

No. 693,363.

Patented Feb. 18, 1902.

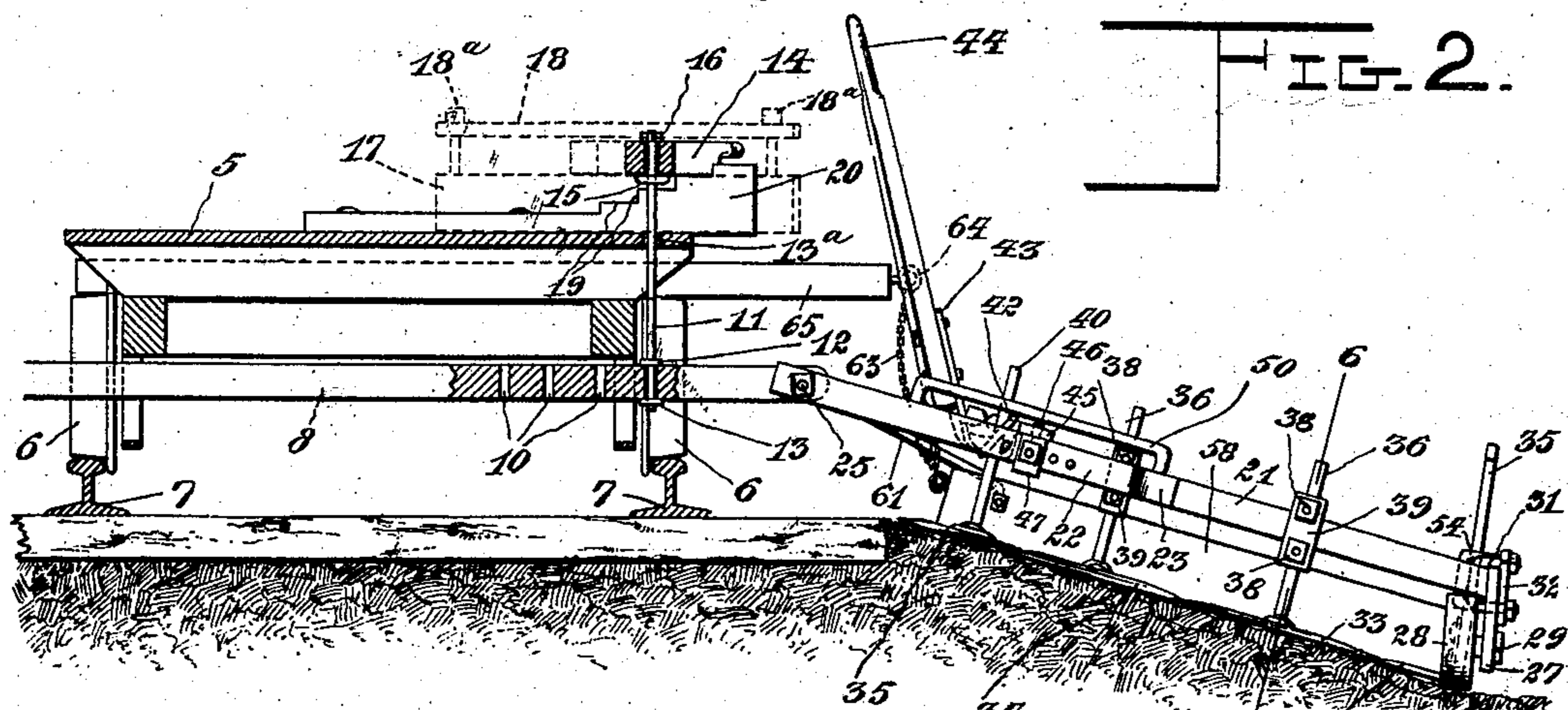
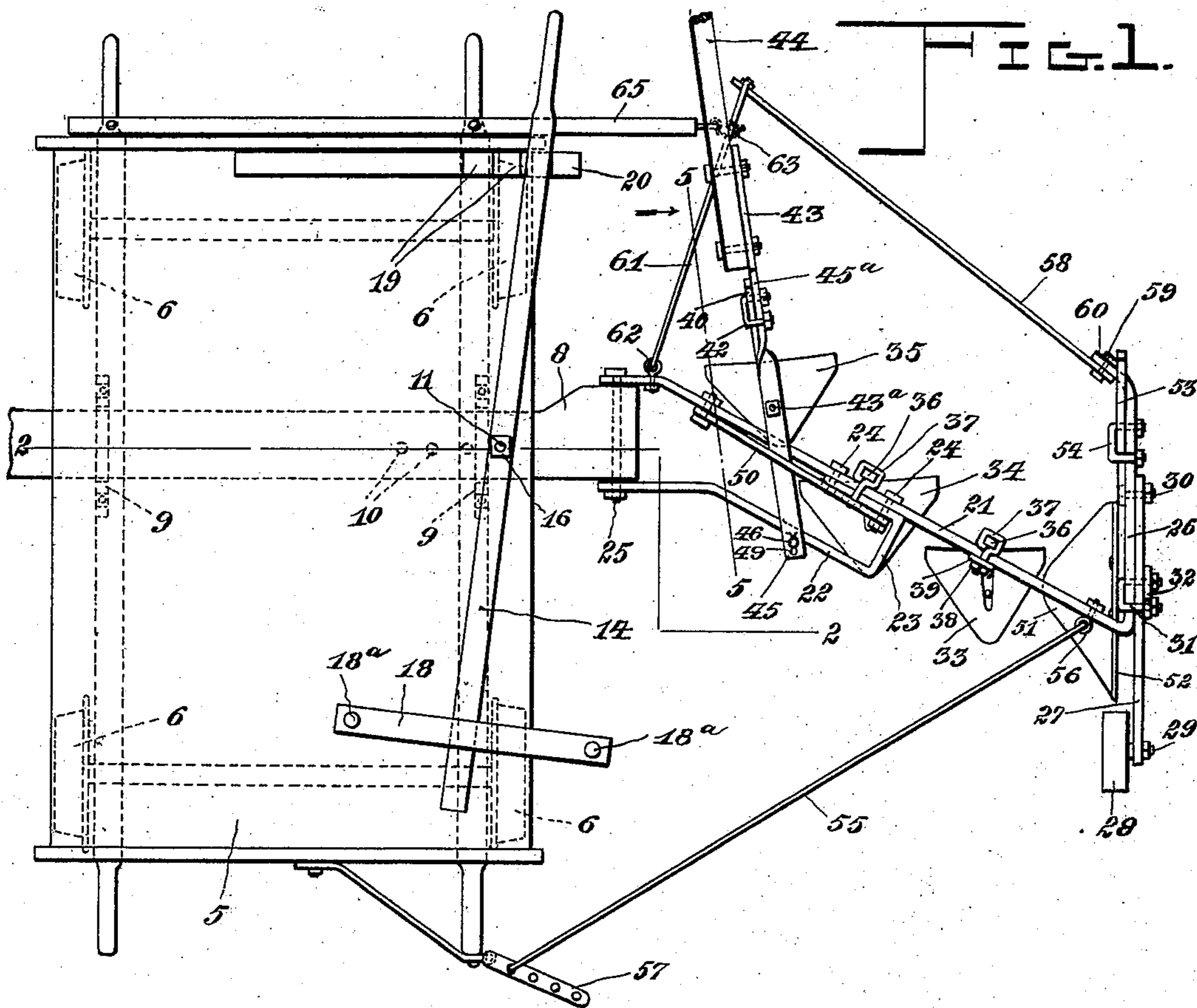
V. BERFORD.

