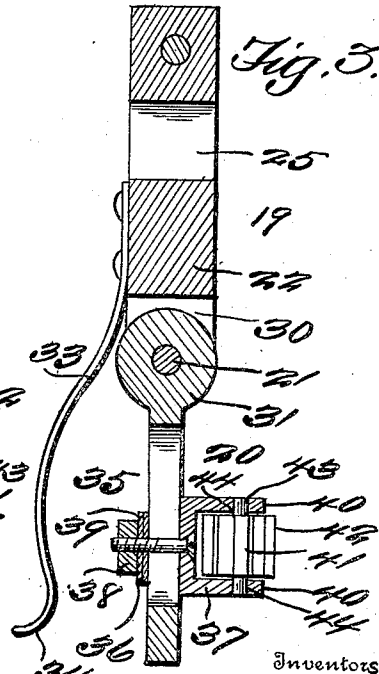
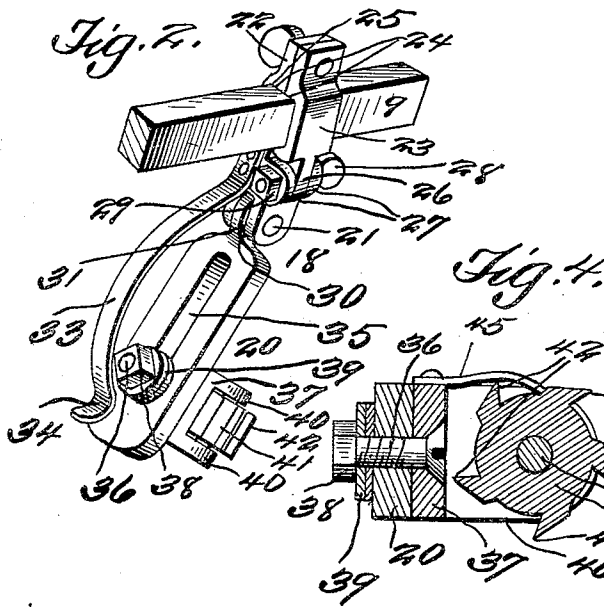
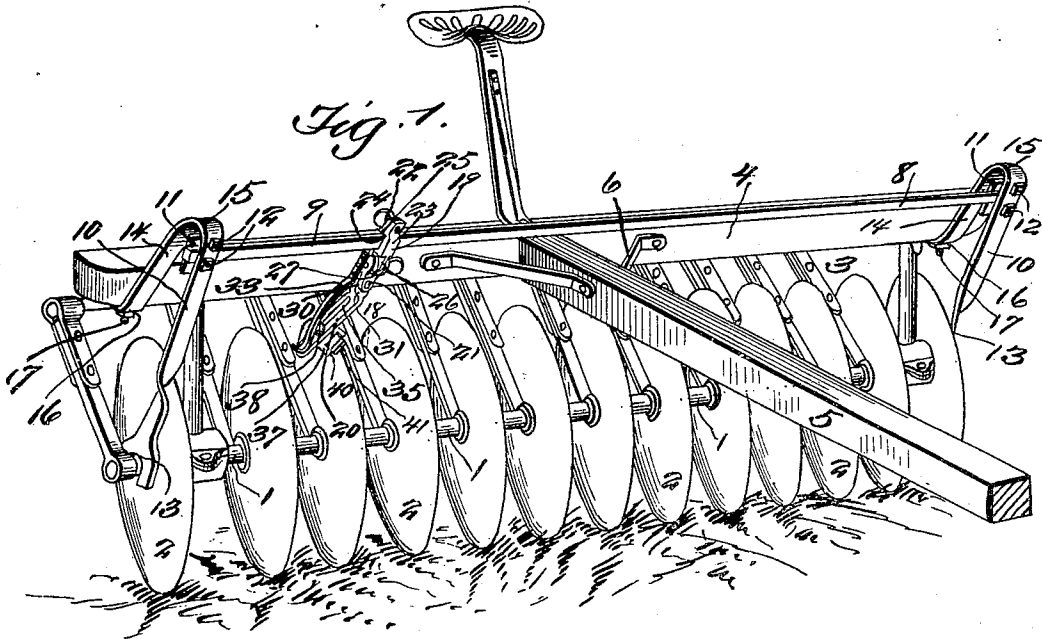


J. W. KARR & B. F. POTTER.
HARROW ATTACHMENT.
APPLICATION FILED AUG. 19, 1909.

946,675.

