

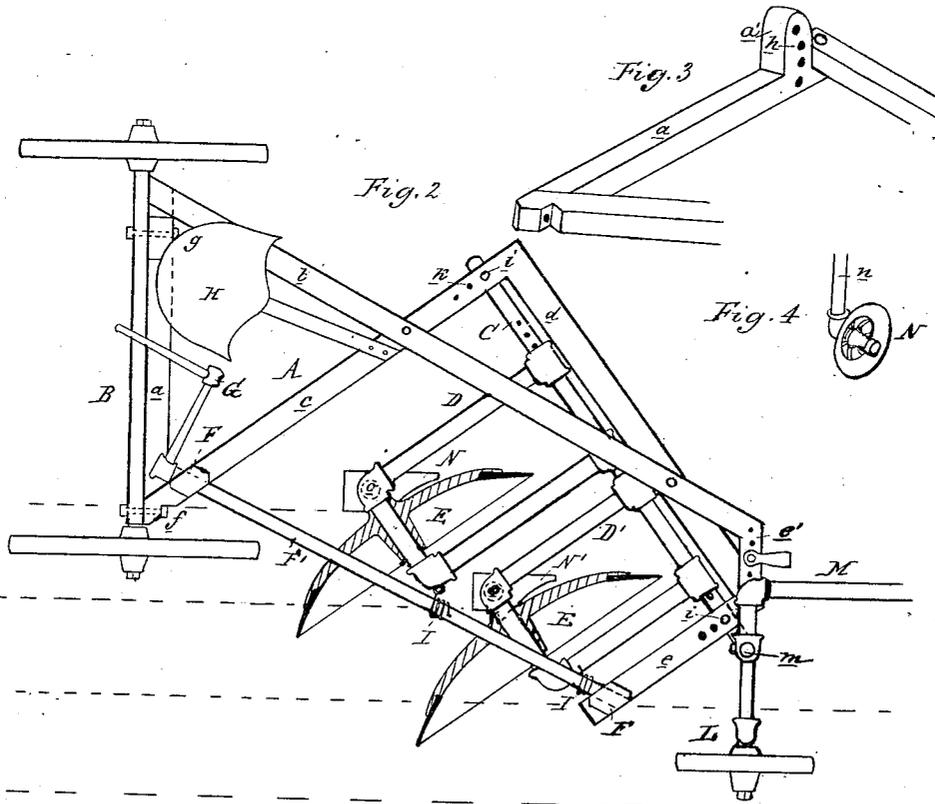
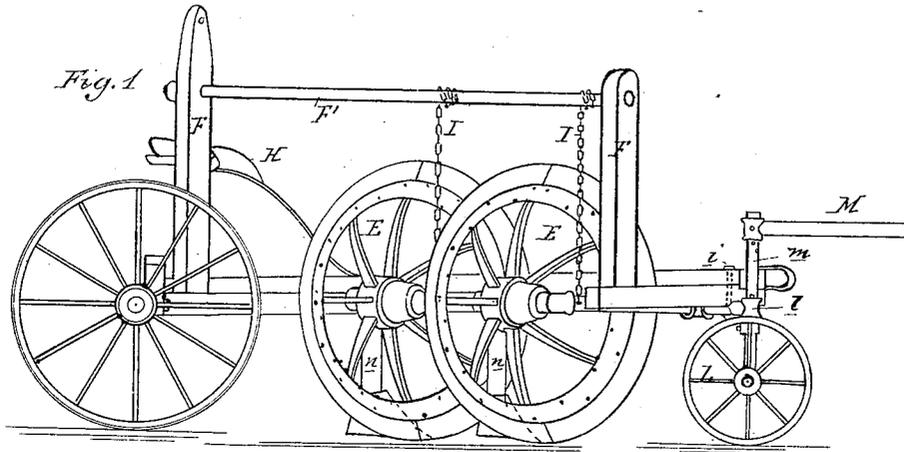
(No Model.)

E. G. GODDARD.

ADJUSTABLE ROTARY SULKY PLOW.

No. 266,689.

Patented Oct. 31, 1882.



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# UNITED STATES PATENT OFFICE.

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## ADJUSTABLE ROTARY SULKY PLOW.

SPECIFICATION forming part of Letters Patent No. 266,689, dated October 31, 1882.

Application filed June 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, EZRA G. GODDARD, of East Saginaw, in the county of Saginaw and State of Michigan, have invented new and useful Improvements in Adjustable Rotary Sulky-Plovs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The nature of this invention relates to certain new and useful improvements in that class of rotary plows wherein the caster-wheel or the wheel that guides the implement is actuated by the tongue, and has the plows supported between said guide-wheel and the sulky-wheels which support the driver's seat; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

Figure 1 is a side elevation of my improved device as applied to a rotary plow provided with two disks. Fig. 2 is a plan view thereof. Fig. 3 is a detached perspective of the rear end of the frame. Fig. 4 is a perspective view of one of the subsidiary plow-disks.

