March 15, 1960 C. JESSUP 2,928,657

CABLE LIFT FOR RAILROAD CAR APPLIANCES

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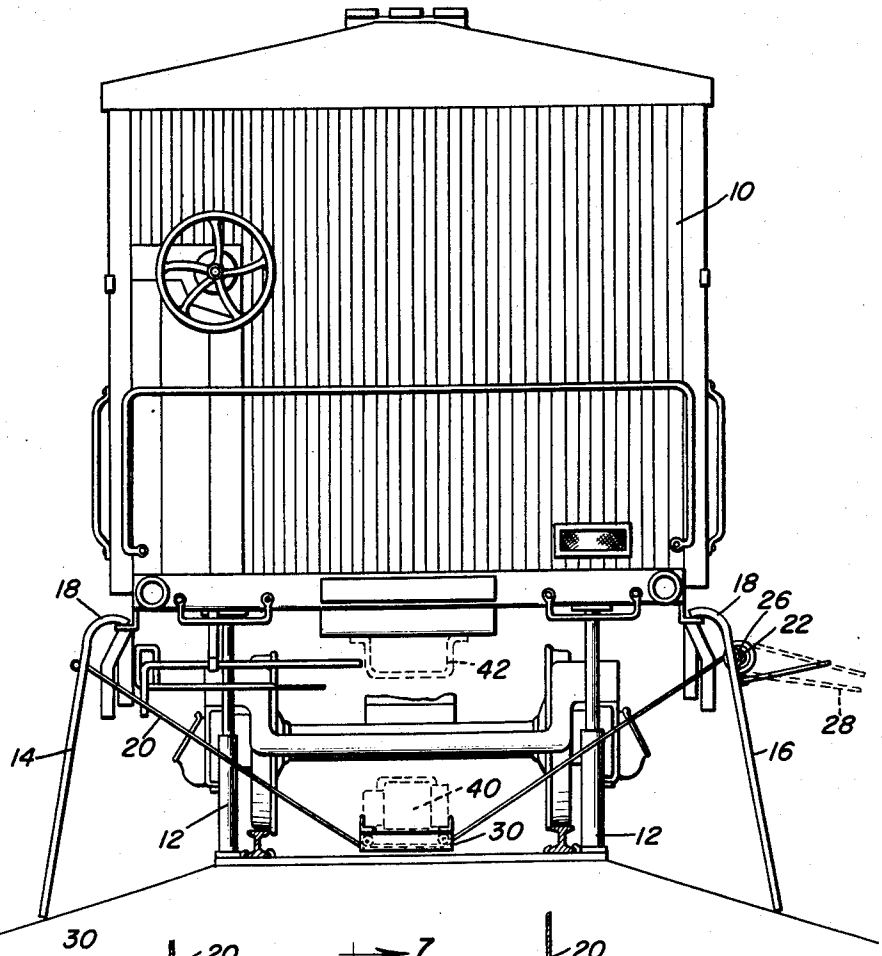
Fig. 1



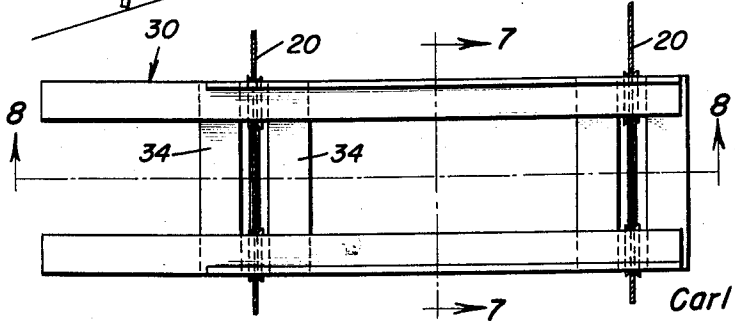


Fig. 6

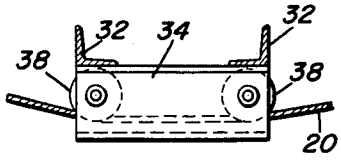


Fig. 7

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CABLE LIFT FOR RAILROAD CAR APPLIANCES

