Feb. 24, 1948. W. H. LEWIS 2,436,757

PACKING ROLLER

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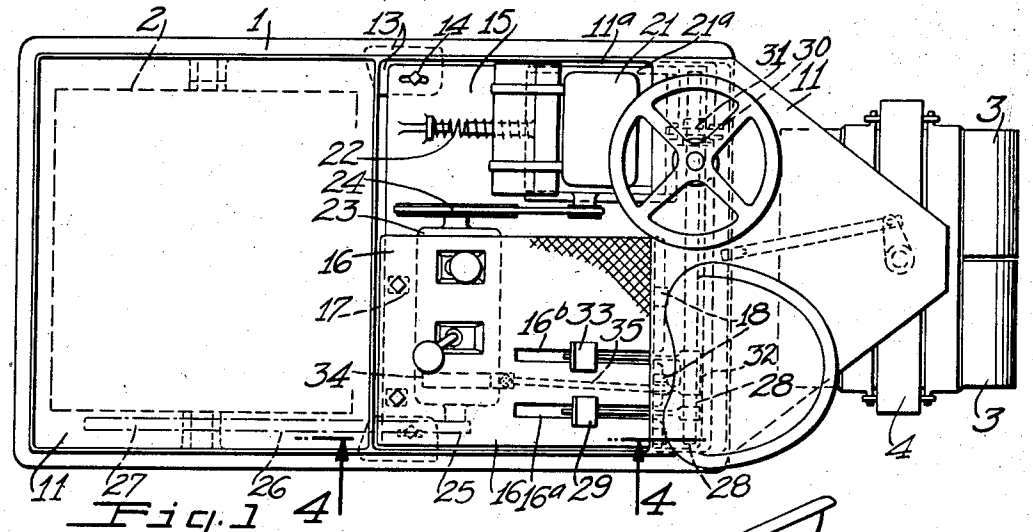


Fig. 1

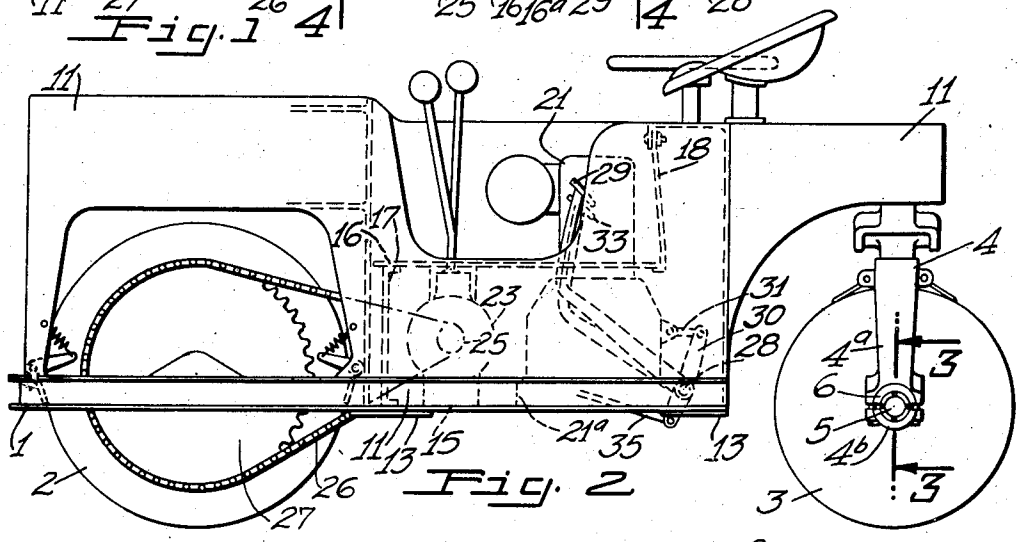


Fig. 2

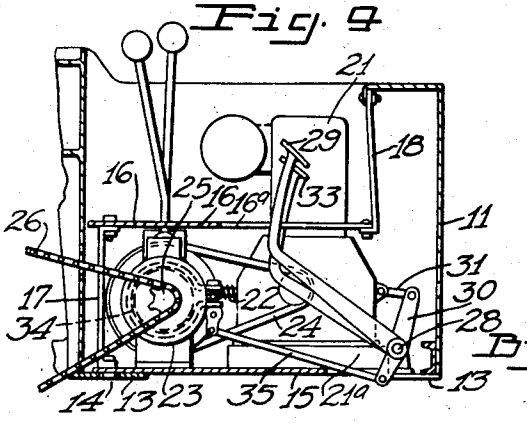


Fig. 4

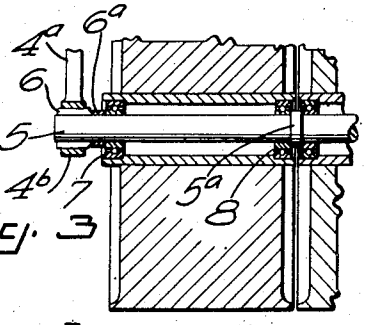


Fig. 3

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PACKING ROLLER

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5 Claims. (Cl. 180—20)

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My present invention relates to a packing or road roller.

