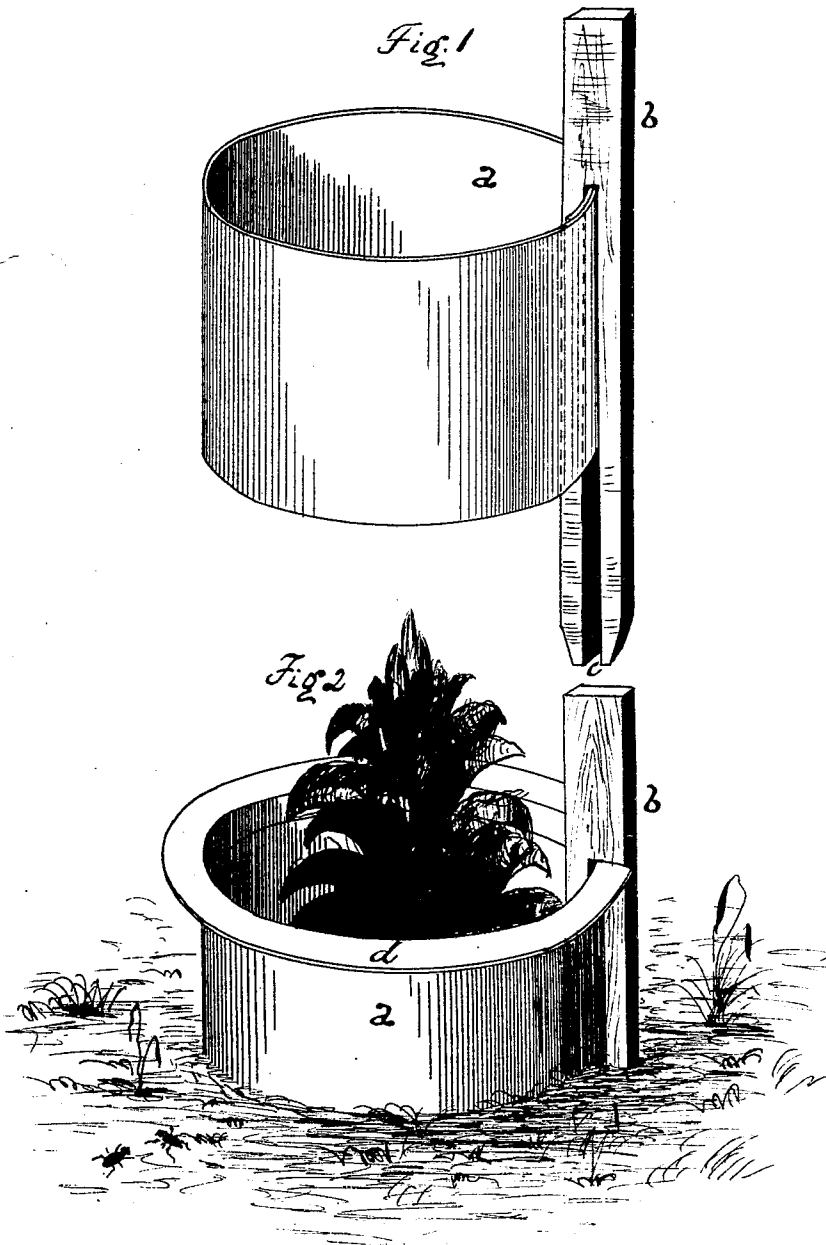


J. S. ACKLEY & Z. L. HUNGERFORD.

PROTECTING PLANTS.

No. 183,879.

Patented Oct. 31, 1876.



Witnesses

John Pollitt
Edward S. Hill.

Inventors

John S. Ackley
Zachariah L. Hungerford
By W. E. Simonds
Atty

UNITED STATES PATENT OFFICE.

JOHN S. ACKLEY AND ZACHARIAH L. HUNGERFORD, OF MOODUS, CONN.

IMPROVEMENT IN PROTECTING PLANTS.

Specification forming part of Letters Patent No. **183,879**, dated October 31, 1876; application filed August 18, 1875.