WEED CUTTING AND BALLAST DRESSING APPARATUS.

(Application filed Nov. 22, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

*John T. Deufferoid*  
*H. J. Bernhard.*

*Victor Berford,* Inventor

By *Marion Marion*

Attorneys

No. 693,363.

Patented Feb. 18, 1902.

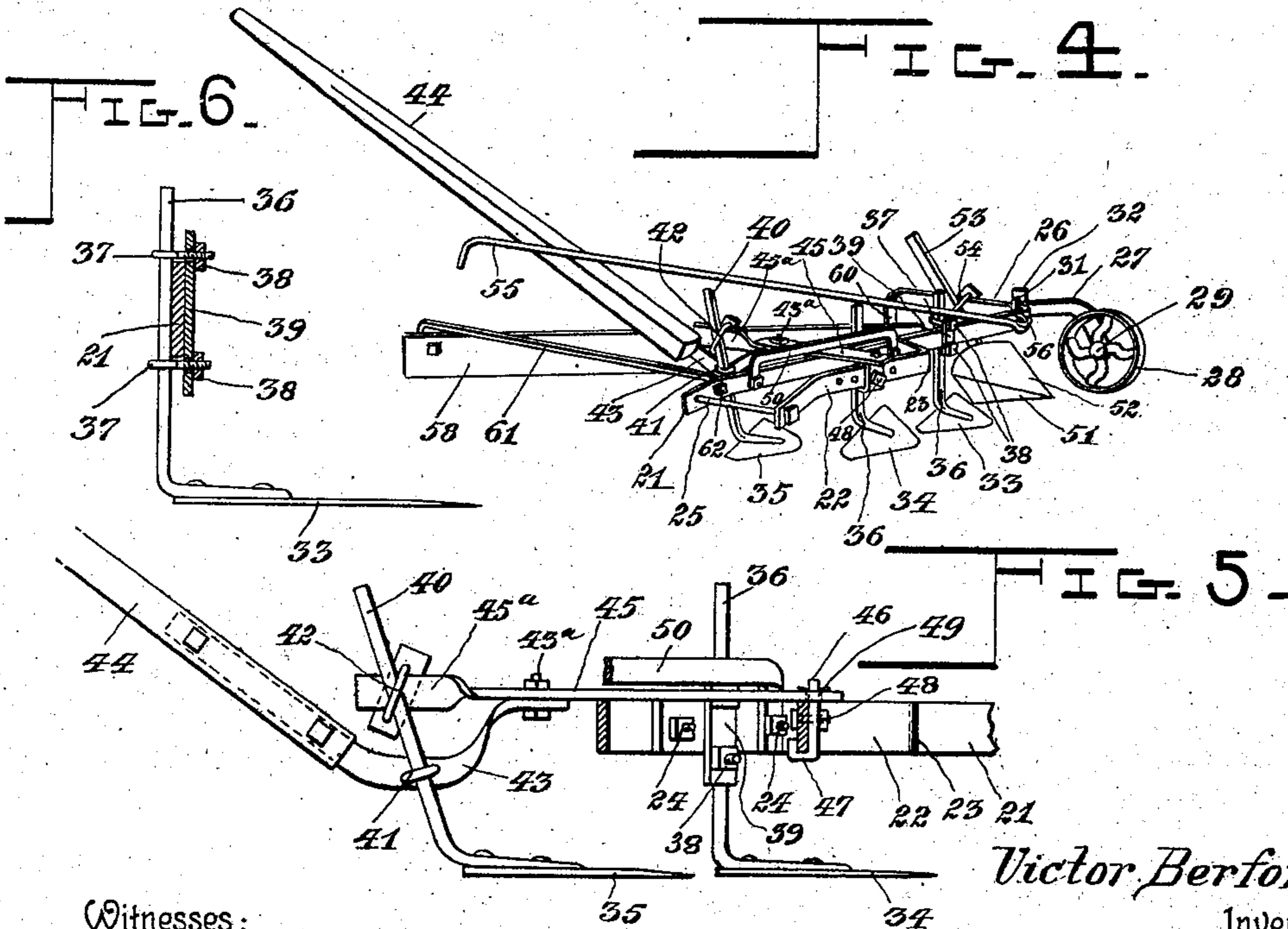
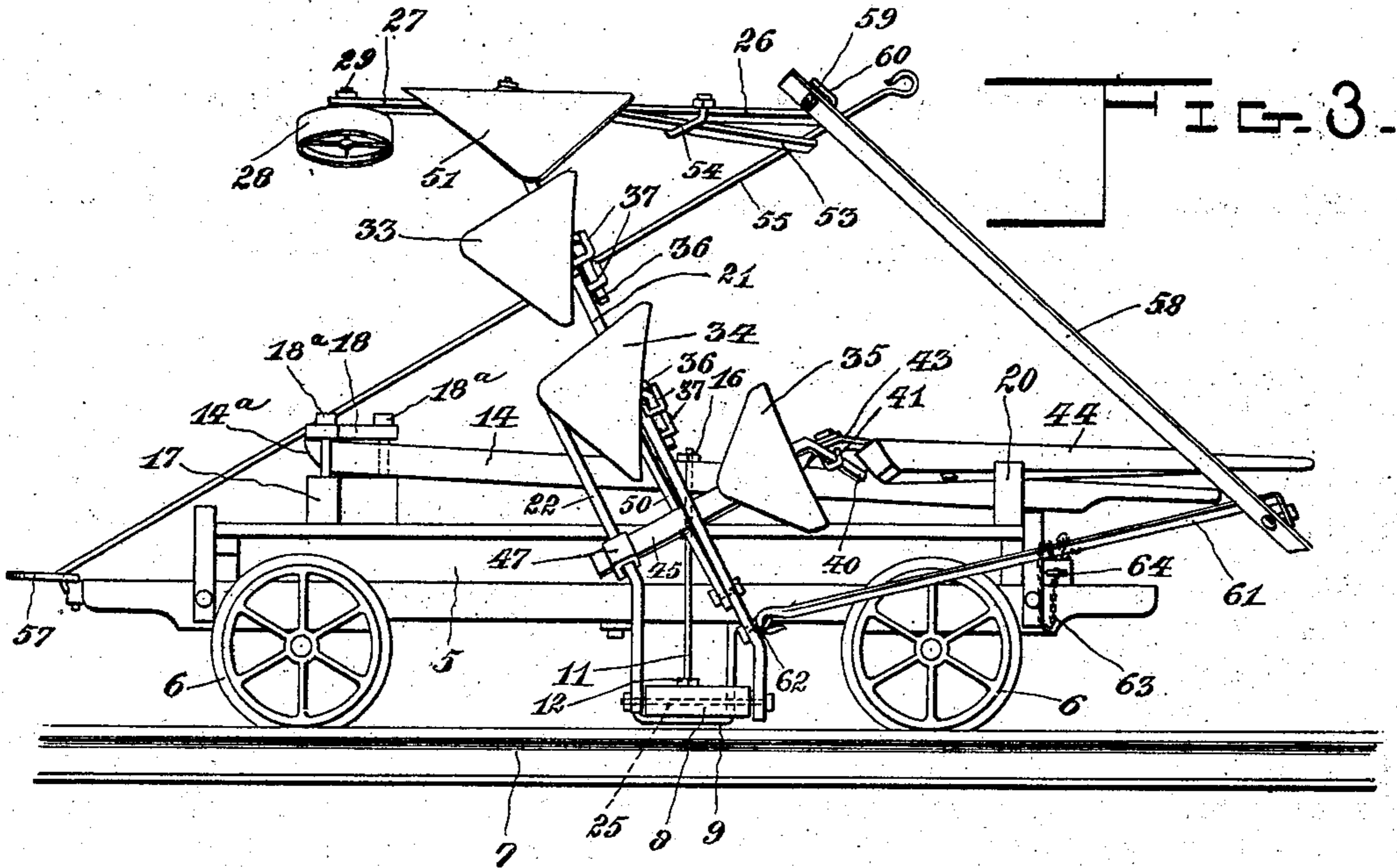
V. BERFORD.

