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WILLIAM RENNYSON.
Improvement in Harrow.

No. 118,973. Patented Sep. 12, 1871.

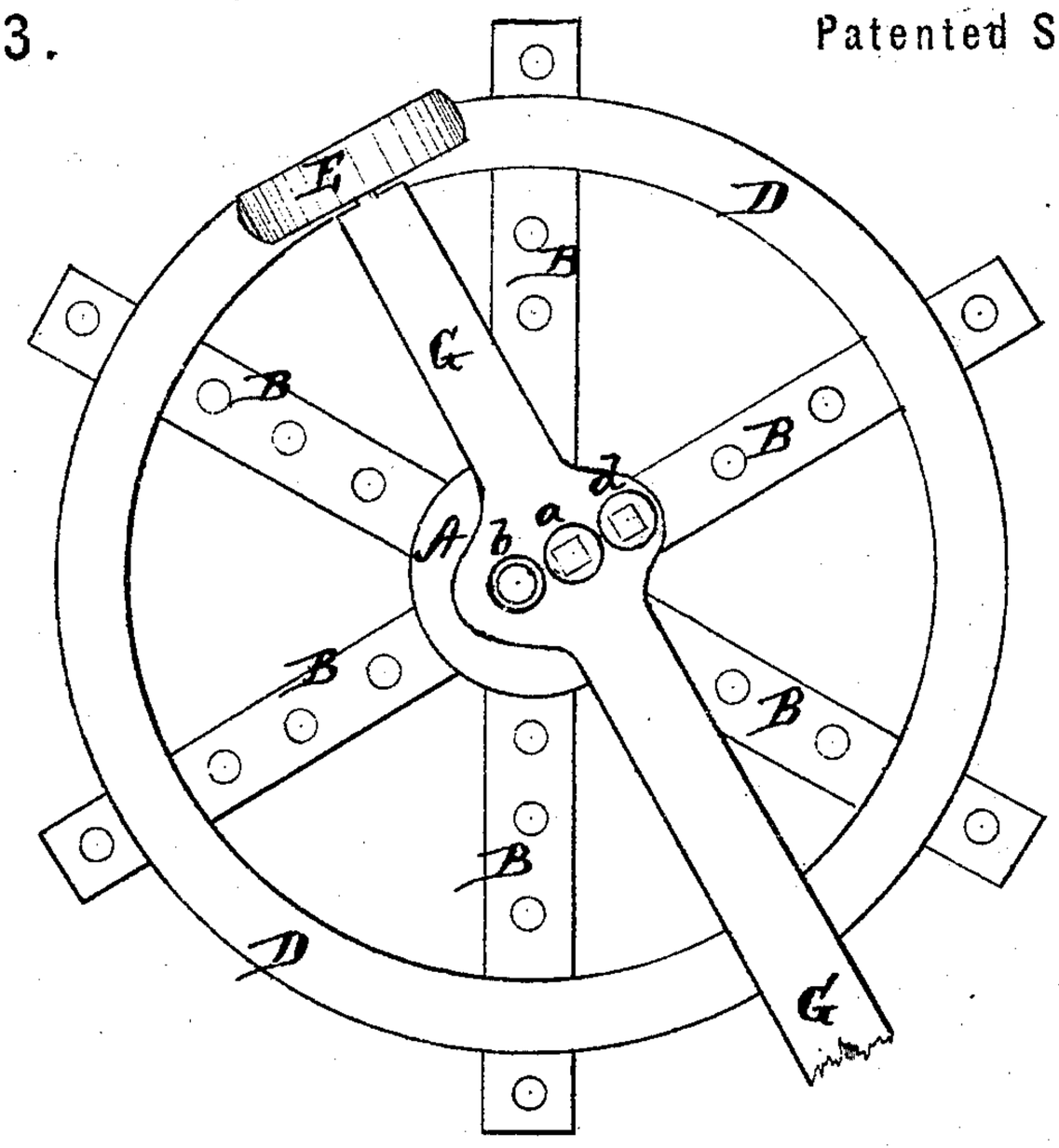
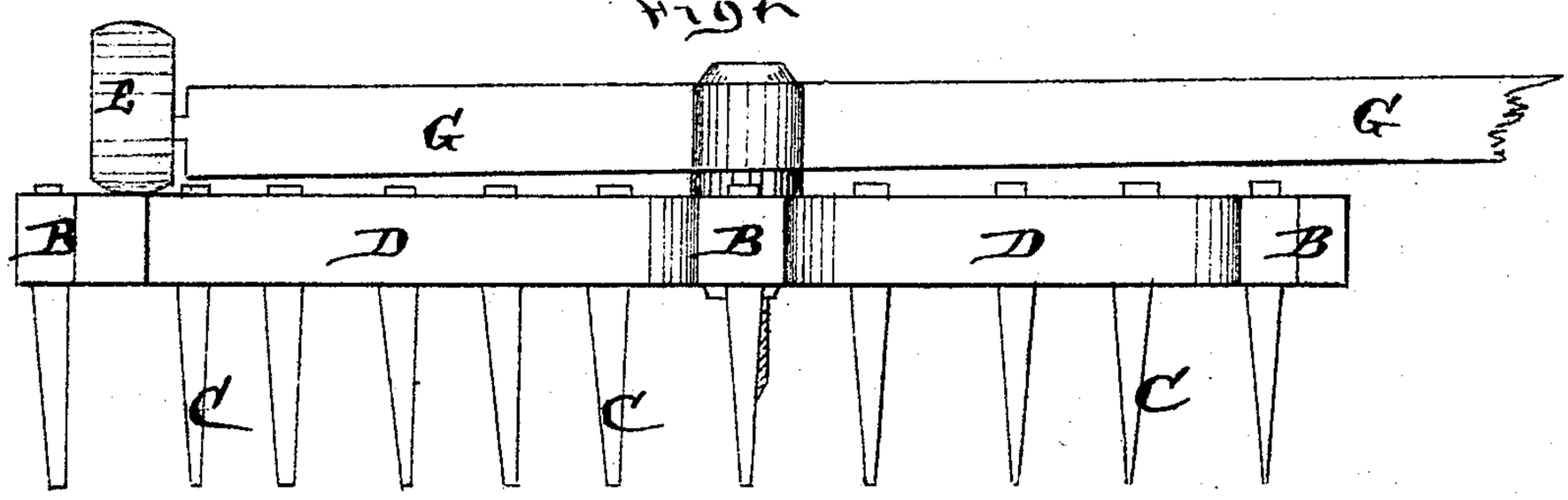


