May 26, 1953 J. KILNESS 2,639,888

RAILROAD CAR MOVING JACK

Filed March 3, 1950 2 Sheets-Sheet 1

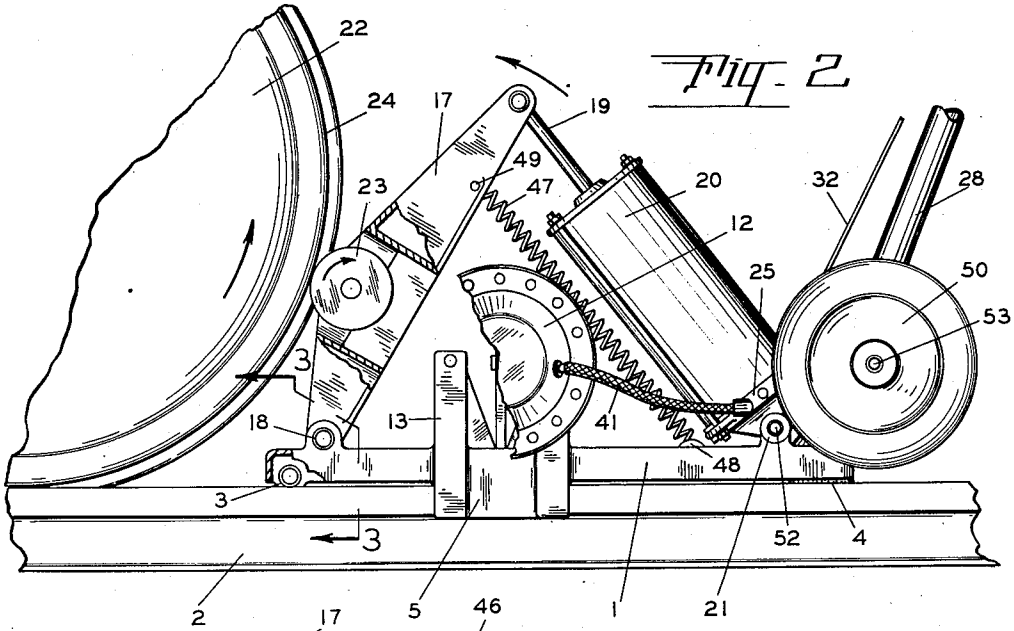


Fig. 2

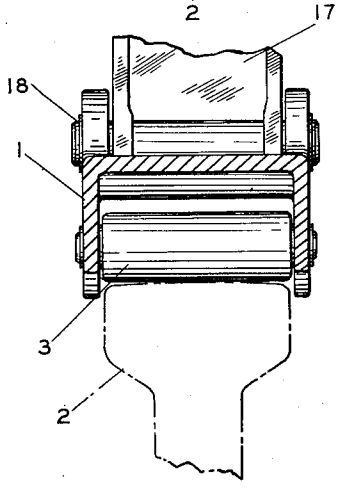


Fig. 3

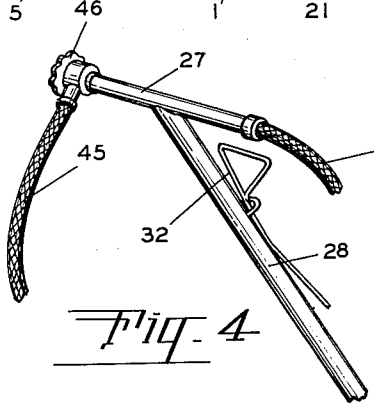


Fig. 4

