

Plow.

Patented Jan. 26, 1864.

This diagram, labeled 'Fig. 1', shows a cross-section of a complex mechanical assembly. It features a central horizontal shaft or piston rod passing through several vertical chambers or cylinders. On the left, a large, curved, blade-like component is attached to the shaft. The right side shows a more intricate mechanism with multiple valves or pistons, some labeled with 'K' and 'A'. Various other parts are labeled with letters like 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', and 'Z'. Dashed lines indicate the movement or alignment of certain components.

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IMPROVEMENT IN PLOWING-MACHINES.

Specification forming part of Letters Patent No. 41,371, dated January 26, 1864.

To all whom it may concern:

Be it known that I, D. D. FOLEY, of the city and county of Washington, District of Columbia, have invented a new and Improved Plow; and I do hereby declare the following a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view of my machine in operation. Fig. 2 is a longitudinal vertical section of the same on the line *x x*. Fig. 3 is a plan view of the same.

The object of my invention is, first, to obviate to a large or an indefinite extent the resistance or friction attendant upon the ordinary processes of plowing, and, secondly, to effect a more complete inversion of the sod.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the frame-work of my machine, constructed of any suitable form or material.

B is the share, extending horizontally and at right angles to the side of the frame, entirely across the interior width of the same; C, a revolving cutter running parallel with cutter B, each knife in its revolution touching, or nearly so, the center of the landside; D, springs in the side of the frame A, resting on the bearings *m*, through which passes the axle of the revolving cutter to enable the latter to adjust itself to obstructions on the surface of the ground.

E E E form a series of rollers, of any required number, which may be covered by an endless belt, *e*, if desired, for the purpose of conveying away the plowed earth; F, a revolving platform, consisting of friction-rollers, with or without a revolving friction-cover, operated by means of gearing, hereinafter described; G, springs in side of the rear of frame to regulate, at proper intervals, the semi-revolution of the platform F.

H is a cog-wheel attached to the end of the axle *h* of the platform F, by means of which said platform is rotated upon its axis.

I is a cog-wheel attached to the outer end of the axle of the roller E', and gearing into the constant side of the cog-wheel J, which is operated by I. The cogs *i i i i* upon the inter-

mittent side of J cause the wheel H and platform F to perform a half-revolution at each revolution of J.

k is one of two bearing-wheels attached to the shaft K' for the purpose of supporting the weight of the machine.

k' is a belt which runs upon the pulley *k*, and upon a pulley on the axle of the roller E', or attached to the cog-wheel J. By means of the belt *k'* or its equivalent motion is communicated from the bearing or driving wheels K to the roller E' and cover *e*, and also to the platform F. K³ are two colters attached to the front inner sides of the frame-work. L is the axle sustaining wheels O, said axle being in length much less than the width of the frame. From its center an upright bar, P, supported and kept in position by the arms *a*, passes through the slot *q* in the horizontal bar T, and is attached thereto by pin J, by which the wheels O may be raised or lowered at the discretion of the operator. The lever T extends horizontally and rearwardly over the machine, projecting a short distance beyond the rear end. It passes through the slotted bridge *t*, and may be secured at the rear end by the notched rod *u* and traveler *w*.

V is the clevis, to which the power is applied. The spring *p* is inserted between the axle L and the lower arm *a* for the purpose of keeping the relation between the frame A and the lever T always rigid.

The operation of my improved plow is as follows: As the machine moves forward the colters K cut the sward along its edges preparatory to its reception by the landside, when it is divided into separate and equal parts of corresponding size to the platform F by the revolving cutter C, and, passing up over the friction-rollers E, each sod is successively received upon the revolving platform F. At the instant the sod is so deposited the cogs *i i* on the wheel J, in its revolution, will gear into the cogs of the wheel H, thereby causing the platform F to be rapidly inverted in the direction of the red arrow so quickly that the sod *f* is inverted with it, and falls exactly bottom upward.

The latch-springs G prevent any retrograde motion of the platform when the projected edge of the following sod *g* bears upon it.

The cutters C are automatic in their action,

the edge of one cutter not being liberated from the sod until after the succeeding one begins to cut, as shown by the red lines on Fig. 2.

The machine is guided by means of the lever T and guide-wheels O, they being movable horizontally, as shown by the red lines of Fig. 3, while the depth of the cut is regulated by raising or lowering the wheels O by the same means.

It will be noticed that the wheels O O always run upon the sod or unplowed land, while the wheels K always run upon the bottom of the furrow, thus securing a firm tread for all the wheels and a much more uniform action of the machine than can be secured where the wheels of one side travel upon the hard ground while the wheels of the opposite side travel upon soft ground.

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

1. The share B, in combination with the rollers E E E' and reversible platform F, substantially as described, for the purpose of plowing up and inverting the surface of the earth with much less friction than is commonly experienced.

2. The share B and rollers E, in combination with the revolving cutters C and colters K³, or their equivalents, for the purpose of more perfectly dividing sod-ground.

3. The platform F, in combination with the latch-springs G, the geared wheels H, I, and J, or their equivalents, for the purpose of rapidly inverting the sod so that it will fall with certainty upside down, all substantially as described.

D. D. FOLEY.

Witnesses:

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