

F. G. HOFFHEINS.
SULKY CULTIVATOR.

No. 523,857.

Patented July 31, 1894.

Fig. 1.

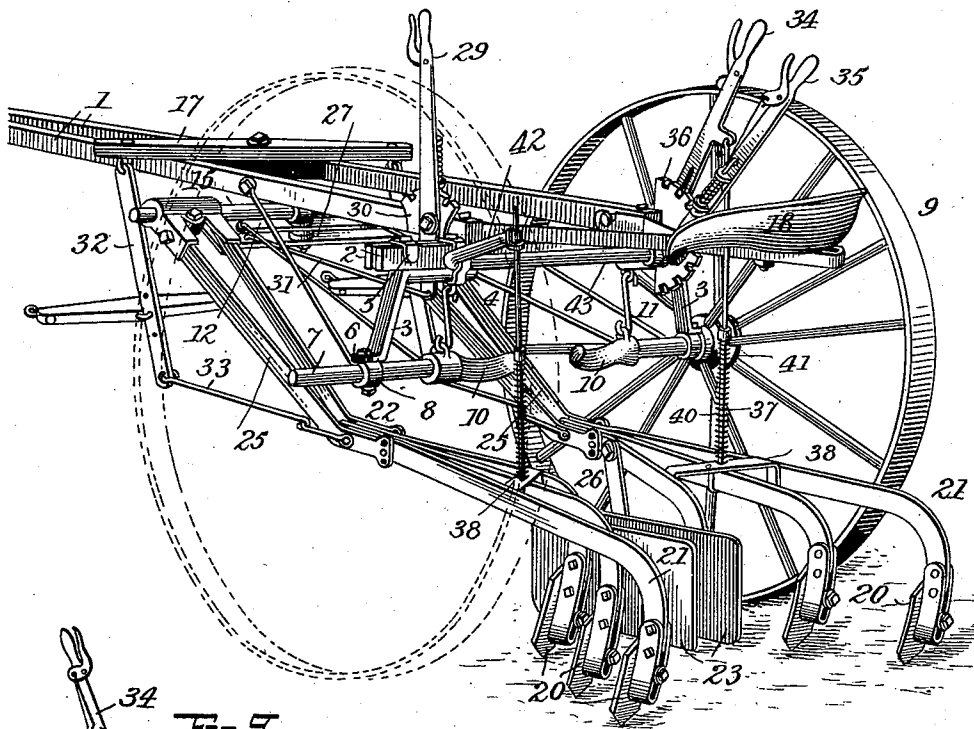


Fig. 5.

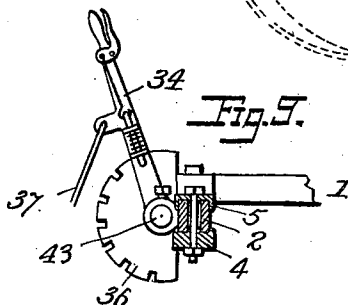
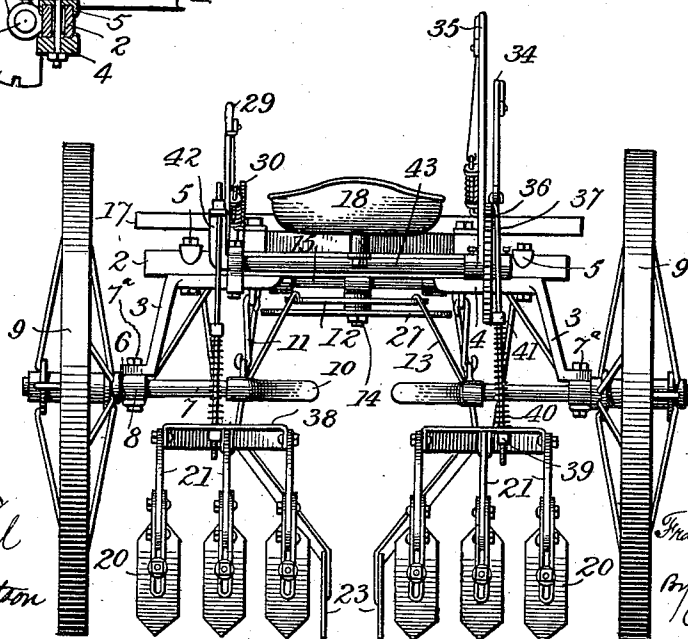


Fig. 2.



