

(No Model.)

2 Sheets—Sheet 1.

W. R. DUDLEY.

SEEDING ATTACHMENT FOR GRAIN DRILLS.

No. 369,506.

Patented Sept. 6, 1887.

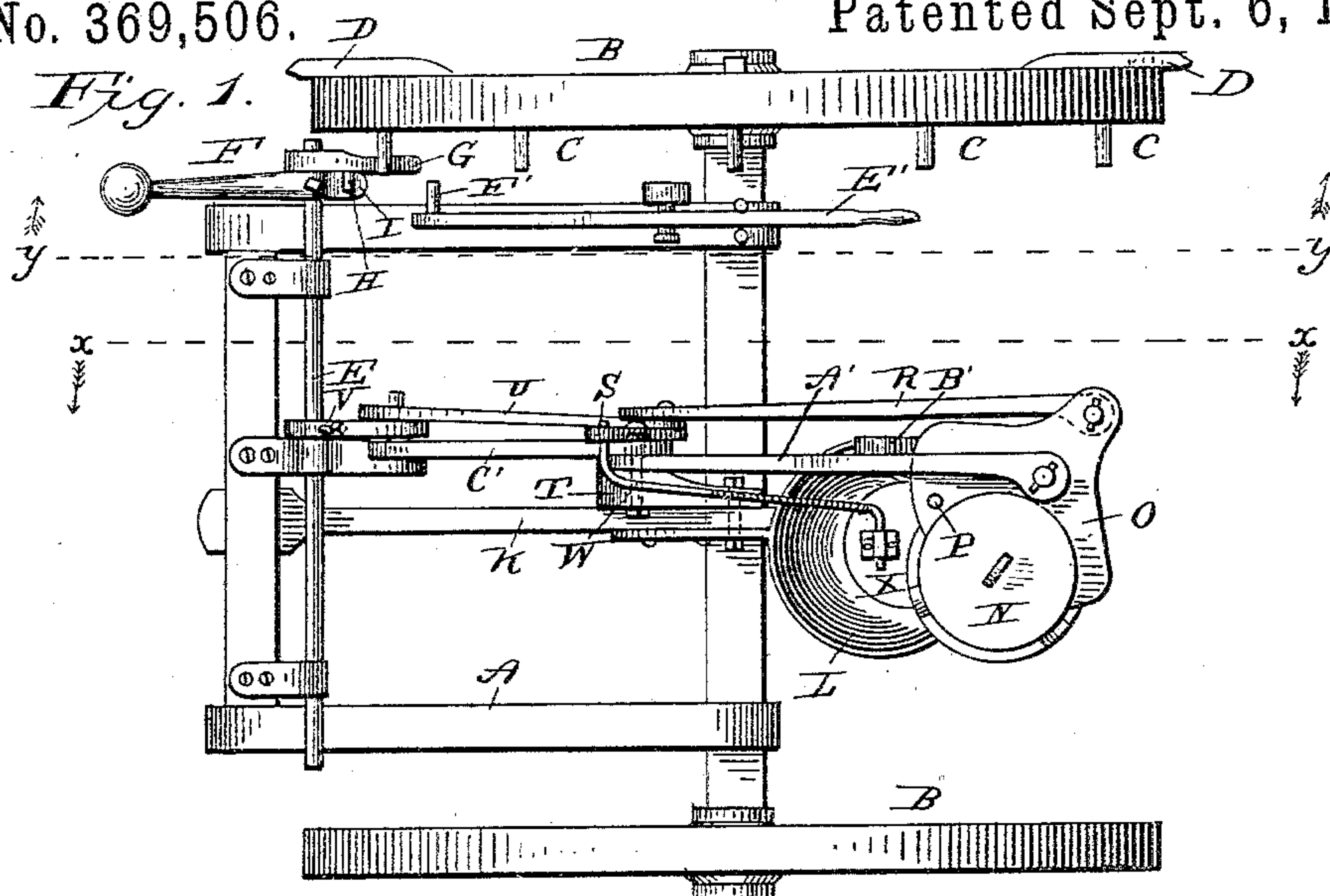
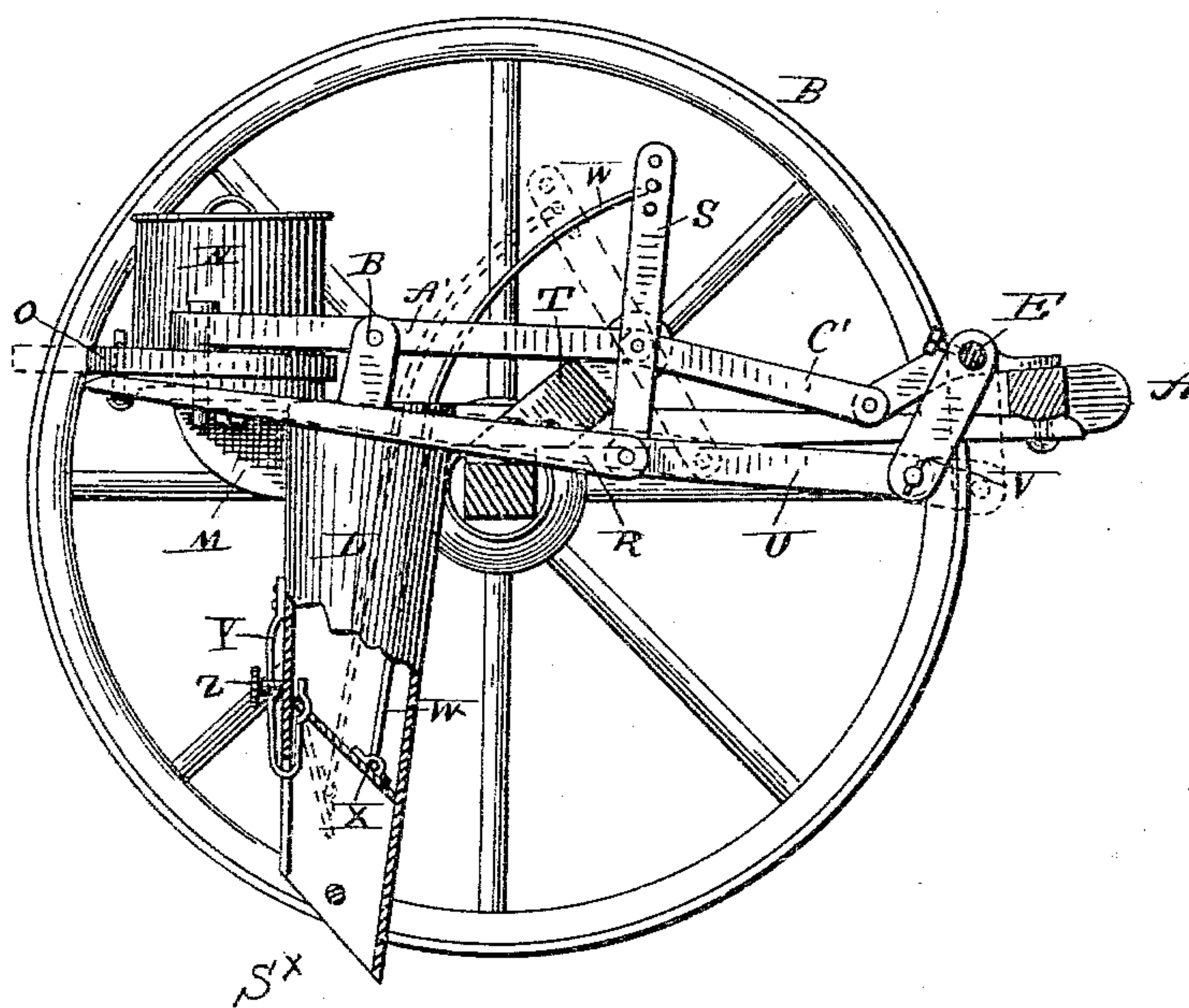