In the accompanying drawings, A is the plow-frame, which may be either of wood or iron, as desired, while in the drawings it is designed to be of wood. It consists of the base *a*, which extends the whole length of the axle between the truck-wheels, and the beam *b*, which extends obliquely forward in one single piece, and the beam *c*, which is secured to the opposite end of the beam or base *a*, and is provided with extensions *d e*. The beam C and extensions *d e* are secured together at right angles to each other, and the whole is well secured together at the meeting and intersecting points, and forms a simple and rigid structure. Formed upon the forward end of the beam *b* is a cross-piece, *e'*, provided with a series of holes for adjusting the eveners, which is attached thereto by the usual clevis. The base *a* of the frame is bolted to the axle B of the truck-wheels by the bolts *f* and *g*. A projection, *a'*, on the beam *a* is provided with a series of holes, *h*, for the bolt *g*, as shown in Fig. 3, and for purposes hereinafter explained.

C is a rod, which may consist of a piece of gas-pipe. It is secured at each end by bolts *i*

to the under side of the frame-pieces *c e*. A number of bolt-holes, *k*, near the bolts *i*, form a means for securing the rod C in slightly-varying positions.

D D' are two rectangular frames sleeved upon the rod C, so as to be capable of a free swinging movement thereon. They may be very cheaply made, and very conveniently consist of gas pipe and fittings firmly secured together. These two frames D D' are adapted to be laterally adjusted along the rod C in any desired position, and held there by collars provided with set-screws or pins passing through holes in said rod C.

E are two rotary disks, in each of which the outer or cutting rim consists of several sections which are removably secured by bolts with sunken heads to the cast portion thereof, which is preferably made in one piece comprising a hub, spokes, and rim, to which the several sections of the cutter are bolted. This construction greatly facilitates the regrinding of the cutting-edges when necessary, and is adopted in this plow also as a matter of necessity, as the means ordinarily employed for securing the rotary disks do not so well admit of their being readily removed. I do not, however, desire to confine myself to the construction of the disks above described, as it may be found convenient to construct such disks in one piece attached to proper spokes or rim or flange.

Two vertical standards, F F, are secured upon the frame A. They furnish a support to the shaft F', which is provided with a handle, G, which is placed within reach of the driver's seat H. A chain, I, connects each of the swinging frames D D' with the shaft F' in such manner that by winding or unwinding the chains upon the shaft F' the frames D D' are raised or lowered. The rod C terminates at one end in a loop or socket, *l*, through which the vertical part of the standard *m* of the caster-wheel L passes, and is held in its vertical position thereby without interfering with its turning. The weight of the forward end of the plow rests upon this caster-wheel, and by reason of an adjustable pin or collar upon the vertical standard under the socket *l* the forward end of the frame can be adjusted to different heights in a manner well known in plows. To guide the caster-wheel in the line of draft a

tongue, M, is adjustably secured to the upper end of the standard, as shown, by means of which the team employed regulates the line of travel, and the caster-wheel is never liable to be turned out of its course by the plows crowding to the land.

N N' are two plowshares or small disks of the same character already described, attached in proper position to cut the ridge left by the rotary disks at the bottom between the furrows. They are attached to vertical standards *n n*, which are secured in sockets *o o* on the under side of the swinging frames D D', as shown in dotted lines in Fig. 2.

In practice the raising and lowering of the plow-disks is performed by the driver from his seat by simply turning the crank-handle so as to wind or unwind the chains I I, suitable catches or a notched segment being provided to keep the handle G in the desired position. The depth of furrow can be regulated within a certain limit by the amount of chain unwound from the shaft F'. It also depends upon the height of the forward end of the frame, which is supported upon the caster-wheel, and, as before described, can be raised or lowered at will, and to obtain the best conditions for work the swinging frames D D' should draw, for their ordinary working position, horizontally. When two or more rotary disks are used it becomes quite necessary that the rod C should be in a horizontal plane. This can be easily effected by taking the bolt *g* out and turning the frame A upon the bolt *f* as pivot until the desired result is obtained, when the frame A is again secured in its adjusted position by the bolt *g*.

To vary the angle of the plows with relation to the line of draft it is only necessary to change the bolts *i* to other holes until the proper angle is obtained, and to make the most change of angle by the least movement of the ends, both for changing the angle of disk with the line of draft and the angle of disk with the ground for the shovel-scoop of the disk, the rods C may be in as many pieces as there are disk-frames, with a projection from the frame D between the disk-frames to fasten the ends to, as a short piece makes the most angle with the least movement of the ends.

If the ground in which the plowing is done should present no necessity for keeping the frames D D' free to swing, I can very easily introduce a device for locking the swinging frames in position while plowing.

What I claim is—

1. In a rotary plow, the combination, with the frame A, consisting of the base *a*, beam *b*, and beam *c*, provided with extensions *d e*, of the shaft C and the separate U-shaped frames D D', swinging upon said shaft C, substantially as specified.

2. In a rotary plow, the combination, with the frame A, consisting of the base *a*, beam *b*, and beam *c*, having the extensions *d e*, of the shaft C and the swinging frames D D', the shaft being adjustably connected to the frame by bolts and holes, and the swinging frames constructed to slide on the shaft, as specified.

EZRA G. GODDARD.

Witnesses:

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M. M. HAYDEN.