

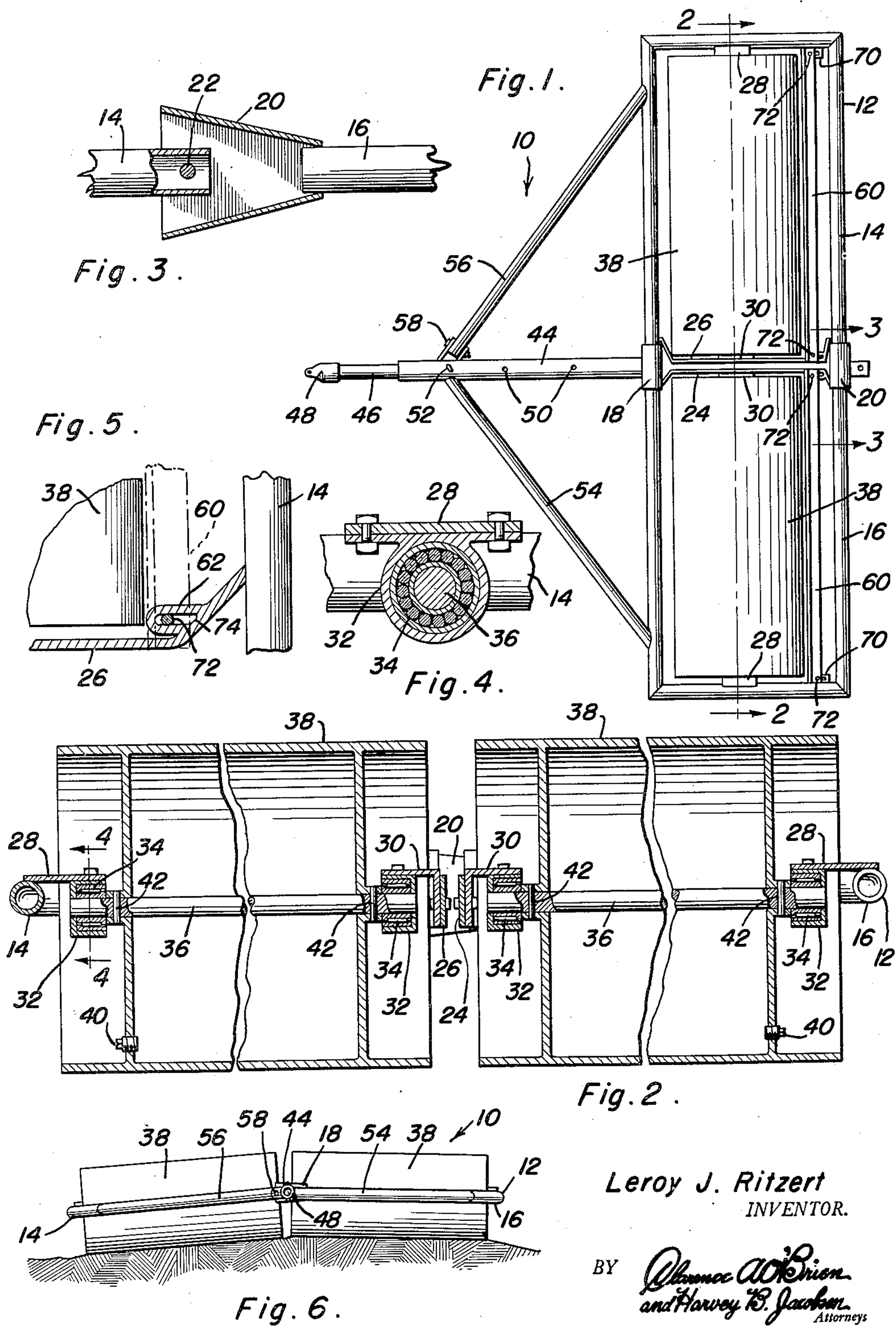
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LAND ROLLER

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## LAND ROLLER

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1 Claim. (Cl. 55—47)

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This invention relates to new and useful improvements and structural refinements in land rollers, more specifically, land rollers of the multiple cylinder type, and the principal object of the invention is to provide what may be called an articulated mounting for the various cylinders so that they may readily adjust themselves to irregularities of the ground.

An important feature of the invention, therefore, resides in the particular articulated construction of the land roller frame, and another feature involves the attachment of the draw bar to the frame in such manner that relative movement of the articulated frame sections is facilitated.

