G. E. KARL.

LAND PULVERIZER.

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1,167,079.

Patented Jan. 4, 1916.

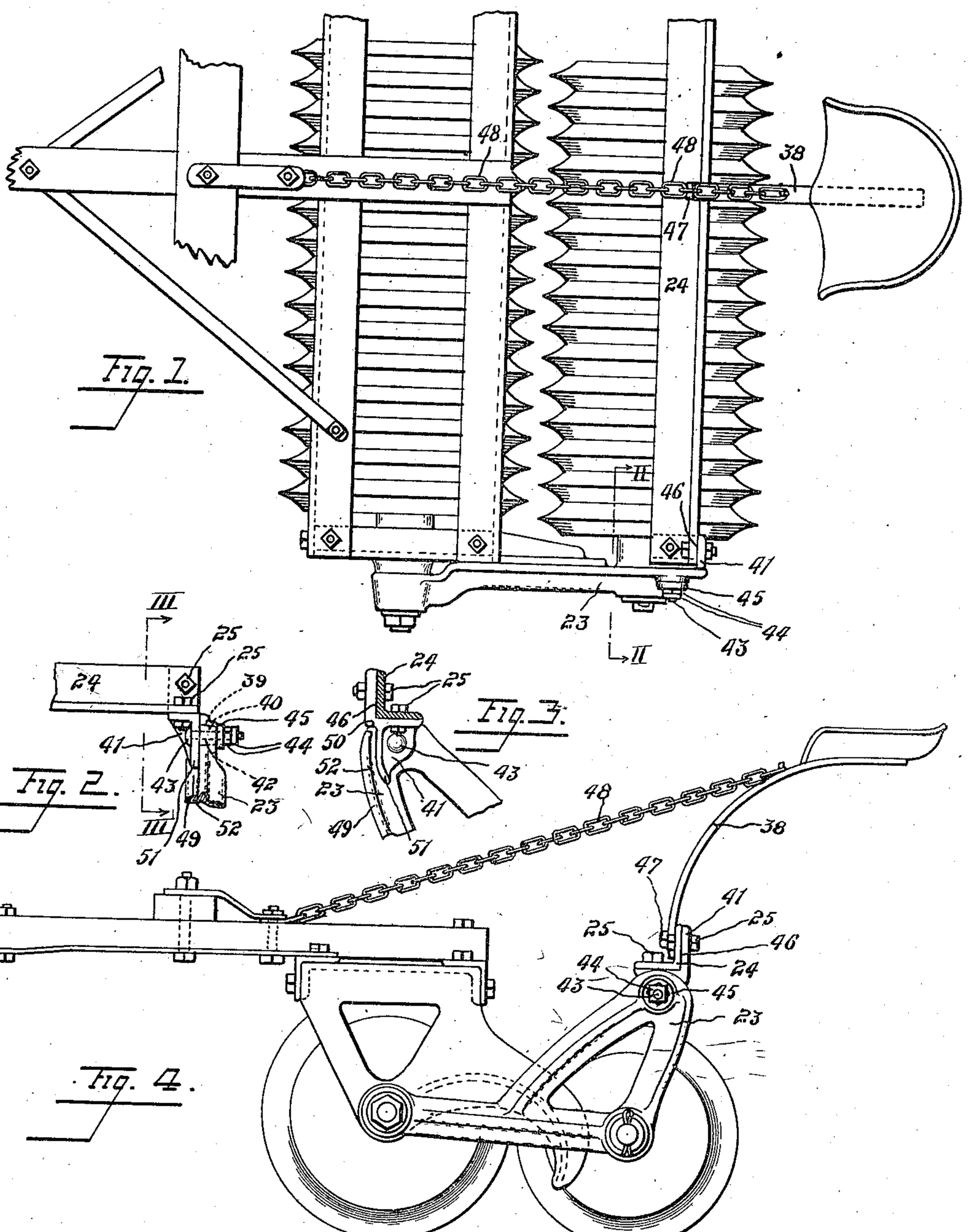

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

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LAND-PULVERIZER.

1,167,079. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed March 17, 1915. Serial No. 15,020.

To all whom it may concern:

Be it known that I, GEORGE E. KARL, a citizen of the United States, resident of Berea, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Land-Pulverizers, of which the following is a specification, the principle of the invention being herein explained, and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to soil pulverizers and particularly to that part of said pulverizers which relates to the connection between the frame of the pulverizer and the seat-support.

The object of the invention is to provide such a connection which will be economical of manufacture and efficient in its operation.

The said invention consists of means hereinafter fully described and particularly set forth in the claims.

The annexed drawing and the following description set forth in detail certain means embodying my invention, the disclosed means, however, constituting but one of various mechanical forms in which the principle of the invention may be applied.

