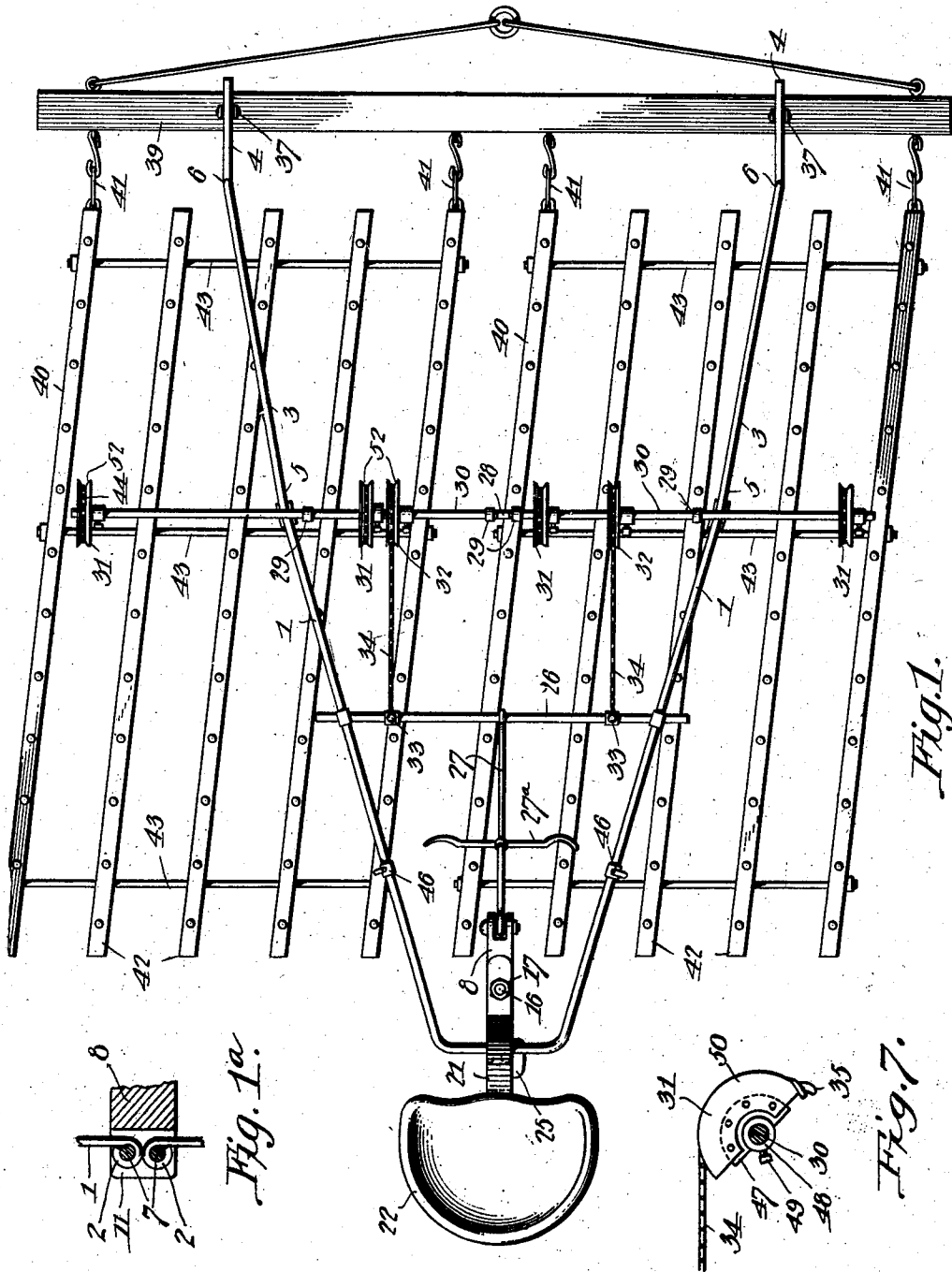


A. W. PERRY.
RIDING ATTACHMENT FOR HARROWS.

APPLICATION FILED JULY 28, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
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Wm. Ragner