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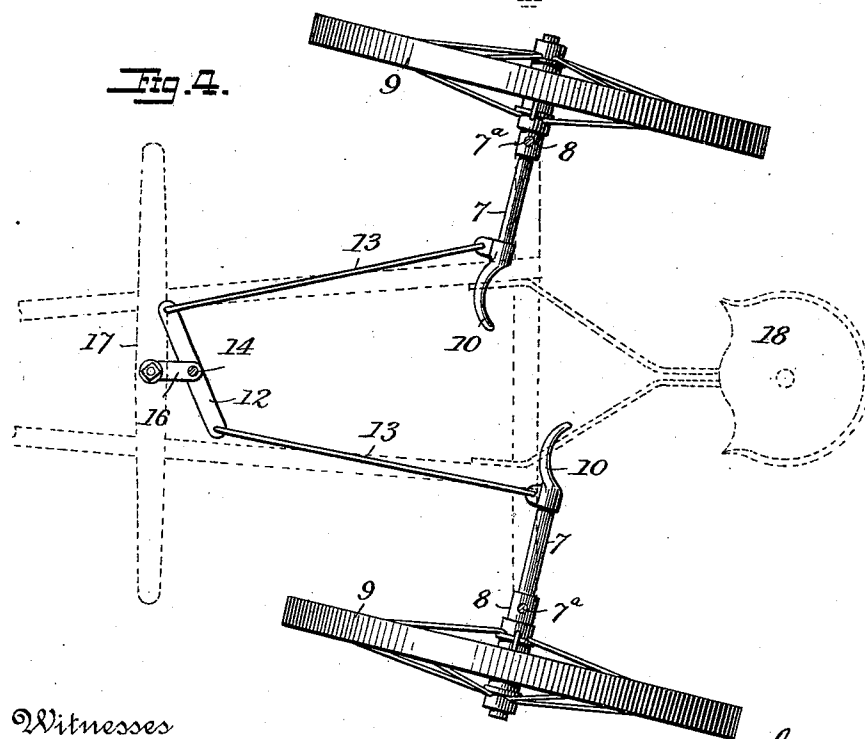
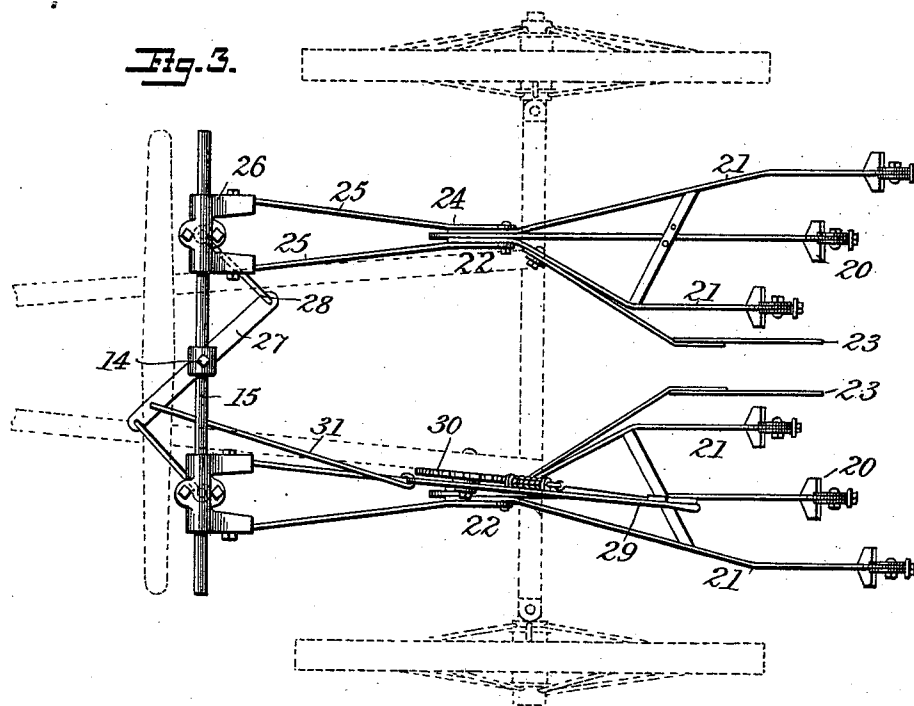
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