WEED CUTTING AND BALLAST DRESSING APPARATUS.

(Application filed Nov. 22, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

*John T. Deffenwald*  
*H. J. Benhard*

*Victor Berford,*  
Inventor

By *Marion Marion*  
Attorneys

# UNITED STATES PATENT OFFICE.

VICTOR BERFORD, OF TARA, CANADA.

## WEED-CUTTING AND BALLAST-DRESSING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 693,363, dated February 18, 1902.

Application filed November 22, 1900. Serial No. 37,318. (No model.)

*To all whom it may concern:*

Be it known that I, VICTOR BERFORD, a subject of Her Majesty the Queen of Great Britain, residing at Tara, county of Bruce, Province of Ontario, Canada, have invented certain new and useful Improvements in Weed-Cutting and Ballast-Dressing Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a weed-cutting and ballast-dressing apparatus for railway-tracks; and the primary object that I have in view is to provide an apparatus adapted for the purpose of cutting weeds and the roots thereof which grow on the shoulder or slope adjacent to a railway-track, for dressing the ballast to any required condition up to the ties of the track, and for cutting the sod-line to any desired depth and at the required distance from the rails.

A further object of the invention is to provide an appliance which may be readily adjusted to any condition of the track and the shoulder thereof—that is to say, the outer end of the appliance may be raised or lowered to give more or less depth of cut to the sod-line cutter and to the subsoil weeding-hoes, and the inner end of said appliance may be raised or lowered, as the condition of the ballast may require.

A further object is to provide means supported on a wheeled frame or car for conveniently raising or lowering the appliance, as may be required, and, furthermore, to make such raising and lowering means adjustable in a horizontal plane transversely across the length of the track for the purpose of projecting the appliance more or less beyond said track.

A further object of the invention is to mount the appliance in a peculiar way which enables it to accommodate or adjust itself to changes in the level or grade of the track and at the same time make provision for easily and quickly raising the entire appliance bodily to a folded position upon the wheeled frame or car, thereby throwing the appliance out of its operative position, so as to clear switches, bridges, or any other obstructions

in the path of the appliance when operatively adjusted.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelties in the combinations of devices and in the construction, arrangement, and adaptation of parts will be hereinafter fully described, and defined by the claims.

In the accompanying drawings I have represented a weed and sod-line cutting and ballast-dressing apparatus which embodies the several features of my invention in their preferred form, and to these drawings I shall now refer in order to explain more clearly the nature of the invention and the manner in which the same is or may be carried into effect.

Figure 1 is a plan view of my apparatus, showing the foldable appliance in its operative position for use on the slope or shoulder of a railway-track. Fig. 2 is a sectional elevation of the apparatus with its parts in the position shown by Fig. 1, the plane of the section being indicated by the dotted line 2 2 on Fig. 1. Fig. 3 is a side elevation representing the appliance or frame and the several working parts in their folded positions upon the wheeled frame or car. Fig. 4 is a detail perspective view of the appliance with the several operating parts disconnected from the wheeled frame. Fig. 5 is a detail sectional elevation in the plane of the dotted line 5 5 on Fig. 1 looking in the direction of the arrow. Fig. 6 is a detail section in the plane of the dotted line 6 6 on Fig. 2, illustrating one means for adjustably clamping the shank of a weeding-hoe to the foldable frame.

The same numerals of reference are used to indicate like and corresponding parts in each figure of the drawings.

The working parts of my weed-cutter and ballast-dressing apparatus are all mounted on a suitable carrying-frame that is hingedly or pivotally connected to a beam, which in turn is mounted for adjustment in horizontal and vertical planes on a wheeled frame, the latter adapted to travel on the rails of a track for the purpose of advancing the hinged frame and the operating parts along the slope or shoulder of a railway-track. The wheeled

frame is represented by Figs. 1 to 3, inclusive, in the form of a platform or hand-car 5, having axles equipped with wheels 6, adapted to travel on the rails of a railway-track 7; but it is to be understood that the type of wheeled frame may be varied within wide limits.

