April 13, 1926. 1,580,405

J. W. BROWN

HEEL SWEEP

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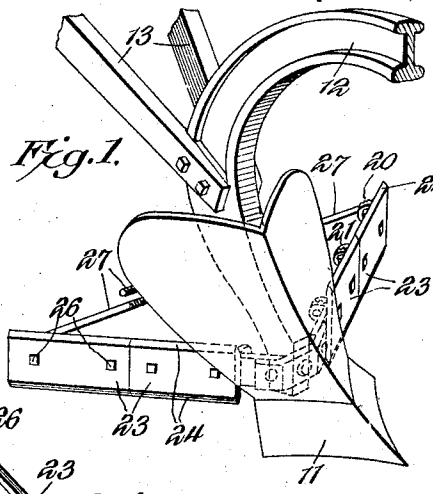


Fig. 1.

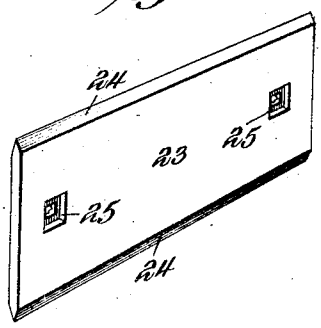


Fig. 5.

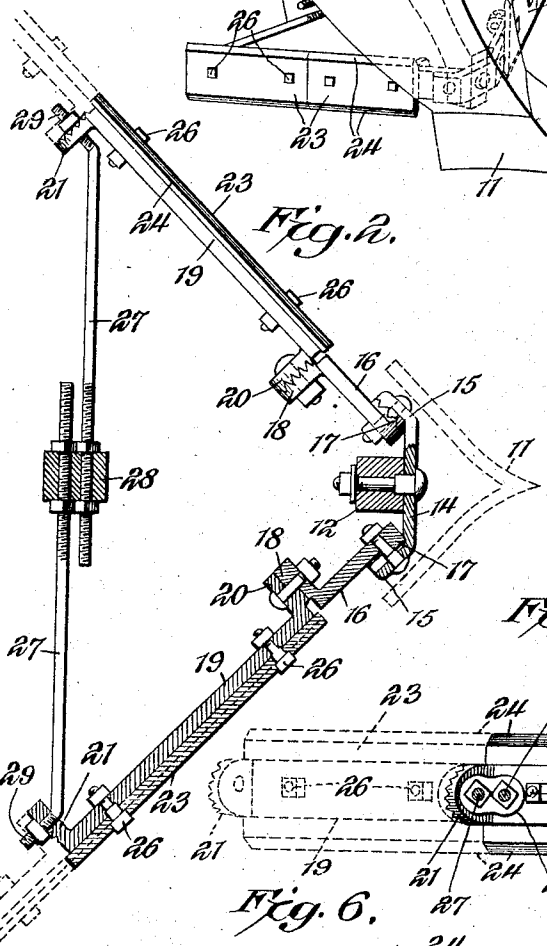


Fig. 2.

Fig. 3.

Fig. 6.

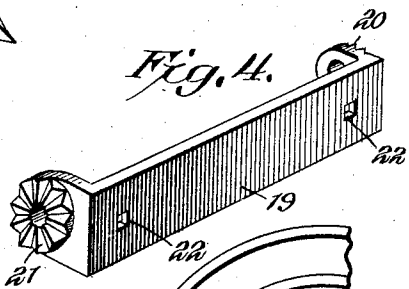
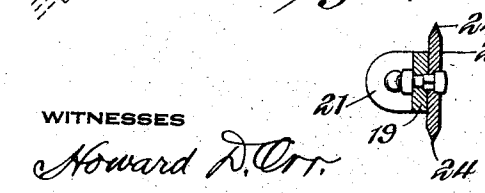


Fig. 4.



WITNESSES

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Fig. 7.