FRANKLIN G. HOFFHEINS, OF YORK, PENNSYLVANIA, ASSIGNOR TO MICHAEL SCHALL, OF SAME PLACE.

SULKY-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 523,857, dated July 31, 1894.

Application filed February 1, 1894. Serial No. 498,773. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN G. HOFFHEINS, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Sulky-Cultivators, of which the following is a specification.

My invention relates to improvements in sulky cultivators and it consists in various novel features of construction, all of which will be fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved machine, one of the wheels being omitted. Fig. 2 is a rear elevation. Fig. 3 is a plan view showing the gangs of shovels and the means for adjusting them laterally. Fig. 4 is a plan-view showing the means by which the wheels are turned for side-hill work, and Fig. 5 is a detail on the line 5—5 of Fig. 2.

Referring to the drawings, 1 indicates the tongue of the sulky, the rear end of which is rigidly connected to a pair of cross-bars 2 by means of bolts. Beneath the cross-bars 2 at either side of the sulky are depending legs 3, each of which has a horizontal upper portion 4 which is adjustably connected to the cross-bars 2 by means of the clips and bolts 5. These legs 3 are also provided with horizontal lower portions or feet 6 to which the half-axes 7 are connected. The half-axes are each provided with fixed collars 8 which are pivotally connected to the feet 6 by means of the bolts 7^a. The outer ends of the half axes are provided with wheels 9 as usual. The inner ends have foot-rests 10 and they are connected with the upper parts 4 of the legs by links 11. These links keep the half-axes substantially parallel with the ground at all times, while at the same time permitting them to be partially revolved upon the pivot 7.

In order to keep the wheels parallel and facilitate adjusting them, I connect the inner ends of the half axes with a lever 12 by means of rods 13, the lever 12 being pivotally connected at its central point to a vertical rod or bolt 14 as best shown in Fig. 4. The pivot bolt 14 is supported by a stationary shaft 15 which is fixed transversely upon the tongue or frame and is further strengthened by means

of a tie-plate 16 which connects its lower end with a cross-piece 17 upon the frame.

The seat 18 is located so that the feet may conveniently rest upon the inner ends of the half-axes, and the wheels are controlled in this manner by the feet. The manner in which the adjustment of the wheels is effected will be obvious from an inspection of Fig. 4.

It is very desirable in sulky cultivators to keep the line of draft of the gangs parallel with the tongue of the sulky, and to give the shovels of the gangs a parallel movement, so that said shovels shall always lie in planes at right angles to the line of movement of the sulky.

Referring to Figs. 1, 2, and 3, it will be seen that the shovels 20 are connected to converging arms 21 of a gang-frame 22. There are two of these gang frames, one on each side of the machine, and each is provided with two or more shovels. In the present instance three shovels are shown on each frame, and at the inner side of the frame is connected the usual guard plate 23. When occasion requires the guard plate 23 may be removed and an additional shovel may be attached in its place. The rear rods or arms 21 are brought together and securely bolted at a point 24 between a pair of rods 25. The rear ends of the rods 25 have several perforations 26 which permit the rods 21 to be connected to them at different vertical angles, the adjustment being made to suit the requirements of different kinds of work. The forward ends of the rods 25 are connected to the heads 26 which are mounted with freedom to move laterally upon a rod or guide 15. The rods 21 and 25 constitute what I shall call a gang-frame, which frame is rigidly connected to the head 26. When these heads are slid toward and from each other on the guide 15, the gang-frames and shovels are simultaneously moved, the frames always remaining parallel to each other. A convenient means of shifting the gang-frames, best shown in Fig. 3, consists in a lever 27 centrally pivoted upon bolt 14 and connected to the gang heads 26 by links 28. When the lever 27 is moved upon its fulcrum, the gang heads and frames are simultaneously moved toward and from each other. The movement

