C. A. McCARTHY.

HARROW.

APPLICATION FILED OCT. 17, 1908.

930,310. Patented Aug. 3, 1909.

Fig. 1.

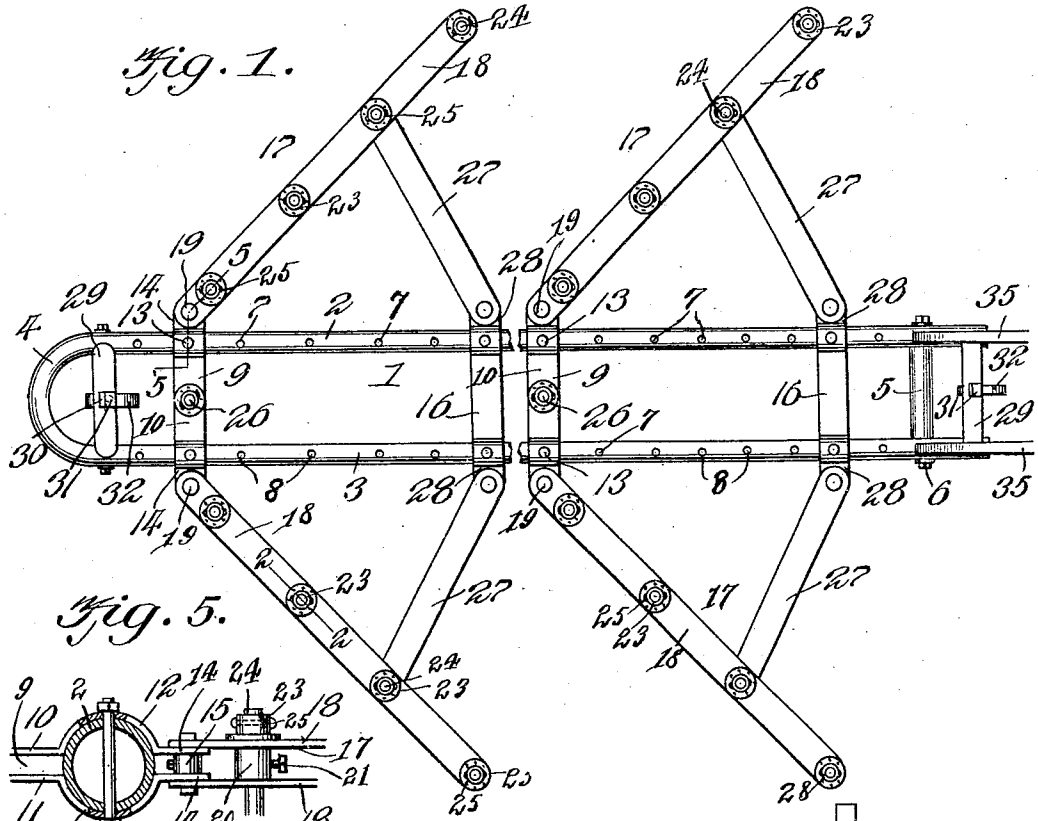


Fig. 5.

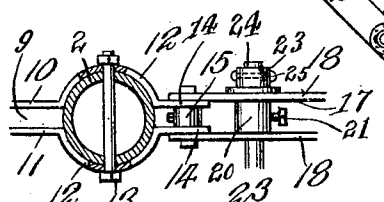


Fig. 2.

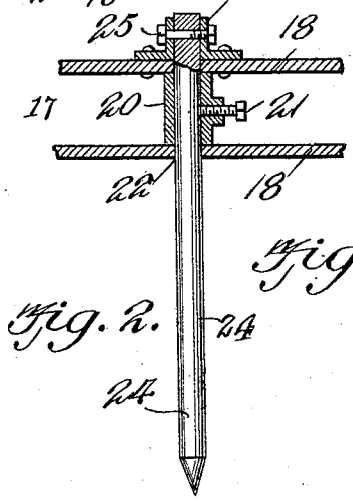


Fig. 3.