In said annexed drawing:—Figure 1 represents a fragmentary plan of a land-pulverizer to which my inyention has been applied. Fig. 2 represents a fragmentary front elevation taken upon the plane indicated by line II—II in Fig. 1. Fig. 3 represents a side-elevation of the parts shown in Fig. 2 and taken upon the plane indicated by line III—III in said figure. Fig. 4 represents a side elevation of a complete pulverizer embodying my invention, the tongue, however, being shown broken away.

The general type of pulverizer which is illustrated by the drawing and to which I have shown my invention to be applied, is that shown, described and claimed in Patent No. 1,023,139, issued April 16, 1912. The general structure therefore need not be specifically described, and the following description will be directed solely to that part of the device which embodies my invention.

It will be noted that in the above-named patented structure, the spring seat-support has its lower end rigidly secured to the cross-bar 24 and that this cross-bar is rigidly secured to the upper portions of the side-frames or end brackets 23. In my improved device, however, I provide the upper portion of each side-frame with a journal bearing 39, preferably conical in form. In each of these bearings is mounted a conical journal 40 which forms an integral part of a connecting member 41. This connecting member is formed with a central conical bore 42 through which passes a bolt 43 whose outer threaded end is provided with two nuts 44 which in conjunction with a washer 45 hold the parts in place. The said journal is made slightly longer than the bearing so that the washer 45 when held tightly in place by the nuts, will not engage the opposing face of the side-frame 23, but only the end of the journal, thereby preventing binding, as will be readily understood.

The upper portion of each connecting member 41 is formed with an angle bar seat 46 and in these seats are respectively secured, by means of the bolts 25, the ends of the cross-bar 24 of the frame. To the central portion of the upper leg of the angle bar 23 is rigidly secured, by means of the bolt 47, the lower end of the flexible and rearwardly-curved spring seat-support 38. Having its rear end suitably secured to the upper portion of the spring seat support is a chain 48 whose forward end is suitably secured to the frame of the machine. In the drawing I have shown this forward end secured to the tongue, which for the purposes of this application may be considered a part of the frame.

From the above-described construction it will be seen that while the lower end of the spring seat-support is rigidly connected with the cross-bar 23, said lower end nevertheless, has an independent axis of oscillation on the frame of the machine, such axis being the axis of oscillation of the journals 39 of the connecting members 41. It will also be seen that the rearward movement of the spring seat-support is limited absolutely by the chain 48 which though collapsible and offering no resistance to the forward movement of said support is inextensible when it is taut and hence provides the limitation referred to. The oscillation, however, of the connecting members 41 is still further limited, and such limitation is provided, as shown in Figs. 2 and 3, by a flanged portion 49 which extends inwardly from each side frame 23, its upper end lying in the path of oscillatory movement of a

projecting portion 50, formed on the said member 41. These means limit the one oscillatory stroke, the other oscillatory stroke being limited by a downward projection 51 whose path of oscillatory movement is intercepted by the inner surface 52 of said flange portion. The length of the chain 48, however, is such that during the normal operation of the pulverizer, it will constitute the means for limiting the rearward movement of the spring seat-support, so that ordinarily the upper end of the said flanged portion will not be used for such purpose.

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

1. In a land-pulverizer, the combination of a frame; an upwardly projecting elastic seat-support having an axis of flexure and also an independent axis of oscillation; and a collapsible member having its ends respectively secured to said frame and seat-support.

2. In a land-pulverizer, the combination of a frame; an upwardly projecting elastic seat-support having an axis of flexure and also an independent axis of oscillation; and a collapsible member inextensible when taut, having its ends respectively secured to said frame and seat-support.

3. In a land-pulverizer, the combination of a frame including side-frame members and a cross-bar connecting same; said cross-bar being oscillatorily mounted on said side-frame members; a spring seat-support having its lower end rigidly secured to said cross-bar; and a member having its ends respectively secured to said frame and seat-support.

4. In a land-pulverizer, the combination of a frame including side-frame members and a cross-bar connecting same; said cross-bar and side-frame members respectively being provided with coöperating journals and bearings; a spring seat-support having its lower ends rigidly secured to said cross-bar; and a member having its ends respectively secured to said frame and seat-support.

5. In a land-pulverizer, the combination of a frame including side-frame members each provided with an upwardly projecting portion formed with a bearing; a cross-bar having each end provided with a journal mounted in one of said bearings, said bearings being arranged so that said journals will have a limited oscillation therefor; a spring seat-support having its lower end rigidly secured to said cross-bar; and a chain connecting said seat-support and said frame.

6. In a land-pulverizer, the combination of a frame including two side-frame members each provided with a bearing; two members each formed with a journal respectively mounted and secured in said bearings; a cross-bar rigidly secured to said journal members; a spring seat-support having its lower end rigidly secured to said cross-bar; and a chain having its ends respectively secured to said frame and said seat-support.

Signed by me, this 19th day of January, 1915.

GEORGE E. KARL.

Attested by—
W. J. DUNHAM.
J. E. FURRY.