, be understood that when two or more suspension-rollers are employed, as shown in Fig. 1, that were they connected rigidly with the bail or receptacle they would be liable to cramp and bind upon the supporting track or cable, whereby the friction when turning a corner or running around a curve would be greatly increased and a much greater power required for moving the receptacle, which defects and objections we have fully overcome by our device, as it will be understood that the several pulleys are free to turn independently of each other to conform to the shape of the cable or track over which they are passing, whereby the load may be carried around a bend with as little friction or resistance as if the track were straight.

To facilitate in placing the roller upon a cable or to connect the same with a bracket, as shown in Fig. 2, the bracket J is formed with an opening between the pulley-supporting bolt T and the base U for the reception of the cable B or bracket V, whereby it is obvious that the pulley may be readily placed upon

or removed from the track at any point between its supporting ends. When, however, one side of the bracket J is left open, as shown in Fig. 2, we preferably provide the same with a swinging arm W, which is suspended of its own gravity from the bolt T and closes the otherwise-open space between said bolt and the base U and serves to prevent the liability of the roller being accidentally disengaged from the cable or supporting-track. When, however, it is desirous to remove the roller from the cable or supporting-track, it is necessary simply to turn the arm W to the horizontal position, when the roller may be readily disengaged from its supporting-track or cable.

While we have shown and described our device as connected with the carrier or receptacle, it is obvious that, if desired, it may with slight modifications be used in connection with sliding doors and suspended from a rigid track, substantially as shown in Fig. 2, in which case by curving the supporting-track a door may, when open, be turned at an angle to the doorway or supporting-wall, as may be often found convenient where the walls of a building will not permit of the door being moved in a straight course when open.

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

1. In an elevated suspension-carrier, the combination of a suspension-track; a roller supported on said track; a roller-retaining bracket; a load-supporting bar; a suspension-rod communicating between said bracket and bar; a stationary bearing rigidly affixed to the lower end of said suspension-rod and an antifriction-bearing interposed between said stationary bearing and the load-supporting bar, whereby the roller and its supporting-bracket are free to turn without turning its load.

2. In an elevated suspension-carrier, the combination of a suspension-track; a plurality of rollers and roller-retaining brackets suspended from said track; a load-supporting

bar; a plurality of suspension-rods communicating between said brackets and said bar; bearing-plates rigidly affixed to the lower end of said suspension-rods; opposing bearing-plates rigidly affixed to said load-supporting bar; a plurality of antifriction-rollers interposed between the stationary bearing-plate on said rod and the bearing-plate affixed to said load-supporting bar, substantially as set forth.

3. In an elevated suspension-carrier, the combination of a supporting-track; a roller and roller-supporting bracket supported on said track, said bracket being provided with an opening or passage between its roller-supporting bolt and base, to permit of its being placed upon and removed from its supporting-cable and a swinging arm pivotally connected therewith, adapted to normally close said space between its roller-supporting bolt and base, substantially as set forth.

4. In an elevated suspension-carrier, the combination of a suspension-track; a roller and roller-inclosing bracket suspended on said track; a swinging arm pivotally connected with said bracket for normally retaining said bracket upon its supporting-track; a suspension-rod rigidly affixed at its upper end to the lower side of said bracket; a load-supporting bar revolvably secured to said suspension-rod; a bearing-plate rigidly affixed to the lower side of said bar provided on its lower surface with an annular groove; a nut or bearing-plate rigidly affixed to the lower end of said suspension-rod provided with an annular groove registering with the groove in said opposing bearing-plate and a plurality of roller-bearings located in said annular grooves, all substantially as, and for the purpose specified.

In testimony whereof we affix our signatures in the presence of two witnesses.

HORATIO G. RYDER.
ERNEST F. DOERING.

Witnesses:

JAS. B. ERWIN,
O. R. ERWIN.