

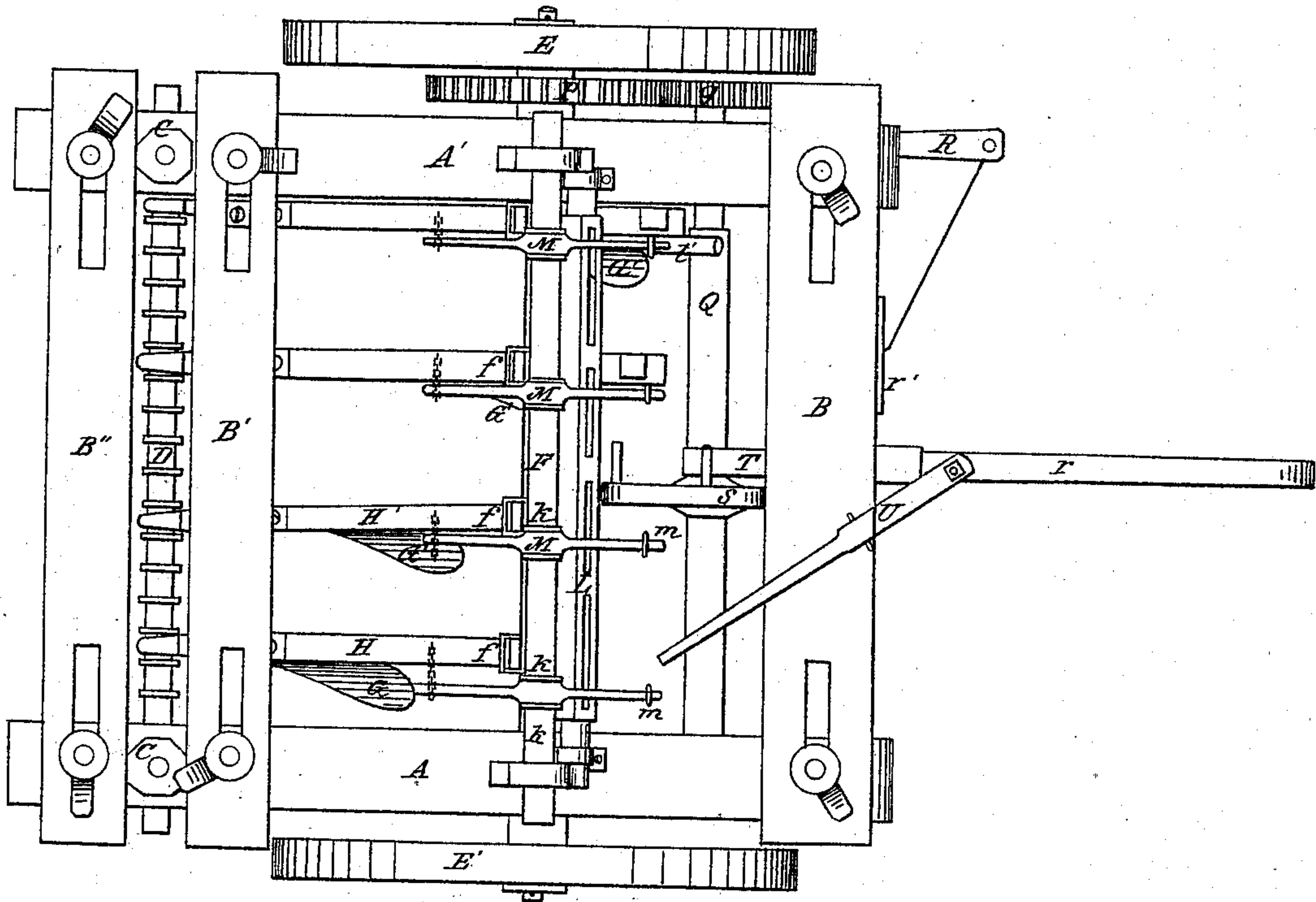
J. L. SPENCER.

Wheel Plow.

