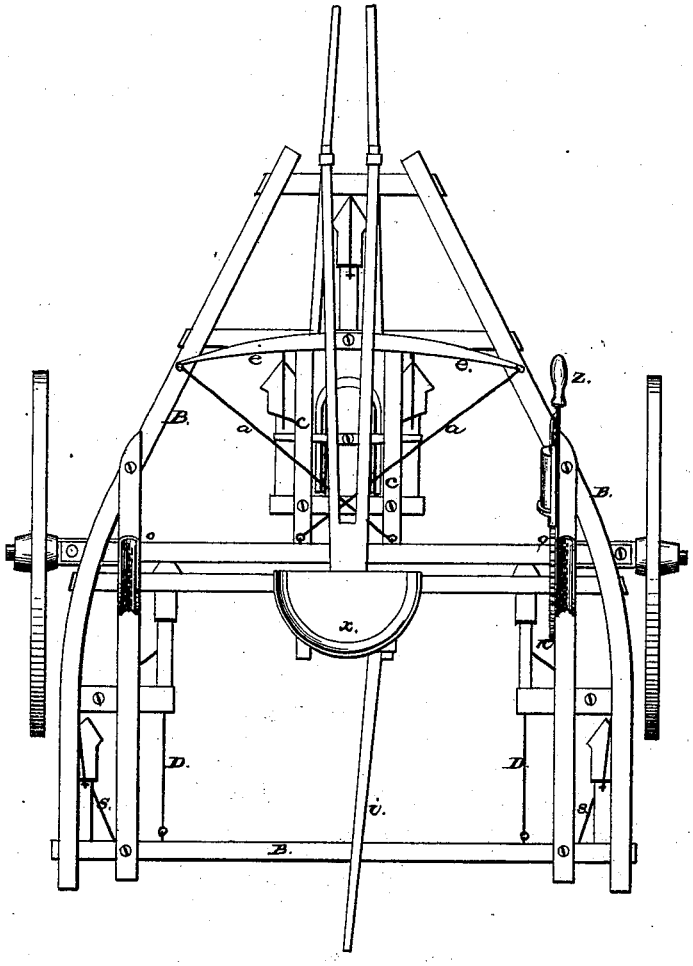
2 Sheets—Sheet 1.

W. METTLER.

Wheel-Cultivators.

No. 196,818. Patented Nov. 6, 1877.

Fig. 1.



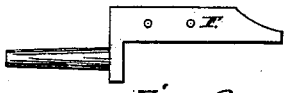


Fig. 2.

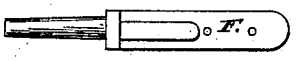


Fig. 3.

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Fig. 4.

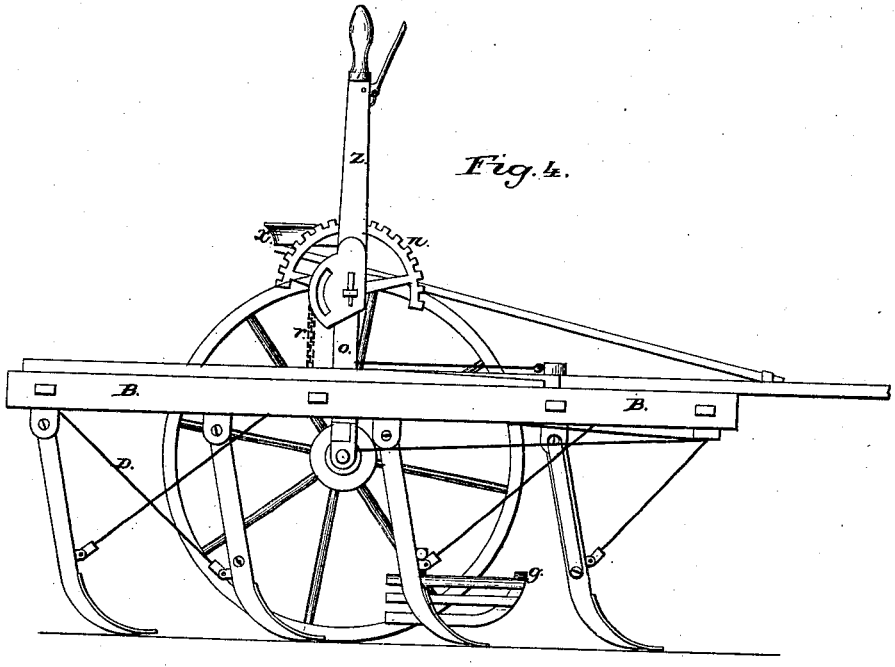
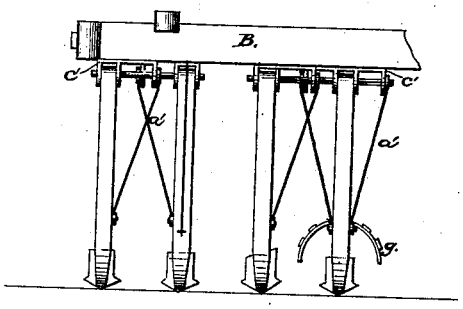