Fig. 2.



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Fig. 3.

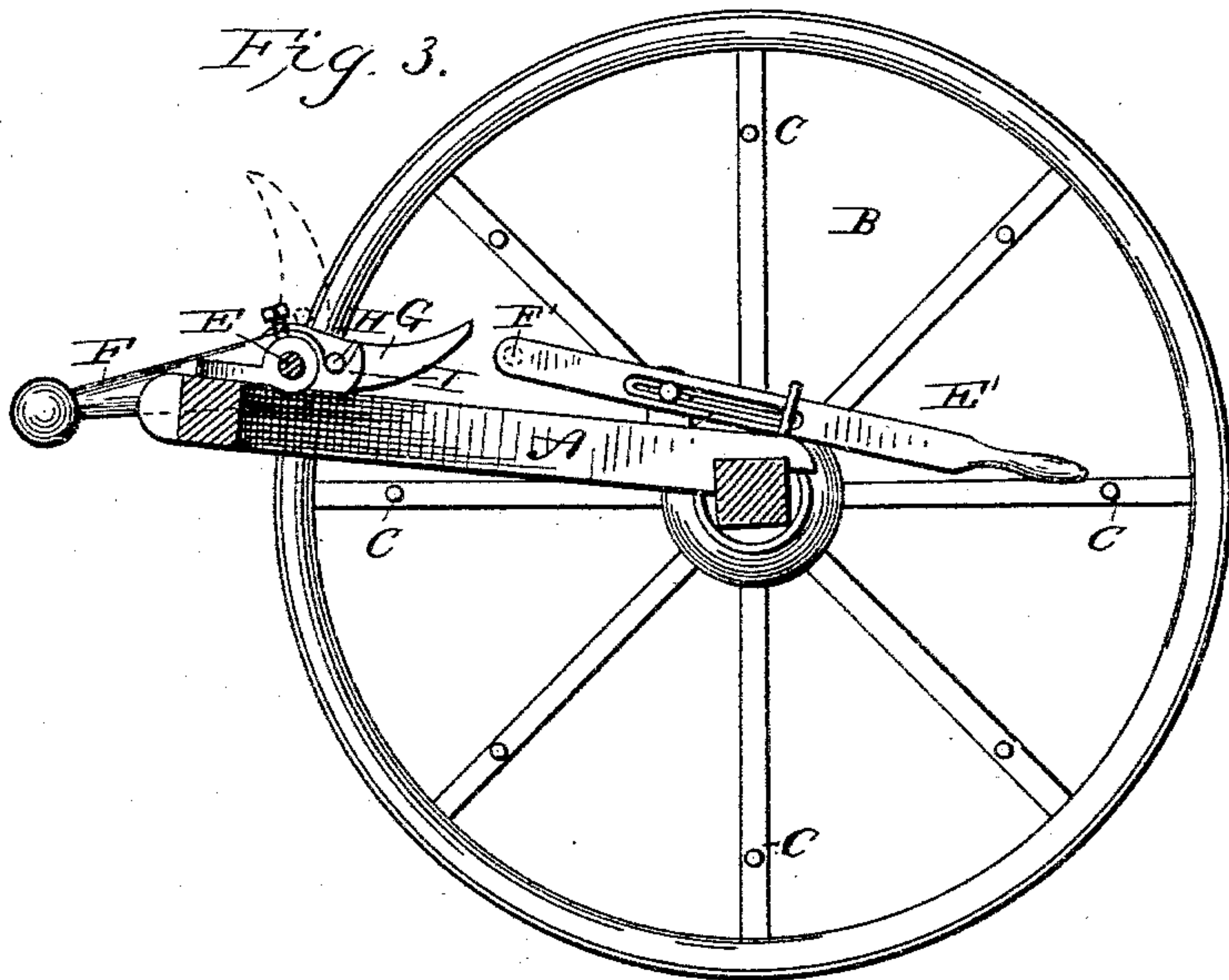


Fig. 4.

