

M. JOHNSON.  
HAND GARDEN WEEDER.

No. 188,917.

Patented March 27, 1877.

Fig. 1

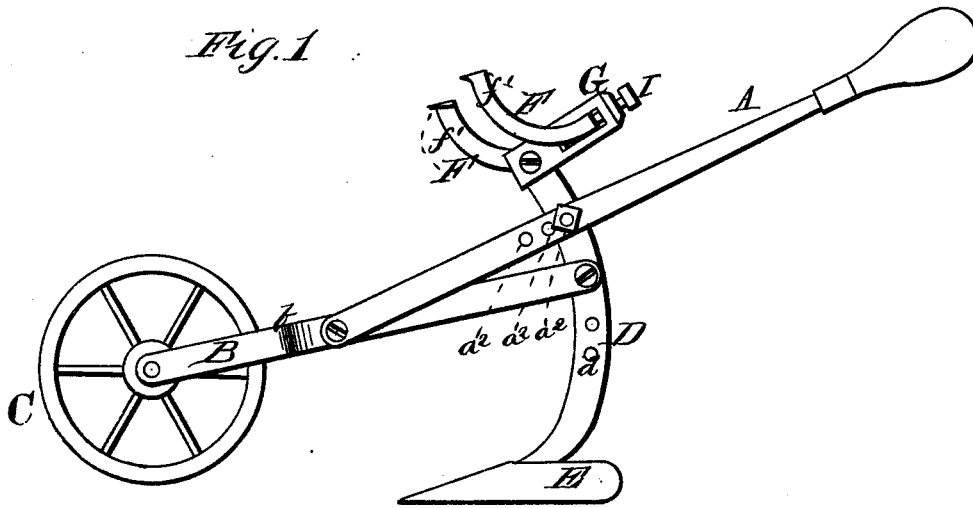
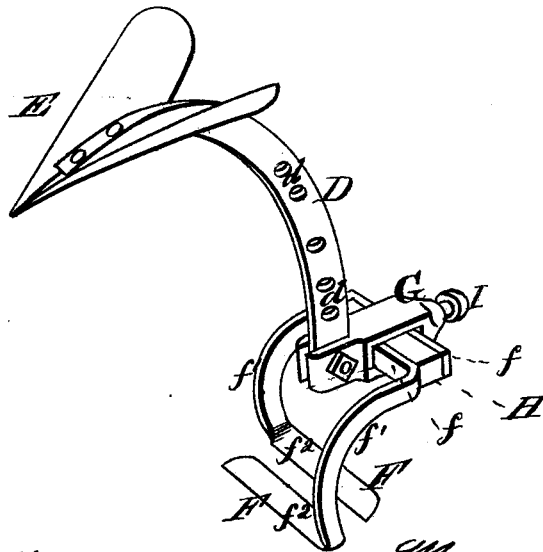


Fig. 2.



WITNESSES

*Robert Everett*  
*George C. Upham*

INVENTOR.

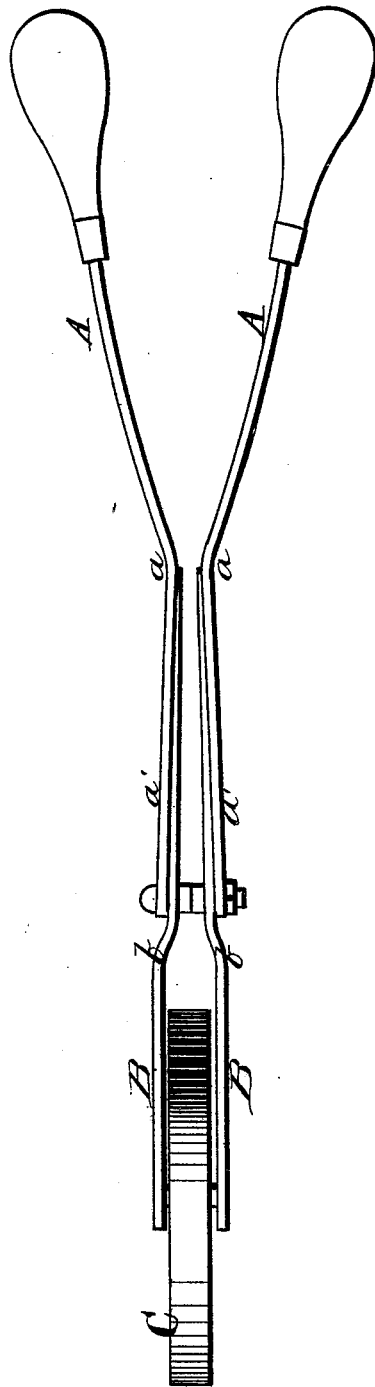
*Moses Johnson.*  
*Gilmore, Smith & Co.*

ATTORNEYS.

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*Fig. 3.*

WITNESSES

*Robert Court*  
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# UNITED STATES PATENT OFFICE.

MOSES JOHNSON, OF LOCKPORT, NEW YORK.