8 designates a main carrying-beam which is arranged in a horizontal position beneath the platform of the car and between the front and rear wheels thereof. Said beam is loosely fitted within a pair of hangers 9, which are secured to the under side of the car and which serve, primarily, to prevent displacement or movement of said beam in the direction of the length of the car and the track when the cutting or dressing elements of the appliance are in operation. These hangers and the main beam are so arranged that said beam may have a limited adjustment in a vertical plane and also enable the beam to be adjusted endwise in a horizontal plane and transversely across the railway-track, as will be clearly evident by an inspection of Fig. 2. Said beam 8 is provided, near one end portion, with a longitudinal series of vertical apertures 10, through either of which may pass the lower end of a vertical rod or bar 11, the latter having a shoulder 12 and a nut 13 to engage the upper and lower sides, respectively, of the beam, whereby the rod may be detachably and securely attached to the beam. The vertical rod furthermore extends through an aperture 13<sup>a</sup> in the car-platform, and the upper portion of said rod is connected to a horizontal lever 14, said upper portion of the rod being provided with a shoulder 15 and a nut 16, as clearly shown by Fig. 2. The lever 14 extends in a substantially horizontal direction along the car-platform, so that the rod 11 is connected to the lever at a point intermediate of its length, and one end portion of this lever is beveled or rounded, as at 14<sup>a</sup>, so that it may fit in the space between a rest-block 17 and a plate or bar 18, the latter being attached to the rest-block by the bolts 18<sup>a</sup>. (See Fig. 3.) The beveled end of this lever 14 is loosely confined between the rest-block and the bar, so that one end of the lever may be shifted across the car for a limited distance and at the same time permit the lever to be raised or lowered, as may be required in lifting the rod 11 to raise or lower the beam 8. The other portion of this lever 14 rests upon one of a series of shoulders 19, provided in an adjusting-bar 20, the latter secured to the car-platform near the rear portion thereof and adapted to maintain the lever 14 at the required height. As shown by Figs. 1 and 2, the lever 14 is engaged with the uppermost shoulder 19 of the stepped bar 20, so as to maintain the beam 8 at its highest point of adjustment; but obviously this lever may be shifted into engagement with either of the other lower shoulders, thus permitting the rod 11 and the beam 8 to proportionately drop, as may be desired.

The frame which carries the weed-cutters

and the sod-line cutter consists, preferably, of a main bar 21 and a supplemental brace-bar 22, the latter being arranged parallel to the main bar 21 and bent, as at 23, for union firmly with the main bar by the bolts 24, as shown more clearly by Fig. 1. The bars of this carrying-frame are arranged at an angle to the length of the main beam 8, and said frame-bars are spaced so as to fit against opposite sides of the end portion of this beam 8, whereby the inner end of the inclined frame may be connected pivotally or hinged by the bolt 25 to the outer end of said beam. The hinged connection of the inclined frame to the beam 8 permits said frame to have an oscillatory or yielding movement on the horizontal axis afforded by the pivot-bolt 25, and at the same time the frame may be turned upwardly to the folded position (indicated by Fig. 3) whenever it is desired to adjust the working devices out of their operative positions.

The main bar 21 of the hinged inclined frame is provided at its outer end with a rearwardly-extending arm 26, and to this arm is connected the shank of a sod-line cutter and the adjustable bar 27 of the ground-wheel 28. This bar 27 is arranged parallel to the rearwardly-extending arm, so as to have the wheel 28 project forwardly beyond the frame and the sod-line cutter, to be hereinafter described, said ground-wheel being loosely mounted by a stub shaft or axle 29 upon the forward extremity of the bar 27. The heel or rear end of this bar is connected pivotally by a bolt 30 to the rearwardly-extending arm 26 of the main frame-bar 21, and said wheel-carrying bar 27 is held firmly and adjustably in place by a clamp 31. Said clamp 31 may be of any suitable form; but I have represented it as a staple arranged to embrace the arm 26 and to fit against the respective edges of the bar 27, the ends of said staple receiving a plate 32 and suitable nuts whereby the staple may firmly clamp the bar 27 to the rearwardly-extending arm 26. The width of this staple exceeds the width of the arm 26 for the purpose of permitting the bar 27 to be raised or lowered slightly, and thus adjust the ground-wheel 28 in a vertical direction for the purpose of regulating the depth of the cut to be obtained by the sod-line cutter.

The inclined disposition of the hinged carrying-frame in a horizontal plane to the main beam 8 enables the series of weeding-hoes to be arranged in staggered order, one in rear of the other, from the outer forward end of said frame toward the inner rear and hinged end thereof. (See Fig. 1.) I prefer to employ a series of three weeding-hoes arranged, in the manner described, so that the active surface of the second hoe will overlap the path of the first hoe, and the third hoe will occupy a like relation to the path of the second hoe, thus disposing all of the blades in a manner to secure maximum efficiency in the operation of the hoes, because the weeds can-