Fig 2



Witnesses:

F. L. Durand

C. L. Ewert.

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per Alexander Bruce

Attys.

UNITED STATES PATENT OFFICE.

WILLIAM RENNYSON, OF NORRISTOWN, PENNSYLVANIA.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. 118,973, dated September 12, 1871.

To all whom it may concern:

Be it known that I, WILLIAM RENNYSON, of Norristown, in the county of Montgomery and in the State of Pennsylvania, have invented certain new and useful Improvements in Rotary 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 rotary 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 plan view, and Fig. 2 a side view of my harrow.

A represents an iron hub, of suitable dimensions, in which is inserted a series of arms, B B, radiating from the center at equal distances apart. Through these arms pass the harrow-teeth C C, which are secured in any desired manner. On the upper sides of the arms B B, near their outer ends, is let in an iron circle, D, which answers the double purpose of strengthening and bracing the arms, and also forms a track for the roller E, which is mounted upon the rear end of the pulling-beam G. At the point where the beam G passes over the central hub A said beam is enlarged sidewise, so as to admit of three holes, *a*, *b*, and *d*, being made in the same, and a bolt passes through one of said holes and the center of the hub A. The hole *a* is directly in the center, so that the center of the wheel or roller E, this hole *a*, and the front end of the pulling-beam, will be on a straight line. The other holes *b* and *d* are one upon each side, so as to be out of the straight line mentioned.

When the horses are attached to the front end of the pulling-beam G it will raise this end up, causing the wheel E to press down upon the circle D, and, consequently, the teeth directly under the same will be forced down deeper into the ground than the others, thus causing a rotation of the harrow, if the beam is pivoted through one of the side holes *b* and *d*; but if the beam is pivoted in the center hole *a* then the harrow will drag along without rotating. The same effect may be produced by means of two side arms extending from the pulling-beam, one on each side, from near the point where the same is pivoted, and changing the wheel or roller from the center beam to either one of the side beams. In this case the pulling-beam is always pivoted in the same place, the principle being to change the point at which the wheel presses away from a straight line drawn through the front end of the pulling-beam and the pivot-point, whether said change is effected by moving the beam itself or only the wheel.

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

In combination with a rotary harrow composed of the hub A, arms B, teeth C, and circle D, the draft-beam G provided with pivot holes *a b d*, and wheel E, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of July, 1871.

WILLIAM RENNYSON.

Witnesses:

C. D. HESS,

H. S. CARSON.

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