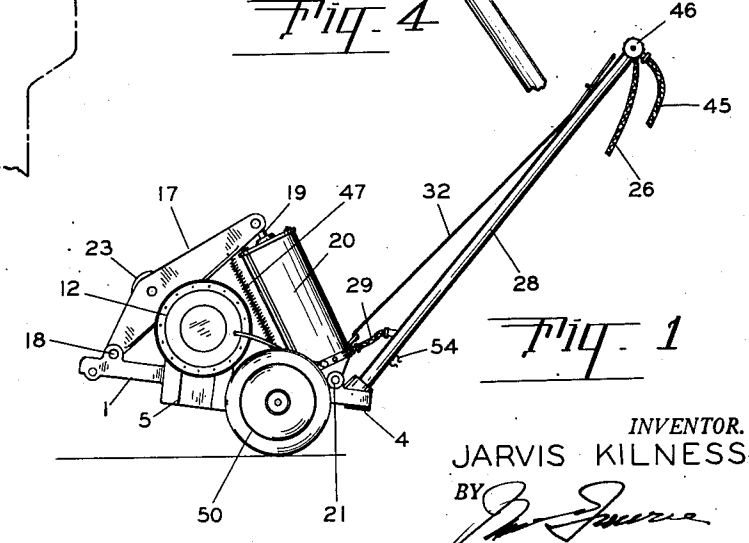


Fig. 1

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May 26, 1953 J. KILNESS 2,639,888

RAILROAD CAR MOVING JACK

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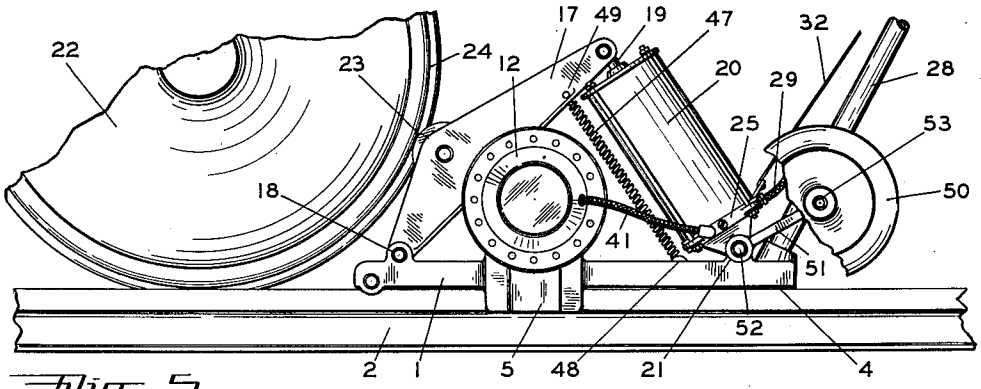


