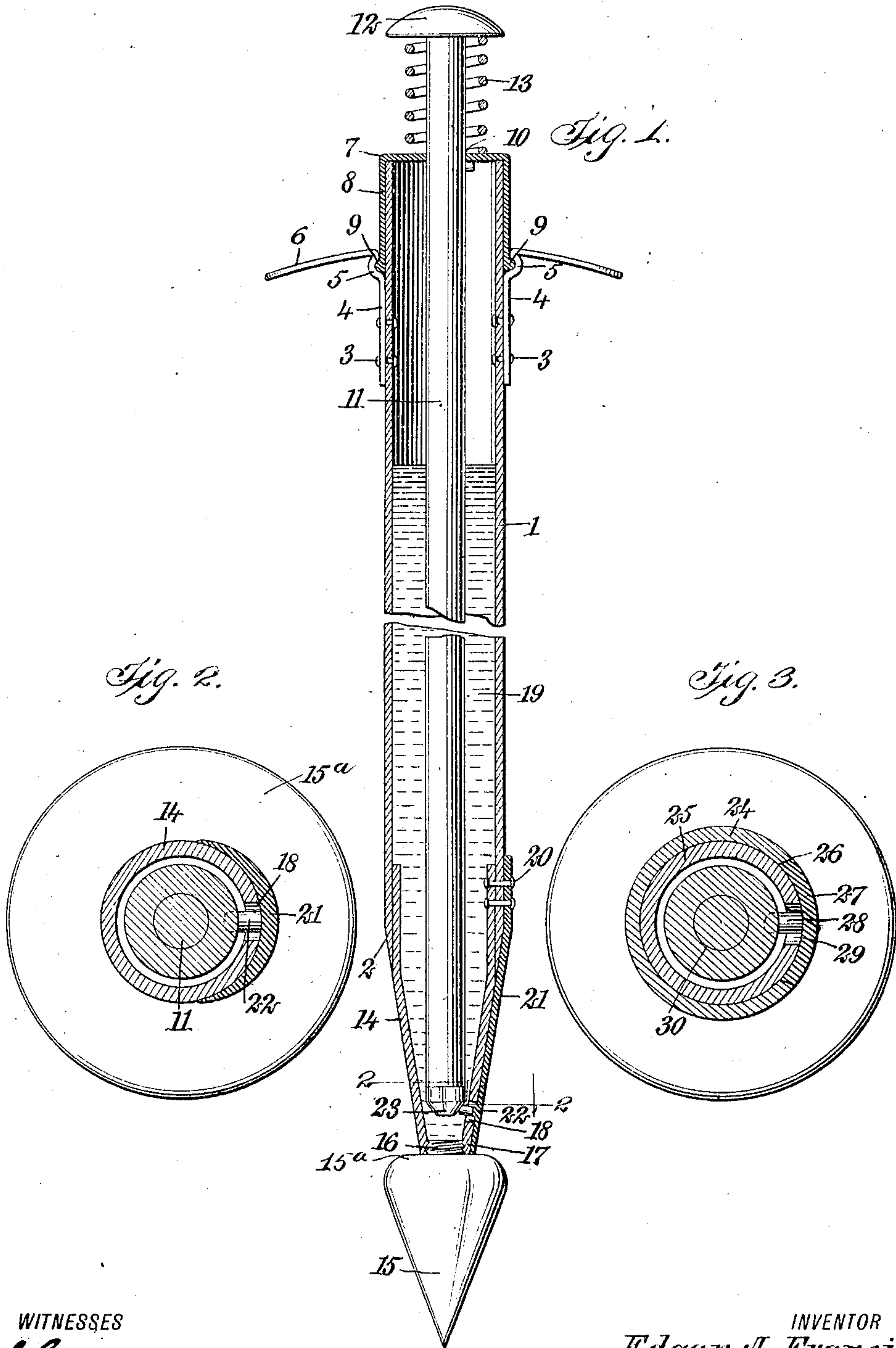


E. A. FRANCIS.  
WEED EXTERMINATOR.  
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WITNESSES  
*L. G. H. Hander*  
*Orson M. Munn*

INVENTOR  
*Edgar A. Francis*  
BY *Munn Co.*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

EDGAR ARTHUR FRANCIS, OF MARSHALLTOWN, IOWA, ASSIGNOR OF ONE-HALF TO  
GEORGE A. HOWE, OF MARSHALLTOWN, IOWA.

## WEED-EXTERMINATOR.

944,083.

Specification of Letters Patent.

Patented Dec. 21, 1909.

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*To all whom it may concern:*

Be it known that I, EDGAR A. FRANCIS, a citizen of the United States, and a resident of Marshalltown, in the county of Marshall and State of Iowa, have invented a new and Improved Weed-Exterminator, of which the following is a full, clear, and exact description.