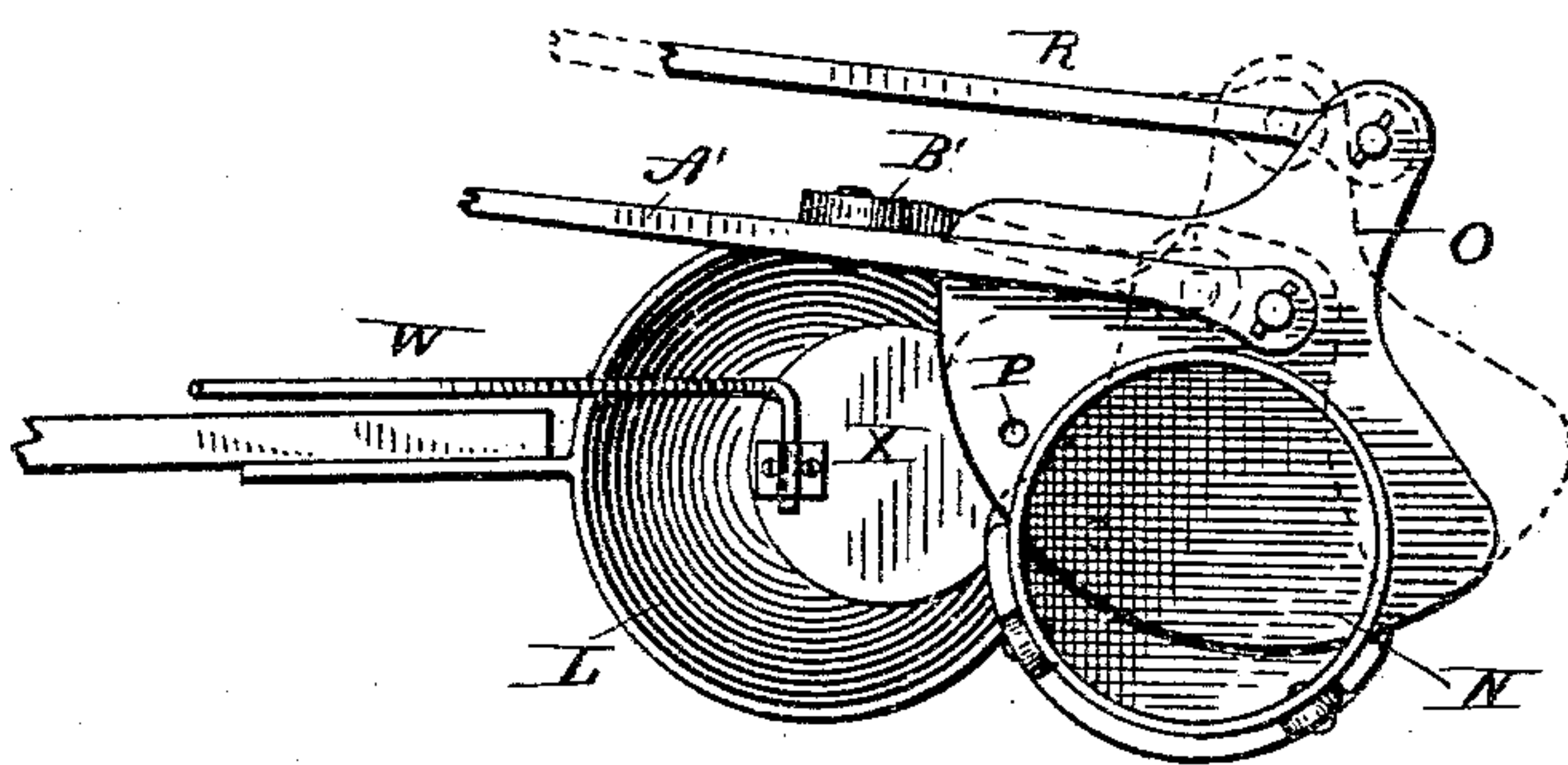
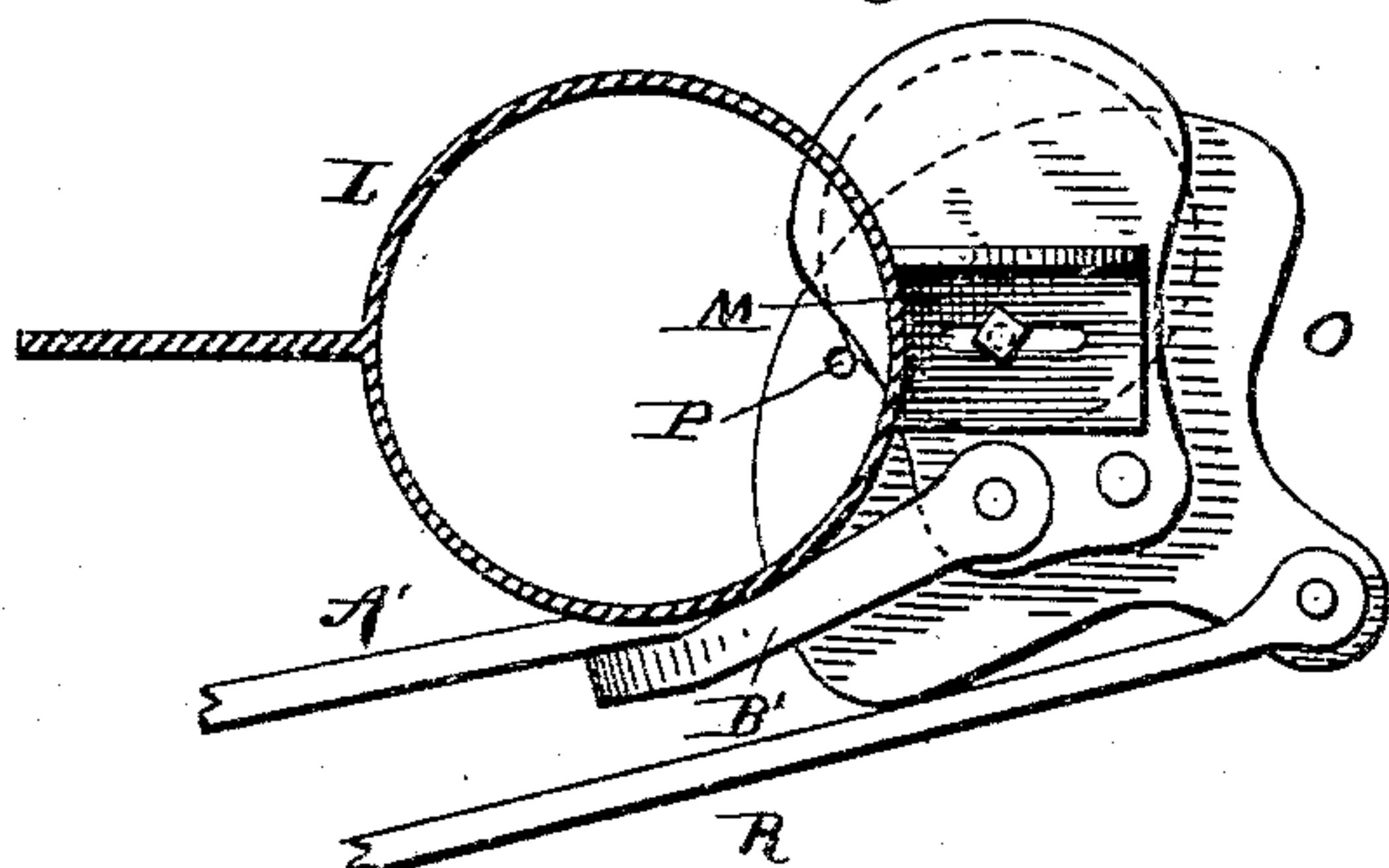