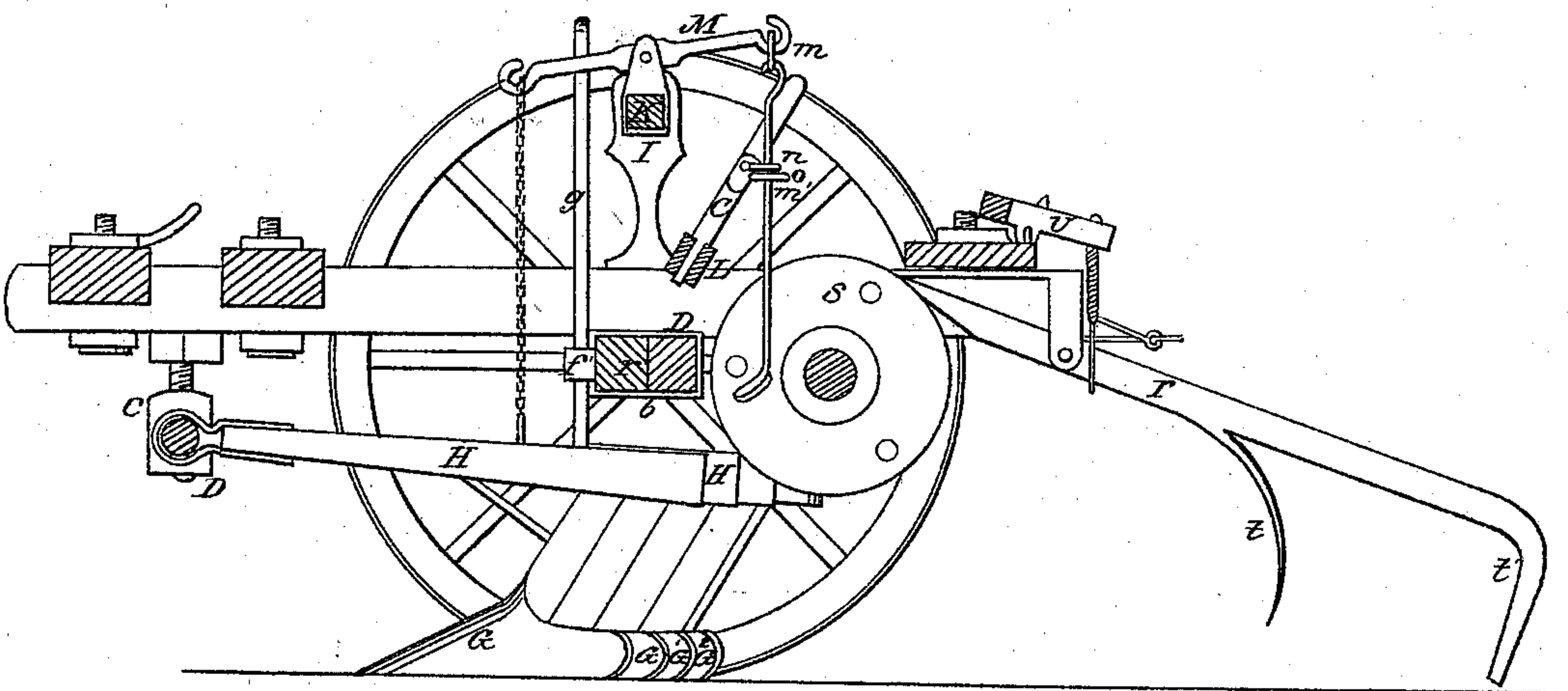
No. 66,748.

Patented July 16, 1867.

*Fig. 1.*



*Fig. 2.*



Witnesses:

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Inventor:

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# United States Patent Office.

JAMES L. SPENCER, OF WELLVILLE, VIRGINIA

*Letters Patent No. 66,748, dated July 16, 1867.*

## IMPROVEMENT IN SULKY-PLOUGH AND TOBACCO-HILLER ATTACHMENT.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES L. SPENCER, of Wellville, in the county of Nottaway, and State of Virginia, have invented a new and useful Improved Adjustable Sulky-Plough and Tobacco-Hill Attachment; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 represents a horizontal plan of my invention.

Figure 2 is a side elevation of the same.

Similar letters of reference indicate corresponding parts in the two figures.

The main features of this invention are the making of the axle adjustable in length, the method employed in lifting the ploughs over obstructions, whereby any one plough may be lifted independently of the others, or all may be lifted together, and the attachment for tobacco-hilling. In the drawings—

A A' represent the sides of the frame, attached at their extremity to cross-beams B B' B'' by means of set-screws and slots, or any equivalent arrangement, by which the width of the frame may be readily adjusted. C C are bolts passing vertically through the sides A A', between the cross-beams B' B'', into the lower ends of which are screwed lugs c c' which support the bar D, to which the forward end of the plough-beams is attached. The bar D is square at one end, where it is keyed or otherwise fastened in the lug. At the opposite end it may be of any form. The plough-beam next to the pins that fasten the bar D may approach very near the lug or bearing, but on the opposite end a space must be left between the bearing and the plough-beam, in order that the bar D may be readily removed for any purpose. E E' are the draught-wheels working on F, an extension-axle. The latter is the simplest form of extension-beam, composed of two pieces overlapping and sliding longitudinally upon each other and united by metallic clasps f f, or by slots and set-screws. These clasps have vertical sockets f' in their front sides, which serve as guides and supports to the vertical handles g of the ploughs. G G<sup>1</sup> G<sup>2</sup> G<sup>3</sup> are ploughs attached by standards to the plough-beams H H. The forward extremities of the latter are hinged to the bar D, and near their rear extremities they are provided with upright handles g.

At a point in the sides of the frame almost directly over the axle, posts I I are fixed, which support the square bar K. Upon the latter are sliding ears k k, in number corresponding with the ploughs. Behind the posts I I and bar K, working in sockets attached to the upper side of the side pieces A A', is a roller, L, provided with short arms l l equal in number to the ploughs, and situated directly below and behind the ears k k. These arms are fixed in slots in the roller, so as to be adjusted to the position of the sliding ears k k.

