

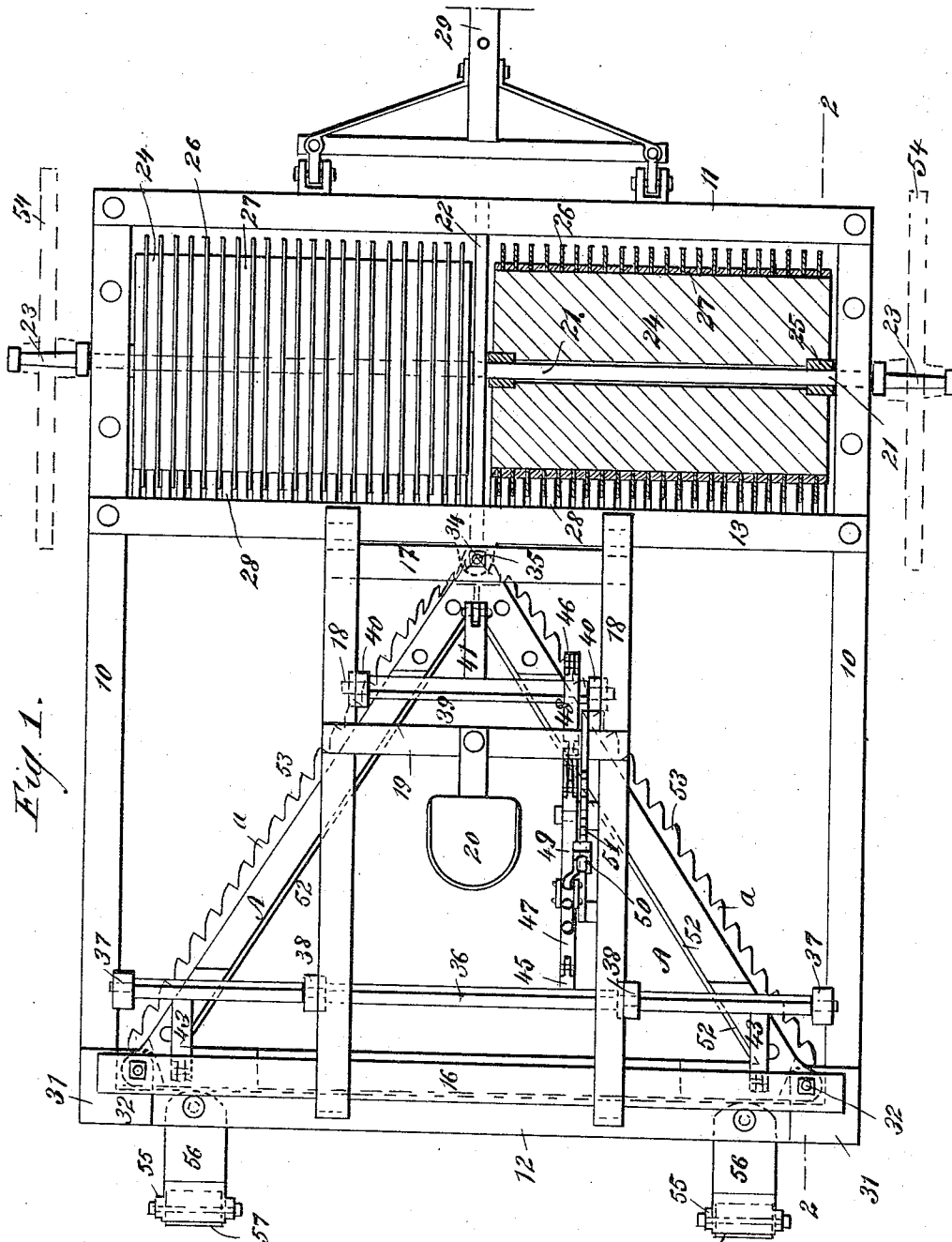
(No Model.)

2 Sheets—Sheet 1.

P. M. THOMPSON.
MEADOW LEVELER.

No. 443,950.

Patented Dec. 30, 1890.



