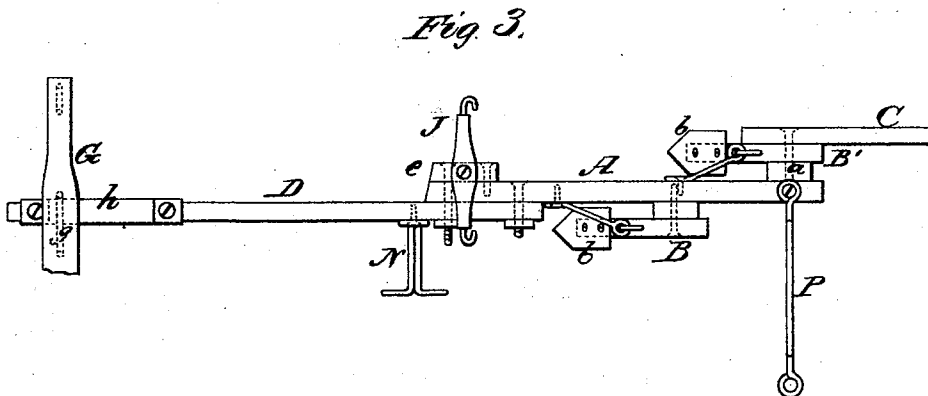
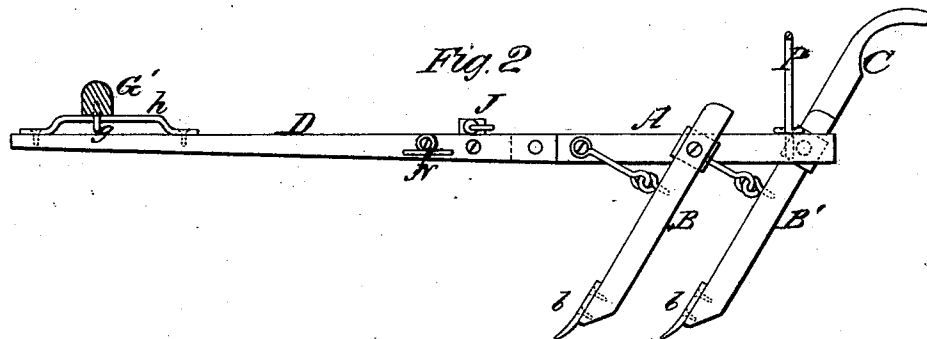
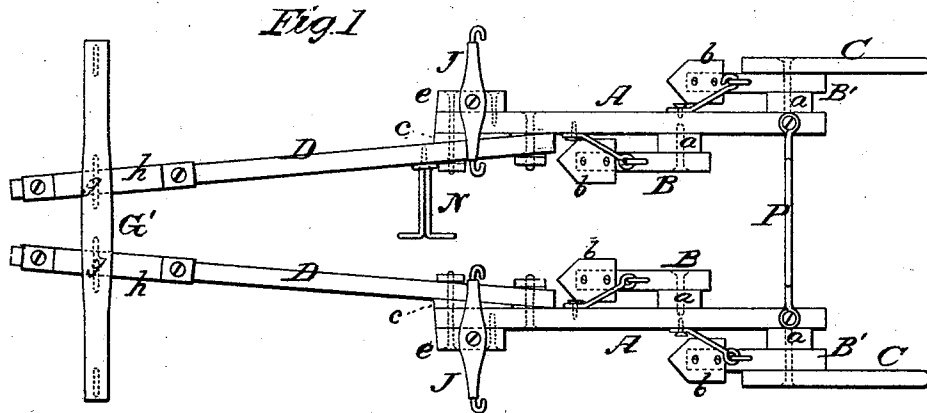


W. M. WATSON.
Cultivators.

No. 151,733.

Patented June 9, 1874.



WITNESSES

George B. Upham,
Robert Everett, By

INVENTOR

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William M. Watson
Chipman & Fournier & Co
ATTORNEYS.