A long handle, V, is also attached to the roller L. It may be a separate piece, or, as shown in the drawings, simply an extension of one of the arms l l. Pivoted on pins in the ears k k are short arms M M, the forward ends of which are connected by lifting-chains to the plough-beams H H, directly in front of the point where the handles g are attached to the plough-beams, and the rear ends of which carry links m m, from which hang vertical rods m' m'. These rods pass through links n n attached to the outer extremity of the short arms l l. Just below the point where the rods pass through the links, the former are provided with stops o o which catch against the links and prevent the rods from being drawn up through the links any further than the point where the stops are attached. On the other hand, should the arms l l be depressed, the links operate on the stops o o and depress the rear end of the arms M M, elevating the front end of those arms, and with them the ploughs attached to them. It is evident that if the handle V be depressed, all the ploughs will be raised, but if the rear end of any one of the arms M M be depressed, only the plough connected with that arm will be raised.

The ploughshares are made detachable from the standards which carry them. I have used "right-and-left" ploughs in constructing my model, two with mould-boards on the right, two with the same parts on the left of the standard. As the ploughs are detachable they may be interchanged at pleasure, when any advantage will result from so doing.

The lower extremities of the vertical rods m' m' are a little above the level of the under side of the axle when the ploughs are working, and are bent forward in order that they may, if necessary, be hooked under the axle when the ploughs are raised, and keep them in that situation. This completes the description of the plough.



The tobacco-hilling attachment is constructed as follows: A cog-wheel, P, is firmly attached to the inner side of one of the draught-wheels, and gears into a pinion on the extremity of a shaft, Q. The pinion *g* slides back and forth upon the end of the shaft Q. It is prevented from turning on the shaft by flutings or keys on the one working in corresponding grooves or notches in the other. When the pinion is at the extremity of the shaft it gears into the wheel P, but when it is slid back from the end of the shaft it disconnects from the wheel P, and is no longer operated by it. It is thrown into and out of gear by means of the lever R. When the tobacco-hiller is working, the rod *r* attached to the end of the lever may be hooked to the piece *r'* on the rear cross-beam of the frame. The shaft Q bears at its centre, firmly attached to it, a wheel, S, projecting from the side of which are three or more pins. Directly behind this wheel, pivoted in ears depending from the rear cross-beam, is a pole, T, an arm of which projects forward alongside of the wheel S, tripping upon the pins on its side as the wheel revolves. The pole T has shovel *t* attached, and a blunt arm, *t'*, at just such a distance apart that when the shovel *t* shall have made the tobacco hill at one descent of the pole T, the next descent of the pole will cause the blunt arm *t'* to strike the ground upon the hill thus made, and thus properly form the hill to receive the plant. This may easily be effected by adjusting the position of the shovel and the blunt arm on the pole T proportionately to the distances between the pins on the side of the wheel S. U is a hand lever by which the pole T may be raised when necessary, and when desirable to do so the forward end of the lever U may be fastened down by a link and pin, or other suitable device, similar to that used for holding the pinion-wheel *g* in gear. The shovel *t* and the blunt arm *t'* may be fixed immovably to the tripping-pole T, or they may be made to slide on the pole T, and be adjusted thereon by set-screws or otherwise. Instead of one pole T bearing both the shovel and the blunt arm, two tripping-poles may be employed, one bearing the shovel *t* and the other the blunt arm *t'*.

A machine thus constructed will admit of a guano-sower, seed-sower, or corn-planter being attached. It is only necessary to fix the seed-box or guano-box between the beams B B' and the lifting-chains. The shaft Q may be taken off and attached in front of the drive-wheels, so as to work as an agitator, the wheel S with its side pins being admirably adapted for that purpose. The pins may strike directly against the seed-holder, or the shaft Q may bear a crank and pitman attached to the seed-holder.

The sliding ears *k k* may have set-screws to fix them at any point on the bar K. Instead of the arms M M, pulleys attached to the ears *k k* may be employed. Set-screws may be also used in the bands that unite the two parts of the axle-tree, if deemed necessary.

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

1. The combination and arrangement of the ploughs G G<sup>1</sup> G<sup>2</sup> G<sup>3</sup> with the arms M M', the rods *m' m'*, and the arms *l l*, substantially as and for the purpose specified.
2. The roller L, having the short arms *l l* adjustable in position, and having the handle *l'*, substantially as and for the purpose described.
3. The pole T, having the shovel *t* and blunt arm *t'*, substantially as and for the purpose specified.
4. The combination of the gear-wheel P, the pinion *g*, the lever R, the shaft Q bearing the wheel S, and the pivoted pole T bearing the shovel *t* and the blunt arm *t'*, substantially as and for the purpose described.

To the above specification of my improvement I have signed my hand this 16th day of May, 1867.

JAS. L. SPENCER.

Witnesses:

CHAS. A. PETTIT,

NATHAN K. ELLSWORTH.