(No Model.)

# A. SWEETLAND.

## PLANT CUTTING SHEARS.

No. 330,355. Patented Nov. 10, 1885.

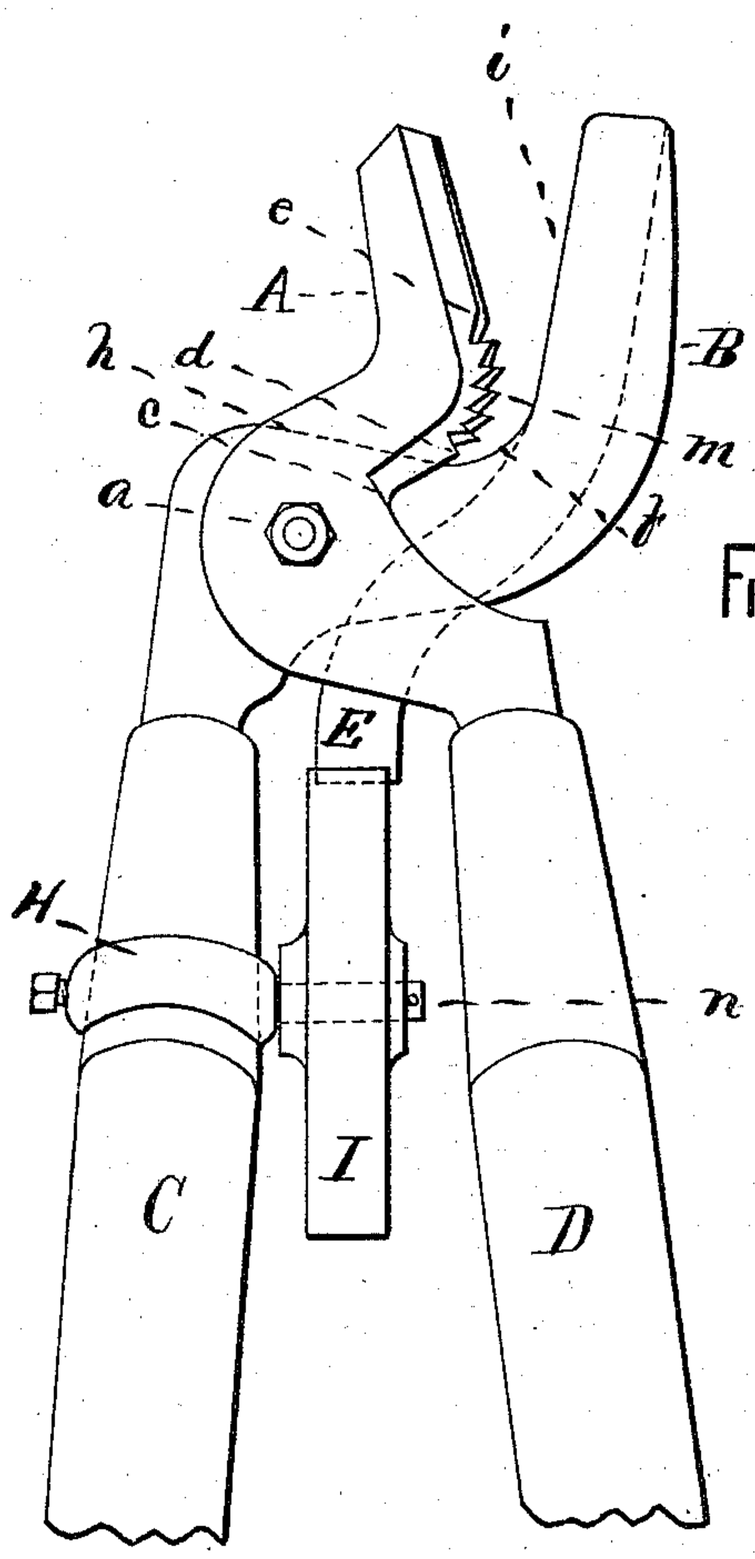


FIG. 1.

