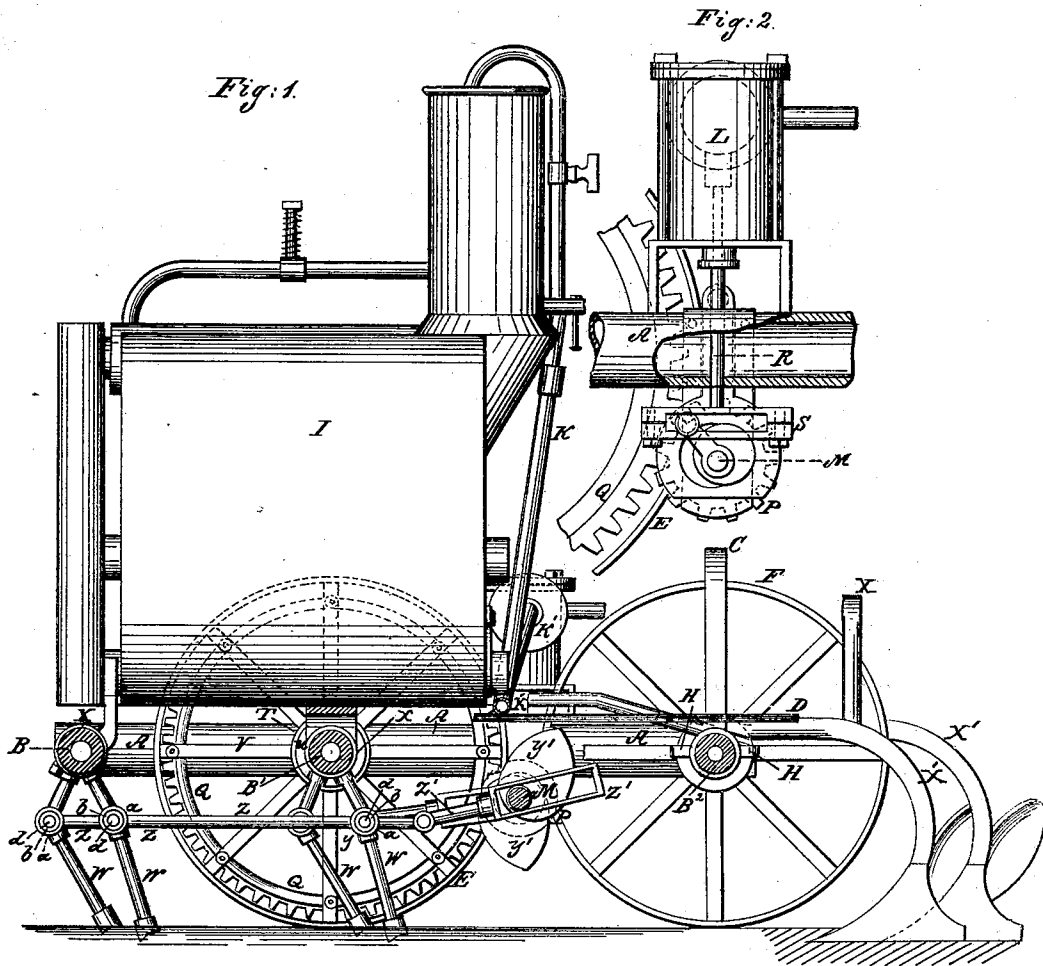


M. N. LYNN.

Steam Plow.

No. 103,635.

Patented May 31, 1870.



Witnesses:
Gustave Dietrich
Alex. F. Roberts.

Inventor:
M. N. Lynn
 per *Munn & Co*
 Attorneys.

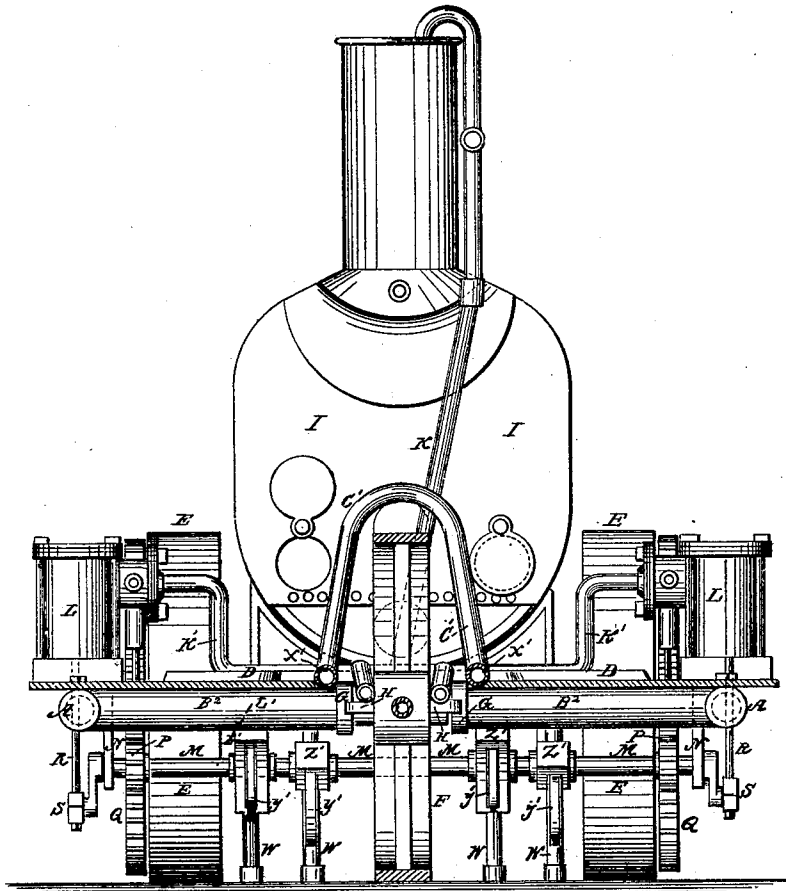
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Fig. 3.