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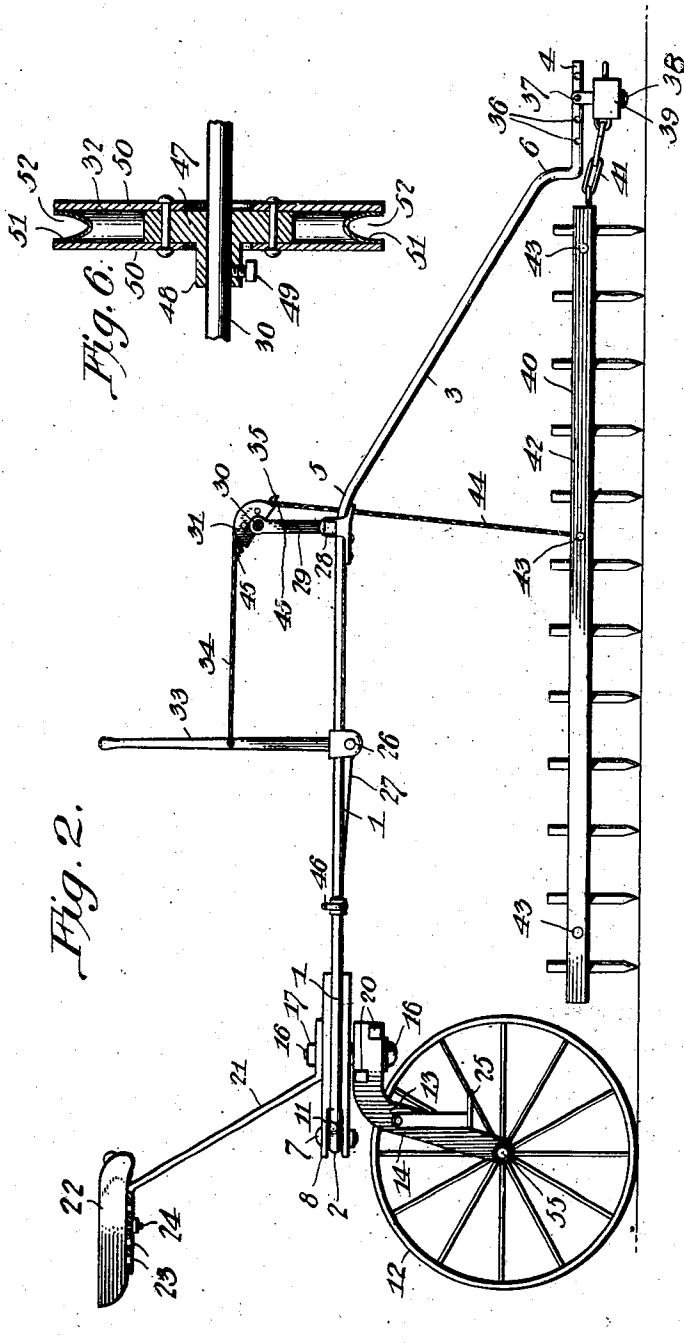


Fig. 2.

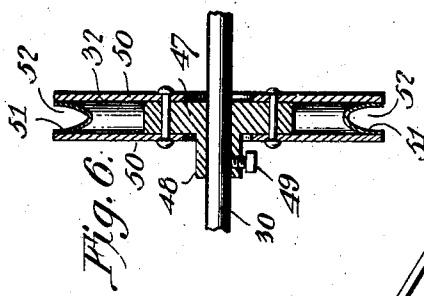


Fig. 6.

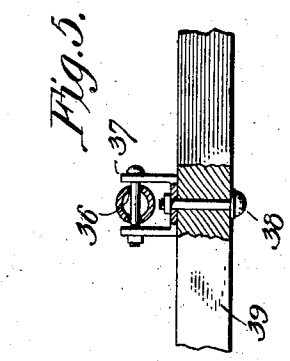


Fig. 5.

