March 22, 1960 C. JONES 2,929,304

ROAD PACKER

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Fig.1

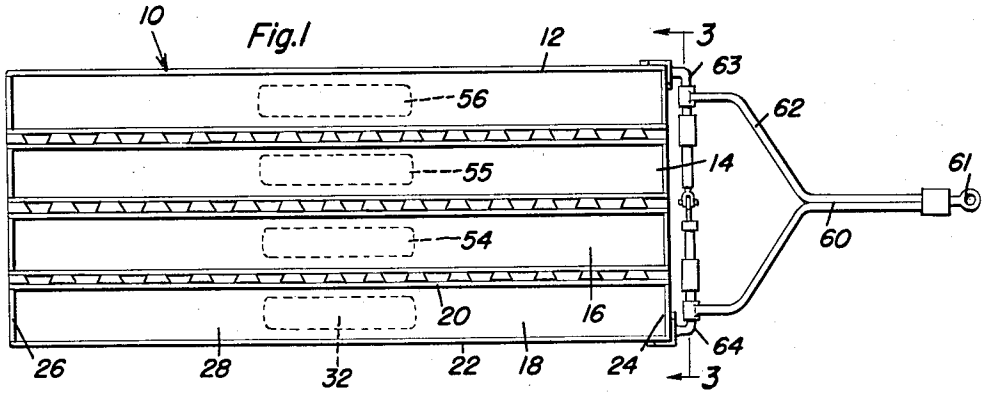


Fig.2

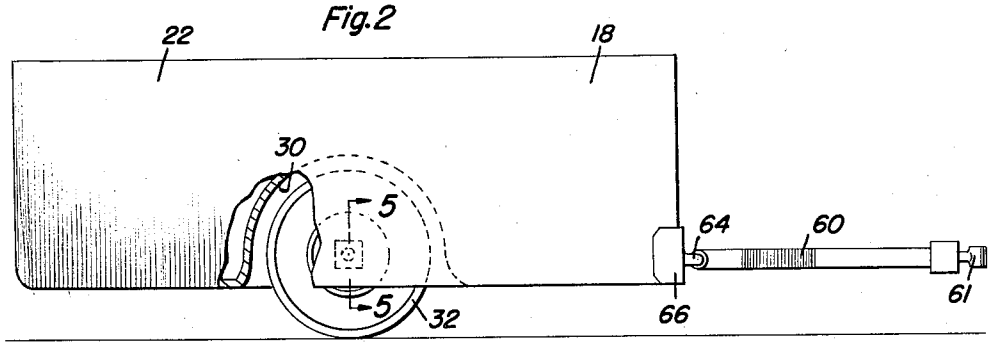
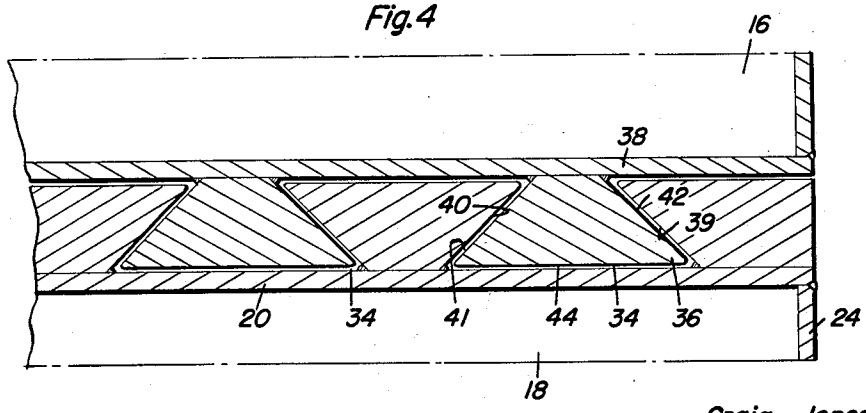