Fig. 5.



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UNITED STATES PATENT OFFICE.

WARREN R. DUDLEY, OF ROCK CREEK, OHIO.

SEEDING ATTACHMENT FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 369,506, dated September 6, 1887.

Application filed June 10, 1887. Serial No. 240,931. (No model.)

To all whom it may concern:

Be it known that I, WARREN R. DUDLEY, a citizen of the United States, residing at Rock Creek, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Seeding Attachments for Grain-Drills, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to that class of grain-drills in which the grain is deposited at intervals; and it consists in constructions whereby the seed-slide and the valve or door in the shoe are operated by the same part of the motive mechanism to move alternately; and the invention consists, also, in certain constructions and combinations of parts.

In the drawings, Figure 1 is a plan view of a grain-drill constructed according to my invention; Fig. 2, a section on the line *x x*, Fig. 1, looking toward the hopper; Fig. 3, a section on the line *y y*, looking toward the operating-wheel; Fig. 4, a top view of the hopper and shoe; Fig. 5, a bottom view of the hopper, with the shoe shown in cross-section.

The frame A is carried by the wheels B, one of which is provided with tappets C and markers D. On the front of the frame is journaled a rock-shaft, E, carrying a weighted arm, F, and a short arm, G, the latter being loose on the shaft and provided with a pin, H, which engages an extension, I, of the arm F, projecting beyond the shaft on the side opposite the weight.

The arm G is of such length and so arranged as to be struck by the tappets C, and so cause the shaft to move when the arm G is depressed. However, when the rotation of the wheel is reversed, the arm G will be lifted without affecting the shaft, which is only moved when the drill is moving forward.