Patented Jan. 18, 1910.



Witnesses

Francis F. Brewell.
M. De Grange

B. F. Potter, J. W. Karr,

D. Swift & Co.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN W. KARR AND BENJIMAN F. POTTER, OF DREXEL, MISSOURI.

HARROW ATTACHMENT.

946,675.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed August 19, 1909. Serial No. 513,691.

To all whom it may concern:

Be it known that we, JOHN W. KARR and BENJIMAN F. POTTER, citizens of the United States, residing at Drexel, in the county of Cass and State of Missouri, have invented a new and useful Harrow Attachment; and we do hereby declare the following to be 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.

The invention about to be set forth and claimed pertains to a harrow, and particularly to an attachment therefor, which is suspended from a suitable frame carried by the harrow, and comprises means adapted to continually contact with the harrow disks, in order to sharpen them.

The invention has for its principal object, to provide an apparatus of this design, in which the sharpening means is held yieldably in contact with the disks of the harrow.

A further object of the invention, resides in the provision of means for adjustably suspending the device from a frame, detachably carried by the harrow.

Another object of the invention is to provide means for adjusting the sharpening means proper with relation to each harrow disk.

This invention comprises further objects and combinations of elements which will be hereinafter more fully described, shown in the accompanying drawings, and the novel features thereof will be pointed out by the appended claims.

To obtain a full and correct understanding of the details of construction, combinations of features, elements and advantages, reference is to be had to the hereinafter set forth description and the accompanying drawings in connection therewith, wherein,

Figure 1 is a perspective view of a harrow embodying the features of the invention. Fig. 2 is a perspective view of a rod of a supplemental frame carried by the harrow frame, showing the sharpening means adjustably suspended therefrom. Fig. 3 is

a vertical sectional view through the device, shown in Fig. 2, in order to further illustrate the structure of the invention. Fig. 4 is a transverse sectional view upon line 4-4 of Fig. 3.

Referring to the annexed illustration 1 designates the main axle or shaft of the harrow, while 2 indicates the plurality of harrow disks, which are rotatably carried by the said axle or shaft. The harrow comprises a frame 3 having a horizontally disposed beam 4, from which the tongue 5 projects, as shown clearly in Fig. 1 of the drawings. This tongue is suitably braced by the angularly arranged bars 6, and secured to the beam 4 is a suitable seat 7 for the operator, as clearly shown.

The supplemental frame 8 comprises a horizontally arranged bar 9 and the end members 10. The bar 9 is clamped to the members 10 by suitable plates or other means 11 and the bolts and nuts or other means 12, as clearly illustrated. These members 10 are provided at their lower ends with arched portions 13, which as shown engage the axle or shaft 1 of the harrow, while their upper portions 14 are bent at an angle, as at 15, and the extremities 16 of the portions 14 are securely bolted or otherwise secured to the beam 4, by means of the bolts or other means 17, as indicated.

The sharpening device 18 comprises the members 19 and 20; the member 19 is carried by the bar 9, and is capable of being adjusted thereon, in order that it may be clamped at various locations upon the bar while the member 20 is pivoted to the member 19, by means of a pivot bolt or other means 21. The member 19 consists of two parts 22 and 23, the upper portions of their adjacent faces of which are provided with registering recesses 24 and 25. These recesses are designed for the purpose of engaging the contour of the bar 9, which is rectangular in cross section, as will be determined upon an examination of the drawings. The part 23 is provided with a contracted portion 26, which is pivoted between ears 27 of the part 22, by means of a thumb