Fig.4



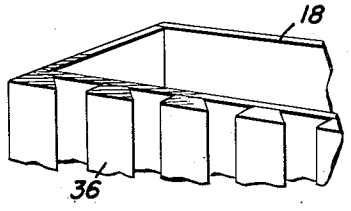


Fig.7

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Fig. 3

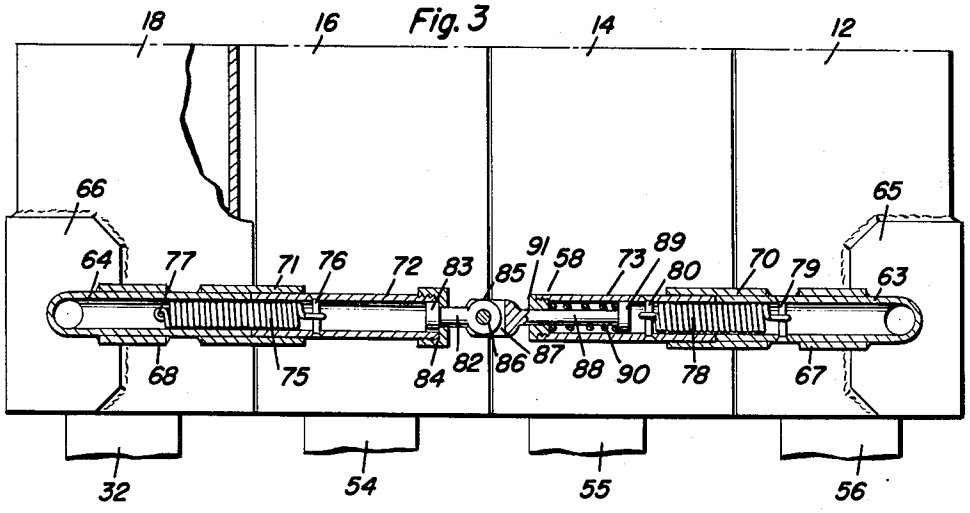


Fig. 8

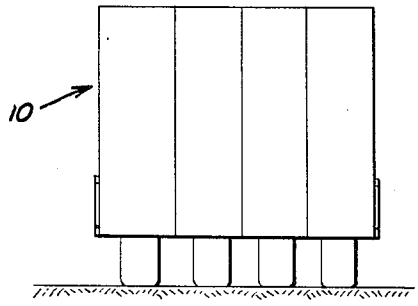


Fig. 9

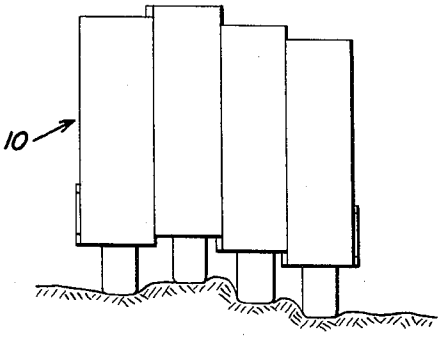


Fig. 5

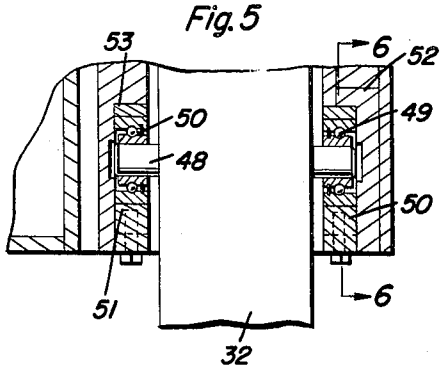
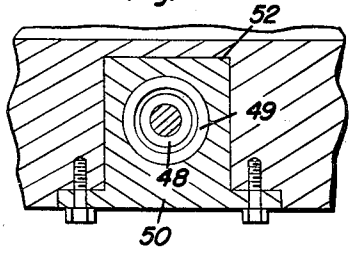


Fig. 6



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2,929,304

ROAD PACKER

Craig Jones, Powell, Wyo.