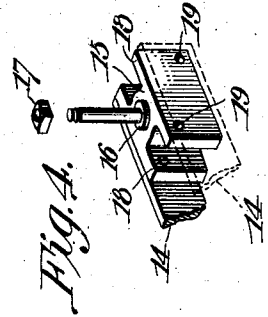


Fig. 4.

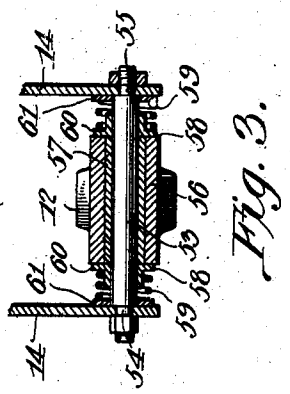


Fig. 3.

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UNITED STATES PATENT OFFICE.

ALBERT WYMAN PERRY, OF NORTHVILLE, SOUTH DAKOTA.

RIDING ATTACHMENT FOR HARROWS.

SPECIFICATION forming part of Letters Patent No. 746,146, dated December 8, 1903.

Application filed July 28, 1903. Serial No. 167,352. (No model.)

To all whom it may concern:

Be it known that I, ALBERT WYMAN PERRY, a citizen of the United States, residing at Northville, in the county of Spink and State of South Dakota, have invented a new and useful Riding Attachment for Harrows, of which the following is a specification.

This invention relates to riding attachments for harrows, especially for that class of harrows which are known as "drags" and which comprise in their construction a plurality of suitably-connected frame-bars having downwardly-extending teeth or spikes.

My invention has for its object to provide a riding attachment which shall be simple in construction, easily applied or connected with a plurality of drags, and which shall be in all respects convenient and easily manipulated.

With these ends in view my invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings I have shown a simple and preferred form of embodiment of my invention; but it will be understood that I reserve the privilege to any changes in the construction, size, proportion, or manner of assemblage of the parts of the device which shall be within the scope of my invention.

In said drawings, Figure 1 is a plan view of a device constructed in accordance with the principles of my invention. Fig. 1^a is a detail view showing the connection of the frame-pieces with the casting 8. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse sectional view taken longitudinally through the axle of the supporting-wheel of the device. Fig. 4 is a perspective detail view showing the bearing for the upper end of the fork carrying the supporting-wheel. Fig. 5 is a sectional detail view showing the means for connecting the drag-bar with the feet of the harrow-frame. Fig. 6 is a sectional detail view of one of the segments utilized for effecting the raising and lowering of the harrow-sections. Fig. 7 is a detail side view of one of said segments.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The frame of my improved riding-harrow is composed of two sides 1 1, provided at their front ends with downturned diverging members or legs 3 3, terminating in approximately horizontally disposed feet 4 4, the knees or bends being designated 5. At points where the feet 4 extend from the legs 3 are short angular portions 6, the object of which will be hereinafter described.

The rear ends of the side members 1 of the frame are bent to form loops 2 2, which are connected pivotally, as by means of pins or bolts 7, with a casting 8, the rear end of which is horizontally bifurcated for the reception of the said loops or eyes 2, which are thus confined loosely in the recess 11, formed by the bifurcation of the casting 8. The said casting is supported upon a caster-wheel 12, journaled in a fork 13, the members of which converge at their upper ends, said members 14 being adapted to receive between them a socket 15, which is journaled upon a spindle 16, the upper portion of which is slightly reduced and screw-threaded, said reduced upper end being extended through a suitable opening in the casting 8, where it is retained by means of a nut 17. The socket 15 is provided with flanges 18, having perforations 19 to receive bolts 20, whereby the said socket is clamped securely between the members 14 of the fork 13. The casting 8 supports a spring 21, carrying a seat 22, which is mounted adjustably upon the upper approximately-horizontal portion of said spring, which is provided with perforations, as 23, to receive a fastening-bolt 24. The seat-spring is connected with the casting 8 by mounting it upon the upper reduced end of the spindle 16, the nut 17 thus serving to connect the spindle, the casting, and the seat-spring. The fork 13 has a step 25 attached to it to assist the driver in mounting.

