July 5, 1966 R. A. PETERSON ET AL 3,259,036

CLEANER BLADES FOR COMPACTOR WHEELS

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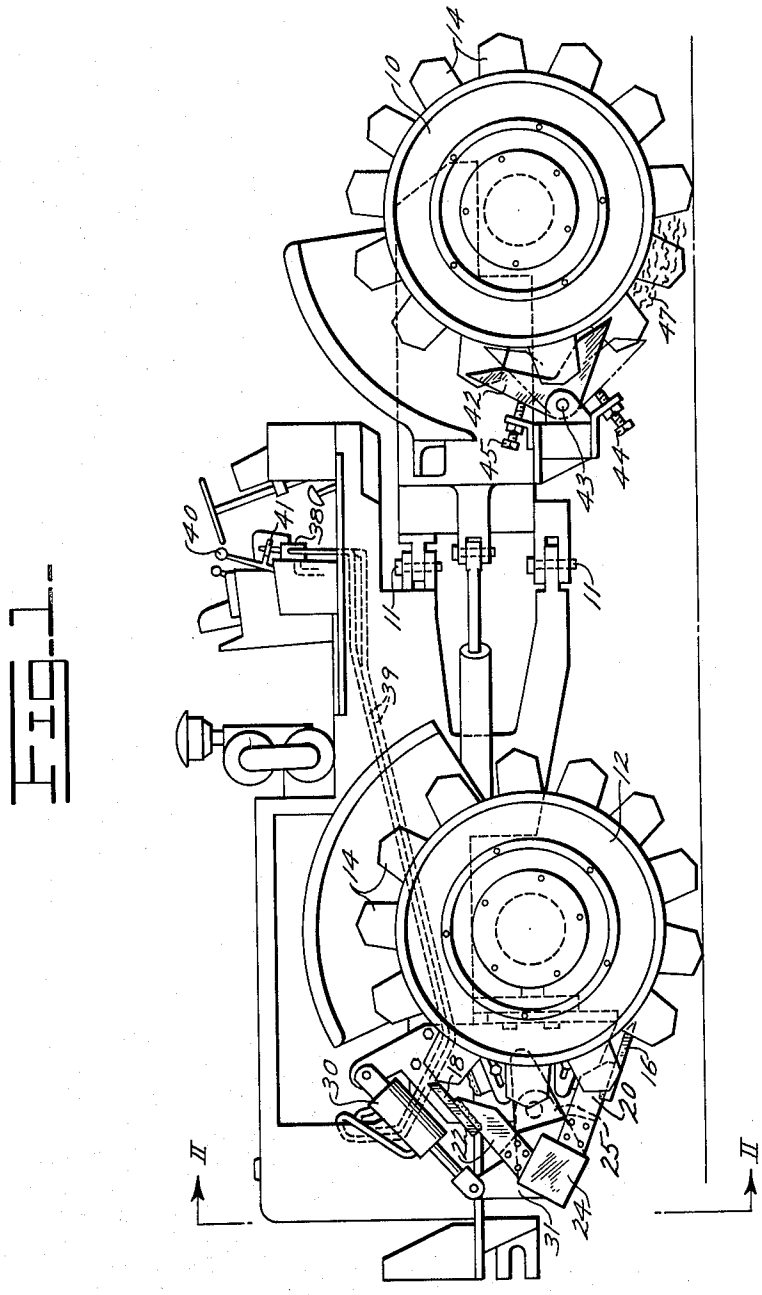

Fig. 1

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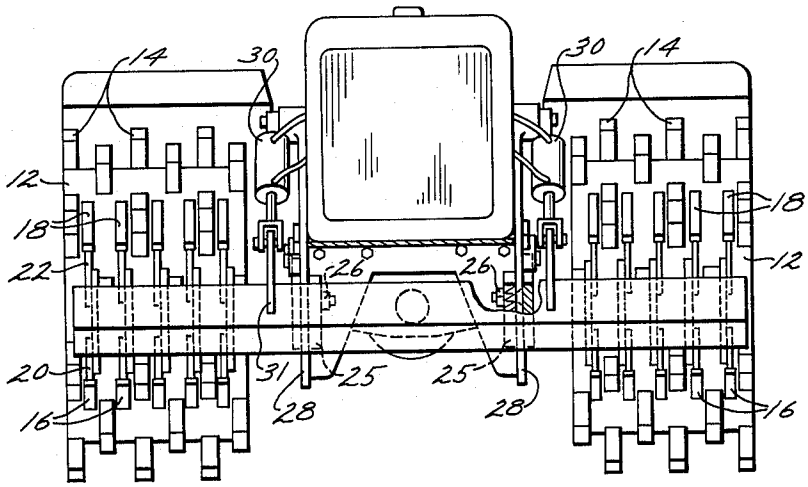
Fig. 2.



