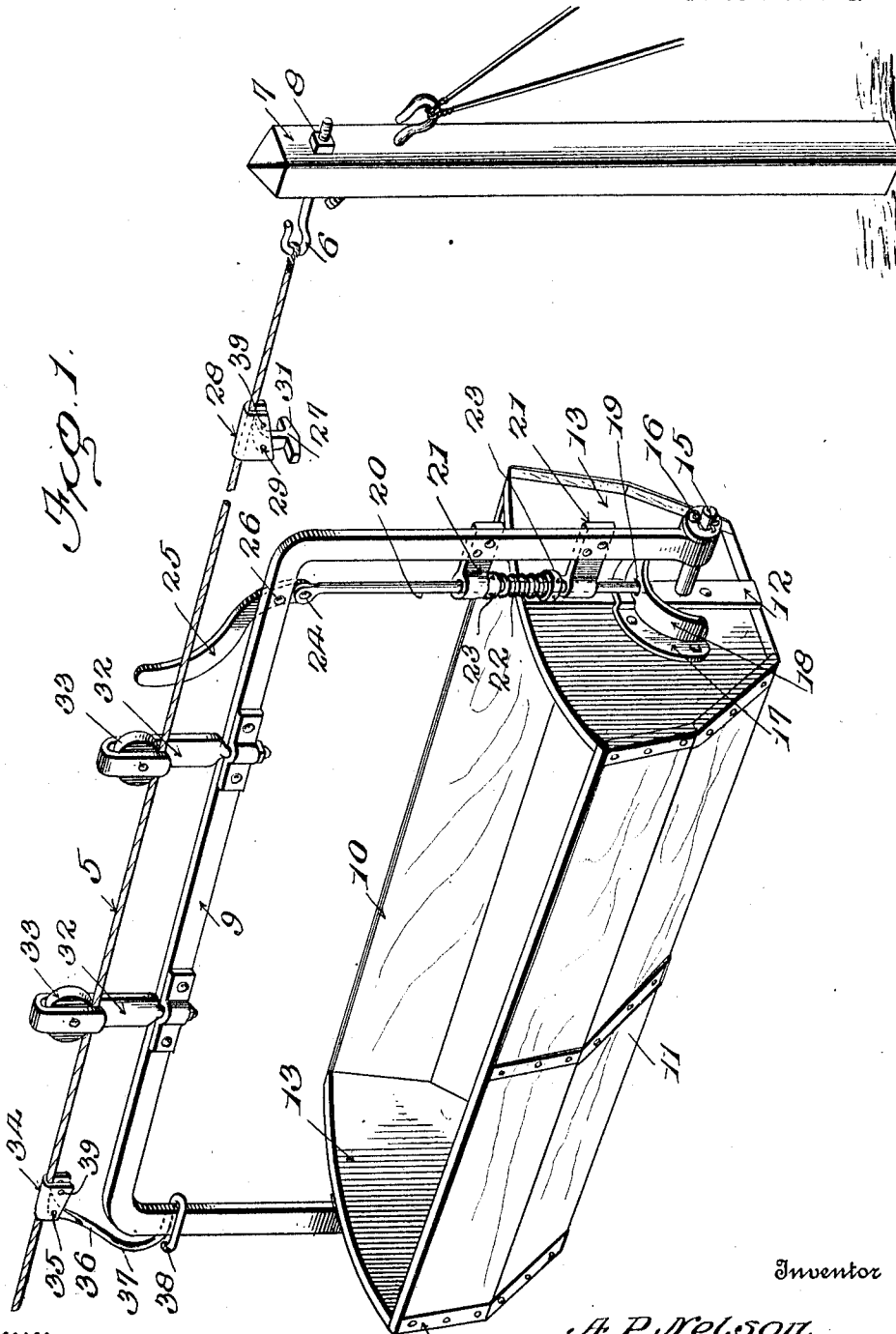


A. P. NELSON.
OVERHEAD CARRIER.
APPLICATION FILED SEPT. 16, 1909.

1,020,047.

Patented Mar. 12, 1912.

