Nov. 9, 1926. 1,606,471

E. L. KASTLER

EXTENSION LIFTING HANDLE FOR RAILWAY MOTOR CARS

Filed April 4, 1925

FIG. 1

FIG. 2

FIG. 3

FIG. 4

Inventor
EDWARD L. KASTLER

By  
ATTORNEYS
EXTENSION LIFTING HANDLE FOR RAILWAY MOTOR CARS.

Application filed April 4, 1925. Serial No. 20,754.

This invention relates to an improved extension lift handle particularly adapted for use on railway cars, usually motor driven, to facilitate lifting such cars onto and off the rails as is customary in cars, of this type.

An object of the invention is to provide an improved extension lift handle adapted for use on railway motor cars which may be extended at either end of the car to give additional leverage in lifting the car, from the track.

A further and more specific object of the invention is to provide such extension lift handles having means for normally retaining them in their central inoperative position, and which handles are so constructed that when the operator lifts one end thereof for the purpose of moving them to extended operative position, they will automatically be released from their inoperative or normal positions.

The particular object of the invention therefore is to provide improved extension lift handles for railway cars which are so arranged that they may readily and conveniently be moved from either operative or inoperative position in a minimum amount of time.

Other objects of the invention will appear from the following description and the accompanying drawings and will be pointed out in the annexed claims.

In the drawings, there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown as various changes may be made within the scope of the claims which follow.

In the accompanying drawings forming part of this specification,

Figure 1 is a side elevation of a conventional form of railway motor car showing my improved extension handles mounted thereon and in normal inoperative position;

Figure 2 is a similar view showing the handles in extended operative position;

Figure 3 is a cross sectional view on the line 3—3 of Figure 1 showing one of the brackets for supporting the lift handles, the handle being shown raised to unlocking position; and

Figure 4 is an enlarged detail view showing the means provided adjacent the ends of each handle for retaining them in their central or neutral inoperative positions.

In the selected embodiment of the invention here shown there is illustrated a conventional form of railway motor car comprising a frame 5 mounted upon axles 6 and 7 carried by the usual carrying wheels 8. The usual deck or seat 9 is also shown mounted upon the frame 5.

An important feature of this invention resides in the novel means provided for lifting the car from and on to the rails, as is customary when meeting trains or when it is desired to park the car for any length of time alongside of the railroad track, as when making repairs thereto or inspecting the roadway. The novel means provided for this purpose preferably consists of a pair of lifting handles 11 arranged one on each side of the car. These handles are provided with grips 12 and are slidably mounted in guides or brackets 13 and 14 secured to the frame of the car by means of bolts 15 and 16, as shown in Figures 1 and 2. The ends of brackets or guides 14 are preferably rectangular in shape and are of such size as to permit the handles 11 to be drawn therethrough as shown in Figure 2. The other guides or brackets 13 are of substantially the same width as the brackets 14 but are slightly higher in order to provide clearance therein for the handles to be slightly raised as shown in Figure 3. The purpose of this lifting each handle before moving it outwards to its extended position is to release it from the stops provided for retaing it in its central inoperative position.

The stops provided for thus retaining each handle in its normal position consists preferably in securing a small angle plate 17 to the under side of each handle adjacent the ends thereof. Each angle plate is mounted in a recess 18 and the projecting portion 19 of each handle is reduced in size in order to provide a shoulder or abutment face 21 adapted to engage the lower portion of each bracket 14, as particularly shown in Figure 4. When the handles are in the position shown in Figure 1, each handle will be carried by the lower portions of the brackets 14, and when thus positioned, the abutment faces 21 of the angle plates 17 will be substantially in alignment with the lower horizontal portions of the brackets 14 which will, therefore, provide a stop for preventing
the handles from accidentally being moved from inoperative to operative position while the car is in operation or moving from place to place. When it is desired to extend the handles, the operator will grasp the grip 12 and by slightly lifting each handle, the angle plates 17 will be moved out of engagement with the lower portions of the brackets 14 after which the handles may readily be outwardly moved to extended position, as shown in Figure 2.

It will be noted that the handles are capable of longitudinal movement in either direction so that they may be drawn out to form lifting levers for either end of the car and when so drawn out, one end of the car can be lifted by the person grasping the handle for the purpose of removing the car from the rails or placing it thereon, or the car may be tilted wheelbarrow fashion on two of its wheels by means of the lifting lever handles and trundled from place to place as may be desired. When the handles are in their normal position, the grips will project only a short distance beyond the ends of the car and will not interfere with the use of the car or be in the way of a workman walking around or putting articles on the car. The handles are shown in connection with the supporting frame of a motor driven car and usually will be used with a car of this character, but it will be understood that the lifting lever handles may be applied to a hand-driven car if desired. When the handles are drawn out at either end of the car, it will be noted that the person grasping them will have a considerable leverage on the load and will be able to lift the end of the car and handle it with comparative ease.