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UNITED STATES PATENT OFFICE.

MIRABEAU N. LYNN, OF NEW ALBANY, INDIANA.

IMPROVEMENT IN STEAM-PLOWS.

Specification forming part of Letters Patent No. 103,635, dated May 31, 1870.

To all whom it may concern:

Be it known that I, MIRABEAU N. LYNN, of New Albany, in the county of Floyd and State of Indiana, have invented a new and Improved Steam-Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to steam-plows; and it consists in certain improvements, which will be specified in claims.

Figure 1 is a longitudinal sectional elevation of my improved machine. Fig. 2 is a detail, partly in section and partly in elevation, showing the arrangement for applying the power to the driving-wheels; and Fig. 3 is a rear elevation of the same.

Similar letters of reference indicate corresponding parts.

The main frame consists of two large longitudinal tubes, A, three transverse tubes, B, B', and B'', connecting-yoke C' for the rear cross-tube, B'', which is divided at the center for the reception of the steering-wheel, the platform D, and the necessary connecting-bolts. This frame is mounted on the two driving and main supporting-wheels E and the rear central guiding-wheel, F. The central tube, B', is arranged to receive the wheels E and serve as the axle for them, and the guiding-wheel is supported in a central space between the two parts of the cross-tube B'', which is divided for the purpose. The ends of the tube have horizontal curved slots G, which receive curved projecting plates H in the ends of the wheel-hub, and thereby admit the wheel to turn in either direction for guiding the machine. These large tubes are closed at the ends, and all the connections with them are made water-tight, so that they are utilized for carrying the supply-water for the boilers, and provide in this way the necessary tank space by the same arrangement which furnishes the frame, which is also made stronger by reason of the quality which furnishes the said space.

I is the boiler, placed on the front portion of the frame, so as to be supported on the cross-tubes B and B', mainly. The steam is supplied from it through the pipe K and branches

K' to the inverted vertical engines L, placed on the longitudinal tubes A slightly in advance of the rear end of the boiler, and in line with the driving crank-shaft M, supported in hangers N under the said tubes, and provided with pinions P, gearing into the large toothed rims Q, attached to the wheels E, so as to project from the outer sides thereof. The piston-rods R are made to pass through the frame-tubes A, and are thereby supported by it against lateral strain of the wrist-pins of the cranks, which work in slotted heads S on the said rods. Other supports for the pistons may be provided, if necessary. The driving-wheels E and the guiding-wheel are also made mainly of tubing, except the rims, in the following way: Large sections of tube T are filled with other sections, U, preferably of thicker rims, and having central openings suited in size for the journals; or these two sections may be comprised in one thick enough in the rim for the whole, and spokes or arms V are made of tubes screwing into the hub radially, and attached to the rims by bolts projecting through them. The toothed rims Q are also supported by rims of tubing.

W represents the pushing-legs, suspended from the transverse tubes B B' by oscillating bands X, and made in two sections, jointed at Y, where they are also connected to longitudinally-reciprocating rods Z, connected at one end to the crank-shaft by yoked connecting-rods Z', adapted to be worked back and forth by eccentrics Y' on the said shaft, to impart the motion to the rods Z. The combined length of the two sections of the legs W is greater than the vertical line from the tubes B B' to the ground, so that the lower ends, which are provided with suitable enlargements for pressing thereon with great force without penetrating, will, when the rods are moved in the direction the machine is moving, drag on the ground and engage with and be forced against it as soon as the rods move in the opposite direction, and prevent their going back with the rod, which, consequently, pulling the two parts into a straight line, forces the machine forward. Any preferred number of these pushing-legs may be used, but I prefer to use two on a side of the machine, two being necessary, as they operate intermittingly, and one should go forward while the other goes back. These legs

and their operating-rods are also made of tubes, as well as the joints by which the two sections are connected together and to the rods. The lower sections of the legs have the large **T**'s *a* connected to their upper ends, and the upper sections have smaller **T**'s, *b*, working within them, and these again receive and work on still smaller **T**'s, *d*, connected to the rods **Z**. The **T**'s *a* and *b* have openings in the sides for the upper section of the leg and for the rods **Z**, said openings being sufficiently large to admit of the necessary oscillation.

The plow-beams consist of curved tubes **X'**, and they are connected together by yokes **X**², and to the rear end of the frame in any suitable manner to apply the draft properly, and so that when they meet obstructions too great for them to overcome they can be pushed back to release them by a slight backward movement of the engine. After being pushed back, they may be raised to pass over the obstructions by the operator with any suitable means placed on the machine for the purpose—as levers, connected to the rear ends of the plows by chains, or cranked winding-drums and

pulleys, also connected to the plows by suitable arrangements of chains.

The pushing-legs may be used with advantage solely or without the aid of the wheels **E** as the propelling or tractive devices in some cases, and, when preferred, I propose to use them so; but they are mainly intended for auxiliary action in connection with the driving-wheels.

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

1. The arrangement of the divided cross-tube **B**², provided with the slots **G**, yoke **C**, guide-wheel **F**, and curved plates, all substantially as specified.

2. The arrangement, with the two sections of the legs **W** and the rods **Z**, of the pipe **T**'s *a b d*, forming the joints of the said legs, with the rods, substantially as specified.

The above specification of my invention signed by me this 19th day of November, 1869.

M. N. LYNN.

Witnesses:

JOHN H. STOTSENBERG,
W. F. MORRILL.