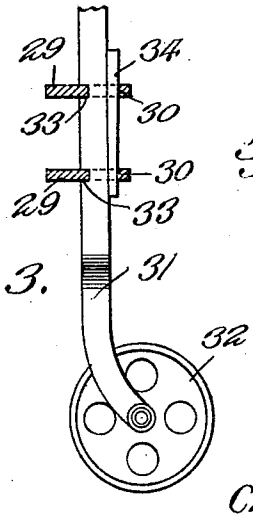
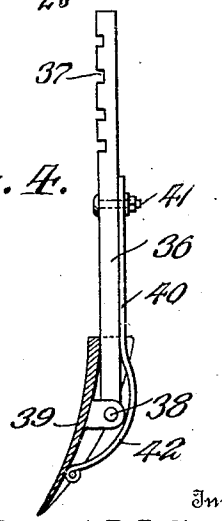


Fig. 4.



Witnesses

Frank B. Hoffman

Jas. A. Locke

Inventor

Charles A. McCarthy

By Victor J. Evans

Attorney

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES ALBERT McCARTHY, OF HATTIESBURG, MISSISSIPPI, ASSIGNOR OF ONE-FOURTH TO F. V. B. PRICE, OF CARNES, MISSISSIPPI, AND THREE-EIGHTHS TO V. R. McDONALD AND THREE-EIGHTHS TO WM. H. COOK, OF HATTIESBURG, MISSISSIPPI.

HARROW.

No. 930,310. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed October 17, 1908. Serial No. 458,236.

To all whom it may concern:

Be it known that I, CHARLES ALBERT McCARTHY, a citizen of the United States, residing at Hattiesburg, in the county of Forest and State of Mississippi, have invented new and useful Improvements in Harrows, of which the following is a specification.

This invention relates to the class of harrows, and has for an object to provide a simple form of harrow which may be constructed from utilized pipe or tubing and bent to form a frame for supporting shovels or teeth forming the harrow.

A further object of this invention is to provide a simple and novel form of means for holding the harrow shovels or teeth to elements adapted to be angularly adjusted upon the harrow frame.

Other objects and advantages will be apparent as the nature of the invention is better set forth, and it will be understood that changes within the scope of the claims may be resorted to without departing from the spirit of the invention.

In the drawing, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a top plan view, Fig. 2 is a detail section taken on the line 2 2 of—Fig. 1, Fig. 3 is a detail view of one of the colters, Fig. 4 is a detail section showing a slightly modified form of my invention, Fig. 5 is a detail section taken on the line 5—5 of Fig. 1.

Referring now more particularly to the drawing, there is shown a harrow comprising a frame 1 constructed from utilized pipe or tubing bent in U-form to provide spaced members 2 and 3 which are connected to each other at their front ends by a curved or bight portion 4. The members 2 and 3 of the frame are held in proper spaced relation with respect to each other by tubular elements 5 engaged or held to the members 2 and 3 by means of transversely disposed bolts 6. The member 2 has formed therein a longitudinal series of vertical passages 7, and the member 3 is provided with a longitudinal series of similar passages 8 disposed directly opposite the passages 7 as clearly shown in Fig. 1 of the drawing. The frame receives or carries transversely disposed adjustable brackets 9 which consist of spaced plates 10 and 11 having portions bent around the members 2 and 3 as shown at 12 and engaged with the said members by means of bolts 13. The plates are constructed so that outwardly extending ears 14 are formed at the sides of the members 2 and 3 and are spaced from each other by blocks or collars 15. Rearwardly of the fixed brackets 9 are shown brackets 16 identical in construction to the brackets 9.

Elements 17 are located at the sides of the members 2 and 3 and are formed from plates 18 which are pivotally connected to the ears 14 by means of vertical bolts 19. Spacing collars 20 are located between the plates 18 and are provided with set screws 21 for a purpose to be hereinafter described. The plates 18 are provided with alining apertures 22, and the uppermost plates are provided with hollow bosses 23 disposed in line with the passages and with the collars 20 between the plates. Spike teeth 24 are passed through the apertures and are engaged in the collars 20 and the bosses 23, the said bosses being provided with bolts 25 for engaging the upper ends of the teeth so that they may be securely held to the elements 17. The set screws 21 are also engaged with the spike teeth 24 as will be clearly seen upon reference to Fig. 2 of the drawing. Harrow teeth 26 are disposed between the members 2 and 3 and are secured to the plates 10 and 11 in a manner substantially the same as that described for the spike teeth 24. Links 27 are pivotally connected at their inner ends to ears 28 upon the brackets 16, and at the outer ends the said links are pivotally connected between the plates 18 forming the elements 17.