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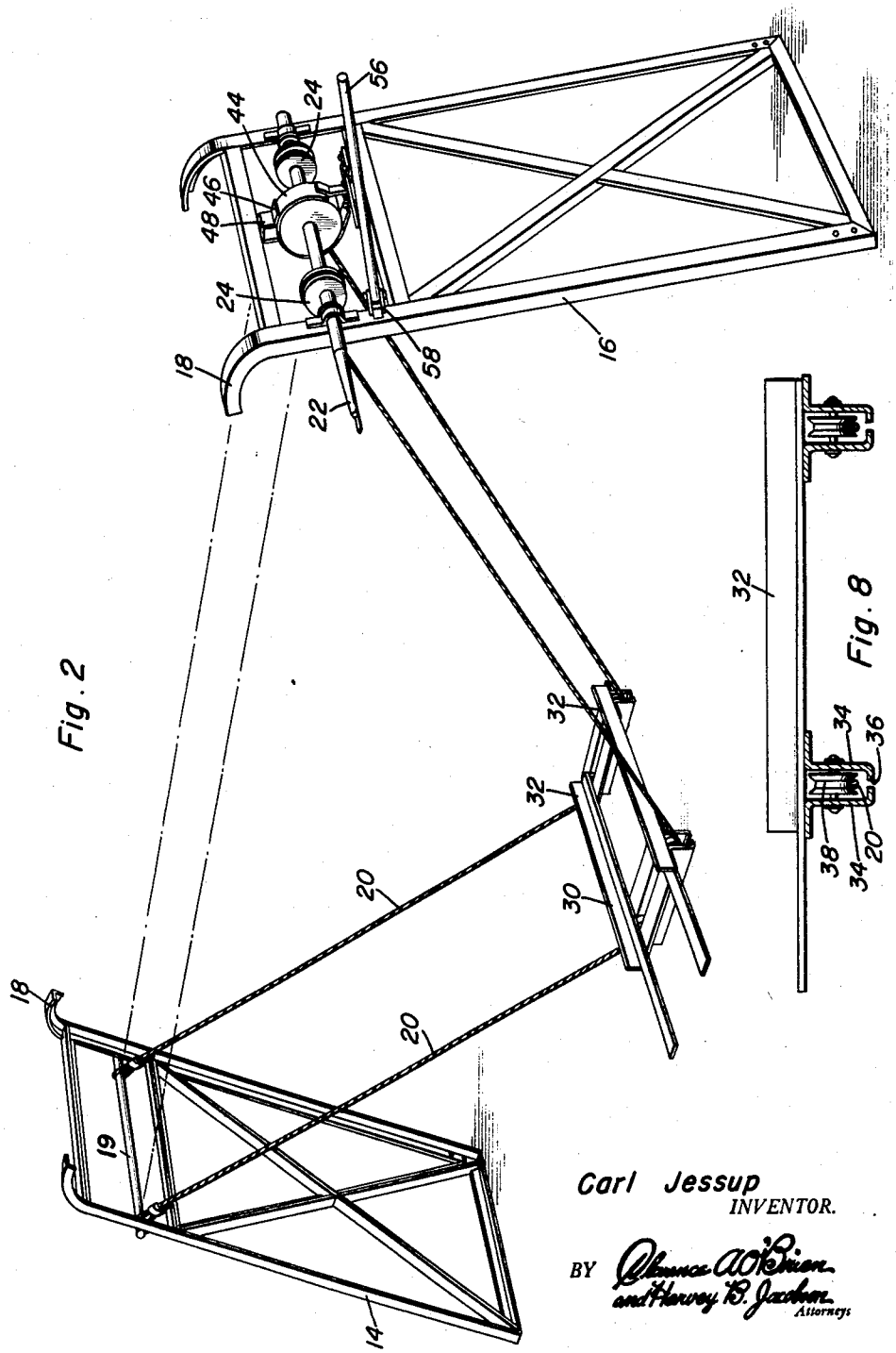

Fig. 2

Fig. 8

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CABLE LIFT FOR RAILROAD CAR APPLIANCES