WITNESSES:

Dom Twitchell
C. Pedgwick

INVENTOR:

J. W. Thompson

BY

Munn & Co

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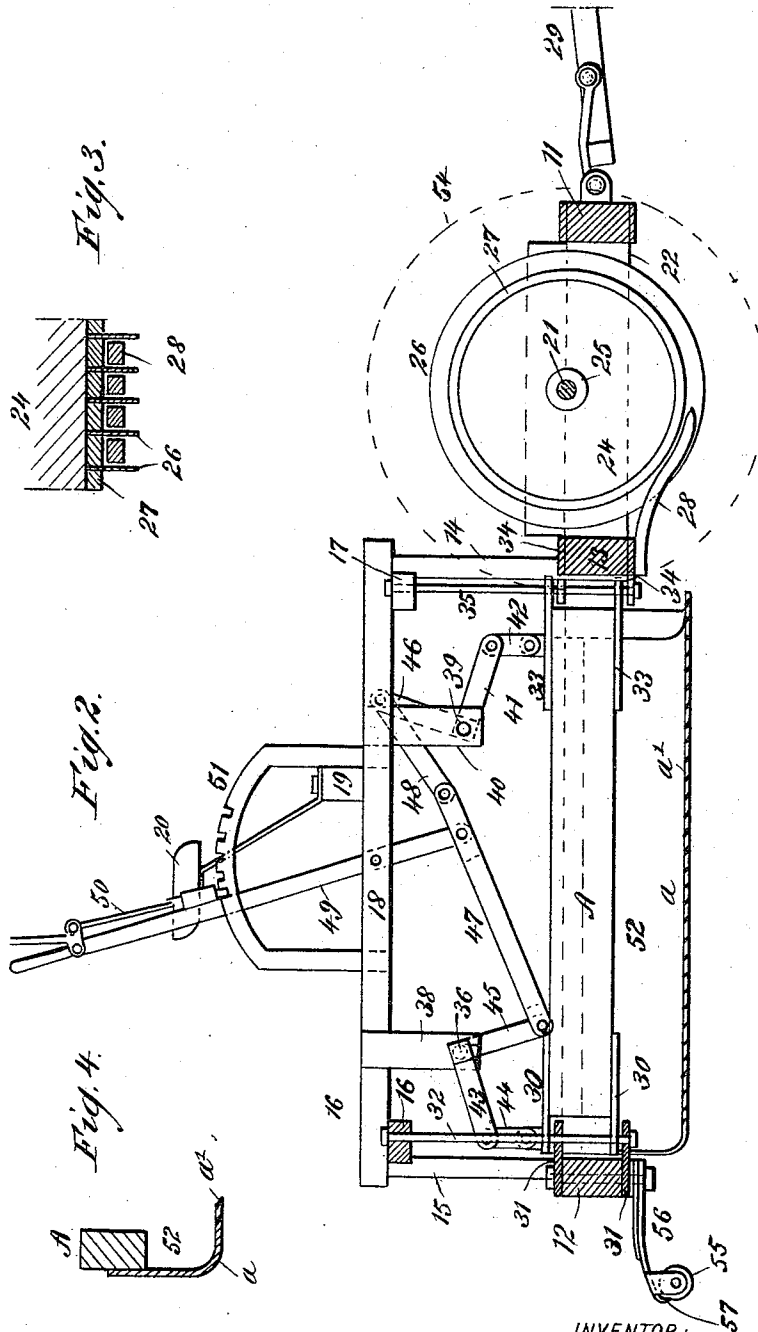
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UNITED STATES PATENT OFFICE.

PETER M. THOMPSON, OF ANACONDA, MONTANA.

MEADOW-LEVELER.

SPECIFICATION forming part of Letters Patent No. 443,950, dated December 30, 1890.

Application filed April 24, 1890. Serial No. 349,309. (No model.)

To all whom it may concern:

Be it known that I, PETER M. THOMPSON, of Anaconda, in the county of Deer Lodge and State of Montana, have invented a new and useful Improvement in Meadow-Levelers, of which the following is a full, clear, and exact description.

My invention relates to an improved meadow-leveler, and has for its object to provide an implement of simple and durable construction which when drawn over the ground will effectually remove any hummocks contained thereon, level the earth, and cut off or draw up any brush growing upon the land.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the implement. Fig. 2 is a longitudinal section on line 2 2 of Fig. 1. Fig. 3 is a partial longitudinal section through one of the chopping-drums, and Fig. 4 is a transverse section through a portion of the cutting-frame and one of the cutters attached thereto.

The frame of the implement is preferably rectangular, and consists of side beams 10, end beams 11 and 12, and a cross-beam 13, preferably located nearer the front than the rear end of the frame. The front beam 11 and intermediate cross beam 13 are preferably provided at top and bottom with a metal covering. An upright 15 is secured to the rear beam 12 at each side of its center, and longitudinally-aligning uprights 14 are attached in similar manner to the intermediate cross-beam 13. The rear uprights 15 are connected by a short cross-beam 16, and the forward uprights have attached thereto a transverse beam 17, which beams extend beyond the sides of the uprights and practically over the side beams of the frame.

An elevated section of the frame is constructed by securing to the cross-beams 16 and 17 and the forward and rear uprights 14 and 15 parallel longitudinal beams 18, which beams have secured to their upper face a

cross-bar 19, upon which the driver's seat 20 is located.