## IMPROVEMENT IN HAND GARDEN-WEEDERS.

Specification forming part of Letters Patent No. 188,917, dated March 27, 1877; application filed September 16, 1876.

*To all whom it may concern :*

Be it known that I, MOSES JOHNSON, of Lockport, in the county of Niagara and State of New York, have invented a new and valuable Improvement in Hand Garden-Weeders; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my hand garden-weeder; and Fig. 2 is a perspective view of the same. Fig. 3 is a plan view thereof.

The object of this invention is to provide a device which can be used at will, without modification, either for removing weeds or for digging onions or other underground crops. This object is effected by using a reversible standard, which has on one end a double blade or long narrow plow-point for turning up onions, potatoes, and the like, and on the other end two transverse knives, which, taken together, are shaped like a stirrup, and are used for weeding.

The invention also consists in adjusting devices, whereby the depth, or inclination, or both, of either the knives or plow-point may be varied at will, as hereinafter fully set forth; and in the combination of said devices with the other parts of the apparatus. Finally, the said invention consists in adjusting devices, whereby the width of the cut of said weeding-knives may be made greater or less, as desired.

In the annexed drawings, A A designate two rear handles, which converge at *a*, and thence extend forward in parallel lines to *a*<sup>1</sup> *a*<sup>1</sup>, where they are rigidly, though detachably, secured to the outside of longitudinal wheel-supporting bars B B near the middle of the length of said bars. Said bars are slightly expanded at *b* a little in advance of *a*<sup>1</sup>, and thence extend forward in parallel lines, having a small wheel, C, journaled between them. Said bars also extend backward in parallel lines from *a*<sup>1</sup> *a*<sup>1</sup>, and are secured, by a bolt and nut, to a curved standard, D, which is interposed between them.

Said curved standard is provided at one

end with a long plow-point or double-bladed furrow-knife, E, and at the other end with bent adjustable weeding-knives F F, which are secured to said standard by means of a slotted block or holder, G, fixed thereon. Each one of said knives F F consists of a transverse handle, *f*, downward and forward curving shank *f*<sup>1</sup>, and transverse horizontal blade *f*<sup>2</sup>. Said blades extend inwardly in opposite directions, one of them being a little higher than the other; and, taken together, they are shaped somewhat like a stirrup. H is a rectangular block interposed between knife-handles *f f*, and I is a clamping-screw, which works through the rear end of holder G, and secures the said knives in any desired position as regards their approach to, or withdrawal from, each other. By forcing knife-shanks *f*<sup>1</sup> *f*<sup>1</sup> toward one another the length of weeding-blade is lessened; by drawing said shanks apart it is increased; since in the former case a considerable part of each of said blades *f*<sup>2</sup> *f*<sup>2</sup> overlaps the other blade, while in the latter case the overlapping is diminished or entirely dispensed with, so as to cut a wider swath.

Said standard D is provided in its upper and lower portions with several perforations, *d d*, whereby it may be adjusted vertically. This is effected by shifting from one hole to another the bolts which attach said standard to said handles at *a*, and to the rear of said wheel-supporting bars. Said handles A are also provided with a series of perforations, *a*<sup>2</sup> *a*<sup>2</sup>, whereby the inclination of said plow-point and weeding-knives to the horizon may be changed at will. This is effected by withdrawing the fastening-bolt from one of them through which it has been passed, turning said standard forward or backward to the point desired, (using as a pivot the attachment of said standard to bars B B,) and then passing the bolt through the perforation *a*<sup>2</sup> at said point, and securing it there in the usual way.

When using this device for digging or harvesting onions or potatoes, or similar crops, said long plow-point E is turned downward, and weeding-knives F F are held inverted in the air. When weeding, knives F F are turned downward, said plow-point being inverted.

Handles A A, bars B B, and wheel C are adapted to be used for either purpose and in either position with equal facility. Said wheel runs upon the ground in all cases, and affords a fulcrum for any leverage that may be exerted in forcing said plow point or weeding-knives into the soil.

The above-described devices are preferably constructed of metal. They may be drawn by horses or other animals, instead of being operated by hand.

Instead of bolts and nuts any other suitable means of attachment may be used. Knives F F may be made in one piece; but, in that case, the feature of adjustability, as regards expansion and contraction, must be dispensed with. Various other modifications may be made in these and other parts of my apparatus without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. The vertically and horizontally adjustable standard D, provided at one end with a plow-point, E, and at the other end with weeding-knives F F, substantially as described, and for the purpose set forth.

2. The knives F F having each a transverse handle, *f*, curved shank *f*<sup>1</sup>, and blade *f*<sup>2</sup>, in combination with the slotted holder G, block H, and thumb-screw I, substantially as and for the purpose set forth.

3. Wheel-supporting arms B B, in combination with handles A A, wheel C, and adjustable standard D, said devices being reversible, and adapted to operate equally well in either position, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MOSES JOHNSON.

Witnesses:

J. J. ARNOLD,

E. E. VAN HORN.