not by any possibility pass through gaps or spaces between the hoes. The hoes 33 34 are each carried by a vertical shank or bar 36, the latter being clamped firmly to the main bar 21 of the inclined carrying-frame; but the third weeding-hoe 35 is mounted on devices which are adjustable independently of any movement of the frame for the purpose of throwing this weeding-hoe which lies closest to the track-ties away from any tie of unusual length which may lie in its path. The shank 36 of each hoe 33 34 stands upwardly from the plane of the hoe-blade, said shank being preferably of square or other angular form in cross-section, so that it may be engaged by the eye-formed ends 37 of a pair of bolts 38. The bolts of the pair for each hoe-shank are disposed above and below the main frame-bar 21, respectively, and these bolts pass through a common vertical plate 39, which is applied against one face of the frame-bar 21, whereby the bolts and the plate serve to clamp the hoe-shank firmly in position on the frame-bar, and at the same time provision is made for endwise adjustment of the shank, so that the hoe-blade 33 or 34 may be adjusted perpendicular to the plane of the frame-bar 21, all as more clearly shown by Fig. 6. The inside weeding-hoe is secured to a stem or shank 40, which is fastened by the eyebolt 41 and the clamp-yoke 42 to the shank 43 of a lever 44 and the pivoted arm 45. The swinging arm 45 is arranged in a substantially horizontal position to extend across the bars 21 22 of the hinged frame, and the front end of this bar is fitted loosely on the upper extremity of a hinge plate or bolt 46, the latter having a hook-shaped foot 47, that embraces the lower edge of the frame-bar 22, and said hinge-plate or bolt being secured firmly to the frame-bar by the bolt 48. A key or cotter 49 passes through the upper extremity of the hinge-plate 46, so as to hold the swinging arm 45 against displacement. It will be understood that the swinging arm rests flat upon the bars 21 22 of the frame, so as to extend rearwardly a suitable distance from the bar 21, and the rear extremity of this swinging arm is twisted, as at 45<sup>a</sup>, for the purpose of permitting the shank 40 of the hoe 35 to fit firmly against the swinging arm and to be clamped securely thereto by the yoke 42. The lever 44 is bolted firmly to the curved arm 43, which is arranged below the bent end 45<sup>a</sup> of the swinging arm, said curved bar 43 being firmly secured by a bolt 43<sup>a</sup> to the swinging arm 45, all as clearly shown by Fig. 5. A guide-bar 50 is securely bolted at its ends to the frame-bar 21 in a position to embrace the swinging arm 45 and permit the latter to have a limited adjustment in a horizontal plane on the axis afforded by the hinge-bolt 46, said guide-bar 50 serving to keep the hinged arm in its proper operative relation to the hinge-frame and relieving in a measure the strain on the hinge-bolt 46. It will be noted that the shank 40 of the weeding-hoe 35 is

clamped firmly at two points by the eyebolt 41 and the clamp 42 to the arm 43 of the lever and to the rear end of the swinging arm, whereby the shank is firmly braced and the curved arm of the lever is held at two points. The described construction and arrangement of parts permits the operator to easily shift the hoe 35 by moving the lever 44 so as to swing the arm 45 on the pivot 46, but in the normal position of the hoe 35 it lies a little to the left and in rear of the hoe 34, as clearly indicated by Fig. 1.

The shank 40 of the optionally-shiftable weeding-hoe 35 may be adjusted vertically, so as to raise or lower the hoe 35 in a manner similar to the adjustment of the hoes 33 34. Although I have shown and described the shank of each hoe-blade as being angular in cross-section and as limited to adjustment in a vertical plane, I would have it understood that the hoe-shank may be made round, so as to permit it to be adjusted on its axis for the purpose of giving to the hoe-blade an adjustment in a plane parallel to the plane of the frame-bars 21 22, whereby the hoe-blades may be given different positions with respect to the line of draft. As shown by Figs. 1, 3, and 4 of the drawings, the blade of each hoe is approximately triangular with the apex in front; but of course the shape of the blade may be modified as desired.

From the foregoing description it will be noted that the gang of weeding-hoes each consist of a relatively thin shank or bar and a flat knife and that the hoes forming said gang are spaced apart, whereby the hoes are adapted to operate in and below the surface of the ballast on the slope or shoulder of a track. This operation of the weeding-hoes is similar to the well-known operation designated as "subsoil-cutting," and in a railway appliance of the character herein disclosed this subsoil operation is advantageous, because the roots of the weeds are cut and severed, so that the weeds are more thoroughly destroyed and they are prevented from growing fresh again upon the track within a comparatively short time. This subsoil operation of the gang of weed-destroying devices disturbs the condition of the ballast on the track slope or shoulder, and to overcome this objection I have equipped the appliance with a dresser bar or rake, the same to be hereinafter more fully described. I desire to remark, however, that this dresser bar or rake is supported by the frame of the attachment so that it is disposed in rear of the gang of weed-cutters, thereby making the dresser-bar or rake trail after the weed-cutters and operate on the ballast, so as to dress and restore the latter to a smooth uniform condition.

At the outer end of the hinge-frame I employ a sod-line cutter, which consists of two members 51 52, arranged in positions at right angles to each other, so as to make a blade having an L form in cross-section, as clearly represented by Figs. 1 and 4. The horizontal

member of this sod-line cutter has a cutting edge which inclines rearwardly from the apex or point. In like manner the vertical member 52 has a cutting edge which inclines upwardly and backwardly from the point, whereby the sod-line cutter is fashioned to make it easily penetrate the sod and to cut therethrough in both horizontal and vertical planes for the purpose of sharply defining the limit that the sod may encroach upon the shoulder of the track. This cutter is secured firmly to a shank 53, which is united by a clamp 54 to the rearwardly-extending arm 26 of the hinged frame.

55 designates a stay-rod which is connected loosely to an eyebolt 56, attached to the frame-bar 21 near its outer end. The other end of this stay-rod is adjustably connected to a perforated bar 57, which is fastened to the front of the wheeled frame or car, whereby the position of the rod 55 may be shifted to slightly change the angular relation of the hinge-frame to the beam 8.

