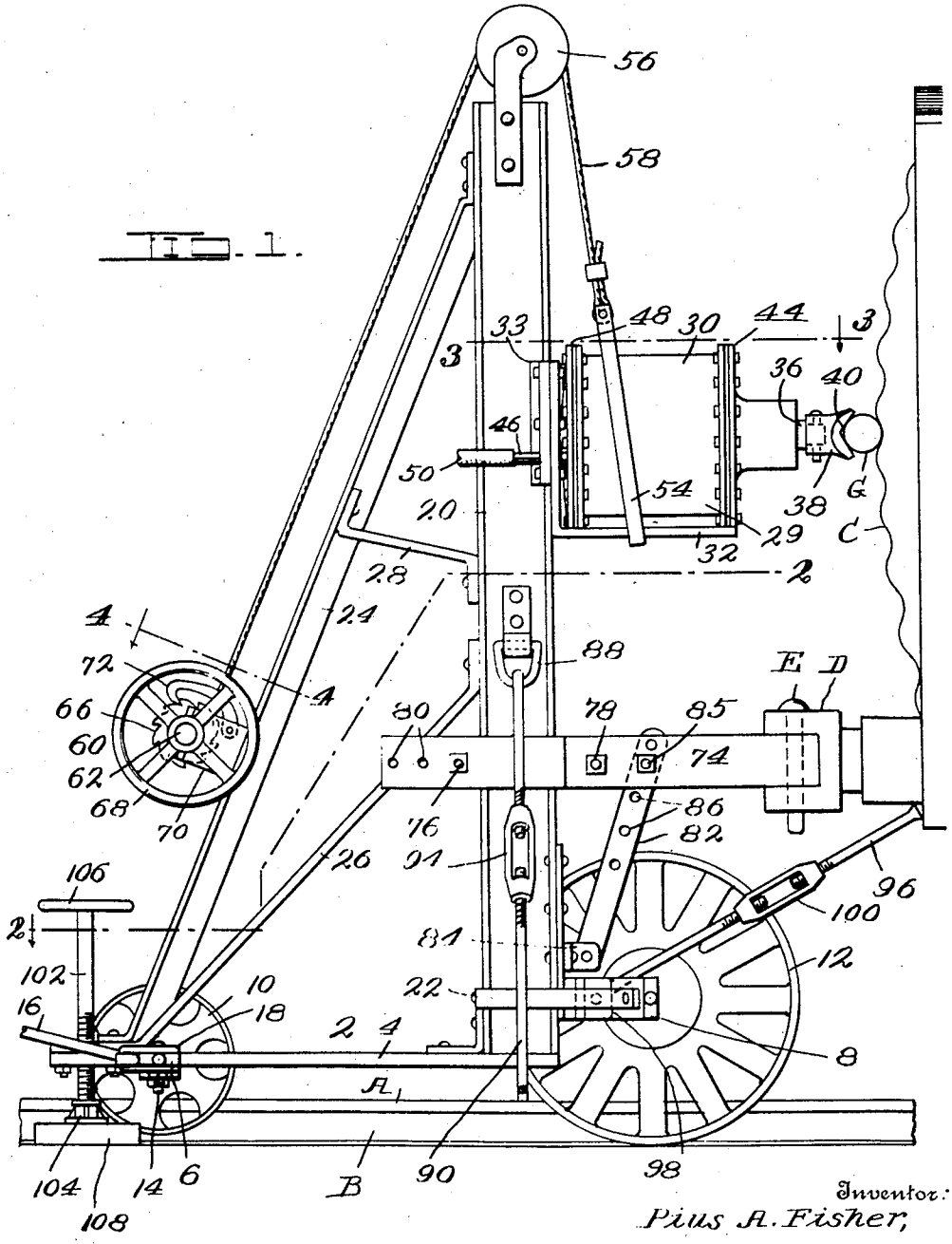
March 11, 1930. P. A. FISHER 1,749,806

PORTABLE POWER APPLIANCE

Filed May 26, 1928 2 Sheets-Sheet 1

Fig. 1.



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PORTABLE POWER APPLIANCE

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FIG. 2.

