

(No Model.)

J. A. BAILEY.
HARROW.

No. 569,736.

Patented Oct. 20, 1896.

FIG. 1.

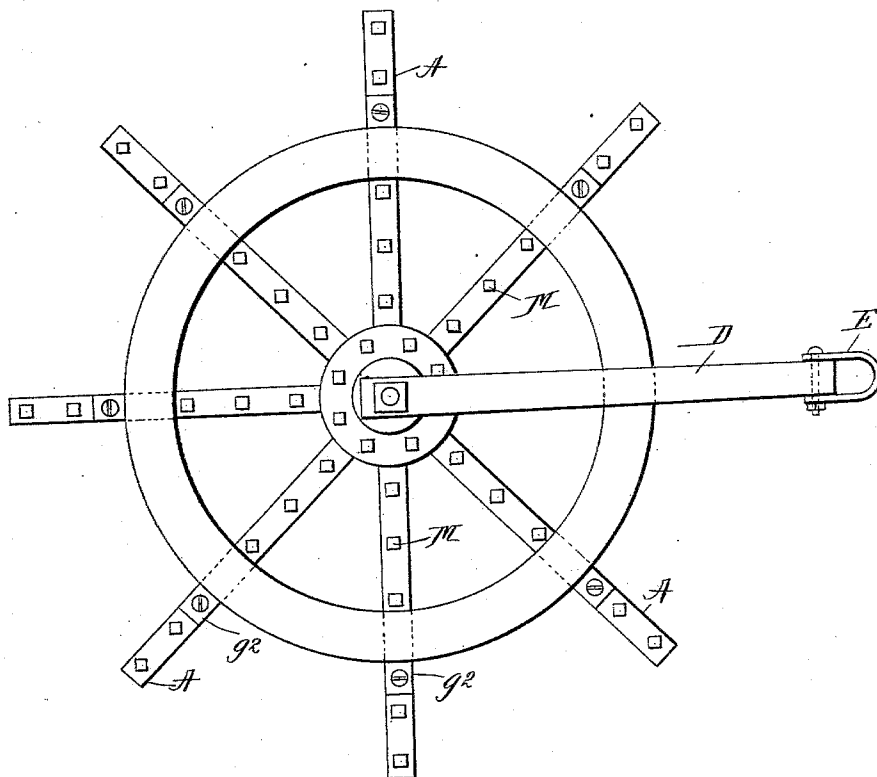
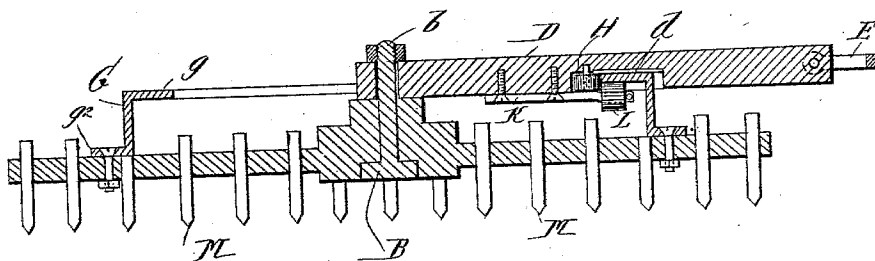


FIG. 2.



WITNESSES:

John Buckler,
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INVENTOR

Joseph A. Bailey,
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ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH A. BAILEY, OF MORRISTOWN, NEW JERSEY.

HARROW.

SPECIFICATION forming part of Letters Patent No. 569,736, dated October 20, 1896.

Application filed January 4, 1896. Serial No. 574,315. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. BAILEY, a citizen of the United States, and a resident of Morristown, in the county of Morris and State of New Jersey, have invented certain new and useful Improvements in Harrows, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to harrows, and the object thereof is to provide an improved device of this class which is simple in construction and operation and which is adapted to avoid many of the objections heretofore applicable to devices of this class; and with this and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a plan view of my improved harrow, and Fig. 2 a transverse section thereof.