About midway between the forward beam 11 and intermediate cross-beam 13 an axle 21 is transversely secured in the side beams of the frame, which axle passes through a longitudinal beam 22, connecting the transverse frame-beams 11 and 13 at their central portion, as best illustrated in Fig. 1. The axle 21 projects beyond the side beams of the frame and has a spindle 23 formed at each end for the reception of a supporting-wheel when occasion may demand.

Upon the axle 21 at each side of the cross-beam 22 a drum 24 is loosely mounted, the bore of which drums at its extremities is provided with a bushing or bearing 25. The drum is preferably made of wood; but other material may be employed. Each of the drums is adapted to carry upon its periphery a series of spaced disk-like cutters 26, adapted to constitute chopping-plates, which plates, as the drums are revolved, by contact with the hummocks chop and loosen the earth and reduce said hummocks to a common level. The disk-like cutters 26 are preferably made of steel, and between each pair of cutters a collar 27 is shrunk or otherwise attached upon the peripheral surface of the drums.

In order that the cutters may be automatically freed from any earth clinging thereto or to the collars 27, a series of downwardly and forwardly curved fingers 28 is secured to the under surface of the transverse beam 13 of the frame, as shown in Fig. 2, the attachment being effected in any suitable or approved manner. The number of fingers correspond to the number of spaces intervening the various cutters, and the location of the fingers with respect to the collars intervening the cutters is clearly illustrated in Fig. 2, in which it will be observed that the extremities of the fingers are somewhat sharp and that the said sharpened extremities do not contact with the collars. The shaft or pole 29 is connected in any desirable way with the forward cross-beam 11 of the frame.

Between the rear cross-beam 12 and intermediate cross-beam 13 an essentially-triangular frame A is located, the toe or point whereof is in the direction of the forward portion of the implement and the heel faces the

rear. The extremities of the said frame at its heel are provided at top and bottom with vertically-aligning ears 30, and at the junction of the rear cross-beam 12 and side beam 10 top and bottom ears 31 are attached to the frame, which ears extend inwardly, the upper ear 31 of the main frame beneath the upper ear 30 of the triangular frame, and the lower ear 31 beneath the lower ear 30, of the triangular frame, as best illustrated in Fig. 2.

In each of the lower ears 31 of the main frame the lower extremity of a perpendicular rod 32 is secured, the upper ends of which rods are attached to the extremities of the upper cross beam or bar 16, and the said rods 32, which serve as guide-rods for the frame A, pass through suitable apertures produced in both the upper and the lower ears of the frame A and the upper ear of the main frame. Thus the rear portion of the frame A is capable of being raised or lowered, as occasion may demand.

From the toe of the frame A at top and bottom ears 33 are forwardly projected, and rearwardly-extending ears 34 are secured to the intermediate frame cross-beam 13. In the lower ear 34 one end of a rod 35 is secured, the other end of which rod is rigidly held in the upper forward cross-beam 17, which rod passes through suitable apertures formed in the upper ear of the main frame and the ears of the triangular frame A. Thus the forward portion of the said triangular frame may be elevated as well as its rear end. The triangular frame is preferably elevated horizontally, both the heel and toe being raised equally and at the same time, and this is ordinarily accomplished through the medium of a rear rock-shaft 36, journaled in suitable standards 37, projected upward from the side beams of the main frame, and in hangers 38, attached to the upper longitudinal beams 18, and a forward rock-shaft 39, journaled in hangers 40, projected downward from the forward portion of the said elevated beams 18, as best shown in Fig. 2. The forward rock-shaft is provided with a central forwardly-extending arm 41, pivotally attached to the upper portion of the nose of the frame A by means of a link 42, and a similar arm 43 is rearwardly projected from each end of the rear rock-shaft, which arms are pivotally connected by links 44 with the extremities of the heel of the frame A. The rear rock-shaft at the right-hand side of its center is also provided with a downwardly-extending arm 45, and the forward rock-shaft 39 is provided with a similar arm 46, the two arms 45 and 46 being connected by two pivotally-united links 47 and 48, the link 47, attached to the rear shaft, being the longer of the two, and to the longer link 47, near its pivotal connection with the shorter link, the lower end of a lever 49 is pivoted, which lever is fulcrumed upon one of the cross-beams 13 of the main frame and extends upward beyond said beam within convenient reach of the driver's seat.

The lever 49 is provided with any suitable form of thumb-latch 50, adapted for engagement with a rack 51, attached to the elevated portion of the main frame. By means of the connection above described by manipulating the lever the cutter-frame A may be raised or lowered, as occasion may demand, and held in the desired position.