Means are also preferably provided for limiting the outward movement of each handle in order that they may not accidentally become separated from the hand car. Such means preferably consists in the provision of stop lugs 22 provided on each handle adjacent the central portions thereof. These stops may be conveniently formed by mounting suitable bolts in each handle as shown in Figures 1, 2 and 3. The heads of these bolts will project beyond the outer surfaces of each handle so as to engage the brackets 14 when the handles are moved to extended position as shown in Figure 2. Each bracket 13 is also preferably formed with an arched or curved portion 23 as shown in Figure 3, in order to provide clearance for the limit stops 22 when the handles are moved from the position shown in Figure 1 to that shown in Figure 2. The curved or offset portions 23 of the brackets 13 are located so as to be in alignment with the stops 22 when the handle is being moved to extended position as shown in Figure 3.

In the operation of these novel extension lift handles in conjunction with a railway motor car, they will normally be carried in the position shown in Figure 1 in which position each handle will be supported by the two guides or brackets 13. When thus positioned, the angle plates 17 will drop below the lower portions of the brackets 14, as shown in Figure 4, thereby preventing the handles from being longitudinally moved in their supports while in normal position. A particular advantage in this novel method of supporting the extension handles, is that when the operator grasps the handles, for the purpose of extending them, the abutment faces 21 formed by the angle plates 17, will automatically be lifted or moved out of engagement with the lower portion of the brackets 14, thereby permitting the handles to be outwardly moved to extended position until the limit stops 22 will engage the brackets 14. When the handles are returned to their normal inoperative positions, it is only necessary to longitudinally move them in their guides until the extended end of each handle drops to a horizontal level with the opposite end thereof, caused by the angle plate 17 dropping to the position shown in Figures 1 and 4, after which the handles will be locked against longitudinal movement. When in this position, the weight of each handle will be supported by the brackets 13 while the outer brackets 14 will cooperate with the abutment faces 21 to retain the handles in such position. No additional locking device is, therefore, required to lock the handles in their normal positions, as they will be held in such positions by gravity.

I claim as my invention:

1. A railway car having a frame and supporting wheels thereon, and handle-bars mounted on said frame each adapted to be drawn out at either end of the car to provide for increased leverage in lifting the car.

2. A railway car comprising a frame and supporting wheels thereon, and handle-bars slidably mounted in said frame each adapted to be raised and drawn out at either end of the car to provide increased leverage in lifting the car.

3. A railway car comprising a frame and supporting wheels thereon, handle-bars mounted in said frame each adapted to be drawn out at either end to provide for increased leverage in lifting the car, said handle-bars having means for locking them in their normal retracted position.

4. A railway car comprising a frame and supporting wheels thereon, handle-bars mounted in said frame each adapted to be drawn out at either end to provide for increased leverage in lifting the car, said handle-bars having means for locking them in their normal retracted position, said
locking means becoming released upon the initial movement of said bars in drawing them out to their lifting position.

5. A railway car comprising a frame and supporting wheels therefor, handle-bars mounted in said frame each adapted for longitudinal movement therein in either direction to allow them to be drawn out to provide increased leverage in a car lifting position, and means for limiting the outward movement of said bars.

6. A railway car comprising a frame and supporting wheels therefor, bars mounted for longitudinal movement in said frame, inner and outer guides for said bars, stops for limiting the outward movement of said bars to their lifting position, the inner guides being adapted to allow the passage of said stops therethrough and the outer guides engaging said stops for checking the outward movement of said bars.

7. A railway car comprising a frame and supporting wheels therefor, and means mounted thereon and normally in a retracted position but adapted to be moved outwardly in either direction to provide a leverage for lifting the car.

8. A railway car comprising a frame and supporting wheels therefor and means mounted thereon on each side and each adapted to be moved outwardly at either end of the car to provide lifting levers for raising the car.

9. A railway car comprising a frame and supporting wheels therefor, handle-bars mounted in guides on each side of said frame for longitudinal movement in either direction to a position where an increased leverage may be obtained for lifting the car, means for normally holding said bars in their inactive position and means for limiting the outward movement of said bars in either direction.

10. A device of the class described including a frame having inner and outer fulcrum-forming guides, lifting bars slidable in the guides, each bar having a shoulder adjacent each end engageable with the outer guides for non-translatably securing the bar in storage position, each bar having spaced intermediate stops for engagement with the outer guides to limit the bars in working position, and said inner guides being bowed to permit one stop to pass through one of said guides as the bar is translated to operative position, for fulcrum engagement with one inner and outer guide.

In witness whereof, I have hereunto set my hand this 30th day of March 1925.

EDWARD L. KASTLER.