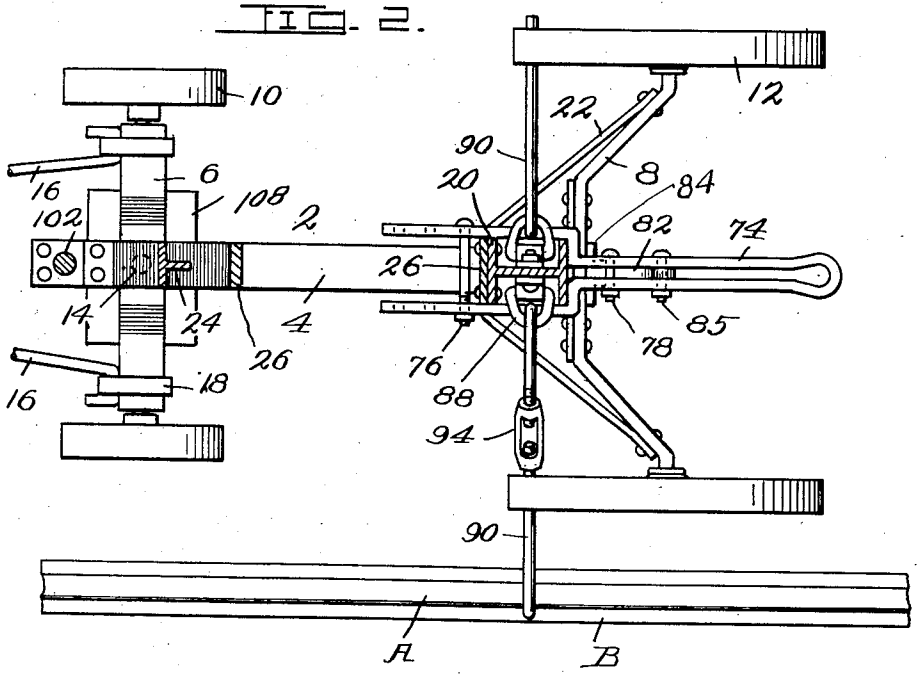


FIG. 3.

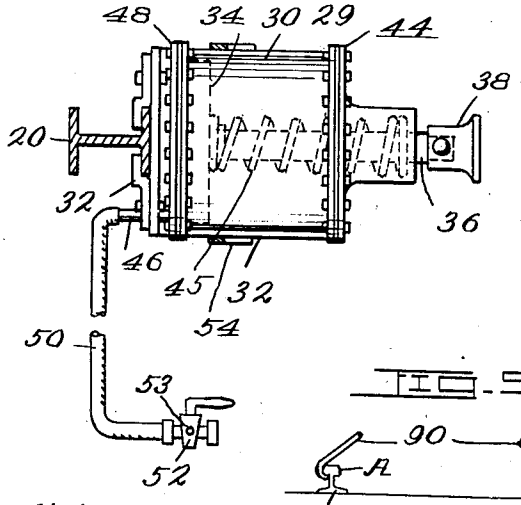


FIG. 4.

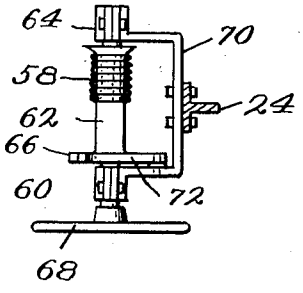
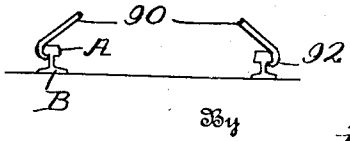


FIG. 5.



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UNITED STATES PATENT OFFICE

PIUS A. FISHER, OF KANSAS CITY, MISSOURI

PORTABLE POWER APPLIANCE

Application filed May 26, 1928. Serial No. 280,929.

My invention relates to portable power appliances and one object is to provide an appliance of this character including a vehicle which will enable the appliance to be readily transported from place to place, a mast mounted upon said vehicle, a motor adjustably mounted upon said mast, and hoisting mechanism for raising and lowering said motor.

While the appliance may be employed to advantage in a variety of places I have designed it more especially for use in railway yards where it can be employed in repairing box and other cars having sheet metal end and side walls which become bulged by loads shifting while in transit. The appliance may also be used for trimming lumber and other loads that become displaced on flat cars while in transit and thus save the time and labor of performing this work by hand.

In order that the invention may be fully understood reference will now be had to the accompanying drawings, in which:

Fig. 1 is a side elevation of the appliance coupled to a box car and with one of the front and rear wheels of the vehicle removed.

Fig. 2 is an irregular horizontal section on line 2—2 of Fig. 1, uncoupled from the box car.

Fig. 3 is a section on line 3—3 of Fig. 1.

Fig. 4 is a section on line 4—4 of Fig. 1.

Fig. 5 is a fragmentary detail showing the hook-shaped ends of a pair of stays engaging under the balls of a pair of rails.

In carrying out the invention I employ a suitable vehicle for enabling the appliance to be readily moved from place to place by hand. In the present instance I have shown said vehicle in the form of a truck consisting of a reach 4, front and rear axles 6 and 8, and front and rear wheels 10 and 12, mounted upon said axles 6 and 8, respectively. The front axle 6 extends beneath the forward portion of the reach 4 to which it is pivotally connected by a king-bolt 14 so that said axle 6 may swing to the right or left to guide the appliance while the latter is being moved from place to place. The front axle 6 is provided with a handle 16 swiveled at its rear ends to metallic straps 18 secured to opposite ends of said axle 6.