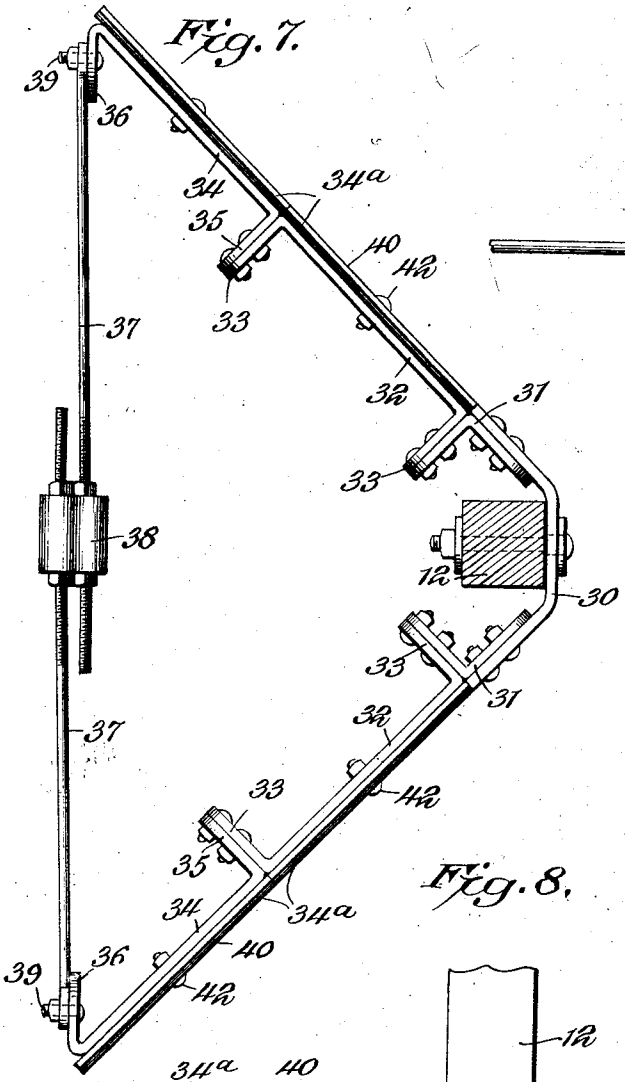


Fig. 9.

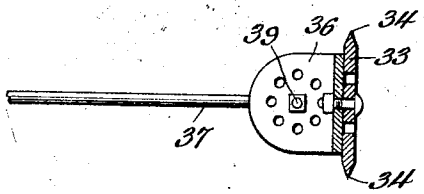


Fig. 10.

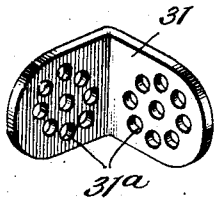
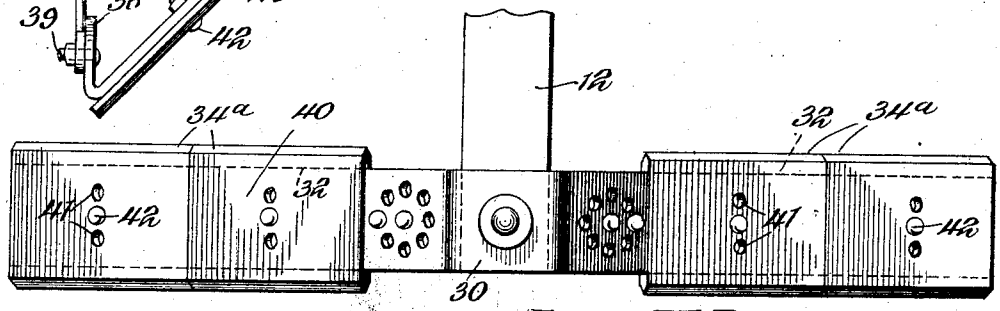


Fig. 8.



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Patented Apr. 13, 1926. 1,580,405

UNITED STATES PATENT OFFICE.

JAMES W. BROWN, OF WINNSBORO, TEXAS.

HEEL SWEEP.

Application filed April 22, 1924. Serial No. 708,228.

To all whom it may concern:

Be it known that I, JAMES W. BROWN, a citizen of the United States, residing at Winnsboro, in the county of Wood and State of Texas, have invented new and useful Heel Sweeps, of which the following is a specification.

This invention relates to heel sweeps.

The principal object of the present invention is to provide an extensible and adjustable heel sweep. When using the ordinary heel sweep, it becomes necessary if a different size of sweep is needed to entirely remove the sweep from the foot of the plow frame and replace with another sweep. Such a change often requires that the plow-man return to the house or go to a blacksmith shop or store to obtain the needed size of sweep. The cost of having on hand a large number of sizes of sweeps is considerable.

With the present design of extensible and adjustable sweep much time and considerable cost is eliminated since the present invention provides a heel sweep combining all the different sizes of sweeps in one.

A further object of the invention is to provide a sweep having a blade or blades which may be raised or lowered to plow shallow or deep as desired, and means for rigidly locking said blade at any angle within certain limits. This adjustment of the sweep blades is of so simple a nature that it may be done in the field while plowing or cultivating. When using the ordinary single piece sweep the setting of the blades must be done at the blacksmith shop.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing in the drawing, but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:

Figure 1 is a perspective view of a shovel plow showing the invention in position;

Fig. 2 is a plan view with parts in horizontal section of the improved sweep;

Fig. 3 is a side elevation with parts in vertical section of the sweep in position;

Fig. 4 is a perspective view of one of the bars used to adjust the positions of the blades;

Fig. 5 is a perspective view of one of the blades;

Fig. 6 is a cross section showing the manner in which the blade is held to the frame part of the sweep;

Fig. 7 is a plan view of a somewhat modified form of sweep;

Fig. 8 is a front elevation of the construction of Fig. 7;

Fig. 9 is a detail view partly in cross section; and

Fig. 10 is a perspective view of one of the angle pieces used to unite parts of the sweep in the construction of Fig. 7.

The numeral 11 designates the plow, 12 the frame and 13 the handles thereof. With the type of plow illustrated in the drawing heel sweeps are used to throw the earth toward or against the plants. The present heel sweep does not entail modification of the plow in any way and is adapted to be used upon practically all types of plows and cultivators.