The side members 1 1 of the main frame are connected a suitable distance in rear of the knees 5 by means of a transverse brace-bar 26, which is permanently connected with said side members in any convenient manner. The brace 26 is connected, by means of a stout connecting-rod 27, with the front end of the casting 8, thus maintaining the latter in a normally horizontal position and strengthening and bracing the parts relatively to each other. The connecting-rod 27 carries a foot-

rest 27^a. To the side members 11 of the main frame, close to the knees 5, is secured a transverse bar 28, having a plurality of uprights 29, which support revoluble shafts 30. The latter carry a plurality of segments, designated, respectively, 31 and 32. Upon the cross bar or brace 26 are mounted a plurality of levers 33, to which above their fulcra are connected chains 34, which extend forwardly over the segments 32, with the front ends of which they are connected, said front ends or points being provided with hooks 35, with which said chains are adjustably connected.

The feet 4 of the frame are provided with transverse perforations 36, adapted for the attachment adjustably with relation to the said feet of clevises 37, the under sides of which are connected, by means of bolts 38, with a transversely-disposed drag-bar or evenner 39, which, as will be observed, extends across the entire width of the frame and beyond the latter, if necessary. It will also be noticed that the means by which the drag-bar is coupled to the frame will admit of said drag-bar working freely and loosely and without any degree of stiffness or rigidity, which would impart a jolting movement to the entire device. The drags or harrow-sections 40 are connected with the bar 39 by means of link connections 41, whereby they are permitted to move freely in such a manner as to operate upon the soil in the most satisfactory manner. These drags or harrow-sections are in the present instance composed of longitudinal obliquely-disposed bars 42, connected by cross-bars 43. One of these cross-bars of each harrow-section is connected by means of chains 44 with the segments 31 upon the revoluble shaft 30, said chains being connected with the rear ends of said segments, which are provided with hooks 45 for the adjustable attachment of said chains.

It will be seen from the foregoing description that when the levers 33, the normal position of which is upright, are thrown back to an approximately horizontal position they may be maintained by placing them in engagement with hooks 46, located upon the frame. The revoluble or rocking shaft 30 will be oscillated in its bearings, thus winding the chains 44 upon the segments 31, and consequently raising or tilting the harrow-sections. I would state that the chains 44 are connected with the harrow-sections in front of the longitudinal centers of the latter, so that the greater weight of said harrow-sections shall be in rear of said points of attachment. The object of this is to cause the front ends of said harrow-sections to be raised first, so that said front ends may be accommodated above the drag-bar and in the angular portions 6 of the frame-bars, when it will be seen that the front teeth of said harrow-sections will be raised clean from the ground and retained in this position while the rear ends of the harrow-sections are being

elevated to the desired height. When in this position, the harrow is ready for transportation from one field to another or over the roads, as may be desired. The operation of tilting or elevating the harrow-sections may also be performed at any time during the practical operation of the harrow in order to clear the teeth of the harrow-sections of weeds and trash which may have accumulated therein.