20 designates a mast which is rigidly secured to the rear end of the reach 4 and the rear axle 8, the ends of which latter are reinforced with a brace 22 secured intermediate its ends to the mast 20. The mast 20 is further secured to the reach 4 by braces 24 and 26, the latter of which extends from the intermediate portion of the mast 20 to the forward portion of said reach 4. The brace 24 extends from the lower forward portion of the brace 26 to the upper portion of the mast 20. The intermediate portions of the mast 20 and the brace 24 are reinforced and united by a strut 28.

29 designates a suitable motor which is fixedly mounted upon a bracket 32 adjustably connected to the mast 20 by slides 33. The motor 29, in the present instance, consists of a cylinder 30 and a reciprocatory piston head 34 which latter is equipped with a piston rod 36 projecting through the forward cylinder head 44 and provided at its outer end with a fitting 38 having a V-shaped groove 40 for a purpose which will hereinafter appear. The piston head 34 is normally held at the end of its backward stroke by a coil spring 45 interposed between said piston head 34 and the forward cylinder head 44.

Fluid under pressure is admitted to the cylinder 30 through a nipple 46 projecting from the rear cylinder head 48 and equipped with a hose 50 provided with a valve 52 having a relief port 53.

Suitable hoisting mechanism is provided for raising and lowering the cylinder 30. In the present instance said mechanism consists of a sling 54, a sheave 56, a cable 58, and a windlass 60. The sling 54 extends beneath the bracket 32 and is connected at its upper ends to one end of the cable 58, which runs over the sheave 56 and down to a drum 62. The windlass 60 consists of the drum 62, a ratchet wheel 66 fixedly mounted upon said drum 62, a hand wheel 68 fixedly mounted upon the drum 62, and a pawl 72 pivotally mounted upon a bracket 70 which is firmly secured to the brace 24. The drum 62 is jour-

naled in bearings 64 secured to the bracket 70.

74 designates a coupling member which is folded intermediate its ends and extends backwardly at opposite sides of the mast 20 to which it is clamped by suitable means such as bolts 76 and 78. The rear portion of the coupling member 74 has a series of holes 80 for the reception of the bolt 76 and to enable said coupling member 74 to be adjusted forwardly when necessary for engagement with the coupling of a railway car to be repaired. A brace 82 is connected at its upper end by a bolt 85 to the forward portion of the coupling member 74 to assist the bolts 76 and 78 in supporting said coupling member. The lower portion of the brace 82 is secured to a clevis 84 which is fixed to the lower portion of the mast 20. The brace 82 has a series of holes 86 any one of which is adapted to receive the bolts 78 or 85 and allow for longitudinal or vertical adjustment of the coupling member 74 upon the mast 20.

88 designates a pair of links secured to opposite sides of the mast 20 and connected to the upper ends of stays 90 formed into hooks 92 at their lower ends for engagement with the under portion of the balls A of railway rails B. The stays 90 are equipped with turn-buckles 94 whereby they may be lengthened or shortened as required.

96 designates a brace connected at its rear end to a clevis 98 projecting from the intermediate portion of the rear axle 8. The brace 96 is equipped with a turn-buckle 100 whereby it may be lengthened or shortened as required.

102 designates a lifting jack threaded in the forward portion of the truck 2. The lower end of said jack is provided with a base 104, while its upper end has a hand wheel 106 whereby it can be rotated to adjust it up or down.

As shown in Fig. 1, when the sheet metal end C of a box car is to be pushed back to normal position the appliance is positioned between the track rails B upon which said box car is located. The knuckle of the coupler D is then removed to admit the forward end of the coupling member 74 which is then connected to the coupler D by means of the coupler pin E, after which the front wheels 10 of the truck are raised with the jack 102 to prevent them from sinking into the ground between the rails B, a large block 108 being placed beneath the base 104 of the jack to provide a wide footing therefor. The appliance is then firmly secured against lateral displacement by means of the stays 90, the hook-shaped ends 92 of which are engaged under the balls A of the rails B against which they are firmly drawn by proper adjustment of the turn-buckles 94. The free end of the brace 96 is then placed against any convenient portion of the box car, in the present instance it being shown bearing against the box car just beneath the coupler D. The cylinder 30 is then raised by the hoisting mechanism until the piston rod 36 is in line with the central portion of the bulge in the end C of the car. The valve 52 is then connected to a pipe leading from a supply of fluid under pressure, usually compressed air in a tank having pipe lines leading to different parts of the railway yard for furnishing a supply of compressed air for testing air brakes and other purposes. Just before admitting air to the cylinder 30 for the purpose of advancing the piston-head 34, a pipe or round bar G is placed in the V-shaped groove 40 to provide a wide bearing against the bulged portion of the end wall C, so that when the piston head 34 advances pressure will be applied to said bar G which in turn forces the end wall C back to its original position. As pressure is applied against the end wall C, said pressure has a tendency to push the upper portion of the mast 20 backwardly and its lower portion forwardly towards the box car, the coupling 74 acting as a fulcrum, but such tendency is effectually overcome by the stays 90 and the brace 96 which cooperate with the coupling members 74 in firmly holding the appliance in working position.