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM METTLER, OF FRANKFORT, ILLINOIS.

IMPROVEMENT IN WHEEL-CULTIVATORS.

Specification forming part of Letters Patent No. **196,818**, dated November 6, 1877; application filed June 21, 1877.

To all whom it may concern:

Be it known that I, WILLIAM METTLER, of the town of Frankfort, in Will county, State of Illinois, have invented certain Improvements in Sulky-Cultivators, the description, operation, and construction of which I will proceed to explain, reference being had to the annexed drawings, consisting of two sheets, making a part of this specification, in which—

Figure 1 is a plan view on the top; Figs. 2 and 3, views of the axle-spindle; Fig. 4, a side elevation, and Fig. 5 a rear elevation of a portion.

In the drawings, B represents the main frame of the machine, carried on an axle and two wheels, as in the ordinary manner in that class of machines, to the lower part of which frame B is attached the shovels, as shown in Figs. 1 and 4.

To enumerate the several improvements, I will proceed to speak of them in order, commencing with the device in front of the seat *x* on the top of the machine for steering the two front shovels, which is done by means of the bar *e*, having attached at either end the rods *a*, fastened to the rear end of the frame *c*. The operator can, by placing his feet on the cross-bar *e*, which is pivoted at its center, shift the two front shovels attached to the frame *c* by pressing alternately with his feet on either end of the cross-bar *e* as he rides in the seat *x*, being a much easier mode of moving those shovels than almost any other mode while riding. If the operator desires to move the frame *c* laterally while he walks, he may do so by means of the lever *i*, which is attached to the rear end of said frame.

Another feature of my machine is the notched segment *n*, used in connection with the lever *z*, with its catch to engage with the notches of the segment *n*, by means of which the main frame of the machine may be raised to any height desired, or lowered to any depth practicable, and allow the machine tc operate while it is so raised or lowered.

A third feature is in the use of the rear push-brace D, Fig. 4, with a break-pin near the shovel. Rear braces have been used, I am aware, but not with a break-pin to give way in case the shovel strikes some obstruction. Break-pin braces have also been used in front of the shovel, but clog the shovel when used in front. By the use of this break-pin brace in the rear the shovel and its post are left free all the way up to the main frame, so as not to clog.

Another feature consists in the use of hinged side braces *a'*, to prevent any lateral swinging motion of the shovel-posts. The shovel-posts and the braces *a'* are hinged to the lower part of the frame B by means of the hinge *c'*, Fig. 5. By this arrangement, the post with its brace can swing backward in case the shovel should strike any obstruction.

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

The cross-bar *e*, pivoted at its center to the top of the adjustable main frame B, in combination with the cross-rods *a* and frame *c*, for the purpose of moving laterally the frame *c*, with its two shovels attached below, having rear push-braces with break-pins, in the manner and for the purpose set forth.

WILLIAM METTLER.

Witnesses:
THOS. H. HUTCHINS,
WM. J. HUTCHINS.