F. W. PUSEY.
Wheel-Cultivator.

No. 206,040. **Patented July 16, 1878.**

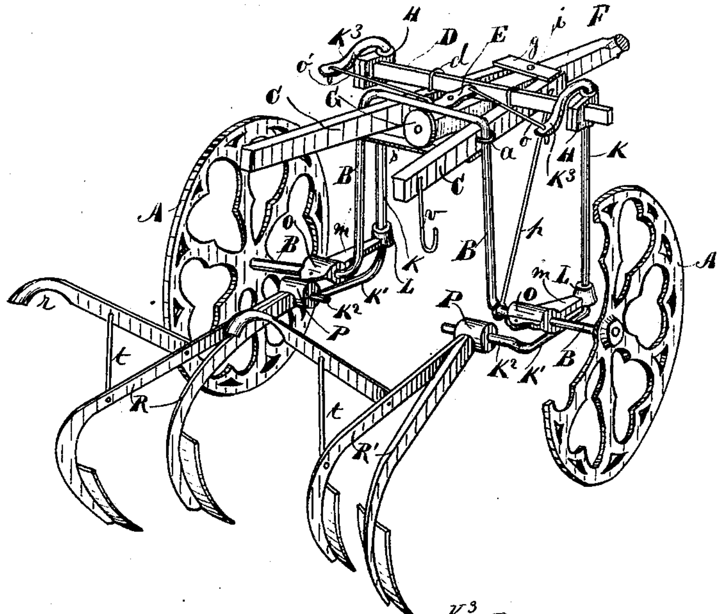

Fig. 1.

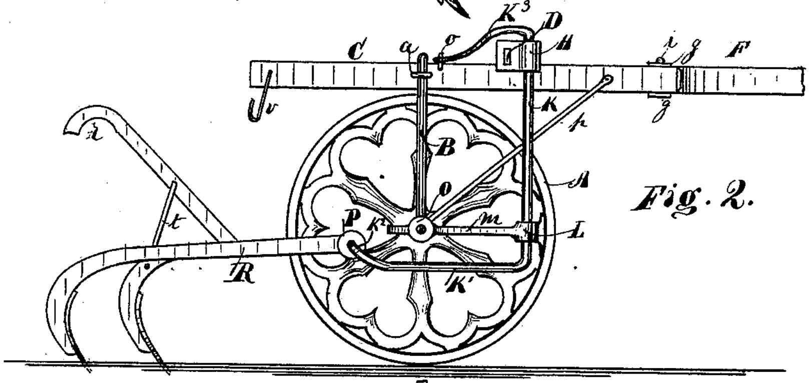

Fig. 2.

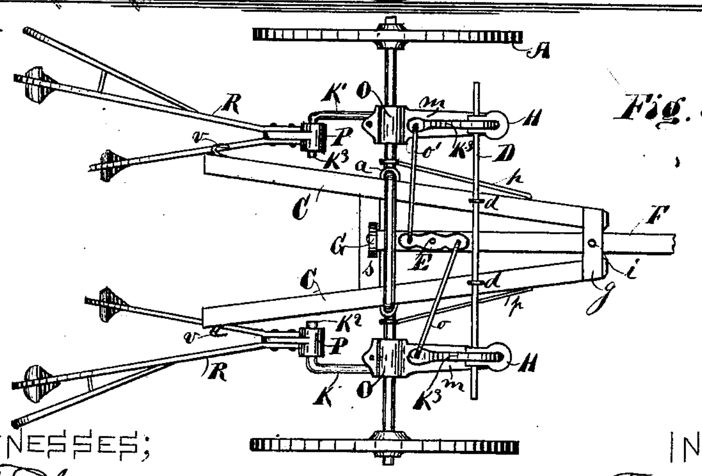

Fig. 3.

WITNESSES;

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UNITED STATES PATENT OFFICE.

FRANCIS W. PUSEY, OF CARTHAGE, INDIANA.

IMPROVEMENT IN WHEEL-CULTIVATORS.

Specification forming part of Letters Patent No. **206,040**, dated July 16, 1878; application filed June 4, 1878.

To all whom it may concern:

Be it known that I, FRANCIS W. PUSEY, of Carthage, in the county of Rush and State of Indiana, have invented a new and useful Plow-Piloting Cultivator, of which the following is a description, reference being had to the accompanying drawing.

My invention relates to certain devices for piloting the wheels of a cultivator-plow.

The object of my invention is to enable the plows of a wheel and tongue cultivator to automatically adjust the wheels, so that they will travel in line with the plows, and at the same time operate the tongue, and prevent the horses, when deviating slightly from their true course, from changing the direction of travel of the wheels and plows.

