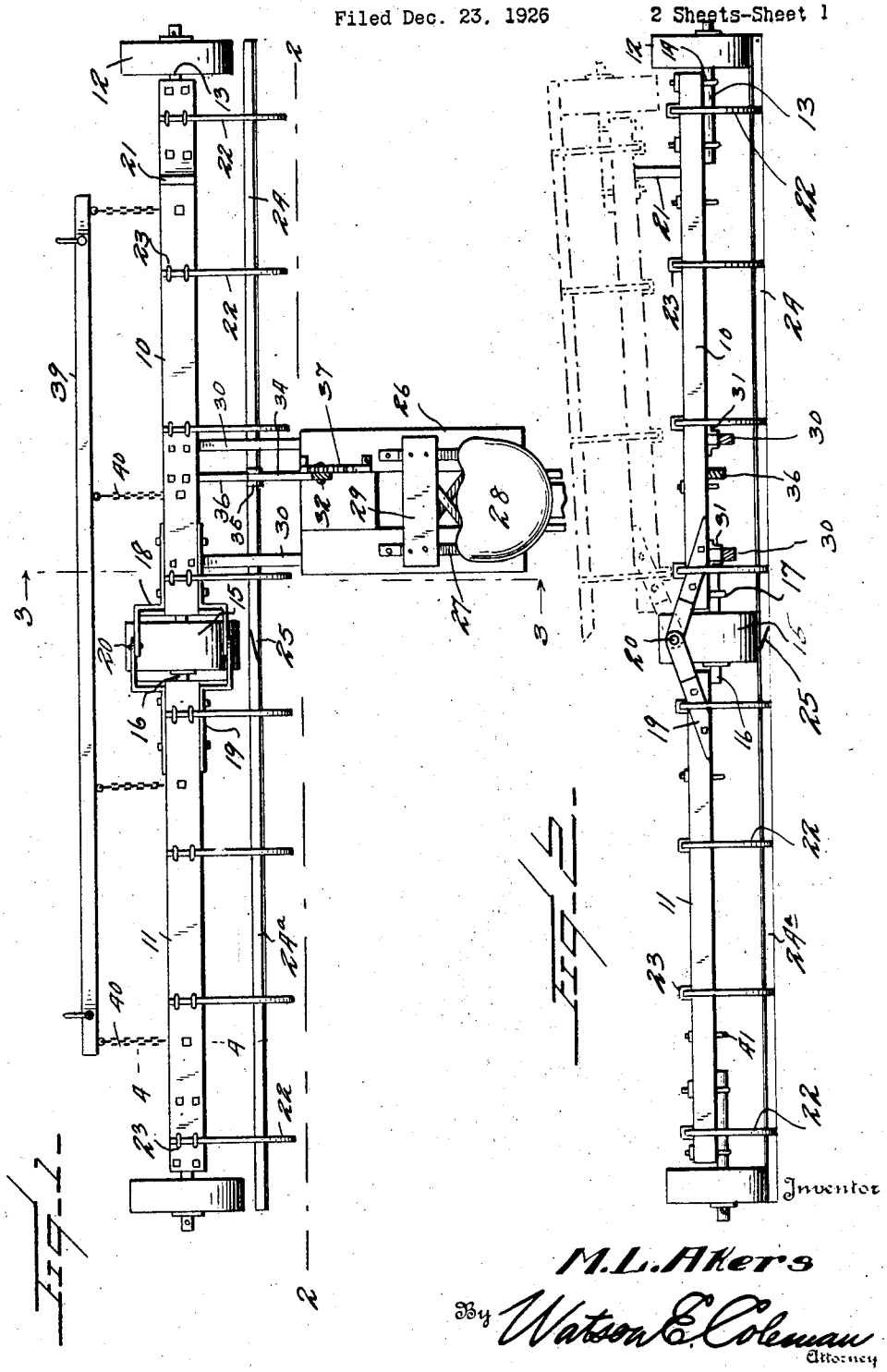
May 1, 1928. 1,667,764

M. L. AKERS

WHEELED WEEDER

Filed Dec. 23, 1926 2 Sheets-Sheet 1



Inventor

M. L. Akers

By Watson E. Coleman

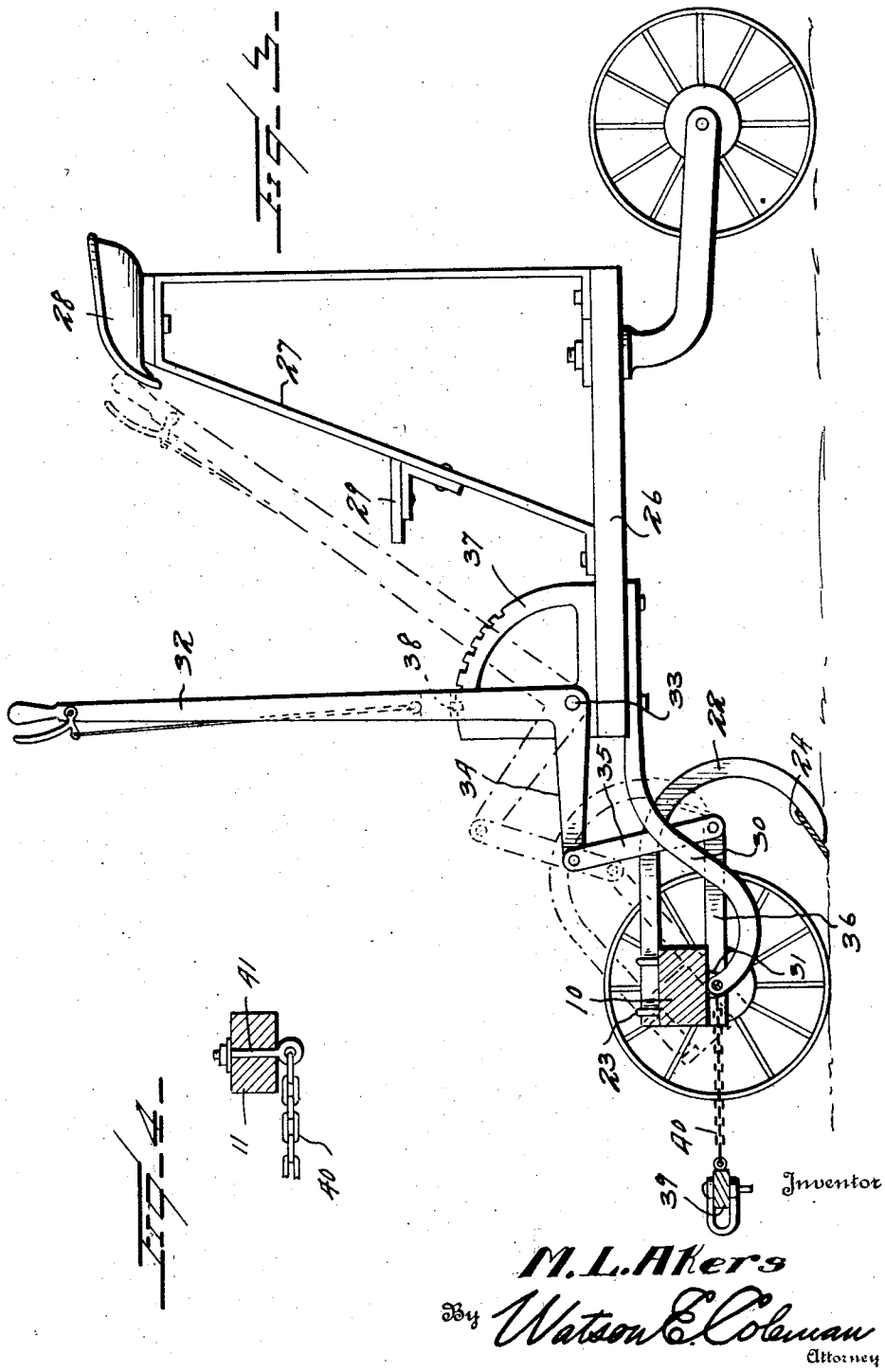
Attorney

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Inventor

M. L. Akers

By Watson E. Coleman

Attorney

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UNITED STATES PATENT OFFICE.

MAURICE L. AKERS, OF PENDLETON, OREGON.

WHEELED WEEDER.

Application filed December 23, 1926. Serial No. 156,717.

This invention relates to weeders and particularly to those weeders which embody a wheeled supporting bar and a cutting blade mounted upon the bar and extending longitudinally thereof.

The general object of the present invention is to provide a construction of this character with means whereby to secure positive control of the cutting blade in forcing it into the ground and adjusting it to the required depth of cut, this being particularly necessary where the ground is not uniformly packed.

Another object is to provide means whereby, when the cutting blade is locked in one position, it is controlled throughout its entire extent so that every portion of the cutting blade is raised or depressed simultaneously except for the slight difference due to torsional stress placed upon the beam on which the cutting blade is mounted.

Still another object is to provide improved means for supporting the main frame of the weeder and rotating it on the wheel spindles when the cutting blade is being raised or depressed, thus reducing the weight handled by the lever to a minimum.

Still another object is to provide a weeding machine of this character formed in two sections hinged to each other so that one section may be turned over upon the other section, thus making it possible to fold the weeder into compact form for moving, and another object in this connection is to provide a trailer section and so connect the trailer section by a hinge or pivot to the main beam or frame, that the hinge will turn on the same points or in line with the pivot points of the beam itself.

