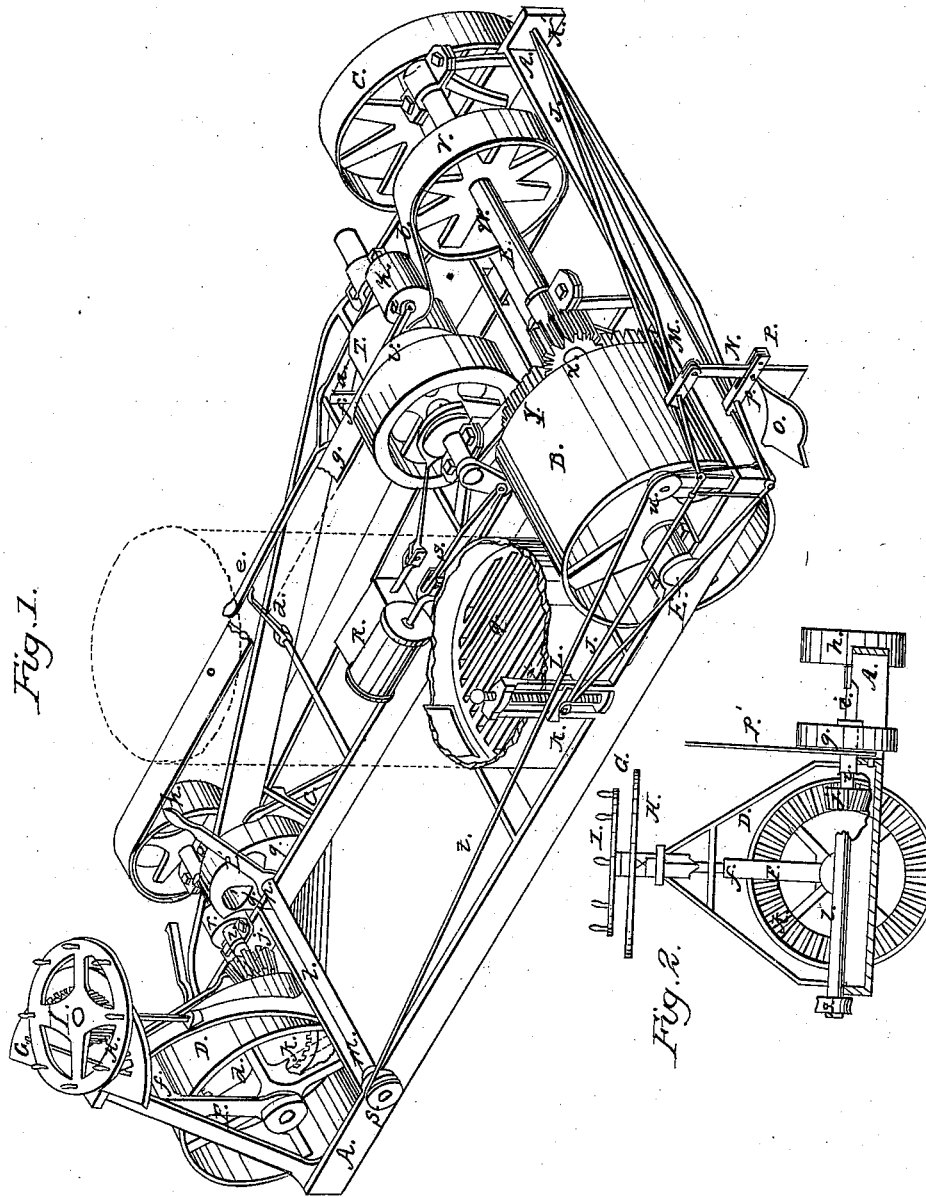


G. SIMONSON.

Steam Plow.

No. 54,224.

Patented Apr. 24, 1866.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

GIBSON SIMONSON, OF MOUNT CARMEL, INDIANA.

## IMPROVEMENT IN STEAM-PLOWS.

Specification forming part of Letters Patent No. 54,224, dated April 24, 1866.

*To all whom it may concern:*

Be it known that I, GIBSON SIMONSON, of Mount Carmel, Franklin county, Indiana, have invented new and useful Improvements in Steam-Plows; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to devices for starting and stopping the machine, and for changing the course thereof, and to devices for securing and presenting the plows and earthing and unearthing the same.

A is a frame having nearly the form of a right-angled triangle, and being supported on traction and ground wheels B and C in rear and upon a guide-wheel, D, in front. The wheels B and C are mounted upon a common axle, E, journaled horizontally in the frame, B being firmly keyed to said axle, and C running loosely thereupon.

