2 Sheets—Sheet 1.

S. L. ALLEN.
Potato-Digger.

No. 208,008. Patented Sept. 17, 1878.

FIG. 1.

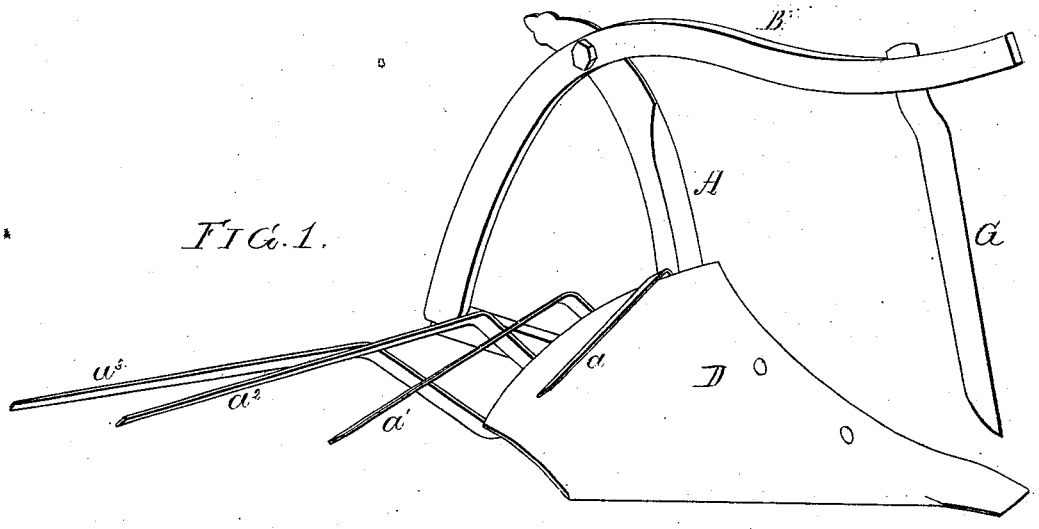


FIG. 2.

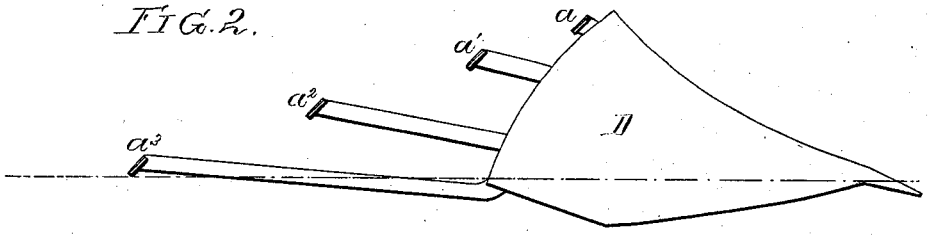
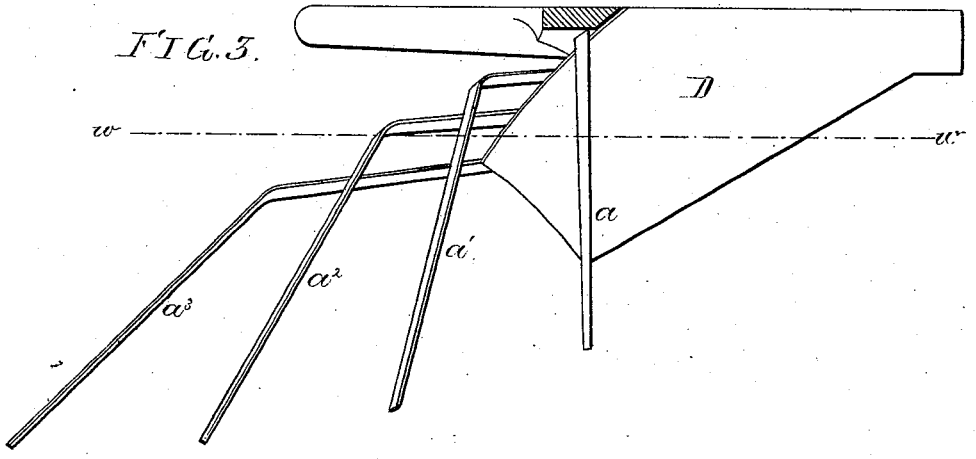


FIG. 3.



Witnesses,
Harry A. Crawford
Harry Smith

Inventor
Samuel S. Allen
by his Attorneys
Howson and Howson

2 Sheets—Sheet 2.

S. L. ALLEN.
Potato-Digger.

No. 208,008. Patented Sept. 17, 1878.

FIG. 4.

