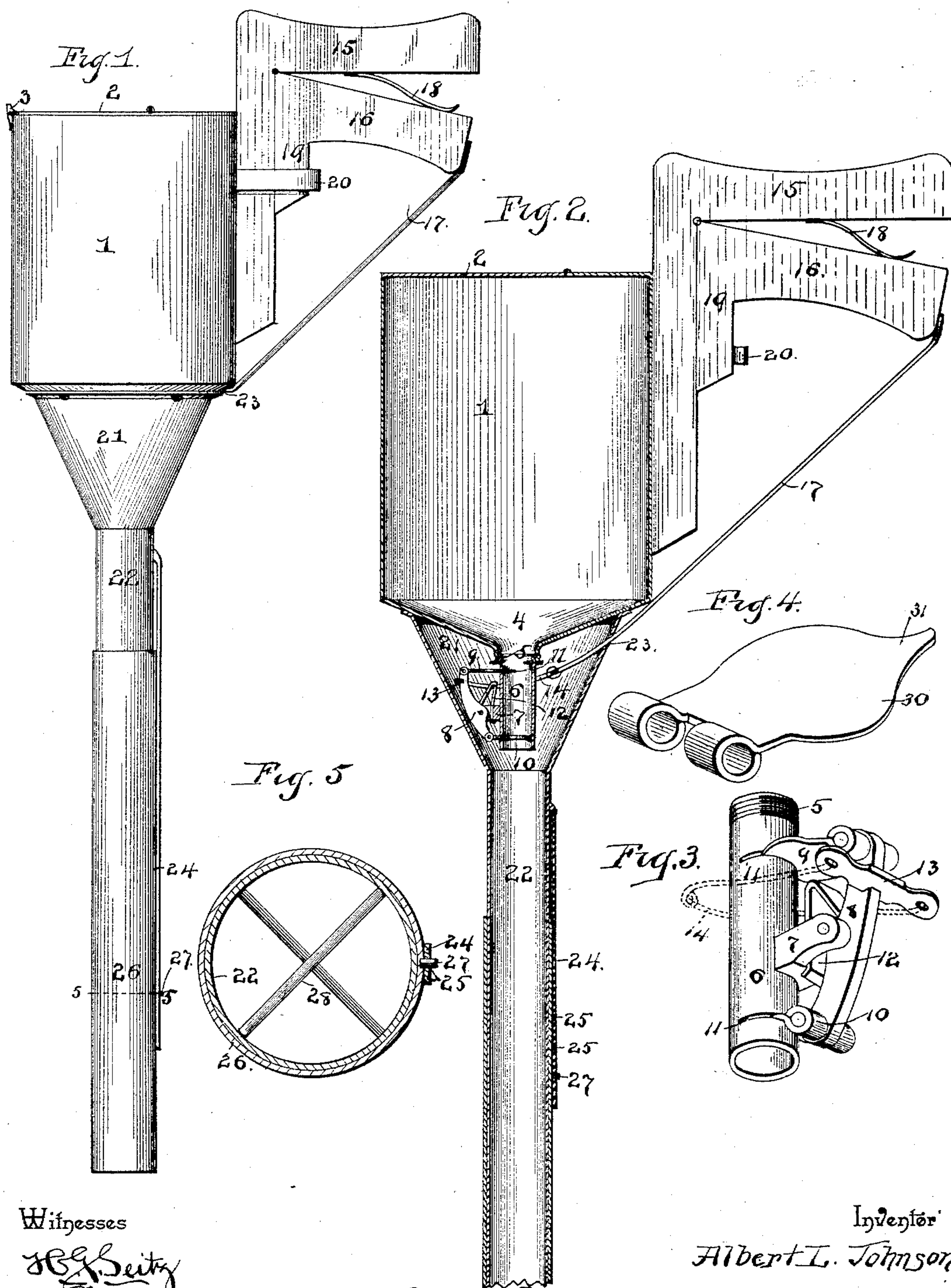


(No Model.)

A. L. JOHNSON.  
HAND FERTILIZER DROPPER.

No. 468,346.

Patented Feb. 9, 1892.



Witnesses

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# UNITED STATES PATENT OFFICE.

ALBERT L. JOHNSON, OF BONNIEVILLE, KENTUCKY.

## HAND FERTILIZER-DROPPER.

SPECIFICATION forming part of Letters Patent No. 468,346, dated February 9, 1892.

Application filed May 23, 1891. Serial No. 393,886. (No model.)

### *To all whom it may concern:*

Be it known that I, ALBERT L. JOHNSON, a citizen of the United States, residing at Bonnieville, in the county of Hart and State of Kentucky, have invented a new and useful Hand Fertilizer-Dropper, of which the following is a specification.

This invention relates to fertilizer-distributors of that class which are operated by hand; and it has for its object to construct a device of this class which shall be simple, convenient, and easily operated and by means of which a regulated quantity of fertilizing material may be dropped at each operation.