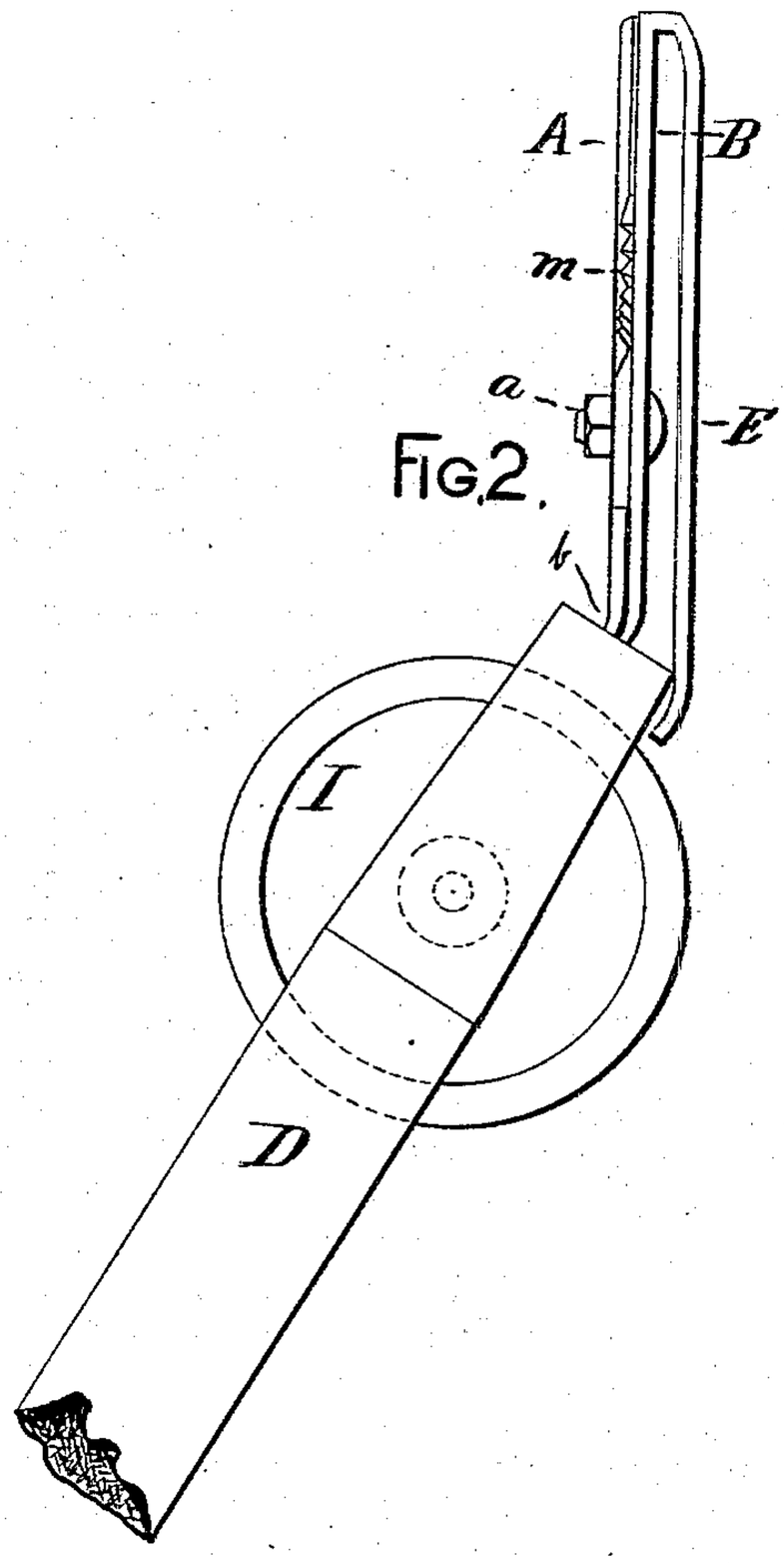


FIG. 2.

Witnesses.
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# UNITED STATES PATENT OFFICE.

ALVAH SWEETLAND, OF SYRACUSE, NEW YORK.

## PLANT-CUTTING SHEARS.

SPECIFICATION forming part of Letters Patent No. 330,355, dated November 10, 1885.

Application filed October 15, 1884. Serial No. 145,609. (No model.)

*To all whom it may concern:*

Be it known that I, ALVAH SWEETLAND, of the city of Syracuse, county of Onondaga, and State of New York, a citizen of the United States, have invented certain new and useful Improvements in Plant-Cutting Shears, of which the following is a full, clear, and exact description and specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of the shears partly opened and of a part of the handles, and Fig. 2 is a side view of the same.

Similar letters of reference indicate the same parts wherever they occur.

