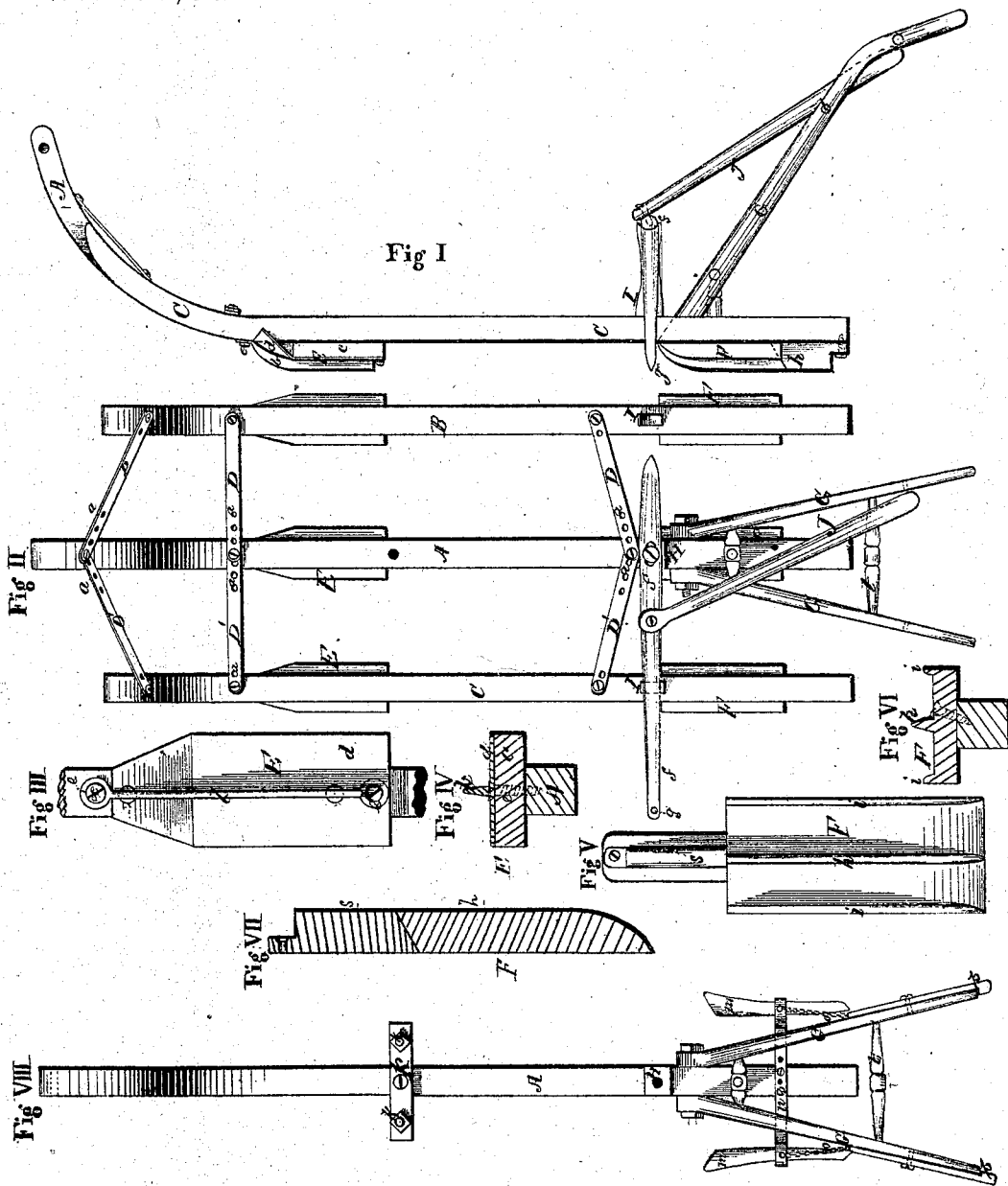


Z. D. BLAKISTONE.

Tobacco-Hillers.

No. 136,897.

Patented March 18, 1873.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

ZACHARIAH D. BLAKISTONE, OF ST. MARY'S COUNTY, MARYLAND.

## IMPROVEMENT IN TOBACCO-HILLERS.

Specification forming part of Letters Patent No. 136,897, dated March 18, 1873.

