P. HARI.

HARROW.

APPLICATION FILED JULY 1, 1908.

928,046. Patented July 13, 1909.

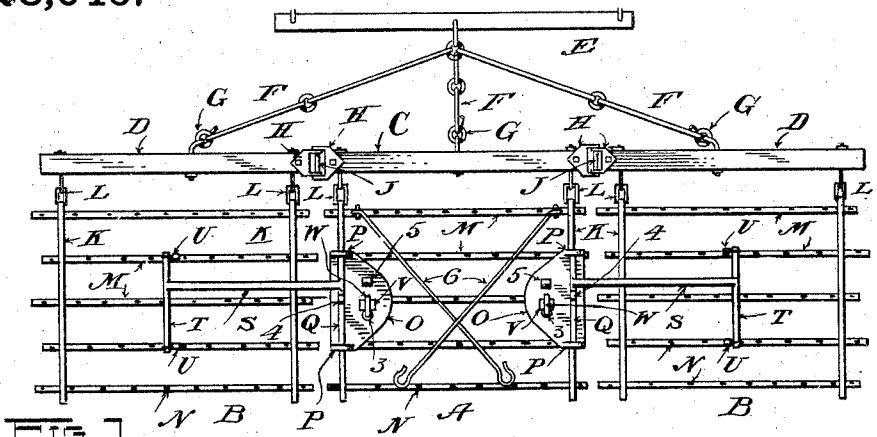

FIG. 1.

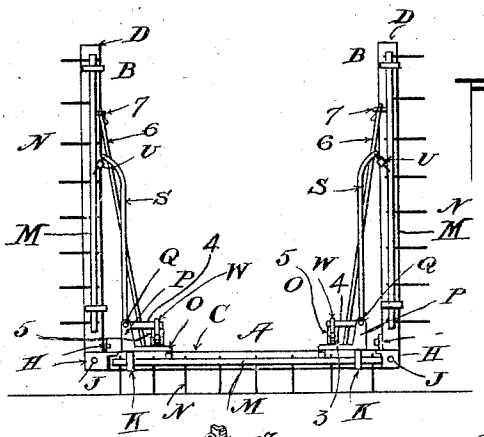

FIG. 2.

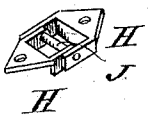

FIG. 5.

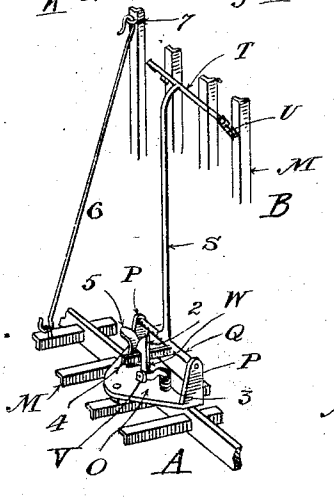

FIG. 3.

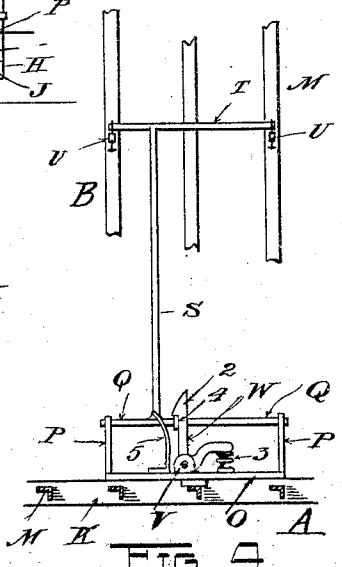

FIG. 4.

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UNITED STATES PATENT OFFICE.

PAUL HARI, OF CISSNA PARK, ILLINOIS.

HARROW.

No. 928,046. Specification of Letters Patent. Patented July 13, 1909.

Application filed July 1, 1908. Serial No. 441,496.

To all whom it may concern:

Be it known that I, PAUL HARI, citizen of the Republic of Switzerland, residing at Cissna Park, in the county of Iroquois and State of Illinois, United States of America, have invented certain new and useful Improvements in Harrows; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in harrows.

The object of the invention is to construct a harrow that can be folded into a compact form for transportation by which it will pass through gateways and narrow openings.

Another object is to provide a peculiar form and arrangement of parts by which the harrow may be folded and maintained in a folded position.

In the appended drawing, Figure 1 is a plan of the complete harrow. Fig. 2 is a rear elevation of the same, with two of the sections raised to the folded position. Fig. 3 is a perspective view of a portion of two of the sections showing the means employed for holding them in the folded position. Fig. 4 is a vertical section of a portion of a middle harrow-section together with a part of one of the raised sections and the locking portions thereof. Fig. 5 is a perspective view of pivotally connected or hinged portions for connecting the parts of a draft-bar.