In the practice of my invention I provide a harrow comprising a plurality of radial arms A, which are connected in any desired manner or formed integrally with the central circular head B, to the upper end of which is secured, or in connection with which is formed, a vertical tenon *b*, with which is pivotally connected, or which passes through, the end of a tongue D, to the outer end of which is secured a clevis E.

Mounted on the radial arms A is a ring G, provided with an annular inwardly-directed flange or rim *g* at the top thereof and at its lower side with outwardly-directed shoulders or projections *g*², by means of which it is secured to the arms A by bolts, screws, or other devices, and the tongue D, which extends over said ring, is provided in its under surface, adjacent thereto, with an oblong slot *d*, at the inner end of which is mounted a roller H, and secured to the lower side of the inner portion of the tongue is a plate K, which extends outwardly beneath the slot *d* and beneath the annular inwardly-directed flange or rim *g* of the ring G, and mounted on the outer end thereof is a roller L.

The roller H may be mounted on a pin

which passes through the plate K and into the tongue D or in any desired manner, and by means of this arrangement it will be seen that the tongue D is always free to swing on its pivotal connection with the tenon *b*, and that it will also be held in proper horizontal position by means of the rollers H and L, operating in connection with the rim or flange *g* of the ring G.

The arms A are provided with the usual teeth M, which may be composed of steel or any other desired material and which are secured in position in the usual or any desired manner, and with my improved harrow it will be seen that in the operation thereof the wrenching and twisting caused by the teeth M striking various obstructions, such as stones, stubs, roots, &c., are avoided, the harrow being free to turn on the pivot or tenon *b*, and thus the lateral jerking and pulling of the horses by which the harrow is drawn will be avoided, the strain on the latter being always in a straight line by reason of the pivotal connection of the tongue and the fact that the latter is held in proper horizontal position by means of its connection with the ring G.

It will thus be seen that I provide a harrow which is simple in construction and operation and which is also perfectly adapted to accomplish the result for which it is intended, the arrangement of the radial arms A and the teeth M being such as to break up and finally divide the soil, and the arrangement of the tongue D and its connection with the harrow being such as to remove many of the difficulties connected with the operation of harrows as usually constructed.

My invention is not limited to the exact form, construction, and arrangement of the various parts thereof as herein shown and described, and I therefore reserve the right to make all such alterations therein and modifications thereof as fairly come within the scope of the invention.

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

A harrow comprising a plurality of radial arms which are connected with a central head, a tongue pivotally connected with said central head, and a ring connected with said arms and

inclosing said head with which said tongue is
also connected, and around which the latter
is free to swing, said ring being provided with
an annular inwardly-directed flange or rim,
5 and said tongue being provided with a roller
which is secured thereto, and which rests be-
neath said flange or rim, and said tongue be-
ing also provided with another roller which
is connected therewith and in connection with
10 which the inner edge of the annular flange
or rim operates, and said radial arms being

provided with the usual harrow-teeth which
are secured thereto, substantially as shown
and described.

In testimony that I claim the foregoing as 15
my invention I have signed my name, in pres-
ence of the subscribing witnesses, this 2d day
of January, 1886.

JOSEPH A. BAILEY.

Witnesses:

JOHN B. AYERS,

ARTHUR S. PIERSON.

Correction in Letters Patent No. 569,736.

It is hereby certified that in Letters Patent No. 569,736, granted October 20, 1896, upon the application of Joseph A. Bailey, of Morristown, New Jersey, for an improvement in "Harrows," an error appears in the printed specification requiring correction, as follows: On page 2, line 18, the year "1886" should read *1896*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 1st day of December, A. D. 1896.

[SEAL.]

Countersigned:

JOHN S. SEYMOUR,
Commissioner of Patents.

JNO. M. REYNOLDS,
Assistant Secretary of the Interior.