This invention relates to weed exterminators, and more particularly to such as are adapted to be used to destroy obnoxious weeds and parasites, for instance, thistles, burdocks, dandelions and the like, which have long tap-roots, and each exterminator in general includes a fluid-containing body adapted to be forced into the ground near the roots of a weed, and means for discharging a portion of the fluid from the body adjacent to the roots of the weed, so that the latter will be destroyed.

The object of the invention is to provide a device of the class described, simple and serviceable in construction and inexpensive to manufacture, which is compact in form, so that it can be easily carried about by the operator, and which is so constructed that the mechanism whereby the liquid is discharged from the body, will not become clogged by dirt as the lower end of the body is forced into the ground.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section showing an embodiment of my invention, parts being broken away; Fig. 2 is an enlarged cross section on the line 2—2 of Fig. 1, and on an enlarged scale; and Fig. 3 is a cross section of a modified form of exterminator, showing an auxiliary sleeve partially encompassing the end member of the body.

Before proceeding to a more detailed description of my invention, it should be understood that it is often necessary to destroy weeds, such as thistles, burdocks, dandelions and the like, and the methods commonly employed are to either cut them with a hoe or other instrument, or to pour some destroying acid over them. These methods are very unsatisfactory, inasmuch as the roots of the weeds are not reached in any way, and besides, the surrounding vegetation is killed by the acid used to destroy the weeds.

I have therefore provided a device which, as before described, is so constructed that it may be forced into the ground adjacent to the roots of a weed, and which is adapted to contain a destroying liquid, the latter being discharged when the device is in the desired position. In this way, the roots of the weed are directly affected, and the weed itself destroyed.

In the specific form shown in the drawings, I provide a cylindrical body or casing 1, which has one of its extremities 2 tapered, as shown most clearly in Fig. 1 of the drawings. Arranged near the opposite end of the body 1 and secured in place by means of rivets 3 or the like, are two retainers 4, the latter being provided with offset portions 5, and the free extremities of the retainers being outwardly and downwardly disposed to constitute finger grips 6. Adapted to fit over the end of the body adjacent to the retainers 4 is a cap 7 having sides 8, the latter being provided with a rim 9 which, when the cap is in position, is engaged by the offset portions 5 of the retainers to hold the cap firmly in place. The resiliency of the retainers allows the cap to be readily removed when it is desired to fill the body. The cap has an opening 10 through which projects a rod or plunger 11, the latter having a suitable head 12 located at its upper end. When the device is in use, the head 12 is adapted to engage the palm of the operator's hand.

Positioned between the head 12 and the cap 7 is a helical spring 13, which serves to hold the upper end of the rod normally projected beyond the body. Located at the opposite end of the casing from that which carries the cap 7 is an end member 14 which tapers toward its lower extremity. The upper extremity of this end member is adapted to fit within the lower extremity of the body, as shown most clearly in Fig. 1 of the drawings. I have also provided a penetrator 15, of inverted cone shape, and having its base 15<sup>a</sup> of greater diameter than the adjacent portion of the end member. Integral with the base of the penetrator is a threaded stem 16 which is adapted to removably engage a similarly threaded portion 17 of the end member 14. The end member 14 is further provided with an outlet or opening 18, through which the liquid 19 which is contained in the body, may be discharged.



Secured in any desired manner, as for instance, with rivets 20 or the like, on the outside of the casing and extending down over the end member 14 and covering the opening 18, is a semi-cylindrical spring member or guard 21. The guard, on account of the resiliency of its character, closes the opening 18 so that when the device is not in use, no liquid may escape through the opening. Located on the inside of the spring guard 21 and preferably integral therewith, is a stud 22 which extends through the opening 18 into the inside of the end member 14. I have further provided the rod 11 with a tip 23, the latter being preferably in the shape of a truncated cone. The tip 23, when the rod is forced down, serves to engage the stud 22 to force the resilient guard 21 away from the opening so that the liquid contained within the casing will be discharged.

In the modified form shown in Fig. 3 of the drawings, I provide a sleeve 24, which encompasses the body 25 of the device. Located in a cut-away portion 26 of the sleeve 24 is a spring guard 27, secured to the body 25 in any suitable manner and being provided on its inner face with a stud 28, the latter extending through an opening 29 in the body, so that when the rod 30 is forced down, the stud will be engaged to operate the spring guard and allow the escape of the liquid contained within the device.

In the operation of my exterminator, the penetrator and end member of the device are forced into the ground adjacent to the roots of the weed that is to be destroyed. The shape of the penetrator, and the fact that the free end of the spring guard lies adjacent to the broad base of the penetrator, obviate the danger of dirt getting under the spring guard and thus clogging the mechanism.