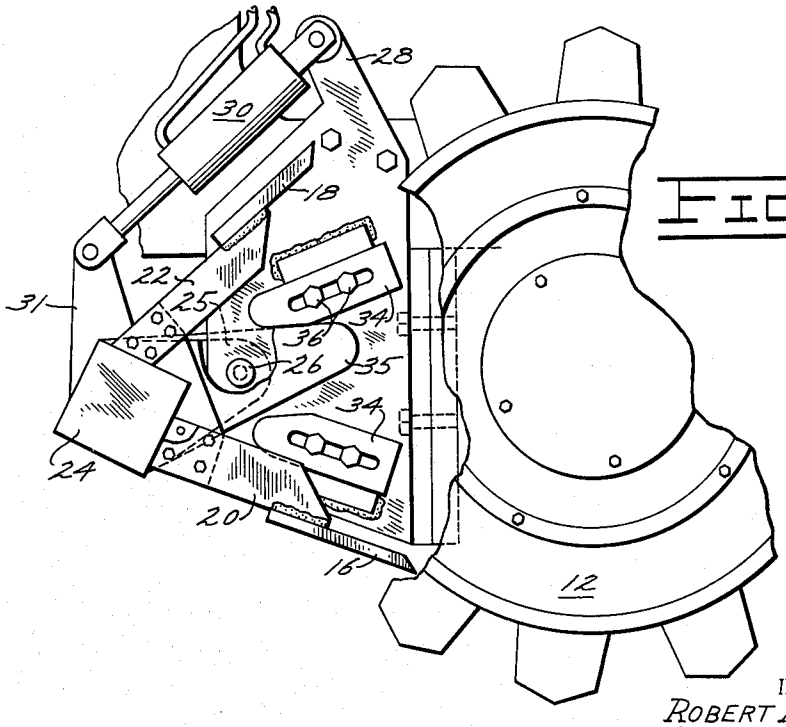


Fig. 3.

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CLEANER BLADES FOR COMPACTOR WHEELS

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2 Claims. (Cl. 94—50)

This invention relates to cleaner blades used for the purpose of ejecting soil and other materials from between the rows of compactor feet on the wheels of a vehicle employed for compacting earth.

It is an object of the invention to provide a compactor wheel cleaner with two sets of cleaner blades operable, one set for each direction of movement of the vehicle and to provide means for automatically adjusting the blades to place one set in an operative position and move the other set from its operative position when the direction of movement of the vehicle, and therefore the direction of rotation of the wheel, is reversed.

Further and more specific objects and advantages of the invention and the manner in which it is carried into practice are made apparent from the following specification wherein reference is made to the accompanying drawings.

In the drawings:

FIG. 1 is a view in side elevation of a tractor equipped with compactor wheels and having cleaner blades embodying the present invention for its rear wheels and a set of cleaner blades for its forward wheels embodying a modified form of the invention;

FIG. 2 is a rear view of the tractor taken on the line II—II of FIG. 1; and

FIG. 3 is an enlarged view in side elevation, with parts broken away, of the rear wheel cleaner blades shown in FIG. 1.

The tractor shown in FIG. 1 is of a well known articulated type in which a front section with front wheels **10** is pivotally connected as by pins **11** with the rear section supported by wheels **12**. Other details of construction of the tractor are unnecessary to an understanding of the present invention. The wheels **10** and **12** are shown as provided with spaced rows of compactor feet **14** as usually employed for compacting new fill in an earthmoving project. Moist earth, rock and other materials that become lodged between the compactor feet reduce their compacting efficiency. In order constantly to remove such lodged material, the present invention provides two sets of cleaning blades, as shown at **16** and **18** in FIGS. 1 and 2, for each of the rear wheels **12**. These blades are in the form of hardened elements welded or otherwise secured to sets of arms **20** and **22**, respectively, which are secured to a common supporting bar **24** (see also FIG. 3). The bar **24** is pivotally supported as by a pair of brackets **25** pivoted as by pins **26** to a pair of large brackets **28** fixed to and extending rearwardly of the tractor. A pair of jacks **30** is also pivoted to the brackets **28** and their extensible and retractable rods are pivoted to brackets **31** which are fixed to the teeth supporting bar **24**.