A further object is to so construct the weeder that the goose-necks or curved brackets supporting the cutting blade are mounted on top of the beam which constitutes the main frame, thus giving a much larger throat than is otherwise possible. This has been found of great advantage in reducing the obstruction offered by the goose-necks to the passage of weeds, straw, and the like.

A still further object is to provide a construction of this character which has relatively few parts, which is exceedingly simple, which reduces draft, and which permits the weeder to be dumped for its full length with but little effort.

My invention is illustrated in the accompanying drawings wherein:—

Figure 1 is a top plan view of a weeding machine constructed in accordance with my invention;

Fig 2 is a rear elevation of the weeding machine, the bars connecting the trailer with the main frame being in section;

Fig. 3 is a section on the line 3—3 of Figure 1;

Fig. 4 is a fragmentary section on the line 4—4 of Figure 1.

Referring to these drawings it will be seen that the main frame of the weeder includes two longitudinally extending beams 10 and 11 which may be of wood or any other suitable material, these beams at their outer ends supporting the wheels 12. To this end the wheels 12 are mounted upon the wheel spindles 13, these spindles extending beneath the beam and being engaged therewith by the U-bolts 14. I do not wish to be limited to this as other means might be used for supporting the wheels.

The inner end of the beam or section 10 also carries a wheel 15 which is mounted upon a wheel spindle 16 which extends beneath the beam and is bolted thereto or otherwise engaged therewith as, for instance, by the U-bolt 17. Attached to the side faces of the beam 10 are the upwardly and laterally inclined brackets 18 which are divergent with relation to each other and mounted upon the inner end of the beam 11 are like brackets 19 whose ends overlap the brackets 18 and these overlapping ends are pivoted to each other by means of the bolts, rivets or pivot pins 20. Thus, it will be seen that the section or beam 11 may be folded over upon the section or beam 10, as illustrated in dotted lines in Figure 2, a supporting member 21 being mounted upon the beam 10 adjacent the upper end thereof and upon which the beam 11 rests when the beam 11 is folded over.

Mounted upon the beams 10 and 11 are any desired number of rearwardly extending, downwardly curved goose-necks or draw

bars 22. These are illustrated as attached to the upper faces of the beams by means of U-bolts or other like means 23. Attached to the goose-necks or draw bars 22 of the beam 10 is a scraper blade 24 and carried by the goose-necks of the beam 11 is a like scraper blade 24a. These blades overlap on a plane intersecting the pivot 20 and preferably the meeting ends of these blades are beveled or angled as at 25, see Figure 1, so that the two blades when both are in use, constitute practically one long blade having a length somewhat greater than the combined lengths of the beams 10 and 11.

Disposed rearward of the beam 10 and adjacent the inner end of this beam, is a trailer consisting of a platform 26 having mounted thereon the seat supporting frame 27 and the seat 28 with its foot rest 29. This platform 26 is connected to the beam 10 by means of the two downwardly and forwardly extending draft bars 30. These draft bars 30 extend downward below the beam 10 and then upward and are pivoted to ears 31 attached to the beam and projecting slightly below the same. Thus the beam and the trailer are pivotally mounted to each other so that the beam may rotate on the axes of the spindles 16 and 13 and obviously an oscillation or rotation of the beam 10 will cause a like oscillation of the beam 11.

For the purpose of oscillating the beam 10 I mount upon the platform 26 the lever 32 which is pivoted at 33 and carries an arm 34 projecting forwardly and connected by a link 35 to the arm 36 attached to the under face of the beam 10 and projecting rearwardly therefrom. The lever 32 operates over a rack 37 and the lever is provided with the usual hand operated bolt 38 whereby the lever may be engaged with the arcuate rack at any desired point. By shifting the lever 32 rearward, the scraper blades 24 and 24a will be raised by tilting the beams 10 and 11, and by shifting the lever forward, the blades will be depressed. Thus the depth of cut may be regulated or the weeding blades may be lifted entirely off the ground and to the position shown in dotted lines in Figure 2. It is to be particularly noted that the goose-necks 22 are mounted on top of the beams 10 and 11, to thus leave a larger throat or space between the beams 10 and 11 and the weeding blades 24 and 24a than would be the case were the goose-necks mounted upon the underface of the frame formed by the beams 10 and 11. This reduces obstruction to the weeds, straw, and the like in passing through or between these goose-necks and beneath the beams.

For the purpose of applying draft to this weeder, I provide a draw bar 39 disposed in advance of the beams 10 and 11 and parallel thereto, this draw bar being connected by chains 40 to eye bolts 41 extending through the beams 10 and 11, as shown in Figure 4, with the eyes disposed in line with the pivotal center or axis of the spindles 13 so that there is no tendency for the draft to pull the cutting blade either into the ground or out of the ground.