Between the members 2 and 3 adjacent to their front and rear ends are secured spaced plates 29 having vertical slots 30 formed therein. Upon reference to Fig. 3 of the drawing it will be seen that the plates 29 are thus adapted to receive shanks 31 which are provided with colter wheels 32. The shanks 31 are provided with notches 33 which are adapted to straddle the upper and lower edges of the plates 29 after the shanks 31 have been properly positioned in the slots 30. Wedges 34 are adapted to fit in the slots 30 and to frictionally engage the rear sides of the

shanks 31 to securely hold the said shanks in locked position as will be clearly understood. Handles 35 are secured to the members 2 and 3 of the frame in any suitable manner.

It will be seen that a simple and inexpensive harrow is provided which will be strong, light and durable, and which will be provided with means so that the elements carrying the spike teeth 24 may be adjusted angularly with respect to the members 2 and 3 to suit different occasions.

In Fig. 4 of the drawing is shown a shank 36 having transversely disposed notches 37 formed in one of its edges. At the lower end, the shank has pivotally connected thereto as shown at 38 a cultivator shovel 39. A leaf spring 40 is secured by means of a bolt 41 to the shank 36, and at the lower end the said spring is curved as illustrated at 42 and has its outer extremity engaged with the rear side of the shovel 39 beneath the pivot 38. It may be stated that the plates 18 may be constructed in the same manner as the plates 29 so that the said plates may receive shanks as illustrated at 36 in Fig. 4 for the purpose of using the cultivator shovel in lieu of the spike teeth 24. It may be stated that when adjusting the elements 17 the bolts 13 which secure the brackets 9 to the members 2 and 3 are removed so that the said brackets 9 may be moved longitudinally upon the members 2 and 3 until they are properly positioned thereon or in other words, until they aline with certain of the passages 7 and 8. It is not necessary from the herein described construction to remove the brackets 16, and these may remain intact at all times. The construction thus provides for a quick adjustment of the elements 17 as will be readily appreciated.

I claim:—

1. A harrow comprising a frame formed from a U-shaped tube forming parallel spaced members, said members having oppositely disposed passages formed therein, adjustable brackets mounted upon the members, fixed brackets mounted upon said members bolts engaged in the passages and with the adjustable brackets for holding the same in their adjusted position, and angularly adjustable teeth carrying elements connected with the brackets.

2. An agricultural machine comprising a frame having parallel spaced members, fixed brackets secured to said members, elements pivotally connected to said brackets, adjustable brackets located in spaced relation to the fixed brackets and mounted upon said members, teeth carried by said elements, and links pivoted at their inner ends to the fixed brackets and pivotally mounted at their outer ends to said elements so that when the adjustable brackets are moved upon said members toward or away from the fixed brackets, the angular position of the elements will be changed with respect to the members of said frame.

3. An agricultural machine comprising a frame having parallel spaced members, fixed brackets secured to said members, elements pivotally connected to said brackets, said parallel spaced members having oppositely disposed series of passages, adjustable brackets mounted upon the parallel spaced members, means engaged with said adjustable brackets and with said passages formed in said parallel spaced members for holding said brackets in their adjusted positions, teeth carried by said elements, teeth carried by the adjustable brackets, and links pivotally connected at their ends to the elements and to the fixed brackets.

4. An agricultural machine comprising a frame having horizontally disposed parallel spaced members, spacing plates secured between said members adjacent to their front and rear ends, teeth carrying shanks carried by said plates, adjustable brackets mounted upon the members, fixed brackets mounted upon said members, teeth carrying elements pivotally connected at their inner ends to the adjustable brackets, and links pivotally connected at their ends to the fixed brackets and to the teeth carrying elements.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES ALBERT McCARTHY.

Witnesses:
T. C. HANNAH,
WM. H. COOK.