A represents an inside or middle section of my harrow, and B B the outer sections thereof.

C, is the central section of a draft-bar for the harrow and D D are outer end sections of the same. To all three of these a draft-member is attached by connecting members F, F, F, preferably consisting of hooked rods engaging eyes G which have attachment with the sections C D in suitable manner. Secured to each end of each section C and to each inner end of the sections D is a casting H one of which is adapted to straddle the other, both being pivotally connected through a hinge pin J. The harrow sections consist of bars K connected through links L with the bars C, D, D, as shown, and extending through the bars of each section is a series of parallel bars M provided with the usual harrow teeth N. Any number of the harrow sections may be used but I have only shown three in the drawing the central one of which is provided near each end with a casting consisting of a plate O having two vertically disposed ears or lugs P perforated at their upper ends to receive the trunnions Q of an arm S extending outward to overhang the outer harrow sections B, and which are parallel to the bars K, the arm S lying substantially at right angles to the bars K. Secured to the outer end of each said arm S is a cross arm T to each end of which is attached in suitable manner the end of a chain U whose other end is attached to one of the bars M of the harrow section in any desired manner. Each plate O is provided also with a pair of ears V between which is pivoted a combined latch and foot-lever W whose upper end is provided with a projecting or overhanging head 2 to constitute a keeper. Upon one of the trunnions Q is an arm 4 lying in position to meet the beveled head 2 of the latch. When the arm S is raised with its harrow section the latch is thrown backward against the pressure of a spring 3 beneath the foot-lever portion thereof by the said arm 4 and when the latter has passed to its position the overhanging head 2 is thrown forward by the spring to automatically engage and hold the arm from movement thus securely holding the harrow section in the raised position.

Secured upon the plate O adjacent to the latch is a bent guide-arm 5 facing the latch W, which aids in directing the arm 4 toward the latch for its engagement therewith. The hinges H of the draft-bar permit the outer sections to readily rise and the hooked rods F may be disconnected and attached to the raised sections if desired. However I have provided hooked rods 6 loosely attached to the middle harrow section which can be attached to the outer section by means of eyes 7 as shown in Fig. 3, by which the said section can be held in its raised position. The arm 4 of the trunnion Q is released by placing the foot upon the lever W and the harrow section supported by it can then be allowed to fall to its position for work.

Various changes can be made in my device that will still lie within the meaning and intent of the invention.

Having thus described my invention, I claim:—

1. In an implement of the character described, a plurality of harrow sections adapted to be folded for transportation, an

arm pivoted on one of the sections and having connection with a second foldable section, a member movable with the arm and rigid relative thereto, and a latch carried on the first described section in the path of the member to automatically engage and hold it, and to hold said foldable section in its raised position therethrough.

2. In an implement of the character described, a plurality of harrow sections adapted to be folded for transportation, an arm pivoted on one of the sections and having connection with a foldable section, a member movable with the arm and rigid relative thereto, a spring-held latch carried on the first described section and adapted to receive the member when the foldable section is raised to automatically lock the same in position, and a second means for connecting the two sections.

3. A harrow comprising an inner and an outer section adapted to fold relatively, an arm pivoted on one of them and overhanging the other, means to connect it to the latter, there being an extension at the pivoted end of the arm, the same being rigid relative thereto, and a spring latch on the first said section to automatically engage said extension.

4. A harrow consisting of a series of foldable sections, an arm pivoted on one of them and overhanging one of the others, means to connect the overhanging end to the latter, an extension for the pivoted end of the arm the same being rigid relative thereto, a spring latch on the first said section adapted to automatically engage the said extension of the arm when the foldable section is folded and in a substantially perpendicular position, and means on the latch for manually disengaging it from the extension.

5. A harrow consisting of a series of foldable sections an arm pivoted on one of them and overhanging one of the others, means to connect it to the latter, an extension for the arm at its pivoted end, the same being rigid relative to the overhanging portion, a latch normally in the path of the extension and adapted to automatically engage the latter when the foldable section is folded in a substantially perpendicular position.

6. A harrow consisting of a series of foldable sections, an arm pivoted in one of them and overhanging one of the others, means to connect it to the latter, an extension for the arm at its pivoted end the same being rigid relative to the overhanging portion, a latch normally in the path of the extension and adapted to automatically engage the latter when the sections are folded, and a guide adjacent to the latch and at one side of the path of the said extension.

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

PAUL HARI.

Witnesses:
JOHN FEMEYER,
R. P. DYER.