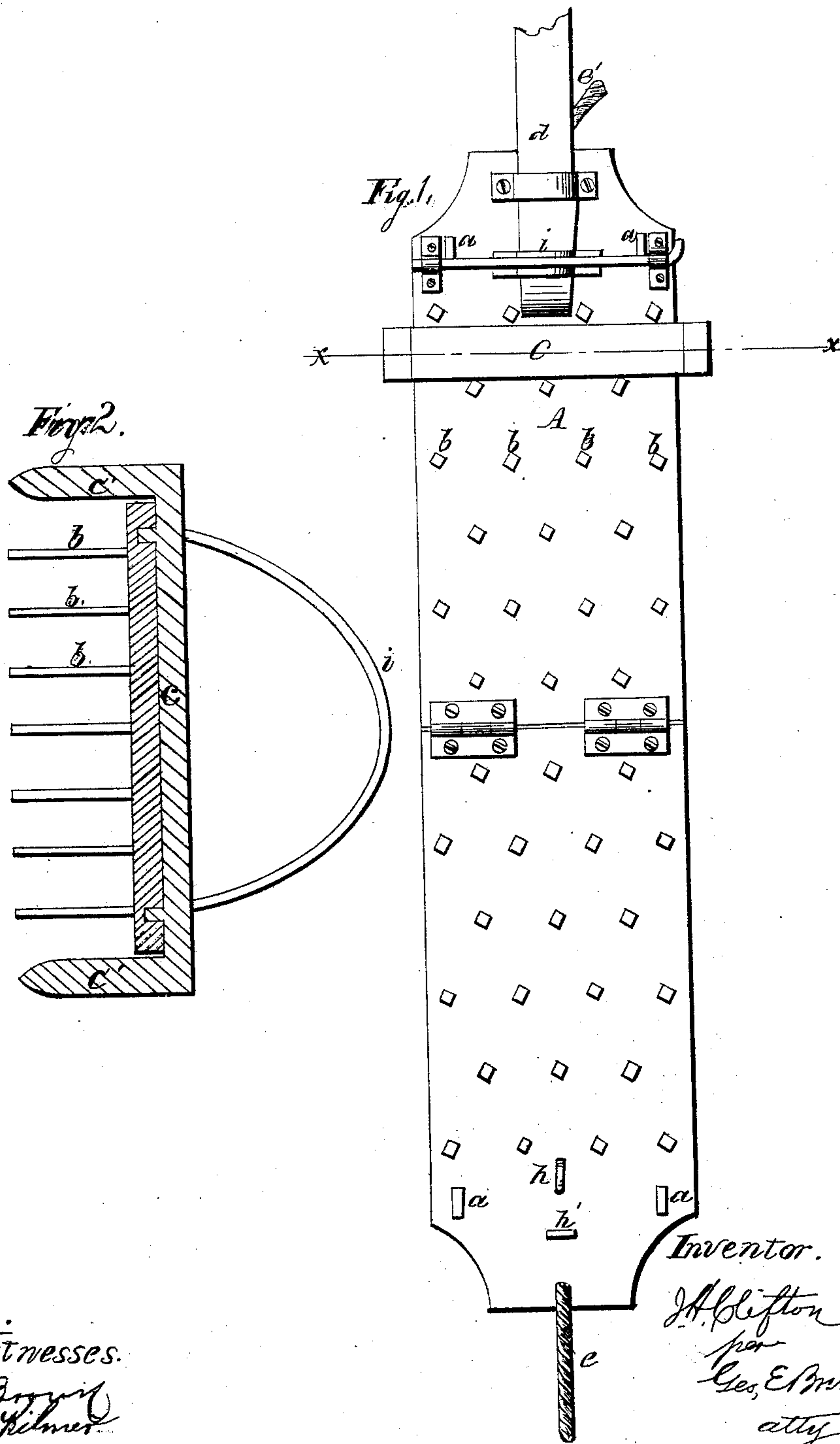


J. H. CLIFTON.

Cultivator.

No. 82,089.

Patented Sept. 15, 1868.



Witnesses.

A. Brown

W. Kilmer

United States Patent Office.

JOSEPH H. CLIFTON, OF NEWCASTLE, PENNSYLVANIA.

Letters Patent No. 82,089, dated September 15, 1868.

IMPROVEMENT IN CULTIVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOSEPH H. CLIFTON, of Newcastle, in the State of Pennsylvania, have invented a new and useful Improvement in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a plan view, and

Figure 2 is a transverse vertical section through line *x x*, fig. 1.

This invention relates to a cultivator adapted to either hand or horse-power, and to either field or garden-culture, and consists of board or plank provided with suitable knives and teeth for tearing the soil, combined with a device for cutting drills for seed, certain other parts being appurtenant to said cultivator, but not material here to be set out, all being hereinafter fully described.

To enable those skilled in the art to make and use my invention, I now proceed to describe its construction and operation.

Similar letters in the drawings refer to like parts.

A represents a board, of oak or other suitable wood, the dimensions of which board are to be determined by the special use to which the cultivator, of which it forms a part, is to be applied.

At each corner of the plank A is set a steel knife, *a*, which knives, when the machine is intended for field culture, or to be operated by horse-power, may be set in the direction of the line of draught, with their edges forward, and when the machine is intended for garden-culture, or to be operated by hand-power, the knives may be set diagonal to the line of draught, with the edges outward, so as to adapt them to a reciprocating motion to cut like saw-teeth.

Common iron spikes, *b b*, &c., are driven through the board A from the upper side in transverse rows, the spikes to be set like harrow-teeth, in such manner that lines through the centre of each, drawn transversely and longitudinally of the board A, shall each intersect two opposite corners.

The length of the spikes *b* may vary, from eight inches for field-culture, to four or five inches for garden-culture. The number of the rows of spikes, and the number of spikes in each row, may also vary, according to use.

Near its rear end, a bar, *c*, is attached transversely of the board A, said bar at each end being provided with a suitable tooth, *c'*, of wood, large enough to cut a drill, as the cultivator proceeds, in which seed may be sown.

The garden-cultivator may be operated by one person by means of a handle, *d*, suitably attached near one end of the board A, or by means of two handles or two cords, *e e*, (the latter being preferable,) one at each end. The motion to be given in this case, as before intimated, is a reciprocating one, like that of a cross-cut saw, for example.

In field-culture by horse-power, the driver will govern the cultivator by means of one or more ordinary curved handles, and the line of draught will be regulated by the location and height of the ring *h* and bolt *h'*, near the front end.

A bail, *i*, is attached to the board A, near the rear end, to facilitate moving it.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The board A, provided with the knives *a*, &c., and teeth *b*, as and for the purpose set forth.
2. The board A, in combination with the bar *c* and teeth *c'*, as and for the purpose set forth.

JOSEPH H. CLIFTON.

Witnesses:

D. CRAIG,
S. W. DANA.