2 SHEETS—SHEET 1.



Inventor

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Witnesses
W. J. Woodman,
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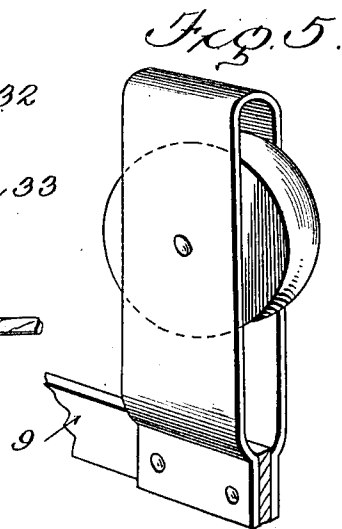
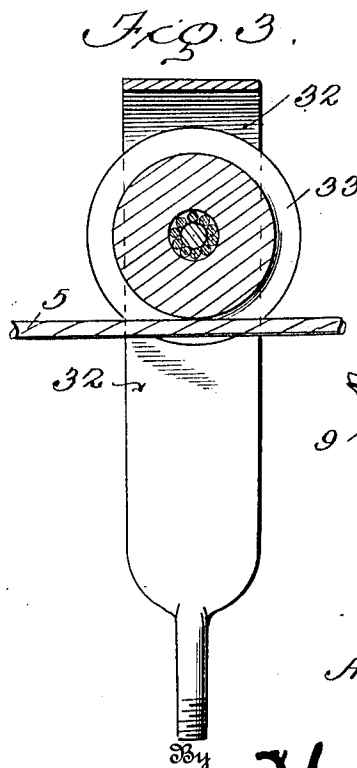
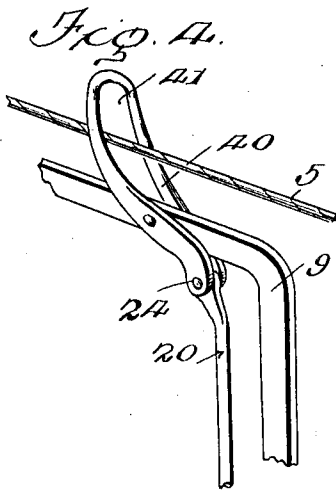
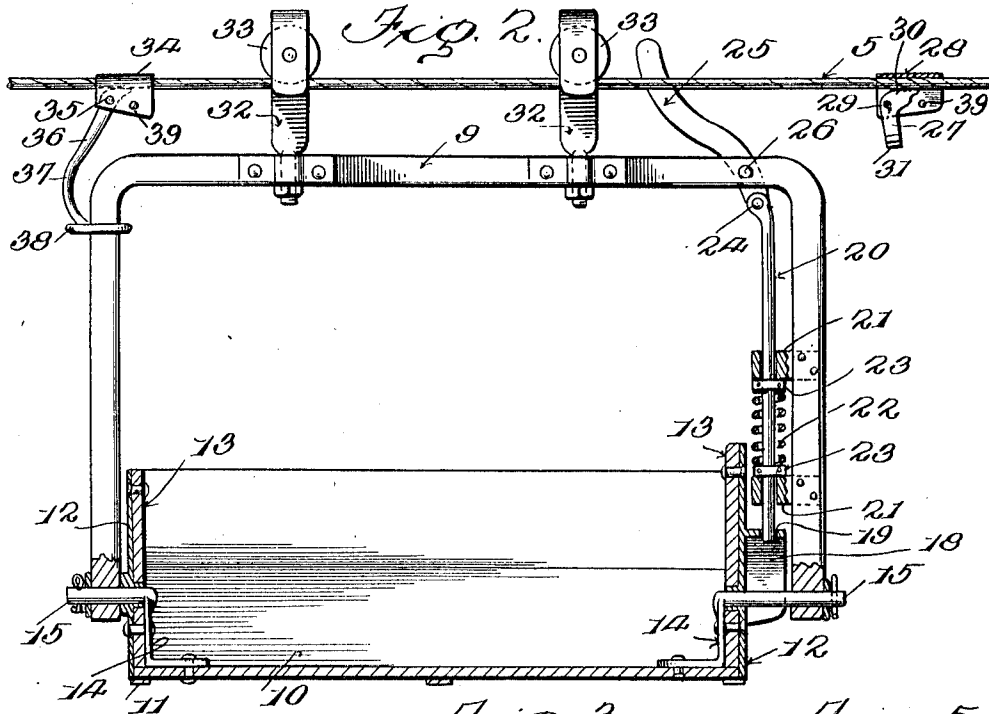
By *John H. Lacey* Attorneys.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ADOLPHUS P. NELSON, OF GRANTSBURG, WISCONSIN.

OVERHEAD CARRIER.

1,020,047.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed September 16, 1909. Serial No. 518,096.