Some of the advantages of the invention reside in its simplicity of construction, and in its adaptability to economical manufacture.

With the above more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a top plan view of the invention.

Figure 2 is a cross sectional view, taken substantially in the plane of the line 2—2 in Figure 1.

Figure 3 is a fragmentary cross sectional view, taken substantially in the plane of the line 3—3 in Figure 1.

Figure 4 is a fragmentary cross sectional view, taken substantially in the plane of the line 4—4 in Figure 2.

Figure 5 is a fragmentary detail illustrating the mounting of one of the scrapers used in the invention, and

Figure 6 is a front elevational view of the invention in use.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a land roller designated generally by the reference character 10, the same embodying in its construction what may be called an articulated frame 12 consisting of a pair of sections 14, 16.

These sections are preferably of tubular, welded construction, each consisting of a substantially U-shaped member, as is best shown in Figure 1. The free ends of the frame section or member 16 are secured by welding, or the like, in minor ends of substantially funnel-shaped sockets 18, 20 the major end portions of which

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are equipped with transverse pivot pins 22 (see Figure 3).

The pivot pins 22 of the sockets 18, 20 extend through the free end portions of the frame section or member 14, whereby the two frame sections are hingedly or pivotally connected together, as will be clearly apparent. It is to be noted in this connection that the end portions of the section 14 are swingable in a vertical plane within the limits of the major end of the sockets 18, 20, so that the sockets thus effectively function as stops for preventing excessive relative movement of the two frame sections.

A suitable strap 24 is secured at the ends thereof to the sockets 18, 20 and thereby connects together the free end portions of the frame section 16, while a similar strap 26 connects together the free end portions of the frame section 14. The "bight" portions of the sections 14, 16 and the straps 24, 26 are provided with suitable brackets 28, 30 respectively, these brackets carrying sets of axially aligned housings 32 containing suitable anti-friction bearings 34.

A shaft 36 is journaled in the bearings 34 of each of the two frame sections 14, 16, and each of these shafts carries a hollow cylinder or roller 38. The end walls of these rollers may be equipped with suitable plugs 40 so that the rollers may be completely or partially filled with water for the purpose of obtaining sufficient and proper ballast.

As will be clearly apparent from Figure 2, the cylinders 38 may be secured to their respective shafts 36 by suitable pins 42.

A tubular hitch bar or draw bar 44 is rigidly secured at its rear end to the socket 18, while an extension 46 is slidably telescoped in the bar 44, being provided at its forward end with a hitch coupling 48. Either or both bars 44, 46 may be formed with registerable apertures 50 to selectively receive a locking pin 52, whereby the positional relationship of the bars may be adjusted as desired, that is to say, whereby the draw bar as a whole may be lengthened or shortened.

A tie rod 54 is rigidly secured at one end thereof to the forward end portion of the bar 44, the tie rod extending diagonally and having its rear end rigidly secured to the outer end portion of the frame section 16. Similarly, a tie rod 56 is rigidly secured at its rear end to the outer end portion of the frame section 14, the tie rod 56 extending diagonally and being pivotally connected at its forward end to the bar 44, as indicated at 58. It will be apparent that by virtue of this arrangement, the two frame sections will be



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substantially reinforced, but relative movement thereof on the hinge pins 22 will nevertheless be facilitated, as is indicated in Figure 6.

Each of the cylinders 38 may be provided with a suitable scraper 60, the inner end portions of the scrapers slidably resting on suitable protuberances 62 with which the straps 24, 26 are formed, (see Figure 5) while the outer end portions of the scrapers 60 slidably rest upon suitable brackets 70 secured to the "bight" portions of the frame sections 14, 16.

The end portions of the scrapers 60 are equipped with bolts, pins, or the like, indicated at 72, which engage suitable slots 74 provided in the protuberances 62 and brackets 70, whereby the scrapers 60 may be moved toward or away from the cylinders 38, as will be clearly apparent.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

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Having described the invention, what is claimed as new is:

In an articulated land roller frame, the combination of first and second elongated frame members disposed in substantial longitudinal alignment and having spaced adjacent inner ends, a funnel-shaped socket having a major end and a minor end secured to the inner end of the first frame member, and a fulcrum pin extending transversely through the major end portion of said socket and having the inner end of the second frame member pivotally mounted thereon, whereby the first and second frame members may be swung relative to each other within the limits of oscillatory movement of the second member in the major end of said socket.

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