To all whom it may concern:

Be it known that we, JOHN S. ACKLEY and ZACHARIAH L. HUNGERFORD, of Moodus, in the county of Middlesex and State of Connecticut, have jointly invented certain new and useful Improvements pertaining to a Plant-Protector, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a perspective view of the protector made use of to put our invention into practice. Fig. 2 is a view of the same inclosing a plant, and bearing an attachment, hereinafter described.

Young plants, and particularly young tobacco-plants, are subject to the ravages of small worms, especially a kind thereof known as "cut-worms," which live on or near the surface of the ground, having little power to progress or travel save on the surface of the ground, or but a slight distance under the surface. Tobacco and some other young plants are readily killed by an excess of heat or dryness of the earth.

Ours is an invention designed to remedy and cure all these difficulties, and though very simple is very effectual and valuable.

The main thing made use of in putting the invention into practice is, in its simplest form, a small band or section of a tube, made of thick paper or pasteboard, which, after the tobacco-plant is set in the ground, is set down upon and around the plant, so as to encircle it, being set into the earth about three-fourths of an inch, and rising from the earth about two inches, thus effectually preventing access of the cut-worms to the plant, with the additional advantage of shading the base of the plant and the earth immediately surrounding from the rays of the sun, and thereby preventing that dryness which is the greatest difficulty with which tobacco-growers have to contend at the commencement; and for retaining the water which tobacco-growers are accustomed to pour upon the earth at the root of the plant daily, and sometimes oftener, this ring or band or hoop is very effectual. It prevents the moisture from being dissipated in the ground laterally, and from evaporation by the heat of the sun.

The drawings show our method of making and applying this protecting-band.

We take coarse pasteboard and cut it into strips about twelve inches long by two and three-fourths inches wide, soaked by preference in kerosene-oil, to make it distasteful to worms, and to make it more durable, and bend each strip into a hoop or band, *a*, and we confine the strip in this position by shoving down over the ends the short slitted stake *b*, the slit *c* pinching the two ends of the strip. We then push the stake down into the earth, at the same time setting the band into the earth from one-half to three-fourths of an inch. The stake holds the band firmly in place, and its top furnishes a convenient handle.

We prefer paper for these bands, because cheap and sufficiently durable for one season.

If the paper is rough, it may furnish a foothold sufficient to permit the cut-worm to surmount the band by climbing, though our experience shows this to be of very rare occurrence; but all danger of this can be avoided by the use of the flanged annulus *d*, the vertical part of which fits to the inside of the band, the flange extending out laterally over the top. This flanged annulus we prefer to make of sheet-tin, when used at all.

We are made aware that bands of sheet metal have heretofore been used for a similar purpose; but the expense thereof for such farm-work as raising tobacco-plants is so great as to practically prohibit their use. Besides, these bands, when made of metal, must be made into complete shape, and the ends soldered or otherwise joined together at the factory where made, for farmers have no adequate means for doing such work. Bands of metal thus made and completed are very bulky and costly of transportation, and are very liable to damage in transportation.

Our paper is simply cut into strips about twelve or fourteen inches long, and, besides being cheap, packs solidly, and securely, and cheaply for transportation. The sticks are also shipped in bulk, and the farmer makes the band by simply bending the paper into a circle, and slipping the slitted stake over the ends. In addition to all this, the paper readily takes up any poison first made soluble by

absorption, and can thus be made distasteful to worms—a process of which metal is not capable. Nor do we claim simply a paper band as our invention, but a paper band in combination with a slitted stake, which serves the purpose of holding the ends of the paper strip together, and extending above the band to form a sort of handle, and extends below the band to afford a means of holding the band securely in place in the soil.

We claim as our invention—

In combination, the paper strip *a*, formed into a band, and the slitted stake *b*, holding the ends of the band joined, and extending above and below the paper band, all substantially as described, and for the purpose set forth.

JOHN S. ACKLEY.

ZACHARIAH L. HUNGERFORD.

Witnesses:

HENRY N. BRAINARD,

DANIEL W. VENTRES.