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Fig. 4

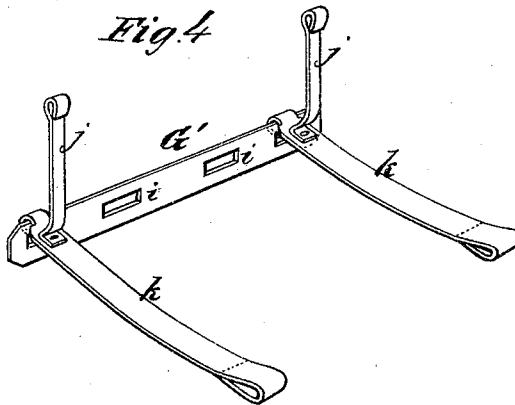


Fig. 5

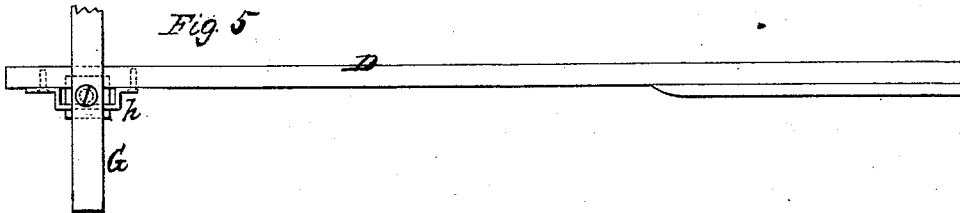
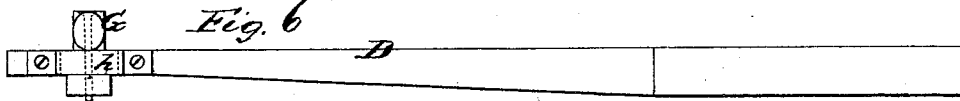


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM M. WATSON, OF TONICA, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **151,733**, dated June 9, 1874; application filed February 21, 1874.

To all whom it may concern:

Be it known that I, WILLIAM M. WATSON, of Tonica, in the county of La Salle and State of Illinois, have invented a new and valuable Improvement in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my cultivator. Fig. 2 is a sectional view of the same. Figs. 3, 4, 5, and 6 are detail views of the same.

This invention has relation to cultivators which run astride of the rows of plants; and it consists in a novel neck-yoke attachment, which is so applied that it will keep the cultivators upright; at the same time it will allow vertical and lateral vibration, and also a longitudinal sliding movement of the beams independently of each other.

The object of this invention is to provide an efficient cultivator of the character mentioned, which can be used without axle, wheels, and their connections, and thereby to avoid the expense attending their construction.

In the annexed drawings, Sheet 1, A A designate two cultivator-beams, to each one of which two shovel-standards, B B', are secured by means of transverse bolts; and between each one of these standards and its beam a block, *a*, is applied, the thickness of which determines the distance between the shovels *b b* on the standards B B'. The rear outside shovel-standard of each beam A has a handle or stilt, C, suitably secured to it, by which the plowman guides the shovels along the rows. D D are the draft-tongues, which are secured to the inner sides of the beams A A by means of long bolts, on which clamping-nuts are applied. Between the ends of the beams and draft-tongues thus connected I introduce wedges *c*, by means of which the tongues can be set at an angle with respect to the beams, and the line of draft regulated and adjusted, as may be required. Wedges of different degrees of taper may be used, and they may be applied in front of the connecting-bolts, as shown in Fig. 1, or they may be

applied in rear of these bolts. If the wedges *c* are not used, and the beams and tongues are bolted together, as shown in Fig. 3, the line of draft will correspond with the straight beams A A, and the shovels will run straight. The advantages of this construction are, simplicity in the adjustment of the tongues, and a saving of lumber in consequence of my being able to use short pieces. G designates a neck-yoke for the animals which draw the machine, and J J are the single-trees. The neck-yoke G is attached to the tongues D D at or near their front ends, and the single-trees J J are pivoted to blocks *e e*, which are secured to the front ends of the cultivator-beams by one or more of the bolts which are used to unite these beams to the draft-tongues. The neck-yoke is connected to the tongues D D by means of long staples *h* and *g*, which allow endwise movements of each tongue and its cultivator-beam independent of the other tongue and beam, and at the same time keep the shovel-standards upright. By thus attaching the tongue to a neck-yoke each horse draws his own load and no more.

Fig. 4, Sheet 2, shows a modification of the neck-yoke attachment, which may be used if there be any difficulty in keeping the cultivator-standards upright. G' designates this neck-yoke; *jj*, stay-straps; and *kk*, martingales, which are attached to the neck-yoke. The hame-straps pass through the eyes in the stay-straps, and the belly-band or girths pass through the eyes in the martingales. This will keep the ends of the neck-yoke down to their place, and prevent the cultivators from tipping over. The holes *ii* through the neck-yoke G' are for the staples *h* of the tongues to play through.

Figs. 5 and 6 show the neck-yoke loosely attached to the draft-tongues by means of vertical bolts and long staples.

For the purpose of preventing the plows running too close together, I secure a check-arm, N, to the inner side of one of the beams, or to the inner side of one of the draft-tongues, the length of which arm limits the approach of the shovels toward each other. When the corn which is under cultivation is large enough the rear ends of the cultivator-beams are connected together by means of an arched bar,

P, the ends of which are pivoted to said beams, so that they have free endwise play independently of each other.

The special construction of the several parts may be varied in many ways, well-known to those skilled in the art of manufacturing agricultural implements.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a straddle-row cultivator, the neck-yoke G, with staple *g*, in combination with the draft-tongues D, having long staples *h*, substantially as and for the purposes set forth.

2. The combination, in a straddle-row cultivator, with the independent sliding plow draft-tongues, of a neck-yoke connected to said tongues, and arranged to prevent lateral rocking of the same, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM MEDD WATSON.

Witnesses:

ELIAS W. WOOD,
HENRY GUNN.