Application December 2, 1957, Serial No. 700,017

2 Claims. (Cl. 94—50)

This invention relates to a road packer and more particularly to a road packer possessing structural features that make the packing result superior to packing that is achieved by ordinary, commercially available packers.

An object of the invention is to provide a road packer which has a plurality of interconnected sections capable of moving with respect to each other, each section or at least, some of the sections having packing wheels that move with each individual section. In this way the wheels are capable of moving up and down to conform to the surface of the ground. Presently available packers have rigid axles which do not allow all of the tires to contact the ground if the ground is not level and uniform.

A further object of my invention is to provide a road packer possessing the feature of having the packing wheels individually suspended and provided with means by which all of the sections that support the wheels are capable of a constrained travel. There are compartments in the various sections to receive material or objects by which to weight the wheels down. Accordingly, each packing wheel has its weight enabling the packing wheel to perform a very adequate packing function and yet travel with the irregularities of the soil so that a more complete packing job results.

Other objects and features of importance such as mechanical simplicity of construction and practicability will become apparent in following the description of the illustrated form of the invention.

Figure 1 is a top view of a road packer which is constructed in accordance with the invention.

Figure 2 is a side view of the road packer in Figure 1, parts being broken away to illustrate internal detail.

Figure 3 is an enlarged transverse sectional view taken on the line 3—3 of Figure 1.

Figure 4 is an enlarged fragmentary sectional view showing in detail the means by which the sections of the road packer are structurally interconnected.

Figure 5 is an enlarged fragmentary sectional view taken on the line 5—5 of Figure 2.

Figure 6 is a fragmentary sectional view showing a bearing construction and taken on the line 6—6 of Figure 5.

Figure 7 is a fragmentary perspective view of one of the sections constituting a part of my road packer.

Figure 8 is a schematic representation showing the road packer on level soil.

Figure 9 is another schematic representation showing the same road packer on irregular soil.

In the accompanying drawings there is a road packer 10 which is constructed in accordance with the principles of the invention. The road packer is composed of a body having four sections 12, 14, 16 and 18, respectively, although any practical number of such sections may be used in arriving at operative embodiments of my invention. Each section has four side walls and a bottom wall. In addition, each section has an open top within which to receive material to weight the road packer. The material may be rocks, soil, etc. A typical section 18 will

have two larger sides 20 and 22 held spaced apart and parallel to each other by shorter sides or ends 24 and 26. The sides and ends are attached to the bottom 28, and it has a well 30 formed in it within which to accommodate a single wheel 32 or dual wheels, depending on the width dimension of the section 18. Side 20 has a plurality of dovetail slots 34 extending vertically therein and accepting a plurality of dovetail tongues 36 which are on the side 38 of the next adjacent section 16. Each slot 34 has a rear wall and two outwardly converging side walls 39 and 40 (see Fig. 4). The dovetail tongue 36 in the dovetail slot 34 has a pair of similarly angulated walls 41 and 42 and an end wall 44 that is parallel to the innermost wall of dovetail slot 36. An interfitted connection is formed in this way enabling both sections 16 and 18 to move in one plane with respect to each other and preventing the sections from separating or moving at right angles to the plane of movement. In other words, sections 16 and 18 are constrained in their travel and the same holds true of all of the other sections because they are constructed similarly. End sections 12 and 18 do not have dovetail slots or tongues on their outer walls inasmuch as they are unnecessary. However all of the intermediate sections (regardless of the number of them) will have dovetail slots and tongues on both side walls.

Wheel 32 is mounted on an axle 48, and the axle is mounted for rotation in anti-friction bearings 49 and 50. These are carried in pillow blocks 50 and 51 bolted or otherwise fastened in recesses 52 and 53 that are formed in the side walls of section 18 and on opposite sides of well 30 thereof. In this way wheel 32 is mounted for rotation on section 18 but is movable vertically therewith independent of all of the other wheels 54, 55 and 56 of my road packer.