The axle *d* of the front wheel, D, revolves in a swivel, F, whose shank *f* is journaled vertically in the frame, and is surmounted by a segment-rack, G, to which gears a pinion, H, on the shaft of a hand-wheel or tiller, I.

J is an angular or L-formed frame, called the "gravitating plow-frame," hinged to the main frame A by means of universal joints at K and K', of which the joint K is adjustable in height in a slot, L, in the main frame.

From the upper part of the transverse limb of the frame J there project eyes M, to which the upper ends of the sheaths N of the plows O are pivoted. The plows thus suspended are still further secured, and also adjusted in pitch, by means of perforated cheeks P and pins *p*.

Properly secured to the main frame are a steam-generator, Q, and steam-engine R, which may be of any approved construction.

S is the crank-shaft, driven from the engine in the customary manner, and carrying driving-pulleys T and U.

The pulley T has a slack-belt connection with a pulley, V, on a counter-shaft, W, which shaft carries a pinion, X, gearing in a spur-wheel, Y, upon the main axle.

When it is desired to propel the machine forward, an idler-pulley, Z, journaled in a yoke, *a*, is made to press upon the belt *b* by means

of a lever, *c*, whose counter-arm *d* operates on an arm, *e*, which projects from the shaft *f'*, to which the yoke *a* is attached.

The course of the machine is controlled by a person riding on front part of the platform, by means of the tiller I.

The driving-pulley U is connected, by belt *g*, to a pulley, *h*, on a horizontal shaft, *i*, having a pinion, *j*, which, when the wheel D has been turned a quarter-circle out of the direct course, gears with interior cogs, *k*, on the said wheel D, so that by starting the crank-shaft forward or backward the front part of the machine is caused to swing either to the right or left around the traction-wheel as a center.

*l* is a shaft supported upon the main frame in two horizontal bearings, *m* and *n*, of which the bearing *m* is either swiveled to the frame or sufficiently loose around the shaft to allow of a slight horizontal play, while the bearing *n* is attached to a lever, *p'*, whose movement is in a vertical arc longitudinal of the frame.

One end of the shaft *l* carries a pulley, *q*, convexly cylindrical, with the exception of a concave facet or scallop, *q'*, which fits the periphery of a pulley, *r*, on the shaft *i*. The other end of the shaft *l* has a pulley, *s*, to whose periphery is attached a cord or chain, *t*, which, extending rearward over a pulley, *u*, passes downward and is made fast to the gravitating plow-frame J.

The operation of the machine is as follows: The desired number of plows having been suspended to the gravitating frame J and set to the desired pitch by means of the adjustment of the joint K and pins *p*, and steam having been raised and the steam-engine started, the pulley *q*, being now brought into contact with the pulley *r*, acts to elevate the gravitating plow-frame, with its plows, clear of the ground, and to hold them in the elevated position as long as the concave part *q'* of the pulley *q* is held in contact with the pulley *r*. The idler-pulley Z being now depressed, the motive power is directed to propelling the traction-wheel B, and the machine now moves forward in its desired course, in obedience to the tiller I in the hands of the steersman.

The machine having reached the proper place for commencement of the plowing operation, the idler Z is momentarily released and the gang of plows is allowed to descend into the

ground, in which they bury themselves on the starting forward of the machine.

The end of a "through" having been reached, the plows are again unearthed, and the wheel D having been brought into gear with the pinion *j*, the steam-engine is started backward or forward, according to whether it be desired to turn the machine to the right or to the left.

The machine having been brought to the commencement of another through, the work proceeds as before.

I claim herein as new and of my invention—

1. The driving-pulley T, slack belt *b*, and pulley V, in combination with the idler Z, under control of the operator, for starting and stopping the traction-wheel of a steam plowing-machine.

2. The arrangement of swiveled and internally-gearred guide-wheel D K, capable of being brought into connection with the motor

by means of the tiller I, so as to enable the turning of the machine to the right or left by power under control of the operator.

3. The gravitating plow-frame J, capable of being set in or out of pitch by means of the swiveled and adjustable joint K L.

4. The devices M N P *p*, for the suspension and adjustment of the plows relatively to the main frame.

5. The arrangement of vibrating shaft *l*, lever *p'*, scalloped pulley *q q'*, pulleys *r, s*, and *u*, shaft *i*, and chain *t*, or their equivalents, for unearthing the gang of plows, in the manner explained.

In testimony of which invention I hereunto set my hand.

GIBSON SIMONSON.

Witnesses:

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