bolt and nut 28 and 29. The lower portion of the part 22 of member 19 is bifurcated, as indicated at 30, and between the forks of which, the restricted portion 31 of the member 20 is pivoted by means of a bolt or other means 32, as shown. Riveted to the member 19, as shown, is a leaf spring 33, which is curved laterally from the member 19 and its lower end is curved slightly, as shown at 34, which is adapted to engage the lower portion of the pivoted member 20, so as to hold the pivoted member 20 yieldably in contact with the harrow disks, as clearly shown in Fig. 1 of the annexed illustrations. The member 20 is provided with a slot 35, through which a threaded shank portion 36 of the box member 37, as clearly shown, and to the threaded shank portion a nut or member 38 is threaded, between which and the face of the member 20 suitable washers 39 are arranged. This box member comprises the flanges 40 between which the knife roller or wheel 41 is disposed. This knife roller or wheel 41 is provided with a series of knife blades 42 having cutting edges. As shown clearly in Fig. 4 the series of knife blades are disposed tangentially to the pivot of the roller or wheel, so as to properly contact with the harrow disks, as will be clearly understood. This roller or wheel is journaled upon a shaft 43, which is journaled in bearings 44 of the flanges of the box member, as clearly shown. This box member is provided with a spring 45, which is disposed in a position, in order that it may bear yieldably in contact with the roller or wheel, and in rear of each of the blades 42, in order to prevent the retrograde movement of the wheel or roller, as will be clearly apparent. This sharpening device may be moved to various locations upon the bar 9, so as to sharpen each and every harrow disk, the roller or wheel acting upon the harrow disks as the harrow is driven or drawn through a field, as will be clearly understood. The roller or wheel is capable of being rotated, in order to allow the various knife blades to be used, after which a new roller may be arranged in the box member, or the knife blades of the roller may be sharpened. From the foregoing, the essential features, elements and the operation of the device, together with the simplicity thereof, will be clearly apparent.

Having thus fully described the invention, what is claimed as new and useful is:—

1. In a device as specified, the combination of a harrow frame, an axle journaled therein having a plurality of harrow disks, a supplemental frame comprising a horizontally arranged bar and end members having arched lower ends to engage said axle and having their upper ends secured to the har-

row frame, and a sharpening device movable upon said bar.

2. In a device as specified, the combination of a harrow frame, an axle journaled therein having a plurality of harrow disks, a supplemental frame comprising a horizontally arranged bar and end members having arched lower ends to engage said axle and having their upper ends secured to the harrow frame, a sharpening device movable upon said bar, said sharpening device having means for holding it yieldably in contact with the disks.

3. In a device as specified, the combination of a harrow frame having a tongue and provided with an axle having harrow disks, of a supplemental frame comprising a horizontally arranged bar and end members, means for clamping the bar to the end members, said end members having their lower ends arched to engage the said axle and their upper ends bent at an angle and having their extremities bolted to the harrow frame, and a sharpening device movable upon said bars.

4. In a device as specified, the combination of a harrow frame having a tongue and provided with an axle having harrow disks, of a supplemental frame comprising a horizontally arranged bar and end members, means for clamping the bar to the end members, said end members having their lower ends arched to engage the said axle and their upper ends bent at an angle and having their extremities bolted to the harrow frame, a sharpening device movable upon said bars, said sharpening device having means for holding it yieldably in contact with the disks.

5. In a device as specified, the combination of a harrow frame having an axle provided with harrow disks of a supplemental frame having a bar, a sharpening device movable upon said bar, comprising two members, one pivoted to the other, one of said members comprising two parts pivoted together having recessed portions to engage said bar, said pivoted member having a box member adjustably carried thereby, a roller or wheel having knife blades carried by the box member, and means carried by the two part member to engage the pivoted member for holding the knife blades yieldably in contact with the disks.

6. In a device as specified, the combination of a harrow frame having an axle provided with harrow disks of a supplemental frame having a bar, a sharpening device movable upon said bar, comprising two members, one pivoted to the other, one of said members comprising two parts pivoted together having recessed portions to engage said bars, said pivoted member having a slot, a box member having a threaded shank portion to extend through said slot, means

to engage the shank portion for holding the box member in adjusted positions, a roller or wheel having knife blades carried by the box member, and a leaf spring carried by the two part member to engage the pivoted member for holding the knife blades yieldably in contact with the disks.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

JOHN W. KARR.

BENJIMAN F. POTTER.

Witnesses:

E. F. HALL,

R. Cox.