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Fig. 3

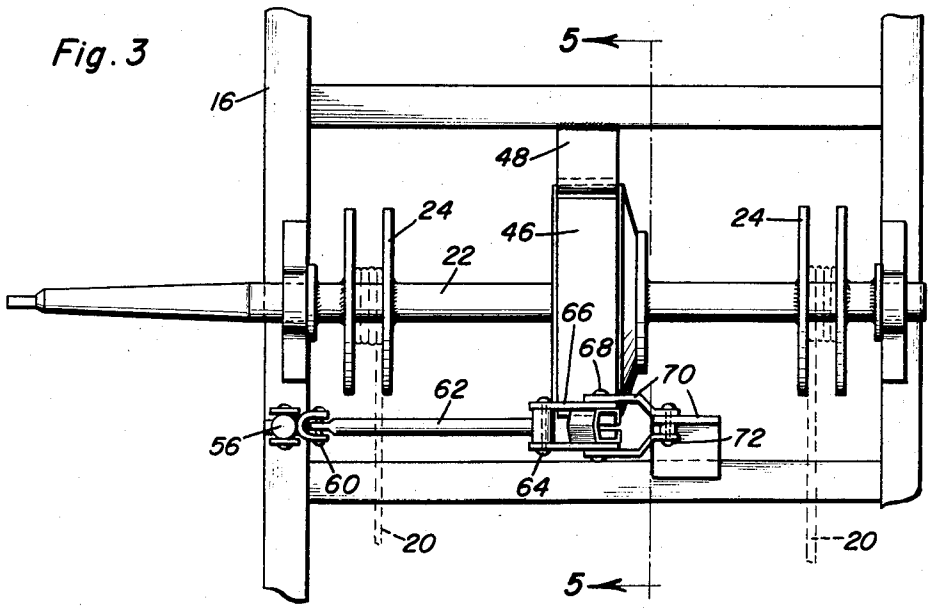


Fig. 4

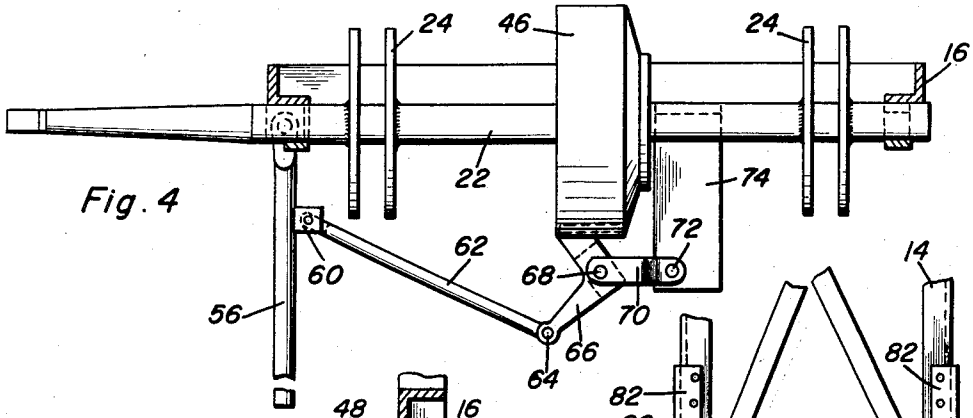


Fig. 5

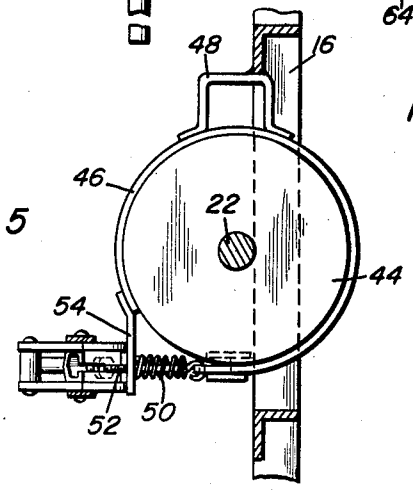
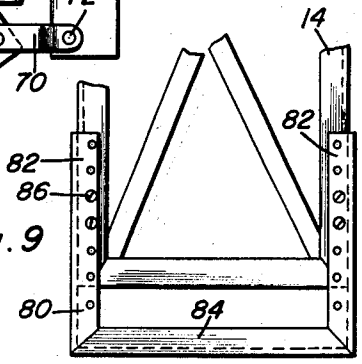


Fig. 9



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CABLE LIFT FOR RAILROAD CAR APPLIANCES

Carl Jessup, Clarksville, Ind.

