

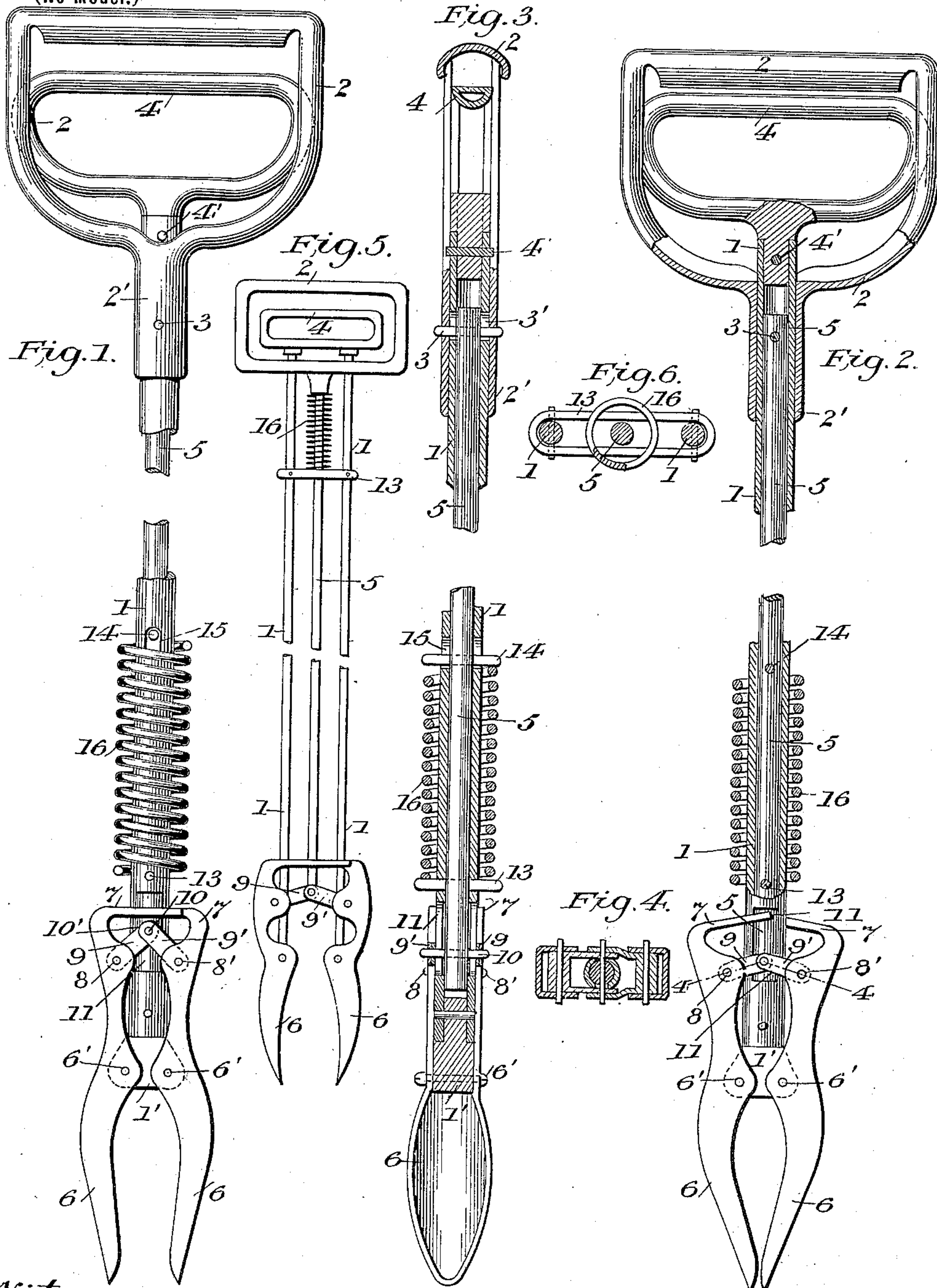
No. 652,077.