One of the principal objects of this invention is to provide a roller of this class which may be easily, quickly, and effectively operated, and one which has a driving, transmission, and control unit which may be easily and quickly removed for repairs, and another such unit substituted, or which may be readily transferred from one roller to another.

Another important object of this invention is to provide a novel and simple means of removably securing the unit supporting foundation or base on the main frame of the roller, simple means of operatively connecting the power unit to traction rollers of the machine, and novel and simple means of adjusting the unit, or the foundation for supporting the same, on the machine frame.

A further object of this invention is to provide a novelly constructed unit for a machine of this class which comprises a simple base and foot platform for housing the mechanism, but which provides ready access to all parts of the mechanism when the unit is removed from the machine.

A still further object of this invention is to provide simple construction and mounting of the control mechanism.

An important object also of this invention is to provide means of mounting the rollers on the machine so that they may be rigidly mounted and readily secured in place.

With these and other objects in view as will appear hereinafter, I have devised a packing or road roller having certain novel features of construction, combination, and arrangement of parts and portions, as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings, and to the characters of reference thereon which form a part of this application, in which—

Fig. 1 is a plan view of a road roller embodying my invention in a preferred form, portions thereof being broken away and in section to facilitate the illustration;

Fig. 2 is a side elevation thereof;

Fig. 3 is a fragmentary sectional elevation thereof taken through 3—3 of Fig. 2, showing the mounting of one of the rollers; and,

Fig. 4 is a fragmentary section thereof taken through 4—4 of Fig. 1.

The frame 1 of my road roller is supported at its forward and rear ends on heavy packing rollers 2 and 3, the forward roller 2 being substantially enclosed by the box-like portion of the

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body 11 carried by the frame 1, and the rear rollers 3, consisting of a pair of axially spaced rollers. The latter rollers are exposed and are adapted to be rotated as a unit about a vertical axis at the center between the rollers. The rollers 3 are adapted for directing or steering the machine.

The rear rollers are embraced in a yoke 4, the middle portion of which extends upwardly and is pivoted with respect to the frame. The arms or brackets 4^a of the yoke depend downwardly and are positioned at the lateral outer sides or the ends of the rollers 3, and support at their lower ends the opposite ends of a shaft 5. The lower ends of the brackets 4^a have removable caps 4^b. In the lower or supporting ends of the brackets are provided sleeves 6 and these are secured or clamped in place by the caps 4^b.

The portion of each sleeve between the bracket and the roller is a continuous collar 6^a and the portion outwardly from the collar and clamped in place by the cap is longitudinally split in four parts, as shown in Fig. 2. The split portions of the sleeves permit the same to be clamped in the lower or supporting ends of the brackets. The shaft 5 is extended into the sleeves and is securely clamped therein when the sleeves are secured to the brackets by the caps 4^b.

At each end portion of the shafts are axially spaced ball or roller bearings 7 and 8, each pair of which supports one of the pair of rollers 3. The adjacently positioned inner bearings 8 are separated by a collar 5^a intermediate the ends of the shaft.

The body 11 is open intermediate its ends, forming substantially a depression in which the power and transmission unit is removably mounted. The base of the unit is supported within the depression primarily by four brackets, in the form of plates 13, carried by the frame or body at the lower portion of the depression in such a manner as to support the unit at four corners. The unit is secured to these brackets by bolts 14 which extend through longitudinal slots in either or both the unit and the bracket.

The supporting and enclosing portion of the unit consists of two superimposed plates 15 and 16. The lower or base plate 15, which may be referred to merely as the base, conforms substantially to the shape of the depression, as shown best in Figs. 1 and 4, and is supported substantially flush with the lower portion of the frame. The brackets or supporting plates 13 are shown as secured against the bottom side of the lower portions of the supporting frame. This base

plate also reinforces the frame laterally. The upper plate 16, which may be referred to as the platform, provides the floor board for the operator. This upper plate or platform may be supported at its forward portion directly upon the lower plate, by means of supports or braces 17. The rear edge of the upper plate or platform is hung from the upper portion of the body, by means of hangers 18. It will be here noted that the upper plate or platform has longitudinal slots 16a and 16b for receiving operating pedals, as will be hereinafter described, and these slots extend to the rear edge of the plate. For this reason there are provided a plurality of hangers 18 for supporting the divided sections of the platform.