With the construction thus far described, the jacks **30** may be actuated to adjust the cleaner blade assemblies from the positions shown in FIGS. 1 and 3 where the lower blades **16** are effective to remove material from between compactor feet when the vehicle is moving forwardly, to a position where the upper blades **18** are moved inwardly toward the periphery of the wheels to clean them when the vehicle is moving rearwardly. As is evident from FIGS. 1 and 3, the lower or effective blades **16** are disposed in positions which are nearly tangential to the wheels so that material between the compactor feet is in effect planed or peeled from the surfaces of the wheels as they rotate so that a minimum of energy is acquired for their operation. Retraction of the jacks **30** from the position shown will move the upper blades **18** to a position similar to that shown for the lower blades while the lower blades are moved downwardly and spaced from the periphery of the wheels.

Adjustable stop means are provided to insure precise positioning of the blades as close to the wheels as is practical and are in the form of stop dogs **34** (see FIG. 3) engaged by arms **35** fixed to the bar **24**. The stop dogs are slotted and secured to the brackets **28** by bolts or capscrews **36** extending through their slots so that the dogs may be positioned for engagement with the arm **35** and positioning of the blades **16** and **18** as close as desired to the periphery of the wheel.

The jacks **30** are actuated by hydraulic fluid under pressure from a suitable source, not shown, in the tractor and a valve, shown at **38** in FIG. 1, controls the flow of fluid selectively to opposite ends of the jacks. The valve may be any one of several well known types designed for this purpose and in order that the cleaning blade assembly will be adjusted to their proper positions automatically upon reversal of direction of movement of the tractor, the valve is disposed adjacent a forward reverse gear shift lever **40** at the operator's station. An extension **41** of said lever engages the operating lever of the valve to change its effective position automatically with the direction of movement of the tractor.

A modified form of the invention is disclosed in connection with the front wheels **10** of the tractor in FIG. 1. This invention comprises a plurality of V-shaped double ended cleaner blades **42** pivotally supported on a common shaft **43** for movement from the full line position illustrated to the broken line position. The full line position shows a blade with its lower end disposed adjacent the periphery of the wheel between rows of compactor feet thereon for cleaning the surface of the wheel when the tractor is moving in a forward direction. The broken line position illustrates the same blade with its upper end adjacent the periphery of the wheel for cleaning the same while the tractor is moving rearwardly. Stops in the form of adjustable screws **44** and **45** limit the swinging movement of the double ended blades. These blades will also reverse their positions automatically if there is material to be removed from between the compactor feet. This is accomplished by the presence of the material itself which would be lodged between the rows of blades in the area indicated at **47** in FIG. 1 when the tractor, having moved forwardly, was brought to a stop. Upon subsequent movement of the tractor in a rearward direction, the material at **47** passes beneath the upper end of the double ended blade and then upon engagement with the lower end thereof swings the blade to its broken line position so that it is in position for cleaning during rearward travel. A similar but opposite action would take place when the tractor was again driven forwardly.

The positively actuated automatic reversible arrangement shown on the rear wheels of the tractor is also contemplated for use on the front wheels of an articulated machine of the type illustrated in FIG. 1. However, the construction may prove somewhat cumbersome on the front or steering wheels of other types of tractors because of the fact that the wheels are dirigible and the alternate form of the invention will prove more readily adaptable to such wheels.

We claim:

1. Means for cleaning the surface of a compactor wheel on a tractor comprising a pair of blades mounted at an angle to each other which diverges toward the wheel and means pivotally supporting the blades as a unit for swinging either of the blades toward the wheel to a cleaning position while the other is swung away from the wheel, a hydraulic jack for swinging said blades, means at the operator's station of the tractor for controlling the opera-

tion of the jack, and stop means to limit the swinging movement of the blades to positions closely adjacent the peripheral surface of the wheel.

2. The combination of claim 1 in which the tractor has a forward and reverse transmission with a control lever at the operator's station, and means connecting the transmission control with the jack control means to automatically change the position of the blades when the direction of travel of the tractor is reversed.

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