Patented June 19, 1900.

A. BURSON.
LAWN WEEDER.

(Application filed Nov. 17, 1899.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

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LAWN-WEEDER.

SPECIFICATION forming part of Letters Patent No. 652,077, dated June 19, 1900.

Application filed November 17, 1899. Serial No. 737,294. (No model.)

To all whom it may concern:

Be it known that I, AMOS BURSON, a resident of Negley, in the county of Columbiana and State of Ohio, have invented a new and useful Improvement in Lawn Weeder and Transplanters; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to lawn weeder and transplanters; and it consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use the improvement, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side elevation of my invention, showing the same in its normal position. Fig. 2 is a like view, partly in section, showing the jaws closed and the operating parts connected therewith in position to correspond thereto. Fig. 3 is a transverse central section of the same with the parts in position as shown in Fig. 2; and Fig. 4 is a detail cross-section on the line 4 4, Fig. 2; and Figs. 5 and 6 are views of another form of my invention.

Like numerals of reference indicate like parts in each of the figures of the drawings.

As illustrated in the drawings, 1 represents a tubular body portion, which has fitted to slide freely on its upper end the handle 2, which is made in the form of a spade-handle and engages with said body portion by a sleeve 2', formed thereon, which sleeve fits the body portion 1, as aforesaid. A pin 3 passes through said sleeve and also through slots 3', formed in the body portion 1, which slots permit the desired amount of longitudinal movement of pin 3 therein and with it the handle 2 in sleeve 2', on which said pin 3 is tightly fitted. The upper end of body portion 1 is also provided with another handle 4, similar in form to handle 2, but smaller, so as to work within handle 2, and is rigidly secured to body portion 1 in any suitable manner, the manner shown being a pin 4', passing through the shell of the tube forming body portion of handle 4 fitted therein.

Fitting and working freely within the body portion 1 is a rod 5, which is rigidly secured to handle 2 by pin 3, before mentioned, and is capable of up-and-down movement within body part 1. A pair of grappling or gripping jaws 6 are pivoted at 6' to a head 1', formed on the lower end of the body portion 1. Said jaws 6 are formed spoon-shaped at their lower or engaging ends, and each jaw is provided at its upper end with a guide 7, which fits or works closely adjacent to one side of the body portion 1. Pivoted at 8' around pins 8 on each one of the jaws 6, at or near their upper ends, are the straps or links 9 9', which extend over on each side of the body portion 1 and are pivoted at 10' to a pin 10, which passes through slots 11, formed in the body portion 1 and through the lower end of the rod 5, thus forming a toggle-joint connection between said rod 5 and jaws 6, the parts being placed in such relation that the downward movement of rod 5 in relation to the tubular portion of body part 1 will force the straps or links forming the toggle into a more obtuse angle with each other, and so force the upper ends of jaws 6 farther apart and their lower or gripping ends closer together. It will be seen that force applied to handle 2 against resistance encountered by the jaws 6 will force rod 5 downward relatively to the tubular portion of the body part 1, and so close the jaws, and also that the same result will be accomplished by gripping both handles 2 and 4 and forcing their straight or upper parts together. The jaws 6 are opened, as shown in Fig. 1, when the closing force is removed by means of spring 16, surrounding the body part 1 and abutting at its lower end upon a collar, pin, or other stop 13, rigidly attached to the body part 1, and at its upper end against the projecting ends of a pin 14, secured within the rod 5, said pin extending through slots 15, formed in each side of the body portion 1. The spring 16 being under compression, its resiliency tends to elongate it, thus forcing pin 14 and rod 5 upward relatively to tubular body 1 and by reversing the closing process, already described, opening jaws 6.

