(No Model.)

W. A. BROWN.

WEEDER.

No. 413,274. Patented Oct. 22, 1889.

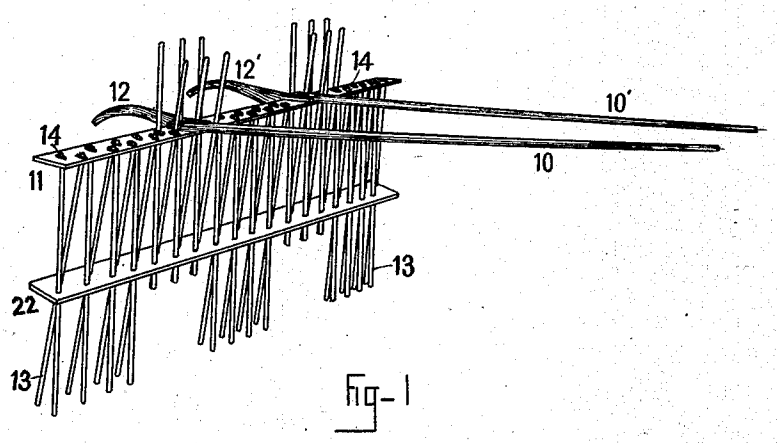


Fig-1

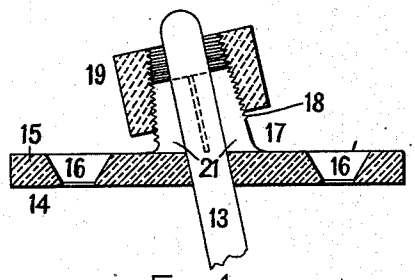


Fig-4

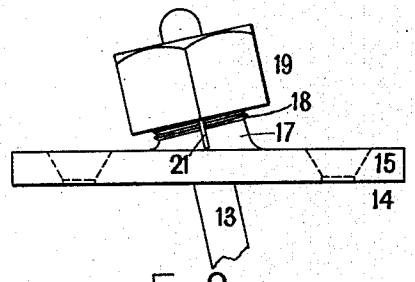


Fig-2

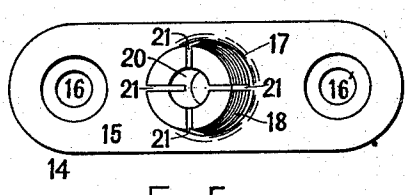


Fig-5

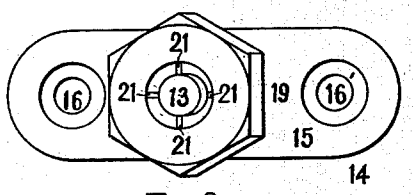


Fig-3

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UNITED STATES PATENT OFFICE.

WILLIAM A. BROWN, OF LYNN, MASSACHUSETTS.

WEEDER.

SPECIFICATION forming part of Letters Patent No. 413,274, dated October 22, 1889.

Application filed October 22, 1888. Serial No. 288,822. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BROWN, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented a new and useful Weeder, of which the following is a specification.

My invention relates to a weeding-machine designed to be used as a weeder for farming purposes.

It has for its object the production of an efficient and convenient weeder so constructed as to permit of being expeditiously adapted for weeding between two or more rows, as may be desired, at the same time.

Figure 1 is a perspective view of the weeder. Fig. 2 represents, on an enlarged scale, one of the finger-holders in side elevation. Fig. 3 is a plan of Fig. 2. Fig. 4 is a vertical cross-sectional view of Fig. 2. Fig. 5 is a plan of Fig. 2 with the piece of the finger and the nut removed.

The shafts 10 and 10′ are fastened to head 11, to which are secured the handles 12 and 12′, which are designed to be used by the operator in guiding the machine. To the head are fastened the double row of fingers, as 13, by means of the double row of finger-holders, as 14, each finger extending through the head and being supplied with a finger-holder, and each finger-holder being securely fastened to the head. The fingers pass through enlarged holes in the check-bar 22, which is usually held in its position below the head by means of such a fastening device (as a chain) as will permit the raising or lowering of the check-bar, thereby respectively increasing and decreasing the rigidity of the lower portion of the fingers.

Each finger-holder 14, as shown in the enlarged views in Figs. 2, 3, 4, and 5, comprises a base-plate 15, having holes 16, adapted to receive screws for fastening the holder to the head, a conical split thimble 17, preferably inclined and provided with an exterior screw-thread 18, and a tightening-nut 19 on said thimble. The eye 20 of the thimble is of a size adapted to receive a finger, and the slots 21, which extend from the top of the thimble to the base-plate, render the thimble contractible.

The parts of the machine are preferably made of the following materials: the shafts, handles, head, and check-bar of wood, the fingers of steel, and the finger-holders of composition or cast-iron.

The operation of the finger-holder is as follows: When the tightening-nut is slackened up, the hole through the holder for the finger is of such a diameter as will freely permit the raising or lowering of the finger, and when it is desired to firmly fasten the finger in any desired vertical position by turning the tightening-nut down toward the base-plate, by reason of the tapering thread and the quartering slots, the finger-holder firmly clasps the finger, the slots permitting the contraction of the hole through which the finger extends, and the force employed to cause the contraction is obtained by means of the tightening-nut being made upon a tapering thread.

Experience has proved that a weeder to be a commercial success should be of such a construction as to permit its being manufactured and sold at a low price (of about ten dollars,) and that the head should be about seven feet long, and that the fingers and finger-holders should be so constructed as to permit the fingers to be readily adjusted or removed to expeditiously adapt the machine for weeding between two or several rows at pleasure at the same time.

The weeder as represented by Fig. 1 is shown with the fingers so adjusted that the weeder may weed between four rows. This is accomplished as follows: by raising and fastening in their elevated positions six fingers on each side of the center eight fingers.

The operation of my machine is as follows: The machine is designed to be dragged by a horse under the guidance of an operator, the stirring action of the fingers being to loosen the weeds from the soil, thereby killing the weeds.

It is obvious that other holding devices may be used different from the finger-holders described with satisfactory results. The result sought to be obtained is to so construct the machines as to permit the expeditious adjusting, or in some cases, for convenience,

the ready removal of such fingers, as it may be desired to adjust or remove for the reasons fully set forth.

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a rake-head, elongated fingers vertically adjustable therein, and a vertically-adjustable check-bar through which said fingers pass, substantially as described.

2. The combination of a rake-head, finger-holders thereon having split thimbles provided with external screw-threads, elongated fingers adjustable in said holders, and nuts on said thimbles for causing them to clamp the fingers.

3. The combination of a rake-head, finger-holders thereon, each comprising an attaching-plate and a conical split thimble, elongated fingers adjustable in said thimbles, and nuts on said thimbles, substantially as described.

4. A finger-holder for a rake-head, consisting of an attaching-plate and a conical split thimble thereon provided with an external screw-thread for receiving a nut, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. BROWN.

Witnesses:

E. FRANK WOODBURY,

WALTER L. PERRY.