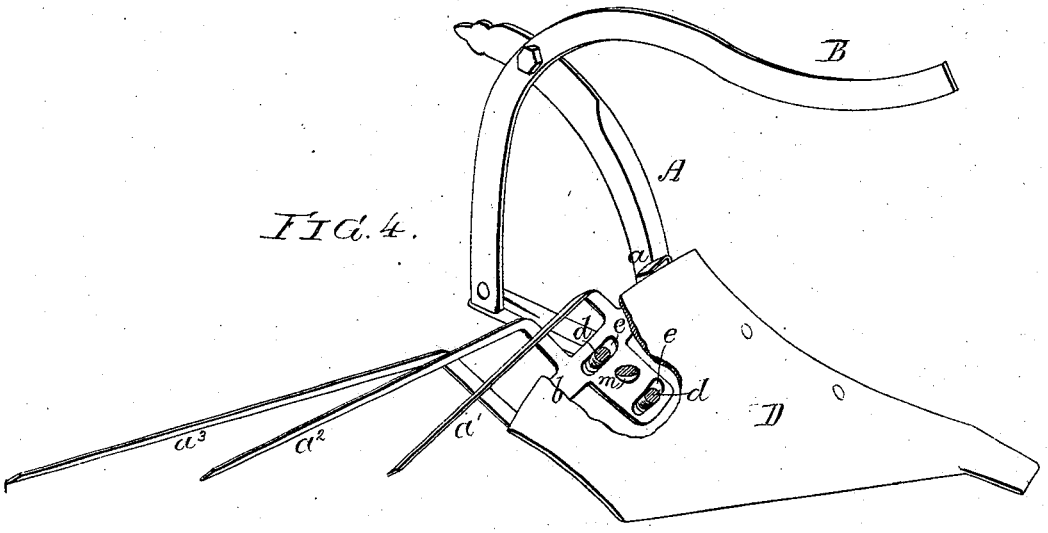
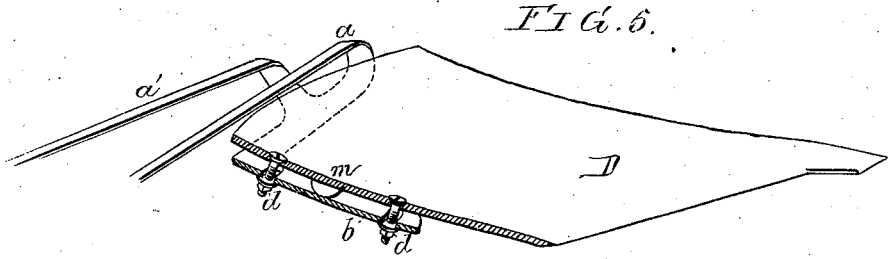


FIG. 5.



Witnesses,
Harry A Crawford
Harry Smith

Inventor,
Samuel L. Allen
by his Attorneys
Howson and Howson

UNITED STATES PATENT OFFICE.

SAMUEL L. ALLEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN POTATO-DIGGERS.

Specification forming part of Letters Patent No. **208,008**, dated September 17, 1878; application filed February 4, 1878.

To all whom it may concern:

Be it known that I, SAMUEL L. ALLEN, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Potato-Diggers, of which the following is a specification:

The object of my invention is to so combine certain bars with a plow that when the latter is used for turning up the hills or ridges of a potato-field the bars will disintegrate the turned-up soil and expose the potatoes in the effective manner described hereinafter.

In the accompanying drawing, Figure 1 is a perspective view of my improved potato-digging plow; Figs. 2 and 3, diagrams illustrating the action of the plow and its disintegrating-bars; and Figs. 4 and 5, Sheet 2, views illustrating the devices for adjusting the bars.

A is the cast-iron frame of the plow, B the beam secured to the frame, and D the plow, also secured to the frame. It should be understood that in carrying out my invention it is not necessary to adhere to the style of frame shown in the drawing.

To the rear of the plow are secured a series of bars or rods, (four in the present instance,) a, a^1, a^2, and a^3, which project from the side of the plow, as best observed in the plan view, Fig. 3, the vertical arrangement of these bars in respect to each other being shown in the diagram, Fig. 2, on reference to which it will be observed that the first bar, a, is the highest above the base of the plow, the next bar, a^1, being somewhat nearer, the third bar still nearer to the said base-line, and the fourth and last bar almost on a level therewith.

On reference to the plan view, Fig. 3, it will be observed that the bars are of different lengths, the bar a being the shortest, the next bar, a^1, somewhat longer, the third bar still longer, and the fourth bar, a^3, the longest.

It is not essential to my invention that the bars should be of different lengths; but I prefer to arrange them in that manner for a purpose rendered apparent hereinafter.

When the plow is in operation its position in relation to a row of potato-vines is that indicated in the plan view, Fig. 3, where the dotted line $w\,w$ represents the row. The plow turns up the soil in which the potatoes are embedded, and forms a ridge of this soil in advance of the first bar, a, which passes through and disintegrates the upper portion of the ridge and exposes such of the potatoes as are near the top of the same. The next bar, a^1, takes a deeper course through the ridge and exposes more of the potatoes. The third bar follows through the ridge, exposing still more of the potatoes; and the last bar, being at or about the same level as the surface of the ground, exposes all the potatoes which the third bar has not reached.

As the plow passes through and turns up the hill or row the first bar, a, may strike a potato at such a point that it will be raised to the surface, or it may strike it at such a point that the potato will be slightly depressed into the soil, in which case it must certainly be struck by the next bar, a^1, in such a manner as to be raised to the surface. In other words, if a potato escapes one bar, it will be under the upturning influence of another, so that the soil at the rear of the plow will be spread laterally over the ground with all the potatoes exposed. This lateral spreading of the soil increases as bar after bar passes through it; hence the increase in the length of the bars from the first, which is the shortest, to the last, which is the longest.

The object of the colter G is to direct the potato-vines from the land-side of the plow over to the side on which the soil is turned, the colter coming in contact with vine after vine in succession as the share is in the act of passing beneath its roots.

The bars a a^1, &c., form part of a plate, b, which is attached to the plow by means of bolts d d, the latter being adapted to slots e in the plate, and being arranged one on each side of a lug, m, on the under side of the plow. By this means the plate can be either tilted or moved vertically, so that the height of the bars from the ground, or their angle in respect to the plow, may be varied to accord with the character of the soil in which the digger is required to work.

I claim as my invention—

1. The combination, with a plow, of a series of laterally-projecting bars, arranged apart

from each other at the rear of the plow, and at different altitudes from the base of the same, the foremost bar being highest and the rear bar lowest, all substantially as set forth, for the purpose specified.

2. The combination of the plow, its lug *m*, and bolts *d* with the fingers or bars carried by a slotted plate, *b*, all substantially as set forth.

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

SAMUEL L. ALLEN.

Witnesses:
HARRY A. CRAWFORD,
HARRY SMITH.