Inasmuch as the sections are capable of independent movement in an up and down direction, they must be constrained or at least, they should be constrained in their travel. It is possible that my road packer could be used without any means of restraint which would limit the extent of up and down movement of the sections with respect to each other. This is contemplated as a useful subcombination of my invention. The more comprehensive combination will include an extensible link 58 (Fig. 3) which serves the secondary function of supporting the tongue 60. The tongue has an eye 61 at one end which schematically represents any means of fastening to a vehicle to draw the packer over the soil. The tongue has yoke 62 at the opposite end and the yoke is attached to angle bars 63 and 64. The outer extremities of the angle bars 63 and 64 are secured to angle mounting plates 65 and 66 which are welded to the front corners of sections 12 and 18. Pipe fittings 67 and 68 can be used at the end of yoke 62 in fastening the yoke to the angle bars 63 and 64. They may be welded in place or freely pivotable thereon. The angle bars have sleeves 70 and 71 welded on their ends in order to form continuations of the angle bars. The sleeves 70 and 71 are coaxial and accommodate sleeves 72 and 73, each being reciprocatably disposed in their sleeves 70 and 71. Spring 75 is attached at one end to a transverse pin 76, and this pin is fastened to sleeve 71. The opposite end of spring 75, which is a tension spring, is secured to pin 77. The last mentioned pin is fastened to angle bar 64. Accordingly, the spring 75 opposes the outward movement of sleeve 72 with respect to sleeve 71 and angle bar 64.

Spring 78 constitutes resilient means to perform the same function as spring 75. It is attached at one end to pin 79 and at the other end to pin 80, these pins secured respectively to angle bar 63 and sleeve 73. Accordingly, the sleeves 73 and 72 can move in and out of their sleeves 70 and 71 and are capable of limited rotational movement.

The link 58 has a piston rod 82 with a head 83 thereon which is slidable in the bore of sleeve 72. The rod extends through an aperture in an end cap 84 on sleeve 72 and has an eye 85 at its end. Pin 86 is passed through the eye 85 and through the sides of yoke 87 at the outer end of piston rod 88. Head 89 is on the inner end of rod 88 and is slidable in the bore of sleeve 73. A spring 90 is seated on head 89 and on apertured plug 91 at the extremity of sleeve 73 and through which the piston rod 88 passes. Accordingly, spring 90 constitutes resilient means for opposing the rectilinear movement of piston rod 88 in one direction.

In use the tractor or other vehicle which draws the road packer pulls it just the same as any other road packer. However, when irregularities (see Fig. 9) in a terrain are encountered, the various sections move up and down to compensate for this irregularity. When a comparatively smooth surface (see Fig. 8) is encountered, all of the wheels will maintain the correct level. As the sections move up and down the extensible link 58 can extend and twist in order to compensate for the necessary motions of the sections.

The foregoing is considered as illustrative 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. In a road packer, the combination of a pair of outer sections and a plurality of intermediate sections between said outer sections, each section having an axle, said axles being independent of each other, wheels on said axles, first dovetail tongue and slot means vertically disposed at confronting sides of said intermediate sections and interfitted to constrain the motion of said intermediate sections with respect to each other and enable the sections to move independently of each other so that the wheels carried by the sections are capable of riding independently over irregularities in the surface that is being packed, the outer sides of the intermediate sections and the inner sides of the outer sections provided with vertically disposed dovetail tongue and slot means interconnecting the sections for free vertical movement, a draft member, means securing said draft member to said outer packer sections, and a spring loaded extensible articulated link secured at its ends to said outer sections and thereby aiding in holding said sections against lateral separation.

2. The packer of claim 1 wherein the grooves of each tongue and groove means each has an inner wall and a pair of outer walls which converge as they extend from the inner wall, and each tongue of both of said tongue and groove means has an outer wall of larger cross-sectional area than the inner part thereof, and outwardly converging sides so that the tongues and grooves are interlocked with each other.

References Cited in the file of this patent

UNITED STATES PATENTS

2,624,251	Porter	Jan. 6, 1953
2,730,935	Maloon	Jan. 17, 1956