A. B. TRAVIS.

Cultivator.

No. 219,882. Patented Sept. 23, 1879.

Fig. 1.

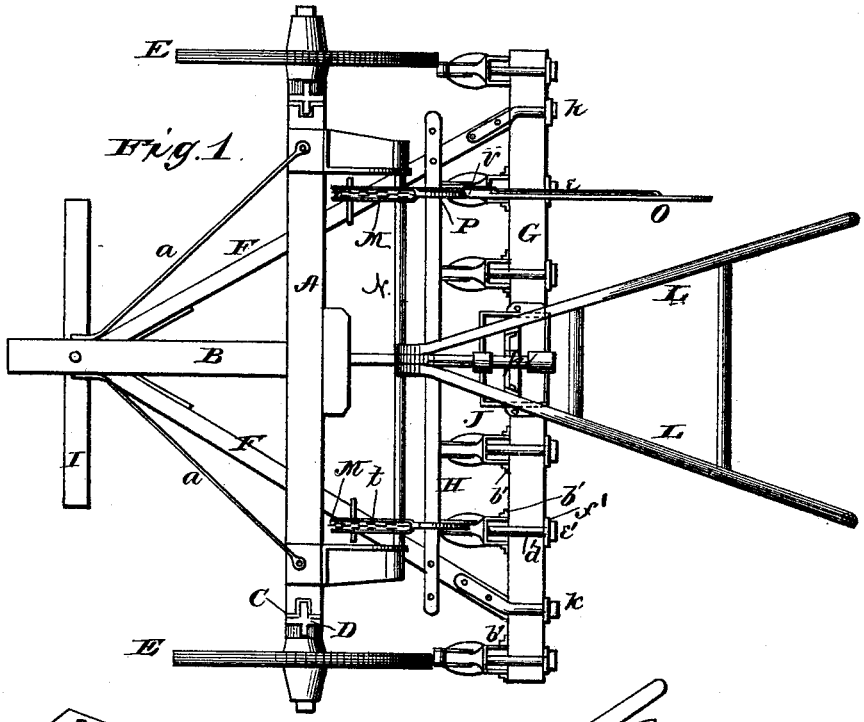


Fig. 2.

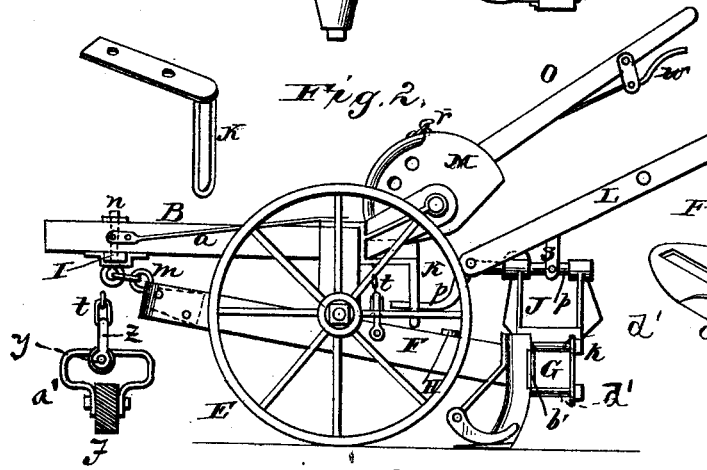


Fig. 4.

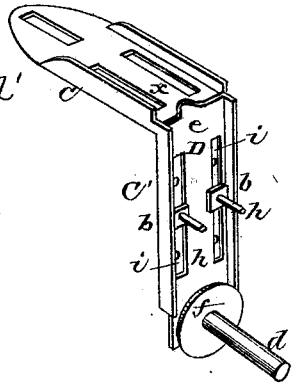
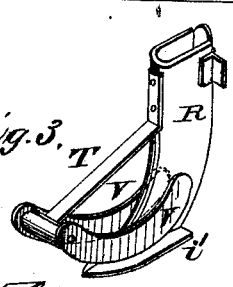


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

ANDREW B. TRAVIS, OF BRANDON, MICHIGAN.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **219,882**, dated September 23, 1879; application filed April 29, 1879.

To all whom it may concern:

Be it known that I, ANDREW B. TRAVIS, of Brandon, in the county of Oakland and State of Michigan, have invented certain new and useful Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a cultivator, as will be hereinafter more fully set forth.

In the annexed drawings, to which reference is made, and which fully illustrate my invention, Figure 1 is a plan view of my machine. Fig. 2 is a side elevation of the same. Figs. 3 and 4 are detailed views of parts thereof.