The preferred construction of the segments 31 and 32 is illustrated in Fig. 6 of the drawings. Inasmuch as these segments are constructed practically alike, I have shown only one of them—namely, one of the segments 32. This is composed of a cast-iron disk 47, having a hub 48, through which extends a set-screw 49, whereby it may be firmly secured in the desired position upon the rock-shaft 30. To opposite sides of the disk or plate 47 are riveted sheet-metal flanges 50, between which is secured, likewise by means of rivets, a bent sheet-metal strip 51, having a U-shaped groove 52, in which the chain connected with said segment may ride. I have also in Fig. 3 of the drawings shown a preferred construction of the hub for the caster-wheel 12. In said figure 53 designates the axle, which has its bearings in the members 14 of the fork 13. Said axle is provided with reduced screw-threaded ends 54 and 55, extending through suitable perforations in the fork-arms 14. The length of the axle exceeds that of the hub 56 of the caster-wheel, which said hub contains an axle-box 57. Flanged sleeves 58, forming washers, are disposed adjacent to the ends of the axle-box, and springs 59, coiled upon the said sleeves, exert their tension between the flanges 60 of the sleeves and washers 61, which are placed upon the axle adjacent to the inner sides of the fork-arms, thereby forcing the flanges of the sleeves into contact with the axle-box of the caster-wheel and preventing the entrance into said axle-box of sand and dirt, which would injuriously affect the said members.

From the foregoing description the operation of my invention will be readily understood. By manipulating the levers 33 the harrow-sections may be raised or lowered, as may be desired, and by placing the said levers in engagement with the hook 46 the harrow-sections will be retained in a raised position, so as to enable the harrow to be conveniently transported from one place to another.

Having thus described my invention, I claim—

1. In a riding attachment for harrows, a frame having rearwardly-converging side pieces, downwardly and forwardly diverging legs, horizontally-disposed transversely-perforated feet at the lower ends of said legs, clips engaging said transverse perforations, bolts extending downwardly from said clips, and a drag-bar mounted upon said bolts and

being thus flexibly connected with the feet of the harrow-frame.

2. In a riding attachment for harrows, a frame having rearwardly-converging side pieces, a brace connecting said side pieces, a horizontally-bifurcated casting loosely engaging the curved rear end of the frame, and a rod connecting the front end of said casting with the transverse brace.

3. In a riding attachment for harrows, a frame comprising rearwardly-converging side pieces, downwardly and forwardly diverging legs terminating in horizontally-disposed feet, a drag-bar flexibly connected with said feet, harrow-sections flexibly connected with said drag-bar, a transverse brace-bar connecting the sides of the frame, a horizontally-bifurcated casting engaging the curved rear end of said frame, a rod connecting the front end of said casting with the transverse brace-bar, and rotary supporting means for the rear end of the frame.

4. In a riding attachment for harrows, a frame comprising rearwardly-converging side pieces, downwardly and forwardly diverging legs and horizontally-disposed feet at the lower ends of the latter, a drag-bar flexibly and adjustably connected with said feet, harrow-sections flexibly connected with said drag-bar, a transverse supporting-bar upon the frame, uprights upon said supporting-bar, a rock-shaft journaled in said uprights, segments upon said rock-shaft, chains connecting said segments with the harrow-sections in front of the centers of gravity of the latter, additional segments upon the rock-shaft, levers fulcrumed upon the frame, and

chains connecting said levers adjustably with the additional segments upon the rock-shaft.

5. In a riding attachment for harrows, the combination with a frame, of a rock-shaft having a plurality of segments mounted securely thereon, harrow-sections flexibly connected with the frame, levers fulcrumed to the frame, chains connecting the harrow-sections with the rear ends of certain of the segments, and chains connecting the front ends of the remaining segments with the levers at a distance above the fulcra of the latter.

6. In a riding attachment for harrows, a frame having rearwardly-converging side pieces and provided with a transverse brace, a casting flexibly connected with the curved rear end of the frame, a rod connecting the front end of said casting with the transverse brace, a spindle extending downwardly from said casting, said spindle being provided with a reduced threaded upper end extending through a perforation in said casting, a seat-spring mounted upon the reduced end of said spindle, above the casting, a nut connecting said spindle and seat-spring with the casting, a caster-wheel, a fork carrying the same, and a socket clamped between the upper ends of the members of the fork and engaging the spindle extending downwardly from the casting connected with the frame.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT WYMAN PERRY.

Witnesses:

EZRA MARTIN,
JAMES SMITH.