To all whom it may concern:

Be it known that I, ADOLPHUS P. NELSON, citizen of the United States, residing at Grantsburg, in the county of Burnett and State of Wisconsin, have invented certain new and useful Improvements in Overhead Carriers, of which the following is a specification.

This invention relates to carriers and more particularly to that class of carriers arranged to travel on an overhead track or cable for transporting material from one point to another.

The primary object of the invention is to provide an overhead carrier, the construction of which is such as to effect the dumping of the load without subjecting the carrier or load receiving receptacle to sudden jars or strain.

A further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a carrier constructed in accordance with my invention; Fig. 2 is a sectional side elevation thereof; Fig. 3 is a transverse sectional view through one of the trolley handles; Figs. 4 and 5 are detail perspective views.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved carrier forming the subject matter of the present invention is mounted for travel on an overhead track 5, the latter being preferably in the form of a cable having terminal hooks 6 secured thereto and provided with threaded portions which extend through suitable posts or standards 7 for engagement with clamping nuts 8 so that by adjusting the hooks 6 in said standards, the tension of the track may be regu-

lated at will. Suspended from the overhead track 5 is a substantially U-shaped frame 9 between the opposite ends of which is pivotally mounted a load receiving receptacle 10. The receptacle or carriage 10 may be formed of wood, metal or other suitable material and is preferably provided with inclined side walls to facilitate the discharge of the contents thereof. When the receptacle 10 is formed of wood, the side and end walls thereof, as well as the longitudinal edges of the receptacle at the top thereof, are reinforced and strengthened by the provision of strap irons 11, there being vertically disposed reinforcing bars 12 fastened to the exterior faces of the end walls 13 of the receptacle and preferably extending the entire height thereof.

Arranged within the receptacle 10 and bolted or otherwise fastened to the bottom thereof, are brackets 14, the upper portions of which bear against the inner faces of the end walls 13 and are extended laterally through said end walls and also through the adjacent reinforcing bars 12 to form terminal trunnions 15 upon which the end walls of the frame 9 are journaled, as indicated at 16, thus to permit tilting movement of the receptacle.

Secured to the exterior faces of one of the end walls 13, is a curved plate 17 having a laterally extending flange 18, provided with an opening 19 adapted to receive the adjacent end of a locking rod 20, the latter serving to hold the receptacle 10 normally in position to retain the load. The locking rod 20 is slidably mounted in suitable guides or keepers 21 secured to the frame 9, there being a coil spring 22 interposed between relatively stationary and movable stop collars 23 on the locking rod for normally retaining the lower or active end of the locking rod within the opening 19. Pivottally mounted at 24 on the upper end of the locking rod 20, is a trip lever 25 having its intermediate portion pivottally mounted at 26 on the upper portion of the frame 9 and its free end curved laterally and upwardly beyond the track or cable 5 for engagement with a trip dog 27. The trip dog 27 comprises a U-shaped casing 28 which embraces the track or cable 5 and between the side walls of which is pivottally mounted at 29, the dog 27. The upper end of the dog 27 is grooved transversely and roughened or corrugated at 30 for frictional

engagement with the track or cable 5, while the lower end thereof is extended laterally to form oppositely disposed trip fingers 31 adapted to bear against the free end of the trip lever 25 and tilt the latter thereby to release the locking rod and effect the dumping of the load.

Swiveled on the upper portion of the frame 9, are spaced hangers 32, in which are mounted suitable sheaves or pulleys 33, which latter travel on the cable 5, as shown, the side walls of the hangers on one side thereof being cut-away so as to permit the sheaves to travel over switches and on curved tracks or cables.

As a means for preventing longitudinal movement of the receptacle 10 during the loading operation, there is provided a stop device, the latter being preferably in the form of a substantially U-shaped casing 34 which embraces the cable 5, and to the walls of which is pivotally mounted at 35, a gripping dog 36 adapted to engage said cable. The free end of the dog 36 is extended downwardly to form a lever 37 having its terminal portion bent laterally to form a horizontally disposed hook 38 adapted to engage the adjacent end wall of the frame 9, the free end of the frame 9, by engagement with the hook 38, serving to tilt the dog 36 on its pivotal axis so that the dog will grip the cable and thus prevent longitudinal movement of the receptacle 10.