Application September 30, 1955, Serial No. 537,653

2 Claims. (Cl. 254—144)

This invention comprises novel and useful improvements in a device for placing couplers, yokes and draft gears in place in draft pockets of railroad freight and passenger cars and more particularly comprises a portable elevating means for lifting heavy equipment such as couplers, yokes, and draft gears into the draft pockets of railroad cars.

The principal object of this invention is to provide a lifting device to facilitate the lifting and proper positioning of varous equipment of railway cars for inserting the same into a desired location.

A further object of the invention is to provide a lifting apparatus which will facilitate the raising or lowering of heavy equipment of railway cars whereby the labor of applying or removing the same from their proper locations upon a railway car may be considerably lessened and the time required may be greatly reduced.

A still further object of the invention is to provide an elevating device in accordance with the preceding objects which shall be particularly adapted for application to a railway car, and will employ the latter as a part of the framework of the lifting device.

Yet another object of the invention is to provide an apparatus in conformity with the above mentioned objects which may be readily connected to any available source of power for operating the same.

A still further important object of the invention is to provide an apparatus in conformity with the preceding objects in which there shall be employed a self-adjusting or self-centering supporting carriage for carrying the articles to be lifted.

And a final important object of the invention to be specifically enumerated herein reisdes in the provision of a lifting apparatus in conformity with the above mentioned objects which shall include an improved means for securely holding the same in vertically adjusted position.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a front elevational view showing the manner in which the invention is utilized in connection with a railway car;

Figure 2 is a perspective view showing the supporting leg assemblies of the lift device together with the carriage and lifting mechanism of the same, the railway car and the article to be lifted by the device being omitted from this view;

Figure 3 is a fragmentary elevational view upon an enlarged scale of the winch mechanism carried by one of the leg assemblies of the device;

Figure 4 is a view taken at right angles to the view of Figure 3 and showing further details of the construction of the winch mechanism;

Figure 5 is a vertical transverse sectional detailed view taken substantially upon the plane indicated by the section line 5—5 of Figure 3 and showing a brake assembly forming a part of the winch mechanism;

Figure 6 is a top plan view showing a portion of the supporting cables of the lift device and the lifting carriage mounted thereon.

Figure 7 is a vertical transverse sectional view taken substantially upon the plane indicated by the section line 7—7 of Figure 6;

Figure 8 is a vertical longitudinal sectional view taken substantially upon the plane indicated by the section line 8—8 of Figure 6; and,

Figure 9 is an elevational view showing a portion of a leg assembly and leg extension member applied thereto.

In general, draft gears, couplers and their associated parts for freight and passenger cars are now placed in their draft pockets or removed therefrom by hand, or with the use of jacks and blocks. In some instances, cranes and lift trucks are used for this work, but all of these methods involve a considerable amount of labor and time in order to handle the extremely heavy elements and manipulate the same in the close quarters available, with a resultant very considerable cost. It is the fundamental purpose of this invention to provide a relatively simple and inexpensive construction whereby such parts may be lifted and assembled; and may be disconnected and lowered with relative ease, and at a considerable saving in time and labor.

In carrying out the principles of this invention there is provided a supporting frame upon which a lifting mechanism is mounted. In order to simplify this construction, as will be apparent from Figure 1, the railway car which is being serviced is utilized as a portion of the supporting frame of the lifting device. Thus, the railway car **10** of any desired type, shown blocked up from the railway tracks by jacks **12**, constitutes a support for the upper end of a pair of legs or leg assemblies **14** and **16**. The leg assemblies may be of any desired type, being preferably provided at the upper ends with curved extremities **18** which are adapted to engage any convenient portion of the railway car for properly positioning the upper ends of the leg assemblies which may rest upon the ground or floor. The leg assembly **14** comprises merely an anchor or abutment for the lifting device, while the other leg assembly **16** carries a winch assembly.

For this purpose, it will be seen that the leg assembly is provided with a transverse bar **19**, rigidly secured thereto, and to which the ends of a pair of cables **20** are attached. The other leg assembly **16** has a power shaft **22** journaled thereon and this power shaft has fixed thereto a pair of winch drums **24** to which the other ends of the cables **20** are secured. As will now be seen, by rotating the shaft **22**, the cables may be reeled in or let out as desired.