The operation and use of my invention are as follows: The implement in its normal position, as shown in Fig. 1, is placed with its

jaws 6 one on each side of the weed or plant to be extracted, when it is forced into the ground by means of pressure applied to one of the handles 2 or 4. If a useless weed is to be extracted, the pressure is applied to handle 2, which pressure, as has been explained in the foregoing specification, tends to close jaws 6 while they are entering the ground and will do so as far as the root and soil between them will permit. If it is desired to accelerate such closing movement of jaws 6, the handles 2 and 4 may be gripped together with more or less force while the jaws 6 are being forced into the ground, and when they have penetrated as deeply as desired the handles are more firmly gripped, when the implement, and with it the weed, may be withdrawn. In the case of large weeds with long roots it may be desirable to give the implement one or more twisting or rotative movements to loosen or cut off the deeper portion of the root. Relaxing grip on handles 2 and 4 releases whatever is grasped. When a valuable plant is to be extracted for replanting, the implement is forced into the ground by pressure applied to the inner handle 4 only, the ball of the thumb being readily available for the purpose. Pressure so applied, as has been heretofore explained, having no tendency to close the jaws more soil will be taken up with the root, which not only favors its subsequent nourishment, but protects it from injury during extraction. The replanting may be done by forcing the implement into the ground with the plant still in its grasp, the ground being in proper condition to favor the operation. The grip on the handles is then relaxed and the implement withdrawn, leaving the plant in the ground.

It is obvious that the outer handle 2 could be fixed rigidly to the tube of the body portion and the inner handle 4 to the rod 5, in which case the rod and toggles pivoted to it would be pulled upward to close the jaws instead of being pushed downward, as is above shown and described, and such an implement would be operative for the purpose, except that the pressure required to force the jaws into the ground would not tend to close them whenever it might be applied; but their closure would be effected entirely by the grip of the hand on the handles.

In Figs. 5 and 6 I have shown another form of my invention, in which the tubular body portion 1 is done away with, and in its place two rods are used, while the other parts and operations remain the same, excepting the spiral spring 16 is placed around the rod 5 and between the two rods above mentioned.

It is also obvious that various other modifications and changes in the construction and design of the various parts of the device may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

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

1. In an implement of the character described, the combination of a body portion having a handle thereon, a rod fitting within the body portion and provided with a handle thereon, gripping-jaws connected to said body portion and rod, and mechanism connected to said body portion, rod and gripping-jaws for closing said jaws by the gripping together of said handles.

2. In an implement of the character described, the combination of a body portion having a handle thereon, a rod fitting within said body portion and provided with a handle thereon, gripping-jaws pivotally connected to said body portion and connected to said rod by toggle-joints, and mechanism connected to said body portion, rod and gripping-jaws for closing said jaws by the forcing together of said handles.

3. In an implement of the character described, the combination of a body portion having a handle secured thereon, a rod fitting within said body portion having a pin secured thereto and passing through slots in the body portion, a handle having a slidable connection on said body portion and secured to the pin on the rod; gripping-jaws pivoted to said body portion and connected to said rod by toggle-joints, mechanism connected to said body portion rod and gripping-jaws for closing said jaws by the forcing together of said handles, and mechanism for automatically opening said gripping-jaws when the pressure on the handles is released.

4. The combination of a body portion having a handle thereon, a rod fitting within said body portion and provided with a handle thereon, gripping-jaws pivotally connected to said body portion and connected to said rod by toggle-joints, slots within said body portion, and a pin secured to said rod, and rod-handle, and adapted to move within the slots in the body portion.

5. The combination of a body portion having a handle thereon, a rod fitting within said body portion and provided with a handle thereon, gripping-jaws pivotally connected to said body portion and connected to said rod by toggle-joints, slots within said body portion, a pin secured to said rod and rod-handle and adapted to move within the slots in the body portion, a pin secured to said rod and adapted to pass through openings in said body portion, and a spring interposed between said last-named pin and a stop on the body portion.

In testimony whereof I, the said AMOS BURSON, have hereunto set my hand.

AMOS BURSON.

Witnesses:

J. N. COOKE,
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