

W. BROWN.
Harrows.

No. 136,027.

Patented Feb. 18, 1873.

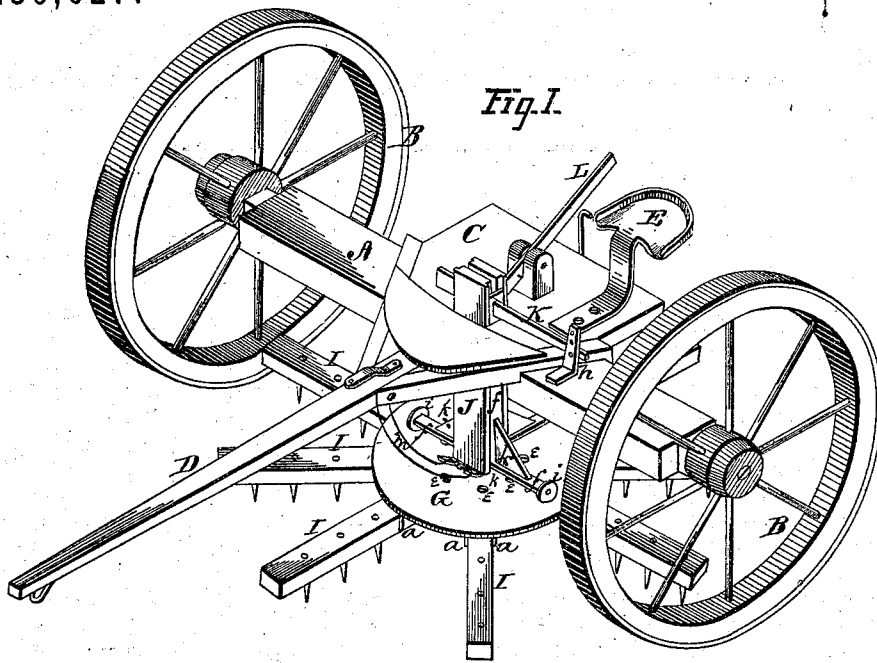
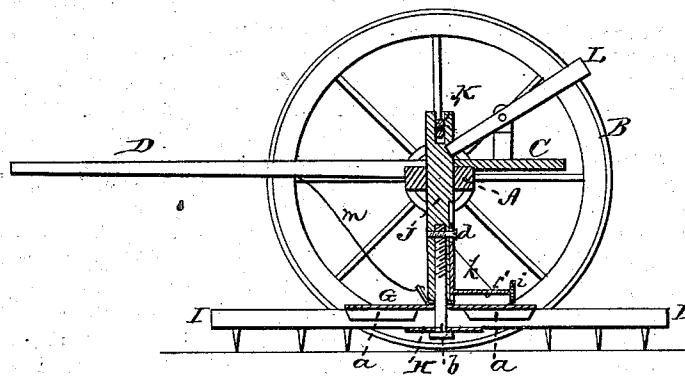


Fig. 2.



Witness:
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UNITED STATES PATENT OFFICE.

WHITMAN BROWN, OF BUTTE DES MORTS, WISCONSIN.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. 136,027, dated February 18, 1873.

To all whom it may concern:

Be it known that I, WHITMAN BROWN, of Butte des Morts, in the county of Winnebago and in the State of Wisconsin, have invented certain new and useful Improvements in Sulky-Harrows; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a sulky-harrow, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of my harrow, and Fig. 2 is a longitudinal section of the same.

A represents a bar or beam of suitable width, forming the axle; and on each end of the same is formed a spindle upon which to place the driving-wheel B. On the axle A is secured a platform, C, upon which the driver's seat E is attached, and the tongue D is also secured to said axle. The rotary harrow attached to this sulky-frame is constructed in the following manner: The top plate G and bottom plate H, or castings which hold the arms I I of the harrow together, are made in separate pieces, instead of being cast whole, so as to make it more convenient to construct the harrow, and to take out or put in the arms. The top plate G has flanges *a a* on its under side for the arms I to go into. The harrow is attached to an upright center-piece or standard, J, by a king-bolt, *b*, that goes through the center of the harrow, and up into the lower end of the standard about eight or ten inches, where it is secured and held by a key, *d*, which goes through the standard and through the end of the king-bolt. The plates G and H of the harrow are fastened together by a bolt, *e*, through each arm. The standard J passes up through a mortise made in the center of the axle A; and the harrow turns freely on the king-bolt *b* at the lower end of the

standard. On the two sides of the center-piece or standard J are two metal bars, *f f*, the lower ends of which are turned outward at right angles, and are parallel with the harrow. The vertical parts of these bars reach up to the top of the center-piece, and are made to slide in grooves cut in the sides of the center-piece or standard, and held in said grooves by suitable straps or clevises. The lower outer end of each of the bars *f* is provided with a friction-roller, *i*, against which the top plate of the harrow runs. In the upper end of each bar *f* is a slot, through which a lever, K, passes, said lever being pivoted in a slot in the upper end of the standard J.

Pressing down or lifting up this lever pushes down one of the side bars *f*, and lifts up the other, by which means the harrow is set or inclined over a little to the one side or the other, as the case may be, thereby creating a corresponding side draft or harder draft on the press side, thereby causing the harrow to have a continual rotary motion when drawn on the ground, the lever being held in place and fastened by means of a pin or bolt through the upright or standard *h* for that purpose.

On the back side of the center-piece J is another iron bar, *f'*, made the same as the side bars *f f*, except that it does not reach but about half-way up, and is held by the key-bolt *d* to the king-bolt. This bar has also a friction-roller, *i*, on its end, and is for the purpose of depressing or elevating the harrow behind, and for steadying it. These iron bars *f f* and *f'* have each a brace, *k*, across the angle, as shown. From the lower end of the center-piece or standard J a chain, *m*, extends to the under side of the tongue, for the purpose of holding up the forward side of the harrow to prevent its digging into the ground and tipping up, and thereby to prevent a twisting strain upon the center-piece. On the platform C is a lever, L, for lifting the harrow up, as shown.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The bars *f f*, as constructed, having friction-rollers *i i* upon their ends, when used in

combination with a regulating-lever and the top plate of the harrow, as and for the purpose set forth.

2. The combination of the adjustable bar *f*, provided with a friction-roller, with the plate G and standard J, for regulating the rear of the harrow, as is herein fully set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 26th day of November, 1872.

WHITMAN BROWN. [L. S.]

Witnesses:

P. C. PETERSON,
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