Fig. 5

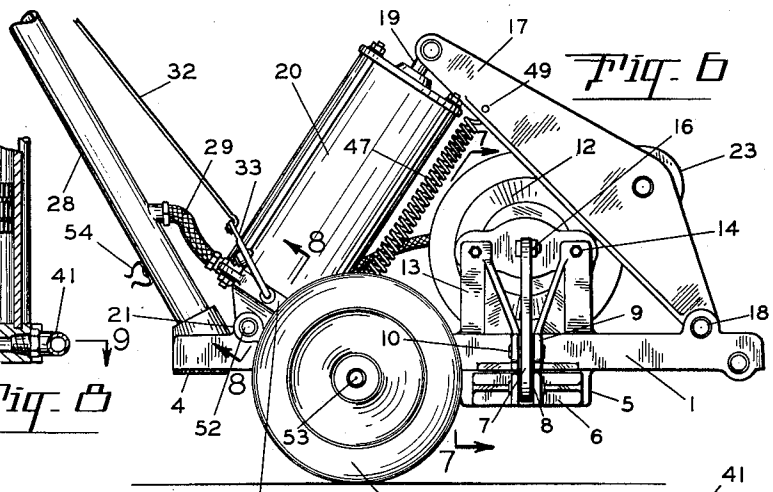


Fig. 6

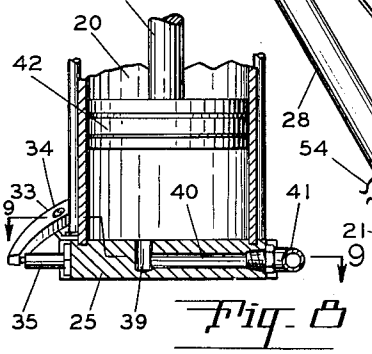


Fig. 8

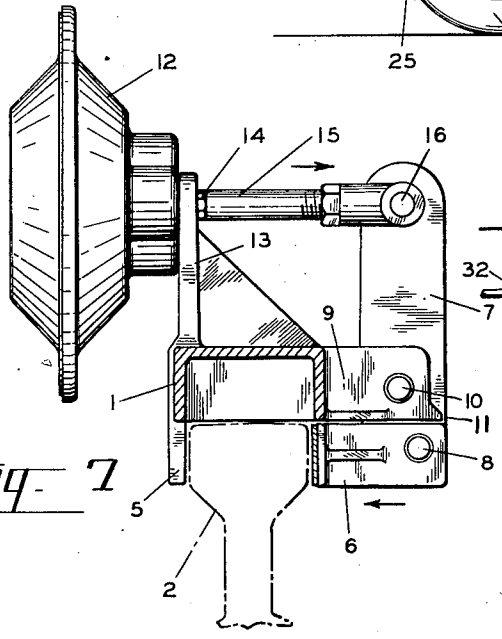


Fig. 7

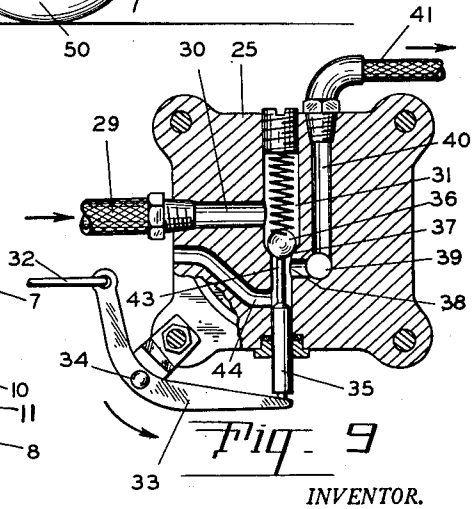


Fig. 9

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RAILROAD CAR MOVING JACK

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Application March 3, 1950, Serial No. 147,453

4 Claims. (Cl. 254—35)

1

My invention relates to jacks and particularly is adapted for moving railroad cars on sidings and the like.

This application is an improvement over my now pending application Serial Number 30,239, filed June 1, 1948.

The primary object of my invention is to provide a car moving jack whose frame can be automatically locked to the rail by an air operated brake after which a pivoted bar action may be applied to the wheel of the car by a pivotally mounted bar operated by an air operated cylinder.

A further object of my invention is the building into the jack mechanism a control valve forming an integral part of the said jack, that will apply air to the said brake and air cylinder, and that will rapidly exhaust the air therefrom, at the same time the said valve mechanism will be protected from damage.

Another object of my invention is the provision of means for guiding the jack while the operator is moving the said jack along the rail after each pushing operation of the jack against the wheel.

A still further object of my invention is the provision of wheeled means for supporting the jack while moving the same from place to place.

And a further object of the invention is the provision of a valve control for supplying air to the air brake system of the car being moved by the operator while he is operating my new and improved car moving jack.

These and other incidental objects will be apparent in the drawings, specification and claims.

Referring to the drawings:

Figure 1 is a side view of my new and improved car moving jack as it would appear being moved from place to place.

Figure 2 illustrates the jack mounted to the rail and being applied against the wheel of the car, parts broken away for convenience of illustration.

Figure 3 is an enlarged fragmentary sectional view taken on line 3—3 of Figure 2 illustrating the rail in broken lines.

Figure 4 is a perspective view of the upper end of the handle for moving the jack about and to which the air lines are connected.

Figure 5 illustrates the jack mounted to the rail adjacent the wheel of the car in inactive position, parts broken away for convenience of illustration.

Figure 6 is a side view of the jack from the opposite side of that shown in Figures 1, 2 and 5, the same being removed from the rails.

Figure 7 is a sectional view, taken on line 7—7 of Figure 6, illustrating the arrangement of the brake for holding the jack to the rails, parts being omitted for convenience of illustration.