After the end wall C has been pushed back to normal position the valve 52 is adjusted to cut off the supply of fluid under pressure and open the port 53 so that the fluid in the cylinder 30 may escape therefrom and permit the spring 45 to push the piston head 34 backwardly towards the cylinder head 48.

From the foregoing description it is apparent that I have provided a power appliance possessing the advantages hereinbefore pointed out, and while I have shown and described one embodiment of the invention I reserve all rights to such changes and modifications as properly fall within the spirit and scope of the invention as claimed.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. An appliance of the character described consisting of a truck, a mast mounted upon said truck, a cylinder mounted upon said mast and adapted to receive fluid under pressure, a piston head reciprocably mounted in said cylinder and adapted to be actuated by said fluid, and a piston rod secured to said piston head and projecting through one end of the cylinder.

2. An appliance of the character described consisting of a truck, a mast mounted upon said truck, a cylinder mounted upon said mast and adapted to receive fluid under pressure, a piston head reciprocably mounted in said cylinder and adapted to be actuated by said fluid, a piston rod secured to said piston head and projecting through one end of the cylinder, and means for raising and lowering said cylinder.

3. An appliance of the character described consisting of a truck, a mast mounted upon said truck, a cylinder mounted upon said mast and adapted to receive fluid under pressure, a piston head operably mounted in said cylinder and adapted to be actuated by said fluid, a piston rod secured to said piston head and projecting through one end of the cylinder, a sheave mounted at the upper portion of said mast, a windlass associated with the mast, and a cable running over said sheave and connected to the cylinder and said windlass.

4. An appliance of the character described consisting of a truck, a mast mounted upon said truck near one end thereof, a brace extending upwardly from the opposite end of the truck and secured to the upper portion of said mast, a motor slidably mounted upon said mast, a sheave mounted at the upper portion of the mast, a bracket secured to the brace, a drum journaled in said bracket, a cable running over the sheave and attached to the motor and said drum, a ratchet wheel fixed to the drum, a pawl mounted upon the bracket and adapted to engage said ratchet wheel, and a hand wheel for rotating the drum.

5. An appliance of the character described consisting of a truck, a mast mounted upon said truck, a coupling projecting forwardly from said mast and adapted to be connected to the coupler of a railway car, and a motor mounted upon the mast.

6. An appliance of the character described consisting of truck, a mast mounted upon said truck, a motor mounted upon said mast, and stays connected to said mast and having hook shaped lower terminals for engagement with the rails of a track.

7. An appliance of the character described consisting of a truck, a mast mounted upon said truck, a cylinder mounted upon said mast and adapted to receive fluid under pressure, a piston head reciprocably mounted in said cylinder and adapted to be actuated by said fluid, a brace loosely secured to the lower portion of the mast and means for varying the length of said brace.

8. An appliance of the character described consisting of a truck, means for raising and lowering one end of said truck, a mast mounted upon said truck, and a motor mounted upon said mast.

9. In an appliance of the character described, a mast, a motor slidably associated with said mast, and hoisting mechanism for raising and lowering said motor.

10. In an appliance of the character described, a mast, a motor slidably associated with said mast, hoisting mechanism for raising and lowering said motor, a wheeled truck upon which said mast is mounted, a screw threaded in said truck to raise and lower one end thereof, and means for actuating said screw.

11. In an appliance of the character described, motor means equipped with pushing means, and motor raising and lowering means.

12. In an appliance of the character described, motor means equipped with pushing means, motor raising and lowering means, and guiding means on which said motor means is raised and lowered.

13. In an appliance of the character described, motor means equipped with pushing means, motor raising and lowering means, guiding means on which said motor means is raised and lowered, and portable means upon which said guiding means is mounted.

14. In an appliance of the character described, motor means, motor raising and lowering means, and coupling means capable of connecting said appliance to a railway car.

15. In an appliance of the character described, motor means, motor raising and lowering means, coupling means capable of connecting said appliance to a railway car, and brace means carried by the appliance and adapted to abut the car to which said appliance is coupled.

16. In an appliance of the character described, motor means equipped with pushing means, motor raising and lowering means, guiding means on which said motor means is raised and lowered, and means at opposite sides of said appliance for engaging the rails of a track.

In testimony whereof I affix my signature.

PIUS A. FISHER.