The platform extends over only approximately one-half, preferably the left half, of the width of the machine, leaving an open space at the right hand side of the machine. This open space at the right is occupied by the roller-propelling engine 21, which is shiftably mounted so as to be shifted on the base or mounting 21a in a forward and backward direction, the base or mounting being located at one side of the platform 15. The engine is adapted normally to be held in a rearwardly shifted position by a compression spring 22.

At the opposite lateral side of the machine, between the two plates and at the forward portion of the base plate is a transmission and control mechanism 23, which is connected to the engine by a belt drive 24. This transmission mechanism is supported on the base plate 15, and the platform 16 may rest on or be secured to this transmission mechanism.

The opposite end of the transmission and control mechanism is provided with a sprocket 25 which is connected, by a chain 26, with a sprocket 27 mounted at the left-hand end of and coaxial with the forward roller 2. The chain 26 may be tightened by longitudinally adjusting the base plate on the brackets 13.

At the rear portion of the base plate is a transverse rock-shaft 28 having an upwardly and forwardly extended control pedal 29 near the left hand end. The opposite end of the shaft is provided with an arm 30 which is connected with the base of the engine 21 by a link 31. Forward movement of the pedal 29 causes rocking of the shaft and consequent forward movement of the engine 21 against the compression of the spring 22, thereby loosening the belt 24 and breaking the positive and operative connection of the engine with the transmission mechanism.

Intermediate the ends of, and rotatably mounted on, the rock-shaft 28 is a sleeve 32 carrying a brake pedal 33 which is connected to a brake band 34 on the transmission mechanism by a link 35.

In order to facilitate movement of the foot pedals, the intermediate portions thereof are adapted to extend through the aforementioned longitudinal slots 16a and 16b in the platform.

Though I have shown and described a particular construction, combination, and arrangement of parts and portions, I do not wish to be limited to the same, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

I claim:

1. In a roller of the class described, a frame having rollers at its opposite ends and a depression intermediate its ends, a base plate removably mounted in the depression of the frame and adjustable thereon longitudinally with respect to the axis of the frame, a power and transmission unit supported on the base plate, means for operatively connecting the unit with one of the rollers, a platform supported above the base plate over the transmission portion of the unit, means for supporting one end of the platform, reciprocating control levers for the unit for controlling the same, said platform having longitudinal slots at the other end for receiving said levers, and strap-hangers supporting the platform from the frame adjacent the slotted portions of the platform.

2. In a roller of the class described, a frame having rollers at its opposite ends and a substantially rectangular depression intermediate its ends, said depression having brackets at the lower portion of its corners, a base plate removably supported on and adjustable relative to the brackets longitudinally with respect to the axis of the frame, a power and transmission unit mounted on the base plate, means for operatively connecting the unit with one of the rollers, a platform above the base plate over the transmission portion of the unit, means for supporting one end of the platform, reciprocating control levers for the unit for controlling the same, said platform having longitudinal slots at the other end for receiving said levers, and strap-hangers supporting the platform from the frame adjacent the slotted portions of the platform.

3. In a roller of the class described, a frame, packing rollers on which the frame is mounted, a base plate removably and adjustably mounted on the frame, a transmission mechanism mounted on the base plate, driving means between the transmission mechanism and one of the rollers for driving said roller, an engine mounted laterally adjacent the transmission mechanism on the base plate for shifting movement longitudinally thereof, a drive means between the engine and transmission mechanism, said longitudinal shifting movement of the engine effecting connection and disconnection of the drive means, and a control means adapted to shift the engine.

4. In a roller of the class described, a frame, packing rollers on which the frame is mounted, a base plate removably and adjustably mounted on the frame, a transmission mechanism mounted on the base plate, driving means between the transmission mechanism and one of the rollers for driving said roller, an engine mounted laterally adjacent the transmission mechanism on the base plate for shifting movement longitudinally thereof, a driving belt between the engine and transmission mechanism, said longitudinal shifting movement of the engine effecting tightening and loosening of the belt and a control means adapted to shift the engine.

5. In a roller of the class described, a frame, packing rollers on which the frame is mounted, a base plate removably and adjustably mounted on the frame, a transmission mechanism mounted on the base plate, driving means between the transmission mechanism and one of the rollers for driving said roller, an engine mounted laterally adjacent the transmission mechanism on the base plate for shifting movement longitudinally thereof, a driving belt between the engine and transmission mechanism, said longitudinal shifting movement of the engine effecting tightening and loosening of the belt, a first control means adapted to shift the engine, braking means for arresting the operation of the transmission means, and

a second control means for actuating the brake means.

WILLIAM HURST LEWIS.

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