In operation, the trip dog 27 is adjusted longitudinally of the track or cable to the point where it is desired to dump the material. The receptacle 10 is then loaded and after being released from the stop device is caused to travel in the direction of the trip dog 27. As the receptacle 10 approaches the trip dog 27, the curved face of the trip lever 25 will engage the fingers 31 of the dog 27 and cause the latter to firmly grip the cable and at the same time tilt the trip lever 25 so as to exert a longitudinal pull on the locking rod 20 and release the latter from the aperture in the flange 18, thus permitting the receptacle to swing on its pivotal axis and effect the dumping of the load, the receptacle 10 automatically righting itself so as to cause the active end of the locking rod to enter the opening or aperture in said flange. Owing to the sag in the center of the cable, the opposite ends thereof have a slight rise or inclination in the direction of the adjacent supporting posts 7, the trip dog 27 being suspended from the cable near one supporting post, and the stop dog 36 being suspended from said cable near the other post. The momentum of the carriage, incident to the impact of the trip lever with the dog 27 and the slight rise in the cable at this point, will cause the carriage to travel in the direction of the stop dog 36. As the carriage approaches the

dog 36, the frame 9 will strike the closed end of the hook 38 a glancing blow so as to swing the lever 37 laterally and allow the carriage to travel on the cable until the motion of said carriage is arrested by contact of the roller on the adjacent hanger 32 with the casing 34, when the dip or inclination of the cable will direct the carriage in the opposite direction, thus causing the frame 9 to enter the open end of the hook 38, and in which position, it will be held against longitudinal movement during the loading operation. In order to release the carriage, it is merely necessary to move the latter in the direction of the casing 34 until the frame 9 is disengaged from the hook 38 when the carriage may be directed to the point of discharge by imparting a slight longitudinal movement thereto.

Attention is here called to the fact that the U-shaped casing 28 of the trip dog, is formed with a plurality of openings 39 so that by inserting the pivot pin 29 in the different openings, the dog may be adjusted with respect to the top of the casing so as to effectually grip cables of different cross sectional diameters.

When the carriage is mounted to travel on a straight stretch of track or cable, the open sided hangers 32 are dispensed with and hangers of the construction shown in Fig. 5 of the drawings are substituted, the latter hangers being preferably closed on both sides.

When the closed hangers are employed, a trip lever 40 of the form shown in Fig. 4 of the drawings, is substituted for the trip lever 25, the trip lever 40 being provided with a loop 41 adapted to embrace the cable 5, as shown.

Particular attention is directed to the fact that both the levers 25 and 40 are curved laterally and upwardly on a slow curve so as to make the release of the locking rod gradual but positive and thus prevent any sudden jars or strain on the receptacle which would otherwise occur if the trip levers were straight and the impact of the blow a direct one.

The device is extremely simple in construction and will be found efficient for the attainment of the ends in view.

Having thus described the invention, what is claimed as new is:

1. In an apparatus of the class described, a supporting cable, a trip dog adjustable longitudinally of the cable, an inverted U-shaped frame suspended from said cable, a load receiving receptacle pivotally mounted on the frame, a locking rod carried by the frame and normally engaging the receptacle to hold the latter in load receiving position, and a single upright trip lever pivotally mounted on one side of the top bar of said frame near one end thereof and having its

lower end extended below the lower longitudinal edge of said top bar and pivotally connected with the upper end of the locking rod, that portion of the trip lever above its pivotal point being curved inwardly and extended upwardly above the top of the cable to present a concave face for contact with the trip dog, thereby to tilt the trip lever and permit dumping of the load.

2. In an apparatus of the class described, a supporting cable, an inverted U-shaped frame suspended from the cable, hangers carried by the top bar of the frame and provided with sheaves bearing against the cable, a load receiving receptacle pivotally mounted for swinging movement on the open end of the frame, a perforated plate secured to one end of the receptacle, spaced guides rigidly secured to one end of the U-shaped frame, a locking rod slidably mounted

for vertical movement in said guides and adapted to engage the perforations in the plate, relatively stationary and movable collars mounted on the locking rod, one of which is normally disposed in contact with the adjacent guide, a spring encircling the rod and bearing against said collars, a trip dog mounted on the cable, and a trip lever pivotally mounted on one side of the top bar of the frame and having its lower end pivotally connected with the upper end of the locking rod and its upper end curved inwardly and extended upwardly above the cable for contact with the trip dog.

In testimony whereof I affix my signature in presence of two witnesses.

ADOLPHUS P. NELSON. [L. S.]

Witnesses:

L. R. ROBERTS,
ROBERT CASSEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."