My invention consists in certain features of construction, hereinafter described, and particularly pointed out in the claims.

My apparatus is constructed as follows: A and B are the two blades, pivoted together at *a*, and having their shanks bent upward at *b* to about the angle shown in Fig. 2, and inserted into the handles C D in any usual manner. I construct the blades from a plate of steel of desired thickness to give sufficient stiffness to the blades by stamping them out, or in any other expedient way, to the general form or outline shown. I then finish off the cutting-edge of the blade A by first beveling it for the entire length of the inner edge down nearly to a cutting-edge. I next serrate more or less sharply the central portion, forming teeth therein of different bevels from that of the main bevel of the blade. The cutting-edge is then of the following form or contour: Starting at the point *c* it extends out straight to *d;* thence it rounds outward or in a convex curve to *e*, and thence straight to the point. This convex portion between *d* and *e* is the serrated part, and by the serrations or from them the teeth *m* are formed. These teeth are beveled upon both sides, or so as to form a sharp point upon each tooth. The inner edge of the blade B is constructed with a central concavity, *f*, and has straight portions *h i*, one, *h*, extending out to the point, and the other, *i*, in a direction nearly at a right angle to the portion *h*, and both tangential to the circle of the concavity. The other portions of these blades are constructed of about the form or outward contour shown in the drawings.

E is my shoe, which is shown in the drawings as formed by bending back the front end of the blade B, and long enough to extend back in a curvilinear direction a little beyond the lower ends of the handles and below them. This shoe can be made of a separate piece of metal and riveted or otherwise secured to the blade B. This shoe, in the first place, serves to support the shears when in use, keeping them up out of the dirt, and the operator can also slide the whole device along upon the shoe from one plant to another, and the back end of the shoe serves to keep the lower ends of the handles from catching in the dirt or against an obstruction.

H is a collar fitting loosely upon the lower part of one of the handles, and it is adjustable up or down thereon by means of a set-screw, as shown. From the face of this collar a stud, *n*, projects, which serves as an axle for the wheel I, and also as a stop in the closing of the shears. This wheel I can be used, if desired, and is designed to permit the operator to trundle the cutter along over the ground from one plant to another. It can be used in connection with the shoe or without the shoe.

The operation of the blades when constructed as shown in the drawings is as follows: When opened, the stalk of the plant is received and held in the concavity of the blade B, and as the blades are forced to approach each other, the first tooth (nearest to *d*) begins the cut, and the other teeth follow in order. All of these teeth, from their peculiar bevel and pitch, cut with a drawing cut, beginning at the point and then working back toward the base of the teeth, thereby cutting faster and easier than a plain beveled cutting-edge. In order to increase this drawing cut, I pivot the blades together in such a manner that from the location of the pivot, it being at one side of the cutting-edges, an eccentric motion is imparted to the blades, or the pivot so located operates as an eccentric hinge.

The lines upon which the straight and curved cutting-edges operate are all at one side of the pivot of the blades, while the shoe and blade B are relatively fixed when motion is given to blade A, so that, as above stated, a drawing-cut is made by said blade A at the

serrated or notched and convex portions of the same.

The inner edge of the blade B can be beveled on the under side and left plain, or it can have its edge serrated and teeth formed extending around through the concavity, or both blades can be serrated the entire length of their cutting-edges, or the inner edge of the blade B can be left blunt or square, in which case the blade A performs the whole cut.

The form of the concavity *f*, combined with the tendency of the inward drawing cut or stroke of the serrations on the blade A to crowd the stalk backward into the concavity, together prevent any slipping of the instrument.

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

1. A plant-cutter provided with a shoe connected with the point of a blade and extended rearwardly under said blade, and curved laterally to project rearwardly between the handles, substantially as shown and described.

2. In a plant-cutter, the combination of the handles C D, collar H, adjustable longitudinally upon the handle and having lug *n* and wheel I, substantially as shown and described.

3. In a plant-cutter, the combination of the blades A B, the former having the convex serrated portion, and the latter the concave portion *t*, and both curved laterally, and the pivot of the blades being in line with one of the handles of said blades, and one of said blades having a shoe projecting rearwardly between the handles, substantially as shown and described.

In witness whereof I have hereunto set my hand this 10th day of October, 1884.

ALVAH SWEETLAND.

Witnesses:

C. W. SMITH,

J. CHARLES NEEDRAM.