At the rear end of a beam, K, secured at the front end to the frame A, is a shoe, L, provided with a bracket-like extension, M, on which is supported the hopper N. The bracket M is slotted, and through the slot is passed a bolt securing the hopper adjustably in place. On the bottom plate of the hopper is pivoted a cup-plate, O, having one or more perforations, P, and extending into the hopper through a lateral slot therein adjacent to the

said bottom plate. To the plate O, at one side of the pivot-pin, is connected a bar or link, R, extending to one end of an upright lever, S, pivoted to a bracket, T, on the beam K. The said end of the lever is connected by a link, U, to a crank-arm, V, held to the shaft E by a set-screw or like means. The other or upper end of the lever S is provided with a series of holes, in any one of which is secured a rod, W, suitably bent or curved and extending into the shoe, being connected at its lower end to a hinged door or valve, X, near the lower end of the shoe, which is provided with a suitable spreader, S*, located below the valve X, as shown in Fig. 2.

The hinge of the valve is formed of a strip, Y, bent so as to enter the shoe through a slot and extend upward, engaging the valve, a thumb or set screw, Z, holding the strip, so that the valve may at any time be removed and another of a different character substituted—for instance, when a fertilizer is used.

To brace and strengthen the hopper and shoe a rod or bar, A', extends from the pivot-pin of the cup-plate to the bracket T, and is provided with a short fork, B', extending to the under side of the bottom plate of the hopper. From the bracket T to one of the bearings of the shaft E is a brace-rod, C'. The several joints in the brace-rods and connecting-links permit adjustment of the hopper and shoe relative one to the other.

The invention is not confined to the exact constructions and arrangement of parts shown, as modifications thereof would be suggested to a mechanic skilled in the art of constructing machines of the character to which the one shown relates—as, for instance, a spring might be substituted for the weighted arm, and other connections might be used between the shoe and hopper and the operating mechanism, and other means than the tappets may be used for moving the shaft. As it may at times be desirable to operate the delivery mechanism by hand, I provide a hand-lever, E', adjacent to the arm G, and provided with a pin, F', for engaging the said arm, and being longitudinally movable on its pivot by means of a slot, so as to be moved into or out of operative position. The alternate operation of the seed-slide or cup-plate and the valve in the shoe permits

the seed to be deposited in the shoe and at proper intervals be deposited in the ground.

What I claim is—

1. The combination, in a grain-drill, of an
5 axle bearing two transporting-wheels, one of
which is provided with tappets, a main frame
rigidly secured to this axle, a rock-shaft on this
frame bearing a loaded arm having a hooked
end, and a loosely-applied movable arm
10 adapted to be struck by said tappets, and hav-
ing a pin supported by the hook on the said
loaded arm, a shoe, L, provided with a vi-
brating valve and rigidly secured to a beam,
K, pivotally connected to the main frame, a
15 hopper adjustably secured to a bracket of said
shoe and provided with a vibrating seed-slide,
O, the links R U, and arm V, connecting the
seed-slide with rock-shaft E, the lever S, piv-
oted to a bracket fixed to the rear end of arm
20 K, and a rod connecting this arm with the free
end of the valve X, all substantially as de-
scribed.

2. The combination, with an axle bearing
two transporting-wheels, one of which is a tap-
25 pet-wheel, of a rock-shaft, a tappet-arm, G,
and its pin, a loaded lever and an arm, V, on
said rock-shaft, the shoe L, having a hopper
adjustably secured to it, the braces A' C', the

beam K and its bracket, and the devices de-
scribed for transmitting vibration simultane- 30
ously to the valve X in the shoe, and the seed-
slide between the hopper and shoe, substan-
tially as described.

3. The combination, with the shoe of a seed-
dropper, of a removable vibrating dropping- 35
valve, X, a bent strip, V, secured to the outer
side of the shoe and passed through a slot
therein, and forming a pivotal bearing for said
valve, and a tightening-screw, Z, substantially
in the manner and for the purposes described. 40

4. In a grain-drill, the combination, with a
hopper and a shoe connected together and
hung from a main frame, so that they can re-
ceive vertical vibration, as described, of the
braces K A' C' T, the brace C', pivoted to one 45
of the bearings of a rock-shaft, E, the links
R U, arm V, slide O, lever S, and a valve, X,
in said shoe, connected to the lever S by a rod,
W, substantially as described.

In testimony whereof I affix my signature in 50
presence of two witnesses.

WARREN R. DUDLEY.

Witnesses:

ALVIN C. WHITE,
E. JAY PINNY.