It will be seen that the weeder when being dumped, rotates on the spindles of the supporting wheels. This permits a ready adjustment of the blades without any resistance to their movement. The hinge between the two sections of the weeder frame provides a flexible joint which allows the two blades to adapt themselves to any uneven surface over which they may move but at the same time the two sections are held rigidly in alignment with each other and with reference to the line of draft. The weeder may be made in any length desired up to a practical limit and while I have illustrated a weeder formed in two sections, I do not wish to be limited to this as a third section may be added, the middle section under these circumstances being provided with a wheel on each end and a hinge at each end to which the end sections may be connected. In this case, the trailer section would be connected to the middle section, preferably at the middle thereof, in a manner similar to that shown in the drawings.

It is obvious that many changes may be made in the details of construction and arrangement of parts which I have illustrated without departing from the spirit of the invention as defined in the appended claims.

I claim:—

1. A weeder of the character described including a main frame formed of a plurality of sections, the outer ends of the sections carrying wheel spindles, wheels mounted upon the spindles, a hinge connection between the sections permitting one section to be folded over upon the other section, the connection causing a simultaneous movement of all of said sections around the axis formed by the spindles of the wheels, scraper blade supporting members attached to said sections and extending downward and rearward therefrom, a scraper blade formed in sections carried by the lower ends of the supporting members, and means for tilting all of said frame sections simultaneously to raise or lower the scraper blade sections.

2. A weeder of the character described including a main frame formed of a plurality of beam sections, a wheel disposed between two beam sections and having a spindle engaging one of said sections, wheels disposed upon the outer ends of the beam sections and having spindles engaging the same, a hinge joint between the two sections whereby one of said sections may be turned over upon the other, scraper blade supporting members mounted upon each of said sections, a scraper blade supported thereby, and manually oper-

able means for simultaneously tilting all of said beam sections to raise or lower the scraper blades thereof.

3. A weeder of the character described including a main frame formed of two beam sections disposed in alignment with each other, wheels disposed at the ends of one of said sections and having wheel spindles engaging the same, a wheel disposed at the outer end of the other of said sections and having a wheel spindle disposed in alignment with the first named wheel spindles, a hinge connection between the two beam sections permitting one beam section to be turned over upon the other to transmit tilting movement from one beam section to the other, scraper blade supporting members mounted upon each of the beam sections and carrying scraper blades, a trailer hingedly connected to the first named beam section and disposed rearward thereof, and manually operable means on the trailer for tilting the beam section to which the trailer is connected and operatively connected therewith.

4. A weeder of the character described including a main frame formed of two beam sections disposed in alignment with each other, wheels disposed at the ends of one of said sections and having wheel spindles engaging the same, a wheel disposed at the outer end of the other of said sections and having a wheel spindle disposed in alignment with the first named wheel spindles, a hinge connection between the two beam sections permitting one beam section to be turned over upon the other to transmit tilting movement from one beam section to the other, scraper blade supporting members mounted upon each of the beam sections and carrying scraper blades, a trailer hingedly connected to the first named beam section and disposed rearward thereof, and manually operable means on the trailer for tilting the beam section to which the trailer is connected and including a lever mounted upon the trailer and having an arm, a rack over which the lever moves and by which it is held in adjusted position, an arm attached to and extending rearward from the first named beam section, and a link connecting said arm with the arm of the lever, the pivotal connection of the trailer and the beam section being in line with the axis of said wheel spindles.

5. A weeder of the character described including a main frame formed of two aligned beam sections, spindles attached to the under face of one of said beam sections at the ends thereof, wheels mounted upon said spindles, a wheel spindle mounted at the outer end of the other section and carrying a wheel, upwardly inclined irons attached to the adjacent ends of the two sections and overlapping each other and pivotally engaged with each other, downwardly and rearwardly extending scraper blade supporting members mounted upon said beam sections, blade sections mounted upon said supporting members, a trailer disposed rearward of the first named beam section and having draft irons extending downward and forward beneath the first named beam section and pivotally connected thereto on a line coincident with the axis of the spindles, an arm attached to the under face of the first named beam section and extending rearward therefrom, a lever mounted upon the trailer and having an arm, a link connection between the arms, and a rack over which the lever operates.

6. A weeder of the character described comprising a wheeled supporting frame, the frame including a forward transversely extending beam, wheels having wheel spindles engaging the beam at its opposite ends, the beam being oscillatable upon the wheel spindles, a trailer hingedly connected to the beam and disposed rearward thereof, scraper blade supporting shanks attached to the beam for movement therewith and extending rearward and downward therefrom, a transversely extending scraper blade carried by said supporting members, and a lever mounted upon the trailer and operatively connected to said beam whereby the beam may be tilted around its longitudinal axis to raise or lower the scraper blades.

In testimony whereof I hereunto affix my signature.

MAURICE L. AKERS.