S. G. HORNING.

Wheel-Cultivator.

No. 48,066. Patented June 6. 1865.

Fig. 1.

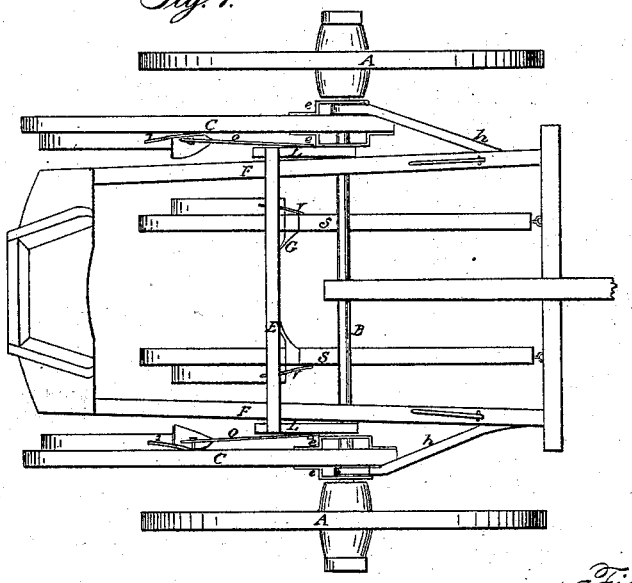


Fig. 3.

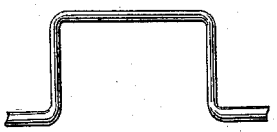
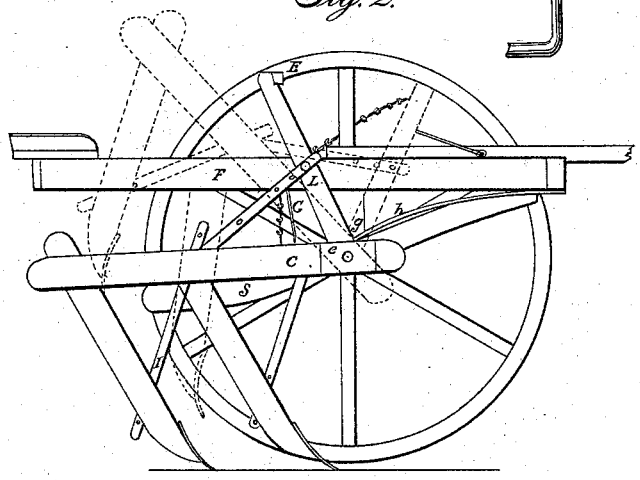


Fig. 2.



Witnesses:

John P. Sachs

J. D. Willoughby

Inventor:

L. G. Horning

P. J. H. Alexander Atty

UNITED STATES PATENT OFFICE.

SAMUEL G. HORNING, OF MOUNT CARROLL, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **48,066**, dated June 6, 1865.

To all whom it may concern:

Be it known that I, SAMUEL G. HORNING, of Mount Carroll, Carroll county, in the State of Illinois, have invented certain new and useful Improvements in Shovel-Plows; and I hereby declare that the following is a true and and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference contained thereon.

The nature of my invention consists in the use of certain mechanical devices for elevating and lowering the standards to which the shovels are attached.

Figure 1 in the annexed drawings is a plan view of my machine. Fig. 2 gives a longitudinal vertical section of the same with one wheel removed. Fig. 3 exhibits a side elevation of the axle.

My machine consists of the wheels A A, connected by the axle B, the axle being in the form of a staple with the ends of the tines turned out at right angles and in a line with its top, so as to furnish an axle for each wheel. (See Fig. 3.) The object of this peculiar construction is to admit of the elevation of the parts of my machine hereinafter particularly described. Inside of the hubs of wheels A are the beams C C, which are fastened to the axle which passes through C C at their inner ends. The beams C C are supplied with guards *e*, which are also penetrated by the axle. The beams C C are connected with their respective standards by the metal plates I I. The upper ends of I I are confined to the beams C C by a screw-bolt, which passes through any one of a series of perforations in I, thus rendering them adjustable.

F represents an oblong frame, supported by the two uprights *g*, which are placed inside of beams C, and are firmly attached to the axle at their lower end. The frame F has a brace extending from its front end to the top of axle B, and is also connected to the axle by a narrow metal plate, *h*, the lower end of the plate being made to embrace the axle B. The two beams S are hinged to the front end of frame A, and are at their opposite end firmly secured to the standards to which the shovels are attached. The beams S are bound together by the curved tie G, and are also connected with their respective standards by adjustable metal braces similar to those already described.

E designates a bar supported at each end by uprights L, the lower ends of L being penetrated by axle B. From each of the beams S there extends a narrow adjustable metal plate, which binds the beams S to their respective standards. From each of the uprights L there extends a narrow metal plate, *o*, which overlaps the corresponding plate *j*, already described, and is confined to I by the same bolt that holds I in position. The bar E is connected with beams S by means of the chains *t*, the chains to a hook on E and an eye on beams S.

In operating my machine it will be observed that when the frame A is in a horizontal position the shovels on the several standards will enter the soil at the required depth, the beams C C and S S being placed also horizontally. When it is required to elevate the shovels above the surface of the earth to avoid obstructions the operator will push forward the bar E on upright L, to which E is fastened, and the motion of the uprights L will be imparted to beams S S by means of the chains *t*, and also communicated to beams C C by means of plates O, which connect with uprights L. By this operation all the shovels are raised above the soil and returned again by the operator reversing the motion of bar E.

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

The combination of axle B, the bar E, the beams S S, chains *t*, the beams C C, and braces O and I, the whole constructed and arranged as and for the purpose substantially as herein set forth.

SAMUEL G. HORNING.

Witnesses:

HENRY M. CROUSE,

W. E. JOHNSON.