Figure 8 is a fragmentary side sectional view of the air cylinder, illustrating the air valve mechanism located at its lower end, the same being taken on line 8—8 of Figure 6.

2

Figure 9 is a plan sectional view taken on line 9—9 of Figure 8, showing the complete valve mechanism.

Referring more specifically to the drawings:

My new and improved car moving jack consists of a base frame 1, which is adapted to set on the rail 2. The frame 1 is supported on its front end by the roller 3 (Fig. 3) and has a pad 4 fixedly secured under its opposite end, said pad adapted to engage the rail and is preferably made from a material to prevent slipping of the frame on the rail.

Extending downwardly and centrally of the frame 1 is a clamp jaw 5 adapted to engage the side of the rail 2, referring to Figure 7. A movable clamp jaw 6 is pivotally mounted to the lever 7 at 8. The said lever 7 is pivotally mounted to the bracket 9 at 10, the bracket being part of the base frame 1. The jaw 6 is prevented from dropping down beyond the position shown in Figure 7 by the action of the stop 11 but is permitted a limited pivotal movement to accommodate variation in the side of the rail 2.

The lever 7 is operated by the brake applicator unit 12, which is fixedly secured to the upwardly extending bracket 13 forming part of the base frame by any suitable means, as for instance the cap screws 14. The brake applicator rod 15 extends from the unit 12 and is pivotally connected to the lever 7 at 16. Air is applied to the unit 12, as will be later described, and the lever 7 is forced in the direction of the arrow (Fig. 7), forcing the jaw 6 against the side of the rail and against the jaw 5, locking the base 1 to the said rail.

A bar or lever 17 is pivotally mounted to the base frame at 18 at its lower end, and has its upper end pivotally connected to the piston rod 19 of the air cylinder 20. The air cylinder 20 is also pivotally connected at 21 to the base frame 1. The lever bar 17 is adapted to be raised by the piston rod 19, as indicated in Figure 2 against the wheel 22 of the car, by way of the roller 23 which is journalled within the said lever bar.

Located at the bottom of the cylinder 20 is an air control valve 25, referring to Figures 8 and 9 particularly. Referring to Figure 4, an air line 26 supplies air to the jack from a source not here shown. The air enters the handle bar 27 of the handle 28 travelling down through the handle into the hose connection 29, referring to Figures 6 and 9.

Air enters the valve 25 by way of the passage 30, thence into the valve chamber 31. When the operating rod 32 is pulled by the operator it will pivot the lever 33 about its pivot point 34 in the direction of the arrow (Fig. 9), forcing the plunger 35 against the ball 36 raising it from its seat 37, which will permit air to flow from the chamber 31 through the port 38, and up through the port 39 into the cylinder 20. At the same time this happens air passes through the passageway 40 into the hose line 41 to the casing 12 in

which there is a diaphragm or piston (not shown) to which rod 15 is connected. When air is admitted to the casing the clamps are operated and lock the device to the rail as above described.

The piston 42 (Fig. 8) will raise the piston rod 19 forcing the lever bar 17 towards the wheel of the car, referring to Figure 2, moving the wheel forward along the rail. When the piston reaches the end of its travel the control rod 32 is released, which will allow the ball 36 to reseat itself shutting off the air supply, at the same time the air contained within the cylinder 20 and unit 12 will force the plunger 35 away from the ball 36 bringing the reduced stem 43 of the plunger in line with the exhaust port 44 as shown in Figure 9, allowing the air to escape from the cylinder 20 and the brake drum 12, releasing the brake holding the jack to the rail.

The operator then pushes against the handle bar 27, forcing it up behind the wheel again. Then he again operates the control lever 32 locking the jack to the rail and causing the cylinder 20 to force the lever 17 and its roller 23 against the wheel, giving the car a further boost forward. In the event it is desired to stop the car's movement forward a hose line 45 is connected to the air line of the car, not here shown, then by simply opening the valve 46 the brakes on the car may be applied in the usual manner.