### CASE A.

*To all whom it may concern:*

Be it known that I, ZACHARIAH D. BLAKISTONE, of the county of St. Mary's, in the State of Maryland, have invented certain Improvements in Machines for Making Tobacco-Hills, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a side elevation of my improved machine as adapted to making the hills, and Fig. 2 a plan of the same. Fig. 3 represents a bottom view of one of the levelers detached from the machine, the beam being represented as broken off at both ends; and Fig. 4, a vertical transverse section of the same. Fig. 5 represents a plan of the bottom side of one of the hillers detached from the machine, the beam being represented as broken off; and Figs. 6 and 7, sectional views of the same, taken vertically in opposite directions. Fig. 8 represents a plan of the machine as adapted to work as a cultivator and weeder.

My invention relates to a new and improved machine for laying off and forming the hills for planting tobacco or other similar crops; and it consists, first, in a new and improved leveler for smoothing the surface of the ground preparatory to its being marked off and hilled up, and for keeping the machine while running in a straight line; secondly, it consists in a new and improved device for forming the hills.

To enable others skilled in the art to make, construct, and use my improvement I will now proceed to describe its parts in detail.

The machine, as represented in the drawing, consists of three beams or runners, A B C, firmly connected together in front and rear by two sets of strong cross-beams, D and D', each set consisting of three, (and which may either be made of wood or iron, but I prefer the latter,) arranged substantially as shown in Fig. 2. The one set, D, connects the middle runner A with the outer runner B, and the other set, D', the middle runner A with the other outer runner C. Each bar of both sets is provided, either at one or both ends, with a series of bolt-holes, *a*, at regular intervals apart, by means of which the distance between the runners is regulated according to the width of row desired.

It will also be observed that the front bars of each set are set at an angle instead of going straight across, and consequently have a longer

radius than the second row; this arrangement gives that rigidity necessary to keep the runners or beams apart. The rear ones may be arranged in the same way, only in a contrary direction; or they may be secured in any other way, so long as they serve to secure the runners to each other in a rigid manner and in a parallel line to each other, and are made capable of adjustment for the purpose before referred to.

Each of the runners or beams is curved at its forward end, as shown at Fig. 1, and is provided with an implement which I call a leveler, E. This leveler is firmly secured to the beam in any suitable manner; as a rule, however, I shall secure it by means of screw-bolts or stout screws, so that they may be easily removed when it is desired to change the machine from a hiller to a cultivator or weeder. The leveler may either be made of iron or of wood, protected on its under surface with a metal plate of any suitable kind, and is provided with a keel-like projection, *b*, which is either cast with or otherwise secured to the leveler E. In the drawing the leveler is represented as consisting of a stout block of wood, *c*, Fig. 3, beveled in front and lined or covered on its under side with an iron plate, *d*, and having an iron keel, *b*, secured to it by a couple of screws, *e*. The object of this keel is to guide the runners in a straight line, or, in other words, to prevent lateral deflection. Near the rear end of the same beams A, B, and C, and on their under side, is secured, one to each, and in the same manner as the leveler E, an implement I term the hiller, F. This hiller is formed as shown in Figs. 5, 6, and 7, and is intended to be made of cast-iron, either in one or two pieces, as shown in section, Fig. 7, in which the rear projection *s* is shown as being made separately, its inner end being beveled so as to fit into a notch correspondingly shaped and formed in the rear end of the hiller F. The object of this rear projection is to keep the cut in the hills open as the hiller passes over them, which otherwise might become filled up. The hiller F resembles the leveler in most respects, but in addition to the keel or marker *b* is provided on each side with a flange or rib, *i*. These ribs form the hills, and are made to project sufficiently far below the face of the hiller for that purpose. The hiller, instead of being made of a uniform width, may, if deemed

advisable, be made wider in front than at the rear so as to draw more soil into the hill. In this case the ribs *i* would slightly diverge from each other at the front instead of running parallel, as shown in Fig. 5; but, so far as my experience extends at present, the parallel ribs seem to answer the purpose very well. If desired, the hillers may be made of wood or other suitable material, or combination of materials, as in the case of the levelers. To the rear end of the center runner A are secured in the usual manner the handles G. Immediately in front of the handles on the same runner is erected a standard, H, to the top of which is pivoted a marking-rod, *f*, consisting of a horizontal bar, *f*, and a downwardly-projecting finger or marker, *g*. When in use, the rod *f* rests in a notch formed on the top of a standard, I, erected on the runners B and C, and is changed from the one to the other by the handle J, according to the side it is desired to work on. The handle J for this purpose is pivoted to the upper side of the bar *f*. When the marker is properly adjusted for work, as shown in Figs. 1 and 2, the upper end of the handle J rests on the cross-bar *t* of the handles G of the machine. Suitable devices are now to be secured in the usual manner to the center runner A for the attachment of the horses, which being done, the machine is then ready for use.