My invention consists, mainly, in the construction, arrangement, and application of new devices; also, in new combinations of old elements necessary to the results produced.

In the accompanying drawing, in which similar letter of reference in the different figures indicate like parts, Figure 1 represents a perspective view of my machine. Fig. 2 is a side elevation of the same, with one wheel removed to show the arrangement of parts more fully; and Fig. 3 is a plan view of the same.

A A represent the wheels, mounted upon an arched axle, B. The hounds C C are firmly secured to the arch of the axle B by staples or fastenings *a a*, and further secured thereto by the braces *p p*. The front ends of the hound-bars C C′ are united together by the plates *g g*, and the bar *s* also unites the hound-bars immediately in the rear of the arch-axle B. The tongue F is pivoted to the hounds, between the plates *g g*, by the pin or bolt *i*, and the rear end of the tongue is provided with a friction-roller, G, which operates on the bar *s*, said bar *s* forming a support for the tongue below, and the arch of the axle B forming a guide above, thus preventing the tongue from moving up or down between them, while the pivot-bolt *i* at the front of the hounds permits the tongue to move laterally between them.

Across the top of the hounds C C, between the arched axle B and the plates *g*, is a cross-bar, D, which is firmly secured to the hound-bars C C by staples or other fastenings, *d d*, as shown. The forward-projecting arms *m m* are formed with horizontal sleeves O O, that encircle the arched axle B at each side of the arch, and are secured by set-screws, or by clamping so as to be adjustable—*i. e.*, to allow an adjustment on the axle to widen or close the distance between the two sets of plows. At the front ends of the arms *m m* are vertical sleeves L L, in which the vertical crank-rods K K operate. The upper ends of these crank-rods K operate in the sleeve-blocks H H, which are mounted on the cross-bar D, and are also adjustable.

The crank-rods K K are provided with cranks K^3 K^3 above the adjustable sleeve-blocks H H, to which are pivoted one end of the connecting-rods *o o′*. The other ends of the rods *o o′* are pivoted to the ends of the lever E, and the lever E is pivoted to the top of the tongue F, as shown.

The crank-rods K K are also provided with crank-arms K^1 K^1 below the forward-projecting arms *m m*, which extend backward, and are further provided with a hinge-joint or laterally-projecting axles, K^2 K^2, to which the front ends of the plow-beams R R are united either by hinge-joints or by sleeve-coupling P P, as shown.

It will be seen from the foregoing that when the plow-beams R R are moved laterally they swing, by means of the hinges or axles K^2 K^2, cranks K^1 K^1, and crank-rods K K, in the vertical sleeves L L and H H, and if both sets of plows are moved in opposite directions laterally at the same time, they have no effect on the direction or motion of the tongue or wheels—that is, the tongue will remain in a central line with the hounds C C; but if one plow be held and the other plow moved laterally, or both plows moved in the same direction laterally, the cranks K^3 K^3, which are connected with the plows, will move the rear end of the tongue in the same direction that the plows move, and the pivot *i* will cause the front end of the tongue to move laterally in the opposite direction, and no twisting motion is imparted to the wheels. Thus any slight deviation of the horses from the line of plowing does not effect the wheels or plows; but if the front end of the tongue is held between horses against lateral motion the wheels are twisted, when the plows are moved laterally in the same direction, either

singly or both together. Thus the wheels are made to track in the proper direction, even if the tongue be to one side or the other, and one horse walking on one row or in the next furrow.

When it becomes necessary to turn the machine around, the plows may be hung up out of the way by hooking the plow-beams on the hooks *r r* at the rear of the hound-bars C C.

The plows may be adjusted widely apart or closely together by moving the arms *m m* on the arched axle B and the sleeve-blocks H H on the bar D.

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

1. In a wheel-plow, the vertical shaft K, having a crank, K^3, above and a crank, K^1, below, and a crank-axle or hinge, K^2, at the rear end of the crank K^1, combined with the plow-beam R, in the manner and for the purpose set forth and described.

2. In a wheel-plow, the arms *m m*, having clamps O O and vertical sleeves L L, combined with the arched axle B and crank-shafts K K in the manner and for the purpose set forth and described.

3. In a wheel-plow, the tongue F, with lever E and connecting-rods *o o'*, combined with the cranks K^3 K^1 and plow-beams R, in the manner and for the purpose set forth and described.

4. The rods K, with cranks K^3 and K^1, combined with the rear end of the tongue F, in the manner and for the purpose substantially as set forth and described.

5. The plow-beams R, combined with the crank-bar K^1 K K^3 and rear end of the tongue F, in the manner and for the purpose substantially as shown and described.

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

FRANCIS W. PUSEY.

Witnesses:
E. O. FRINK,
S. C. FRINK.