The side beams of the frame A have each attached thereto a cutter 52, which cutters preferably consist of steel plates, each being of a length practically corresponding to the length of the side beams of the frame, and the said plates are attached to the inner faces of the said side beams and are carried vertically downward and thence horizontally outward, as illustrated at *a* in Figs. 2 and 4, and in the lower edge of each plate a series of teeth *a'* is produced, the forward edges only of said teeth being cutting-edges, as illustrated at 53 in Fig. 1.

When the machine is to be carried from the field or is not in operation, the supporting-wheels 54 are mounted to turn upon the spindles 23 of the axle; but when the machine is in use for the purpose for which it is adapted the wheels 54 are removed, whereupon the cutting-blades of the chopping-drums 24 are brought in contact with the ground. As the machine is drawn forward the cutters 26 upon the drums chop the earth at any elevated surface with which they may come in contact and reduce such surface to a common level. The surplus dirt is delivered to the triangular cutting-frame A, and by reason of the peculiar form of the toothed plates thereon this surplus earth is evenly distributed, and the teeth of the cutting-frame as the implement advances effectually sever any weeds or brush in their path or pull the same out of the ground. Thus in a short time a large meadow may be effectually leveled.

The rear end of the main frame is supported by caster-wheels 55, pivoted in suitable ears projected downward from a spring-frame 56, which frame usually consists of two leaves, as illustrated in Fig. 2, and the inner ends of the frames are pivotally attached to the under face of the rear cross-beam 12 of the main frame of the implement, one near each side. In order that the caster-wheels may be cleared from any earth clinging thereto, the spring-frame at its rear end is bent downward to form a scraper 57, as also best illustrated in Fig. 2, which scrapers are essentially in contact with the peripheral surfaces of the wheels.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an implement of the character described, the combination, with a frame and drums journaled in the forward portion of the frame, the said drums having attached thereto a series of disk-like cutting-plates, of an essentially-triangular cutting-frame adjustably attached at the rear portion of the

main frame, the said triangular frame being provided at its sides with downwardly and outwardly extending attached plates, and the outer edges of said plates with cutting-teeth, substantially as shown and described, and for the purpose specified.

2. In an implement of the character described, the combination, with a frame, an axle secured to the forward portion of the said frame, drums loosely mounted upon the said axle, and a series of spaced disk-like cutters attached to the periphery of the drums, of an essentially-triangular frame located at the rear portion of the main frame, the nose of which triangular frame is in the direction of the front, plates attached to each side beam of the triangular frame and downwardly and outwardly projected, each of the said plates having teeth formed in the lower edges, the forward edges of which teeth are sharpened to form cutting-edges, and means, substantially as shown and described, for raising and lowering the triangular frame, as and for the purpose specified.

3. In an implement of the character described, the combination, with a frame, an axle secured to the forward portion of the said frame, drums loosely mounted upon the said axle, and a series of spaced disk-like cutters attached to the periphery of the drums, of an essentially-triangular frame located at the rear portion of the main frame, the nose of which triangular frame is in the direction of the front, plates attached to each side beam of the triangular frame and downwardly and outwardly projected, each of the said plates having teeth formed in the lower edges, the forward edges of which teeth are sharpened to form cutting-edges, spring-arms pivoted to the rear end of the main frame, caster-wheels pivoted in said arms, scrapers formed at the rear extremities of the said spring-arms and adapted for contact with the caster-wheels,

and means, substantially as shown and described, for elevating and lowering the triangular frame, as and for the purpose specified.

4. In an implement of the character described, the combination, with a main frame, substantially as described, an axle fixed in the forward portion of the frame, drums loosely mounted upon said axle and provided with a series of spaced disk-like cutters, and fingers attached to the frame and extending between the said cutters, of a vertically-adjustable triangular frame located at the rear of the drums, and plates essentially L-shaped in cross-section attached to the side pieces of the said triangular frame, the outwardly-extending horizontal members whereof have cutting-teeth produced in their edges, substantially as shown and described.

5. In an implement of the character described, the combination, with a main frame, substantially as described, an axle fixed in the forward portion of the frame, drums loosely mounted upon said axle and provided with a series of spaced disk-like cutters, and fingers attached to the frame and extending between the said cutters, of a vertically-adjustable triangular frame located at the rear of the drums, plates essentially L-shaped in cross-section attached to the side pieces of the said triangular frame, the outwardly-extending horizontal members whereof have cutting-teeth produced in their edges, spring-arms pivoted to the rear portion of the frame, caster-wheels journaled in the said arms, and means, substantially as shown and described, for raising and lowering the said triangular frame simultaneously at its heel and toe, as and for the purpose specified.

PETER M. THOMPSON.

Witnesses:

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THOMAS BURGAN.