A further object of the invention is to so construct a device that it may be manipulated by the operator while walking erect and without bending over, provision being also made for conducting the fertilizing material direct to the ground at the point where it is needed and without danger of being blown away in windy weather.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, Figure 1 is a side view of a fertilizer-distributor constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a perspective detail view showing the lower end of the hopper with the conducting tube or barrel removed, so as to show the construction of the cut-off or dropping mechanism. Fig. 4 is a detail view showing a modified construction of one of the cut-off plates. Fig. 5 is a sectional view taken horizontally through the barrel and the extension-tube on the line 5 5 in Fig. 1.

Like numerals of reference indicate like parts in all the figures.

1 designates a hopper or receptacle having a hinged cover 2 and a spring-catch 3 for holding the said cover closed. The bottom 4 of said receptacle is concave or dish-shaped, and it is provided with a central screw-threaded collar or bushing 5, in which is mounted the downwardly-extending tube 6. The latter is provided with a laterally-extending arm or bracket 7, to the outer end of which is pivoted a lever 8, at the upper and

lower ends of which are hinged the cut-off plates 9 and 10, which consist of rounded plates extending into slots 11, formed in the side of the tube 6. The latter is made of suitable dimensions to hold between the cut-off plates 9 and 10 such quantity of fertilizing material as it may be desired to drop at each operation.

Between the upper end of the lever 8 and the side of the tube 6 is interposed a spring 12, whereby the upper end of said lever is normally thrown in an outward direction from said tube, thereby closing the lower end of the tube by the cut-off plate 10, while the upper end of said tube communicates with the hopper, the cut-off plate 9 being normally withdrawn from its slot 11.

The upper end of the lever 8 is provided with a cross-piece 13, to which are connected the ends of the arms of a yoke 14, which straddles the tube 6. Suitably secured to one side of the hopper 1 is a handle 15, to the under side of which is pivoted a lever 16, the free end of which is connected by a wire, chain, or other suitable flexible connection, as 17, with the yoke 14. A spring 18 is interposed between the handle 15 and lever 16 to force the latter normally in a downward direction, and said lever is provided with a downwardly-extending arm 19, confined in a staple 20, which serves as a guide and stop combined.

To the under side of the bottom of the hopper 1 is secured a funnel 21, having a downwardly-extending tube or barrel 22. The upper edge of said funnel is provided with a slot 23 for the passage of the flexible connection 17. To one side of the tube or valve 22 is attached a spring 24, having a series of perforations 25. An extension-tube 26, which slides upon the lower end of the barrel 22, is provided with a laterally-extending lug 27, adapted to engage any one of the perforations 25 in the spring 24, whereby the extension-tube may be secured in various positions, thus lengthening or shortening the barrel or conducting-tube, as may be desired. The extension-tube 26 is provided near its lower end with wires 28, arranged horizontally and crossing each other, for the purpose of scattering the fertilizing material when the latter is dropped.

The operation of this invention will be



readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The fertilizing material which is to be distributed is placed in the hopper and will pass from thence into the upper end of the tube 6, the lower end of which is normally closed by the cut-off 10. By grasping the handle 15 and pressing upon the lever 16 the operator may cause the lever 8 to swing upon its fulcrum against the tension of the spring 12, thus opening the lower end of the tube 6 and closing its upper end and permitting the contents of said tube to drop through the funnel 21, barrel 22, and through the extension 26 of the latter, being thus conveyed to the desired point. While the contents of the tube 6 are being dropped the upper end of said tube is closed by the cut-off 9. When the pressure upon the lever 16 is released, the pressure of the spring 12 will automatically restore the lever 8 and cut-offs 9 and 10 to their normal positions.

It will be seen that the extension-tube or barrel may be readily adjusted to suit the height of the operator, and that the lower end of the extension-tube may easily be pointed at the exact spot where it is desired to deliver the fertilizing material, thus enabling the latter to be dropped or distributed easily, quickly, and without hard or disagreeable labor on the part of the operator.

This device may be conveniently used for dropping various kinds of seeds—such as

corn, peas, sorghum, and the like—by substituting for the upper cut-off 9 a cut-off plate such as shown at 30 in Fig. 4 of the drawings and which has a pointed end, as shown at 31, which enables it to pass more readily between the seeds than the rounded cut-off 9. (Shown in the remaining figures of the drawings.) I reserve the right to this and to any other modifications to which recourse may be had without departing from the spirit of my invention. The measuring-tube, being connected detachably with the bushing in the bottom of the hopper, may at any time be readily detached for the substitution of one of a different size.

Having thus described my invention, what I claim is—

The combination of a hopper having a discharge-tube, cut-off mechanism arranged in the tube, an L-shaped handle secured to the hopper, a bell-crank lever 16, fulcrumed at its angle in the angle of the lever and having its horizontal arm connected with the cut-off mechanism, and a spring interposed between the horizontal arms of the handle and the lever 16, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALBERT L. JOHNSON.

Witnesses:

WILEY J. MACY,

H. A. WATKINS.