Power may be applied to the shaft **22** in any desired manner. Thus, the shaft may be provided with a pulley **26**, as shown in Figure 1, and which may be driven as by belt **28** from any suitable source of power. Referring again to Figs. 1 and 2, it will be seen that a carriage **30** is mounted on the cables **20** for movement therealong and for lifting thereby as the cables are wound upon the winch drums. Preferably this carriage comprises a pair of side rails **32** from which depend pairs of Z-shaped members **34**, the lower ends of which are slightly spaced from each other as at **36** to provide a slot whereby the cables **20** may be positioned within or removed from the depending members as desired. Pulleys **38** are journaled between the pairs of members **34** and thus support the carriage upon the cables **20**, as will be readily perceived by a comparison of Figs. 6, 7 and 8.

It will thus be apparent that as the cables are raised or lowered by the winch the carriage being free to move

along the length of the cables will center itself at the mid portion of the same. Consequently, an article to be lifted by the carriage, as for example a coupler and draft assembly indicated in dotted lines in Fig. 1 by the numeral 40 may be raised or lowered, and may be inserted into or removed from the draft pocket 42 of the railway car.

In order to maintain the carriage and the article carried thereby at any desired elevation, there is provided a brake mechanism cooperating with the winch assembly. Referring to Figs. 3–5, it will be seen that the shaft 22 has fixed thereto a conventional brake drum 44 and a brake band or brake shoe 46 surrounds this drum, being carried as by a bracket 48 secured to the leg assembly 16. The ends of the brake shoe are yieldingly urged upon or into brake releasing position as by a spring 50 and a bolt 52 secured to one end of the brake shoe and being slidably received within an aperture in a bracket 54 attached to the other end of the brake shoe provides means for contracting the brake shoe upon the brake drum and thus locking the winch shaft 22 in a selected position.

For manipulating the brake shoe and its actuating bolt 52, there is provided a lever arm 56 which is pivoted to a bracket 58 carried by the leg assembly 16. The lug 60 on the lever arm has pivoted thereto a link 62 which in turn is pivoted as at 64 to a bell crank member 66 having its mid-portion pivoted as at 68 to a link 70 which in turn is pivoted as at 72 to a supporting bracket 74 carried by the leg assembly 16. The other end of the bell crank is engaged with the extremity of the bolt 52 whereby movement of the lever will actuate the assembly and thus actuate the brake to lock the winch drums in selected position.

As shown in Fig. 9, either of the leg assemblies such as that indicated at 14 may be provided at its lower end with a detachable and adjustable extension. The latter may consist of a U-shaped frame 80 having a pair of upstanding leg members 82 and at their lower ends having a cross-connecting member 84. By means of bolts 86, the legs 82 may be attached to the sides of the leg assembly 14 and thus provide an extension for the same.

It will be observed that by this invention the lifting device will be quickly applied to or removed from a railway car; and will enable the application of power from any suitable source to raise or lower the articles being handled by the device. The labor and operations of servicing such heavy equipment of railway cars as couplers, draft gear and their associated parts is thus greatly simplified.

The foregoing is considered as illusrative only of the principles of the invention. Further, since numerous

modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A lifting device for the draft gear of railway cars comprising, a pair of leg assemblies, means on each leg assembly at the upper end thereof for engagement with opposite sides of a railway car, a winch journaled on one leg assembly, a pair of cables secured to said winch and having an end of each anchored to the other leg assembly, a carriage, means supporting said carriage for free movement upon said pair of cables, brake means for said winch whereby to secure said cables and carriage in adjusted position, said supporting means including depending pairs of members on said carriage, each pair of members embracing and retaining one of said cables therebetween, said members being spaced at their lower ends to provide a slot for passage of a cable therethrough.

2. A lifting device for the draft gear of railway cars comprising, a pair of leg assemblies, means on each leg assembly at the upper end thereof for engagement with opposite sides of a railway car, a winch journaled on one leg assembly, a pair of cables secured to said winch and having an end of each anchored to the other leg assembly, a carriage, means supporting said carriage for free movement upon said pair of cables, brake means for said winch whereby to secure said cables and carriage in adjusted position, said supporting means including depending pairs of members on said carriage, each pair of members embracing and retaining one of said cables therebetween, rollers journaled between said members for supporting the carriage upon the cables, said members being spaced at their lower ends to provide a slot for passage of a cable therethrough.

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