A represents the axle, with tongue B firmly secured to and projecting from its center, and braced by means of the rods *a a*. To each end of the axle A is secured a casting, C, which embraces the end and a portion of the under side of the axle, and a part, C′, extends downward a suitable distance at the ends. The end of the casting C C′ has vertical side flanges, *b b*, and a central vertical groove, as shown at *x*. Between the flanges *b b* fits a plate or casting, D, having the spindle *d* secured to or formed with it for receiving the wheel E.

The plate D has a vertical flange, *e*, fitting in the groove *x*, and also a curved guard or shield, *f*, over the inner end of the wheel-hub. This plate D is fastened to the casting C C′ by means of bolts *h* passing through slots *i* in said casting, thereby making said plate and wheel adjustable up and down, as may be required.

The frame for the cultivator and wheat-hoe is made in triangular form of two side arms, F F, and a head, G, secured to the rear ends of the arms by means of clips *k k*, which admit of said head being easily removed and another head substituted when required. On top of the arms F F is also secured a bar or head, H, for attaching braces to the cultivator-teeth, if required.

The front ends of the side arms, F F, are flexibly connected together by a coupling, *m*, and this coupling is connected to the lower end of the king-bolt *n*, which passes through the tongue or draft-pole B and through the evener or double-tree I, thus making a direct draft to the frame. The coupling *m* is formed of two metal straps connected by a ring, and this ring passed through an eye in the end of the king-bolt, whereby said ring is held up in the draft-line when the team is slack or turning, so as to hold it in its proper position.

It will be noticed that in the construction of the frame there are no tenons on the rear ends of the arms F, but the head is fastened by the clips *k*, which are composed of top and bottom straps with ties and nuts on the back of the head, by which means the arms F can be adjusted, as required, to set them closer together or spread apart.

On the head G is secured a metal frame, J, which forms bearings for a rock-shaft, *p*. The front end of this rock-shaft is bent to form a crank, the extreme end of which is inserted in a vertically-slotted arm, K, projecting downward from the center of the axle A.

L L are the handles, the forward ends of which are fastened direct to the rock-shaft *p* at or near the point where said shaft turns to form the crank. Braces *s s* also connect the handles to the rock-shaft at a point between the bearings in the frame J.

The frame F G can, therefore, by manipulating the handles L, be given a lateral or side motion, as may be required, the slotted arm K serving as a fulcrum.

The frame is suspended by means of chains *t t*, which are connected to hooks *r r* on grooved eccentrics or segments M M, secured on a shaft, N, placed in arms secured to and projecting from the axle. One of the segments or the shaft is provided with a lever, O, having a spring-pawl, *v*, with handle *w*, taking into a rack, P.

In the lower end of each chain *t* is suspended a roller, *y*, by means of a loop, *z*, and this roller plays on a track-clevis, *a′*, connected to the side bar, F, of the frame, thus allowing the frame to move laterally when at work without raising the same.

R R are the teeth to work in wheat and other small plants, said teeth being fastened to the head G by the following means: Between each tooth and the front of the head is a flanged plate, b', the tooth fitting between the flanges. Two bolts, d' d', are passed from the front through the tooth, one above and the other below the head G, and close to it. In rear of the head a tie, f', is placed on the ends of the bolts, and nuts e' then screwed thereon, which firmly secures it to the head. These teeth can, therefore, be adjusted laterally in any position on the head to suit any drill-belt or space of wheat that may be desired for wheat or other similar crops.

The teeth R are at the foot provided with side flanges, i', so as to raise up the soil and let it fall back without turning the furrow.

A point, S, may also be applied to this tooth, if desired, and fastened by bolts through suitable holes in the point and flanges.

In some cases I also use drag-guards V V, curved, as shown, and working one on each side of the tooth. These guards are pivoted in the front end of an arm, T, which is fastened to the tooth and projects forward from the same in an inclined position, as shown. These drag-guards prevent lumps of dirt from falling on the plants.

The point S above described is to work in the large space and replenish the main point when worn out.

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

1. In combination with the frame F G, flexibly connected at its forward end, the frame J, rock-shaft p, handles L, and slotted arm K, substantially as and for the purposes herein set forth.

2. In combination with the frame F G, the track-clevis a' a', chains t, with rollers y, and a mechanism for raising and lowering said chains, for the purposes herein set forth.

3. The drag-guards V, pivoted to an arm, T, attached to and projecting in front of the tooth R, for the purposes set forth.

4. The adjustable tooth R, formed with the flanges i', and provided with the removable point S and pivoted drag-guards V, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of March, 1879.

ANDREW B. TRAVIS.

Witnesses:

QUINCY A. THOMAS,

CALVIN THOMAS.