When the device is in position, and it is desired to discharge a certain amount of the destroying liquid that is contained within the body, pressure is brought to bear on the head 12 of the rod, and in so doing, the lower tip 23 of the rod engages the stud 22, and by forcing this out through the opening 18, moves the spring guard away from the opening, so that the liquid may easily pass out to destroy the roots of the weed.

It should be understood that I do not limit myself to the particular construction shown in the drawings, as others equally advantageous may be employed without departing from the spirit or the scope of the invention.

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

1. In a device of the class described, a hollow body having an outlet, means for normally closing said outlet, and further means

movable in the body for engaging said first-mentioned means to move the same whereby a fluid can be discharged through said opening.

2. In a device of the class described, a body adapted to contain a fluid, an end member located at one of the extremities of said body, a penetrator removably arranged at the extremity of said end member, said end member further having an opening, resilient means for normally closing said opening, and a manually operable rod within the body for actuating said means whereby the liquid within said body can be discharged.

3. In a device of the class described, a casing having a passage therethrough, a penetrator removably arranged at one of the ends of said casing, a cap arranged over the other end of said casing, means for securing said cap in place, said casing further having an opening adjacent to said penetrator and connecting with said passage, a resilient guard mounted on said casing and normally closing said opening, and means within the body for operating said guard to allow the discharge of a liquid from said casing.

4. In a device of the class described, a body having a passage extending therethrough and having its lower end tapered, a penetrator located at the lower end of said body and having a base of larger diameter than the end of said body, said body being provided with an outlet, and a resilient guard normally closing said outlet and having its free end terminating adjacent to the base of said penetrator whereby said guard is protected.

5. In combination, a body, handles secured to said body adjacent one end thereof and having outwardly-extending portions resiliently mounted in respect to said body, and a cap or cover for said body having a flange terminating adjacent said handles and held in position by the latter.

6. In combination, a body having retainers disposed adjacent one end thereof, said retainers having offset portions and having their free outwardly-disposed end portions constituting finger grips, and a cap for closing said body and having a flange encircling said body and terminating in a rim in engagement with the offset portions of said retainers, to be held in place thereby.

7. In a device of the class described, a body having a passage therethrough, an outlet from said passage at the lower end of said body, a guard normally closing said outlet, means within the body for moving the guard and a penetrator at the lower end of said body below said guard and serving to protect the latter during the forcing of the device into position.

8. In a device of the class described, a hollow substantially cylindrical body having a conical or tapered lower end, an outlet ad-



5 adjacent the lower end of said tapered or conical portion, a penetrator in the form of an inverted cone having its base secured to the lower end of said body adjacent said outlet and of greater diameter than the adjacent portion of the body, and a guard having one end secured to said body and the other end covering said opening and movable in respect thereto and terminating adjacent the base of said penetrator.

10 9. In a device of the class described, a hollow body having an outlet adjacent its lower end, a closure formed of resilient material and having one end rigidly secured to said body and having the other end closing said opening, and means within said body and operating through said opening to force said closure away from said opening and permit the escape of fluid from said body.

20 10. In a device of the class described, a hollow body having an outlet adjacent its lower end, a closure normally covering said outlet and disposed on the outer surface of the body, and means movable longitudinally of said body and having operative engagement with said closure through said outlet for moving the latter and permitting the escape of fluid through said outlet.

30 11. In a device of the class described, a body adapted to contain a weed-destroying liquid, a cap arranged over one end of said body, retainers secured to the side of said body and serving to hold said cap removably in place, a tapered end member arranged at the other extremity of said body, a penetrator removably located at the lower extremity of said end member, said end member having an opening, a resilient guard having one end secured to said body and said end member and normally closing said opening, a stud integral with said guard and extending through said opening into said end

member, and a rod located within said body member and projecting through the cap thereof, the lower end of said rod serving to engage said stud, whereby said guard can be moved away from said opening to allow the discharge of the liquid contained within said body.

50 12. In a device of the class described, a casing adapted to contain a weed-destroying liquid, a penetrator located at one end of said casing, said casing having an opening, a semi-circular resilient guard having one end secured to said casing and extending over said opening normally to close the same, said guard further having a stud adapted to project through said opening into said casing, a rod located within said casing and projecting through the cap, said rod having its lower end beveled, whereby when said rod is forced down, said beveled end will engage said stud to move said guard away from the opening to allow the discharge of the liquid contained within said body, and means for holding said rod normally out of engagement with said stud.

60 13. A device of the class described comprising a hollow body, and a penetrator secured to the end of the body of substantially the same diameter, said body having a reduced portion adjacent to the penetrator and provided with an opening for the purpose set forth, resilient means for closing the opening, and means within the body for opening said closing means after the body is inserted in the ground.

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

EDGAR ARTHUR FRANCIS.

Witnesses:

SAM ORMEROD,  
A. R. COOPER.