A central bar 14 having angularly bent ends 15 is united to the lower end of the plow frame 12 in any desirable way so that swinging of this bar is prevented. The bent ends 15 have their inner faces provided with serrations adapted to intermesh with like serrations provided on the end 17 of an adjusting bar 16. There are two of these bars as seen in Figure 2 and each at its opposite end is provided with a serrated disk 18 extending at right angles to the main body of the bar. A second bar 19 has each end bent at right angles to provide serrated disks 20 and 21. The teeth of disk 20 are adapted to engage with the teeth of end 18, these two parts being held together by a bolt passing centrally therethrough. A bolt also unites the parts 15 and 17. It will be clear from the foregoing matter that the bar 16 may be adjusted angularly relative to the bar 14, the axis of adjustment lying in a horizontal plane. Again, the bar 19 may be adjusted angularly relative to bar 16, the axis of adjustment being at right angles to, though in the same plane with, the previously mentioned axis.

The bars 19 which may be of any desired length are each designed to support a double edged blade 23. Obviously adjustment of these bars about the bolt which unites them to the bar 16 allows the lower edge of

the blade to be in advance of or to the rear of the upper blade edge. Each blade 23 is bevelled along the two longitudinal edges as indicated at 24 to provide the edges necessary. Each blade is also reversible so that if one edge is dull the other edge may be placed in working position. The blades 23 have rectangular sockets 25 and the bars 19 have correspondingly spaced bores also having rectangular socket portions. When the blades are in position bolts 26 may be passed through the bores in the bars 19 and may be seated in the sockets of the blades so that the turning of said bolts is rendered impossible. Thus the blades are rigidly held upon their supporting bars.

There may be as many bars 19 employed on each side of the sweep as is desired. Each bar will be united to the adjacent bar by means of a bolt passing through the serrated and angularly bent ends 20, 21. For economy of space in the drawing but two sets of blades have been shown; obviously any other number may be employed. Whatever the number of blades used on each side of the sweep, the ends of the sweep farthest removed from the plow frame will be united together by a brace comprising a pair of rods 27 passing through a block 28 and united thereto at each end of the block by nuts. Thus the effective length of each rod 27 may be varied and therefore the effective length of the brace as a whole. Each rod 27 at its outer end is bent and screw-threaded as indicated at 29 so that it may be passed centrally through the bent portion or ear 21 and held thereto by a nut.

Turning to Figures 7 to 10 inclusive, we find here a slightly different construction is employed involving however the same principles as the previously described construction. The central bar 30 is secured to the heel of the frame 12 and angle plates 31 unite each end of the bar 30 to blade supporting bars 32. These angle plates have a plurality of perforations 31^a in each arm. By the use of bolts passing through selected ones of these perforations, the bar 32 may be adjusted relative to the central bar 30. Obviously this adjustment is of the same nature as the adjustment obtained by the previous construction.

The bars 32 each have ends 33 bent at right angles and provided with perforations so that bolts may be used to adjustably hold the ends of said bars remote from the plow to a second bar 34. Each bar 34 is designed to be used for an end bar while at the same time supporting a blade 40. These blades are similar to the blades 23 except that they have a plurality of perforations 41 centrally thereof so that a bolt 42 may be passed through one of these perforations to effect vertical adjustment of the blades individually. The blades 40 have bevelled edges 34^a. The bars 34 each have an ear 35 bent at right angles at one end and an ear 36 at the other end bent at an acute angle and to the latter ear a rod 37 is secured by means of a bolt or stud 39. The two rods 37 are passed through a block 38 and united in the manner previously described.

In the present construction when it is desired to extend the sweep, the number of intermediate bars 32 will be increased. Obviously each of these bars may be united to other bars of the same construction, the whole being interposed between the central bar 30 and the end bar 34. Adjustment of the sweep about two axes lying in a horizontal plane is readily effected. Thus the character of the work which the sweep will do may be varied at will.

What is claimed is:—

1. A heel sweep for plows comprising a central bar rigidly secured to the foot of the plow standard, and having rearwardly diverging ends, a second bar pivotally secured to each of said diverging ends and adapted for pivotal movement to any one of several positions of adjustment, and a blade carrying bar pivotally secured to each of said second bars, whereby it may be turned and secured in various angular positions independently of the adjustment of said second bar.

2. A heel sweep for plows having a V-shaped frame and being secured at the apex of the frame to the foot of the plow standard, each arm of the frame being composed of a plurality of bars secured end to end, certain of said bars carrying blades, said blades being adjustable transversely on the bars which carry them, said blade carrying bars being pivotally supported so that they may be turned about longitudinal axes and secured in any one of several positions.

3. A heel sweep for plows having a V-shaped frame and being secured at the apex of the frame to the foot of the plow standard, each arm of the frame being composed of a plurality of bars secured end to end, certain of said bars carrying blades, said blades being adjustable transversely on the bars which carry them, the blade carrying bars being pivotal about their longitudinal axes and certain of said bars being adjustable about transverse axes whereby the angular positions of the blades may be varied, and extensible means for connecting the outermost ends of the arms whereby the sweep is braced.

In testimony that I claim the foregoing as my own, and I have hereto affixed my signature.

his
JAMES W. × BROWN.
mark