It becomes important frequently to dress or smooth the ballast on a slope or shoulder of a railway-track, and to enable this dressing to be economically and expeditiously performed I have equipped my apparatus with a bar or rake, which is indicated by the numeral 58. In the operative position of this dresser bar or rake it lies in rear of the cutter appliances on the hinged frame, said dresser bar or rake being inclined with relation to the line of the track so that its outer end is some distance in advance of its inner end, as shown clearly by Fig. 1. The forward end of this dresser bar or rake is attached by a bolt 59 to the inturned extremity 60 of the rearwardly-extending bar 26, forming a part of the frame-bar 21; but the inner rear end of this dresser-bar is held in place by a stay-rod 61. The rear end of this stay-rod is bolted to the dresser bar or rake, while its forward end is attached to an eyebolt 62 on the rear frame-bar 21 of the hinged frame.

I will have it understood that I may use either the series of weeding-hoes, the sod-line cutter, or the dresser bar or rake singly in connection with the hinged carrying-frame, or I may use any two of these appliances collectively, or I may use all three of them, as may be desired or the conditions of the work demand. It is evident that all the parts are fastened to the frame so that they can be readily removed and replaced at will, and, furthermore, either of the devices may be adjusted toward the slope or shoulder of the track. Of course the carrier, which is in the form of the beam 8 and is adjustable in vertical and horizontal planes, should be moved to the proper position for hingedly supporting the inner end of the carrying-frame, and it is also obvious that the ground-wheel-carrying bar 27 should be properly adjusted to sustain the outer portion of the inclined hinged frame. This frame has a hinged connection with the carrier 8 and is supported

partly by the ground-wheel 28, whereby the frame is rendered self-adjusting to any change in the angle or inclination of the track-shoulder, and the cutting devices are thus presented in operative position to the shoulder for cutting the weeds or sod at predetermined distances. The entire device may easily be lifted to the raised position shown by Fig. 3 when the car approaches a switch, a bridge, or any other obstruction in the path of the apparatus.

The weeding-hoe 35 may at any time be quickly moved away from the track, so as to clear an extra-long track-tie, because an operator riding on the car can easily grasp the upper end of the lever 44, which extends upwardly within reach of the operator, said lever serving also as a convenient means for lifting the cutter appliance bodily when the car is in motion. The beam 8 may be raised or lowered by the attendant stationed on the car at any time when the apparatus is in use, because the lever 14 is shiftable at will, into engagement with any one of the shoulders on the stepped bar 20. In the practical service of the dresser bar or rake 58 the rearward and inward inclination thereof serves to drag the gravel ballast inwardly toward the ties, thus making the ballast fill up any spaces adjacent to the ties; but this dresser-rake may be adjusted at its inner end portion by wrapping a chain 63 more or less around the stay-rod 61, as shown by Figs. 1 and 3, said chain being fastened to a bolt 64 on a projecting arm 65 at the rear portion of the wheeled frame or car.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described my invention, what I claim as new is—

1. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-beam having means for adjusting the same in a vertical path with respect to said frame, a carrying-frame foldably connected to said beam and adjustable vertically therewith, a gang of subsoil weed-cutters mounted on said carrying-frame, a sod-line cutter supported by the frame beyond the weed-cutters, and a dresser-bar also supported by the frame and arranged to travel in rear of the gang of weed-cutters, as and for the purposes set forth.

2. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-beam mounted thereon for vertical adjustment, means for vertically adjusting said carrying-beam to predetermined positions, a carrying-frame hinged to the carrying-beam and extending outwardly from the wheeled frame and adapted to be folded up-

wardly over and upon said wheeled frame, a gang of subsoil weed-cutters mounted on the carrier-frame, a sod-line cutter disposed beyond the gang of weed-cutters, and a dresser-bar arranged to trail after the gang of weed-cutters, substantially as described.

3. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-beam connected to the wheeled frame for adjustment in either a vertical or a horizontal direction thereon, means for adjusting the beam in a vertical direction, means for adjusting the beam in a horizontal direction, a carrying-frame connected with said beam to be extended therewith beyond the wheeled frame and to be raised therewith, as desired, and operating devices mounted on the carrying-frame, substantially as and for the purposes described.

4. In an apparatus of the class described, the combination with a wheeled frame, of a carrier, a carrying-frame arranged at an angle to, and connected with, said carrier, a gang of subsoil weed-cutters attached to the carrying-frame in staggered order, a sod-line cutter disposed at one side of the weed-cutters, and a dressing-bar in rear of said weed-cutters, substantially as described.

5. In an apparatus of the class described, the combination with a wheeled frame, and a carrier mounted thereon, of a carrying-frame connected with and disposed at an angle to said carrier, a gang of weeding-hoes attached to the carrying-frame in staggered order, each weeding-hoe having a shank which is clamped in place for adjustment relatively to the carrying-frame, a sod-line cutter disposed beyond the gang of weeding-hoes, and a dresser-bar arranged to travel after the weeding-hoes; substantially as described.

6. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-frame connected thereto, a gang of weeding-hoes, certain of which are mounted on said carrying-frame, means substantially as described, whereby the innermost hoe of the gang may be shifted at will relatively to the wheeled frame, a sod-line cutter disposed beyond the gang of weeding-hoes, and a dresser-bar arranged to travel in rear of the weeding-hoes, as and for the purposes set forth.

7. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-frame connected therewith, an adjustable arm connected to the carrying-frame and carrying a weeding-hoe, means for shifting said arm and the hoe thereon at will, other weeding-hoes mounted on the carrying-frame and occupying a staggered relation to one another and to the shiftable weeding-hoe described, a sod-line cutter at one side of the gang of weeding-hoes, and a dresser-bar arranged to trail after the weeding-hoes, as and for the purposes described.

8. In an apparatus of the class described,

the combination with a wheeled frame, of a carrier mounted thereon, means whereby the carrier may be adjusted in vertical or horizontal planes, a carrying-frame having a hinged connection with the carrier, a gang of weeding-blades disposed in staggered order on the carrying-frame and arranged for one blade to overlap the path of a preceding blade, each blade being carried by a shank which is adjustably mounted on the frame, a sod-line cutter at one side of the gang of weeding-hoes, and a dresser-bar arranged to travel after the weeding-hoes, substantially as set forth.

9. In an apparatus of the class described, the combination with a wheeled frame, and a carrying-frame, of an adjustable arm pivoted on said carrying-frame and having a lever connected thereto, a gang of weeding-hoes one of which is clamped on the pivoted arm, and the other hoe or hoes clamped to the carrying-frame, a sod-line cutter at one side of the gang of weeding-hoes, and a dresser-bar arranged to travel in rear of the weeding-hoes, substantially as set forth.

10. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-frame provided with a hinge member, an arm pivoted to said hinge member and extending rearwardly from the frame, a guide-bar attached to the frame and embracing said arm, a lever fastened to the arm, a gang of hoes, certain of which are attached to the frame and with the innermost hoe attached to the pivoted arm, a sod-line cutter beyond the weeding-hoes, and a dresser-bar in rear of the weeding-hoes, substantially as described.

11. In an apparatus of the class described, the combination with a wheeled frame, and a carrier thereon, of a frame connected with the carrier and extending outwardly therefrom, a bar connected adjustably to the outer end of said frame and supporting a ground-wheel, a stay-rod attached to said outwardly-extending frame and to the wheeled frame, a gang of weeding-hoes mounted on said outwardly-extending frame, a sod-line cutter, and a dresser-bar, as and for the purposes described.

12. In an apparatus of the class described, the combination with a wheeled frame, and a carrying-frame extending outwardly therefrom, of a gang of weed-cutters mounted adjustably on the frame and adapted to be withdrawn from service, a sod-line cutter mounted on the outer portion of said carrying-frame, and a dresser-bar arranged to trail in rear of the weed-cutters, as and for the purposes described.

13. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-frame extending outwardly therefrom, a sod-line cutter angular in cross-section and provided with an upstanding shank, means for clamping said shank adjustably to said carrying-frame, a gang of weed-cutters

mounted on the frame, and a dresser member trailing after the weed-cutters, substantially as described.

14. In an apparatus of the class described, 5 the combination with a wheeled frame, of a carrying-frame connected therewith and provided with a rearwardly-extending arm, a gang of weed-cutters mounted adjustably on the frame and adapted to be withdrawn from 10 service, an angular sod-line cutter arranged for its vertical member to lie substantially parallel with said frame-arm, means whereby the sod-line cutter is mounted on said arm of the frame, and a dresser-bar arranged to 15 travel in rear of the weed-cutters, as set forth.

15. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-frame connected therewith, a gang of weed-cutters mounted adjustably on the 20 frame and adapted to be withdrawn from service, an inclined dresser member connected with said carrying-frame, and a sod-line cutter mounted on the carrying-frame beyond the weed-cutters, as set forth.

25 16. In an apparatus of the class described, the combination with a wheeled frame, of a carrying-frame connected therewith and provided with a ground-wheel, a gang of weed-cutters mounted on the frame and adapted to 30 be withdrawn from service, a dresser member arranged at one side of the carrying-frame and disposed in a rearwardly and inwardly inclined position with relation to the wheeled frame, means for connecting the dresser mem- 35 ber to the carrying-frame, and a sod-line cutter disposed beyond the weed-cutters, substantially as described.

17. In an apparatus of the class described, the combination with a wheeled frame, of a

carrying-frame connected therewith, a dresser 40 member arranged at an angle to the wheeled frame and having its outer portion connected to the carrying-frame, a stay-rod connected to the inner portion of said dresser member, a gang of weed-cutters mounted on said car- 45 rying-frame in advance of the dresser member, and a sod-line cutter supported on the carrying-frame at one side of the weed-cutters, substantially as described.

18. In an apparatus of the class described, 50 the combination with a wheeled frame, of a carrier-beam, keepers for maintaining said carrier-beam in position beneath the wheeled frame, a lever mounted on the wheeled frame 55 and having a rod connected with the carrier-beam, means for supporting the lever at predetermined positions and adjusting the carrier-beam vertically, an outwardly-extending frame connected with the carrier-beam, and 60 one or more operating devices mounted on said last-named frame, substantially as described.

19. In an apparatus of the class described, the combination with a wheeled frame, of a 65 lever connected thereto, a carrier-beam having a series of perforations, a rod connected to the lever and adjustably attached to the carrier-beam, an outwardly-extending frame connected to the carrier-beam, and one or more 70 operating devices on said outwardly-extending frame, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

VICTOR BERFORD.

Witnesses:

J. T. SMITH,

W. J. TAYLOR.