of the lever 27 is effected by means of a hand lever 29, locking quadrant 30 and connecting rod 31. The singletrees are connected to depending parts or rods 32 which are swung from the cross-bar 17, and the lower ends of these bars 32 are connected by draw-bars 33 directly to the gang-frames 22, the draw-bar 33 being approximately in line with the rods 21 of the frame which carries the shovels. The draft is therefore transmitted very directly from the singletrees to the shovels and without imparting any strain to the body of the sulky.

In order to raise or lower the gang-frames and shovels I employ a pair of hand levers 34, 35, each of which has a locking device engaging with a toothed sector 36. The right-hand gang frame is suspended from the hand lever 34 by means of a rod 37, the lower end of which passes through a brace 38 upon the gang frame, and is provided beneath said brace with an adjustable collar 39. In order to permit the gang frame to spring upward when the shovels meet with an obstruction, I interpose a spring 40 between the brace 38 and a fixed collar 41 upon the rod. The left hand gang frame is suspended in a similar manner from an arm 42 upon the shaft 43 upon which the hand levers 34, 35 are mounted.

The hand lever 35 which operates the left hand frame is fastened to the shaft 43 by means of a set screw when it is desired to work the gang frames independently, the hand lever 34 being at the same time free to turn upon the shaft. If, however, it is desirable to raise both of the gang frames by a single movement, the set-screw of the lever 35 is loosened and the set-screw of the lever 34 tightened. When thus adjusted the lever 35 is thrown out of the way and both gangs are lifted or lowered simultaneously by means of the lever 34.

The cross-bars 2 and legs 3 form an arch which rests upon the half-axles and supports the body of the sulky. I preferably form the greater portion of my improved sulky cultivator of iron and steel, although I do not care to limit myself to any particular materials or to the exact construction and arrangement of parts shown and described.

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

1. In a sulky-cultivator the combination

with a transverse bar or guide of a pair of heads free to slide thereon, gang frames attached to said heads and provided with shovels, and means for moving the heads and frames simultaneously toward and from each other, whereby the frames always remain parallel, substantially as described.

2. In a sulky cultivator the combination with a transverse bar or guide of two heads free to slide thereon, gang frames connected to said heads at their forward ends and each having a series of shovels at its rear end, a lever 27 pivoted between the heads and connected thereto, and a hand lever for controlling said lever 27 whereby the heads may be moved toward and from each other simultaneously, substantially as described.

3. In a sulky cultivator the combination with the gang frames and shovels, of a shaft 43 having an arm 42 at one end connected to one of said gang frames, a lever 34 at the other end of said shaft from which the other gang frame is suspended, and a lever 35, adjacent to the lever 34 said levers being mounted upon the shaft 43 and provided with set-screws or devices for connecting and disconnecting them from said shaft whereby the gang frames may be raised together or independently, substantially as described.

4. In a sulky cultivator the combination with the arch consisting of a horizontal crown-piece and legs adjustably connected to said crown piece, of half axles pivoted near their outer ends to the lower ends of the legs and supported at their inner ends by links connected with the crown-piece, substantially as described.

5. In a sulky-cultivator the combination with the wheels and half-axles of an arch upon which said axles are pivoted consisting of two separated bars and a pair of legs adjustably connected to said bars by means of clips and bolts passing through the clips and between the bars whereby the wheels may be adjusted toward and from each other, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANKLIN G. HOFFHEINS.

Witnesses:

H. C. ADAMS,
M. S. ADAMS.