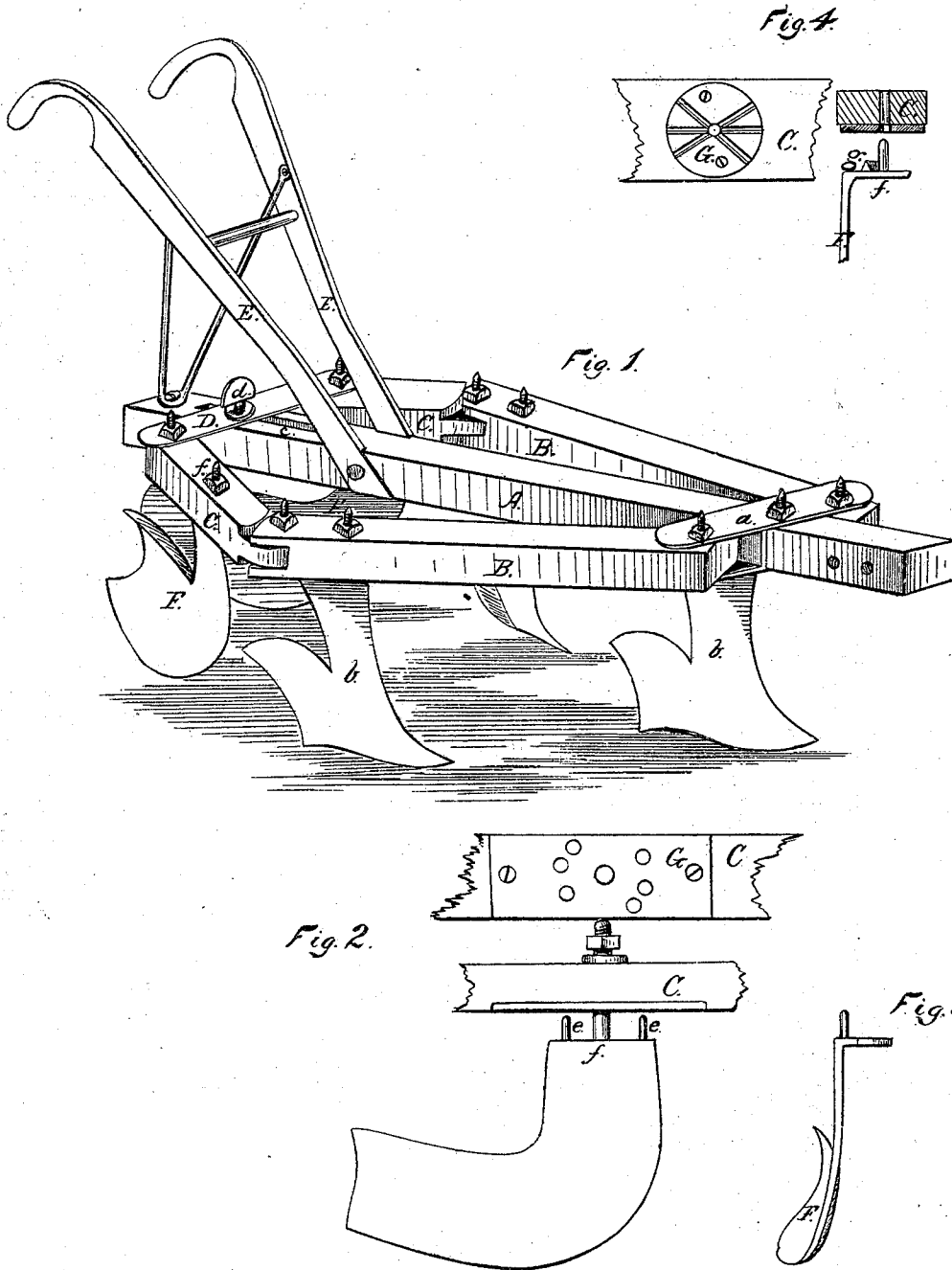


M. SCHWARTZ.

Improvement in Cultivators.

No. 123,128.

Patented Jan. 30, 1872.



Witnessed  
Edward Gibson  
Sarah L. Hubbard

Inventor: Michael Schwartz  
per C. A. Douglass

# UNITED STATES PATENT OFFICE.

MICHAEL SCHWARTZ, OF CANTERBURY, NEW HAMPSHIRE.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 123,128, dated January 30, 1872.

Specification describing certain Improvements in Cultivators, invented by MICHAEL SCHWARTZ, of Canterbury, in the county of Merrimack and State of New Hampshire.

My invention relates to cultivators used to loosen the earth between the rows or drills of growing vegetables and other products; and the invention consists in a novel manner of constructing the same, whereby I am enabled to produce an effective and valuable labor-saving agricultural implement.

Figure 1 of the drawing is a perspective view of my improved cultivator. Figs. 2, 3, and 4 show the construction of parts in detail.

The construction will be readily understood from an inspection of Fig. 1 of the drawing. A is the central rail, provided with a yoke, *a*, to the ends of which are pivoted the bars B B, which are armed with the teeth *b b*; and to the other ends of these bars B B are hinged the bars C C by a mortise and tenon at one end, while their other ends are pivoted to the yoke D at the rear end of the rail A. The rail at this end is slotted longitudinally, as shown at *e*, and a bolt provided with a clamp-nut passes through the yoke D and slot *e*, as plainly shown in Fig. 1 of the drawing, and as the yoke D is moved toward the yoke *a* the jointed ends of the bars B and C and the teeth or hoes attached thereto will be moved outward from the central rail A so as to cultivate a greater area of ground, and as the yoke is moved in the reverse direction toward the rail A they will cultivate a less area of earth. The handles E E for guiding the cultivator are of the ordinary construction, and secured to the cultivator in the ordinary way. The teeth F (which I call hoeing-teeth) are made in the peculiar

form shown, and are adjustable by means of the pins *e e*, which fit corresponding holes in the plate G secured to the under side of the bars C, and are held in place by a bolt and nut, *f*, at the desired angle, so as to deposit the earth upon the rows of growing products.

This cultivator is adjustable for the ordinary range of wide and narrow rows. The earth is loosened or plowed up by the front teeth *b b*, and the loose earth is then deposited by the hoeing-teeth F upon the roots or rows of the products.

I am aware that cultivators in which bars like B B are made adjustable sidewise by means of slotted metal bars which straddle a bolt in the center rail, and clamped thereto by a nut, are in general use; but in this method of adjustment it is difficult to adjust each bar the same distance from the central rail. I am also aware that cultivator-teeth have been made adjustable by means of a grooved plate, an example of which may be seen in the Letters Patent No. 27,797, and I therefore disclaim such method of adjustment.

### *Claim.*

The combination and arrangement of the slotted bar A, the long pivoted bars B B carrying the teeth *b b*, the short bars C C pivoted to the bars B B and to the adjustable yoke D, and carrying the adjustable hoeing-teeth F, the whole constructed and operating substantially as described and specified.

MICHAEL SCHWARTZ.

Witnesses:

ALFRED H. BROWN,  
CHARLES H. CHASE.