In order to exhaust the air out of the cylinder 20, a spring 47 is fixedly secured to the base frame at 48 and to the lever 17 at 49. This spring pulls the piston 42 down within the cylinder 20, forcing the air contained therein out through the port 44 of the valve mechanism as above described.

In order to move my new and improved car moving jack from place to place, I have mounted a set of wheels 50 to the pivotally mounted arms 51 by way of the cross shaft 53. The arms 51 are fixedly secured to the cross shaft 52, which allows the said wheels 50 to be raised to the position shown in Figures 2 and 5 when the jack is being used on the rail.

When the jack is being transported from place to place on the wheels, they take the position shown in Figures 1 and 6. The cross shaft 53 reaches from one wheel to the other, there being one wheel on each side of the frame. This shaft contacts the handle in the position shown in Figure 2 and is held thereagainst by a clip 54 associated with the handle supporting the wheels in the position illustrated.

When the jack is being moved about as illustrated in Figures 1 and 6, the cross shaft 53 engages the underside of the base frame 1, supporting the weight of the jack upon the cross shaft 53. By locating my valve mechanism within the base of the cylinder 20, the said valve is protected and the ports can be made in such proportions as to quickly exhaust the air from the cylinder 20 and the brake cylinder 12, which instantly responds to the operating rod 32.

Although certain specific embodiments of the invention have been shown and described, it is obvious that many modifications thereof are possible. The invention, therefore, is not to be restricted except in so far as is necessitated by the prior art and by the spirit of the appended claims.

What I claim is:

1. A railroad car moving device comprising a base for mounting on a rail, the base having a fixed rail clamping member to engage one side of a rail, a cooperating rail clamping member pivoted to the base to engage the opposite side of the rail, a fluid pressure unit mounted on the base and operatively connected to the pivoted member, a lever pivoted to the base, fluid pressure means including a cylinder pivoted at one end to the base, a piston operating in the cylinder and pivoted to the lever, spring means connected with said base and biasing said piston and lever to retracted position, and means including a control valve mounted in the pivoted end of the cylinder and connected to the cylinder and unit to supply fluid pressure simultaneously to the cylinder and unit, said control valve including exhaust means opening through the end of the cylinder.

2. A device as defined in claim 1, wherein the base is provided with a roller and a handle for advancing the base toward a car wheel on the rail, means on the handle for operating the valve, transporting wheels and a support for said wheels and pivoted on said base for swinging said wheels to inoperative position when the base is mounted on a rail and to operative supporting and transporting position when moving the device from place to place.

3. A railroad car moving device, comprising a base, a lever pivoted to the base, a clamp jaw pivoted to the lever to engage one side of a rail, a second clamp jaw fixed to the base, pneumatically operated means supported on the base, a connection between the pneumatically operated means and the lever, a bar pivoted to the one end of the base, a roller carried by said bar to engage the wheel of a car, a cylinder pivoted to the base, a piston operating in the cylinder and pivotally connected to the upper end of the bar, spring means connected between said base and said bar for retracting said bar, an inlet and an exhaust port in the bottom of the cylinder, an air supply pipe leading to the inlet port, a by-pass port communicating with the inlet port, an air supply conduit leading from the by-pass port to the pneumatically operated means, and valve means for simultaneously controlling admission or release of air through the ports to operate the clamp jaws and the bar.

4. A railroad car moving device as defined in claim 3 comprising a hollow handle extending from the base, means for connecting said handle to a source of air under pressure, said air supply pipe comprising a flexible conduit between said handle and said valve inlet port, a control member slidably carried by said handle for actuating said valve means, a rail engaging roller on said base facilitating movement of said base by said handle along the rail, a shaft on said base, arms extending from the shaft, a shaft at the outer ends of the arms, and wheels mounted on the second-mentioned shaft, whereby said wheels can be turned under the base and engage under same to support said base above the ground.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,204,000	Pierce	June 11, 1940
2,473,109	Schneider	June 14, 1949

FOREIGN PATENTS

Number	Country	Date
440,289	Germany	Jan. 28, 1927
642,585	Germany	Mar. 9, 1937