In using the machine, as thus constructed, for preparing the hills for the planting of the tobacco, it is proper to state that the land is first prepared in the usual way. It is then plowed up into drills or rows at the proper distance apart; this done, my improved machine is then put to work, running transversely across the rows, and arranged to operate as shown in Figs. 1 and 2. As the machine advances the finger *g* marks the line to be followed by the leveler E of the runner C on the return trip of the machine, in which case the marker is then turned around so as to rest in the notch of the bar I on the runner B, and so on, back and forth, until the whole field is finished. Now, as the levelers E pass over the rows at the point the tobacco is to be planted, they level and smooth the rows at that point to be followed by the hiller F, which finishes the smoothing and marking, and at the same time by its ribs *i* the hilling up.

Instead of using three runners, each carrying its leveler and hiller, but one or two may be used; but three is deemed the preferable number; or the leveler might be dispensed with entirely; but its use in connection with the hiller gives better satisfaction.

The machine, as described, may be readily transformed from a hiller to a weeder and cultivator by separating the three runners A, B, and C from each other by detaching the connecting-bars D and D', and fitting each of the outside runners B and C (the middle one, A, being already provided) with a pair of handles, and then detaching from each the levelers E and hillers F. This done, secure in any suit-

able manner the short cross-beam K, Fig. 8, to the upper side of the runner, and you have the necessary support for a pair of shovels or cultivator-teeth, the screw-bolts and nuts for fastening, which are shown at *h*; then attach immediately in the rear of the handles G, Fig. 8, a pair of spiral blades, *m*, by means of curved spring-arms *n* to the runner A, and connect these curved arms *n* by means of a link rod or chain, *o*, to a hand-lever, *p*, pivoted to the outer side of the handles G, and the weeder is complete.

Each blade *m*, with its arm *n*, is made reversible end for end by changing the one set round with the other. They are also adjustable, the inner end of each arm *n* being provided for that purpose with a series of bolt-holes. By curving the arms *n*, and attaching them to the hand-levers *p*, the blades *m* can be raised or lowered, as desired, the releasing of the lever allowing them to descend by virtue of the reaction of the spring-arms *n*, and vice versa. The blades *m* may be made of cast-iron or steel, or wrought-iron edged with steel on each end, or in any other well-known manner. Thus constructed, it is operated in the same manner as any other cultivator between the rows; or, instead of turning each of the runners A, B, and C into separate cultivators, as above described, the center one only may be so used, as it is already provided with the handles, in which event the others may be laid aside without removing the levelers and hillers until required for use again as a hiller; but the weeder just described, being the subject-matter of another application for a patent now pending before the Patent Office, is not here claimed.

Having thus described my invention, what I claim is—

1. A leveler, E, when provided with a rib, *b*, on its under side, for the purpose set forth.
2. A hiller, F, when provided with side ribs *i*, constructed substantially as described, and for the purpose set forth.
3. A hiller, F, when provided with side ribs *i* and a marking-rib, *h*, substantially as described, and for the purposes set forth.
4. A hiller, F, when provided with side ribs *i*, marking-rib *h*, and rearward-projecting piece *s*, substantially as described, and for the purpose set forth.
5. The combination of a hiller, F, with a runner, A, each being constructed substantially as described, for the purpose specified.
6. The combination of the leveler E and hiller F with a runner, A, all being constructed substantially as described, and for the purposes set forth.
7. The combination of two or more runners, when each is provided with a leveler, E, and hiller F, and with a single pair of handles, G, to guide the whole, substantially as described, for the purpose set forth.

Z. D. BLAKISTONE.

Witnesses:

P. HANNAY,  
D. G. STUART.