(No Model.) 2 Sheets—Sheet 1.

S. M. LOCKWOOD.

INCLINED WHEEL EARTH EXCAVATOR.

No. 335,229. Patented Feb. 2, 1886.

Fig. 1.

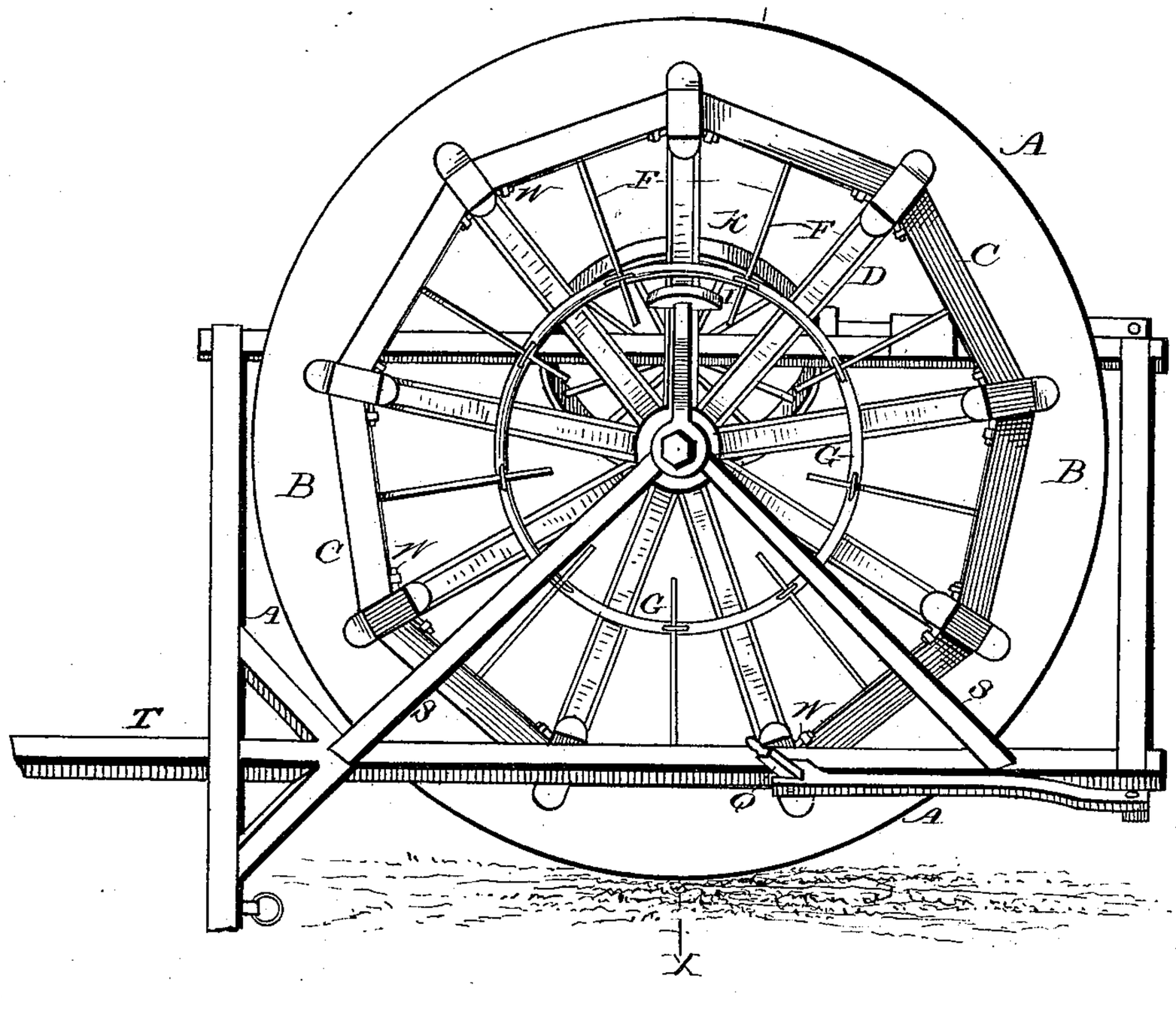
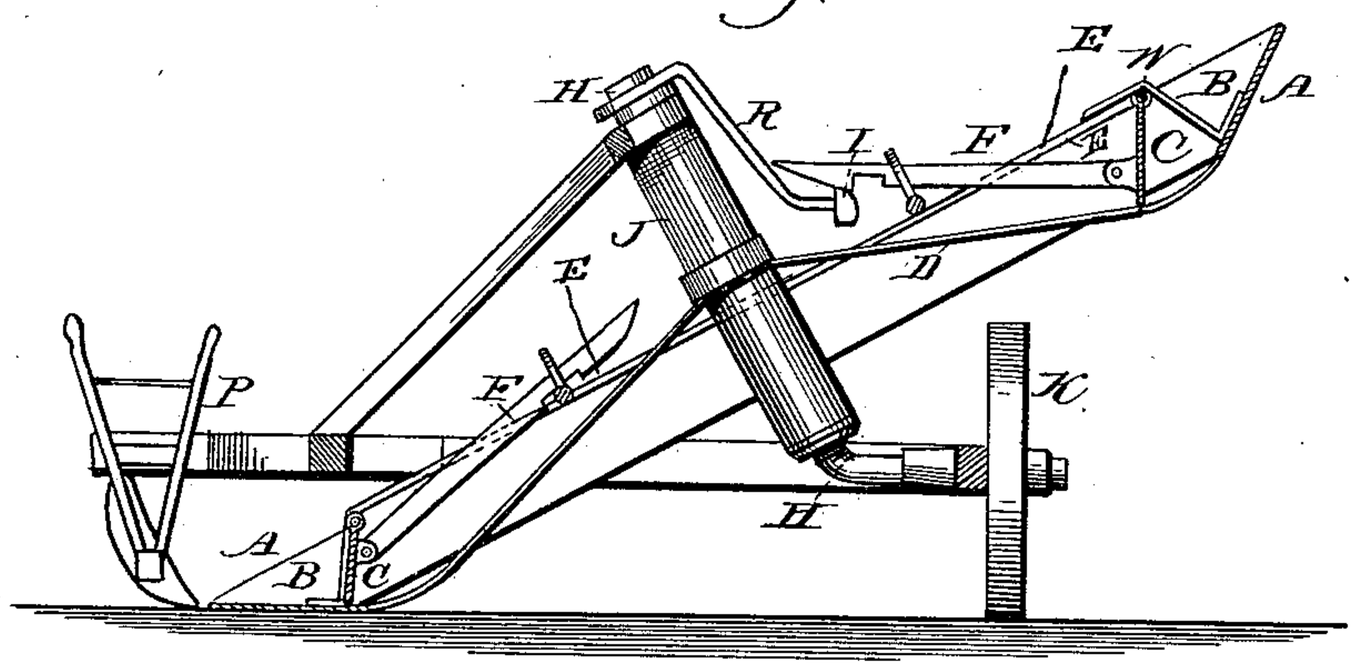


Fig. 2.



WITNESSES

J. W. Reynolds

L. C. Sathrop

INVENTOR

Samuel M. Lockwood

(No Model.) 2 Sheets—Sheet 2

S. M. LOCKWOOD.

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No. 335,229. Patented Feb. 2 ,1886.

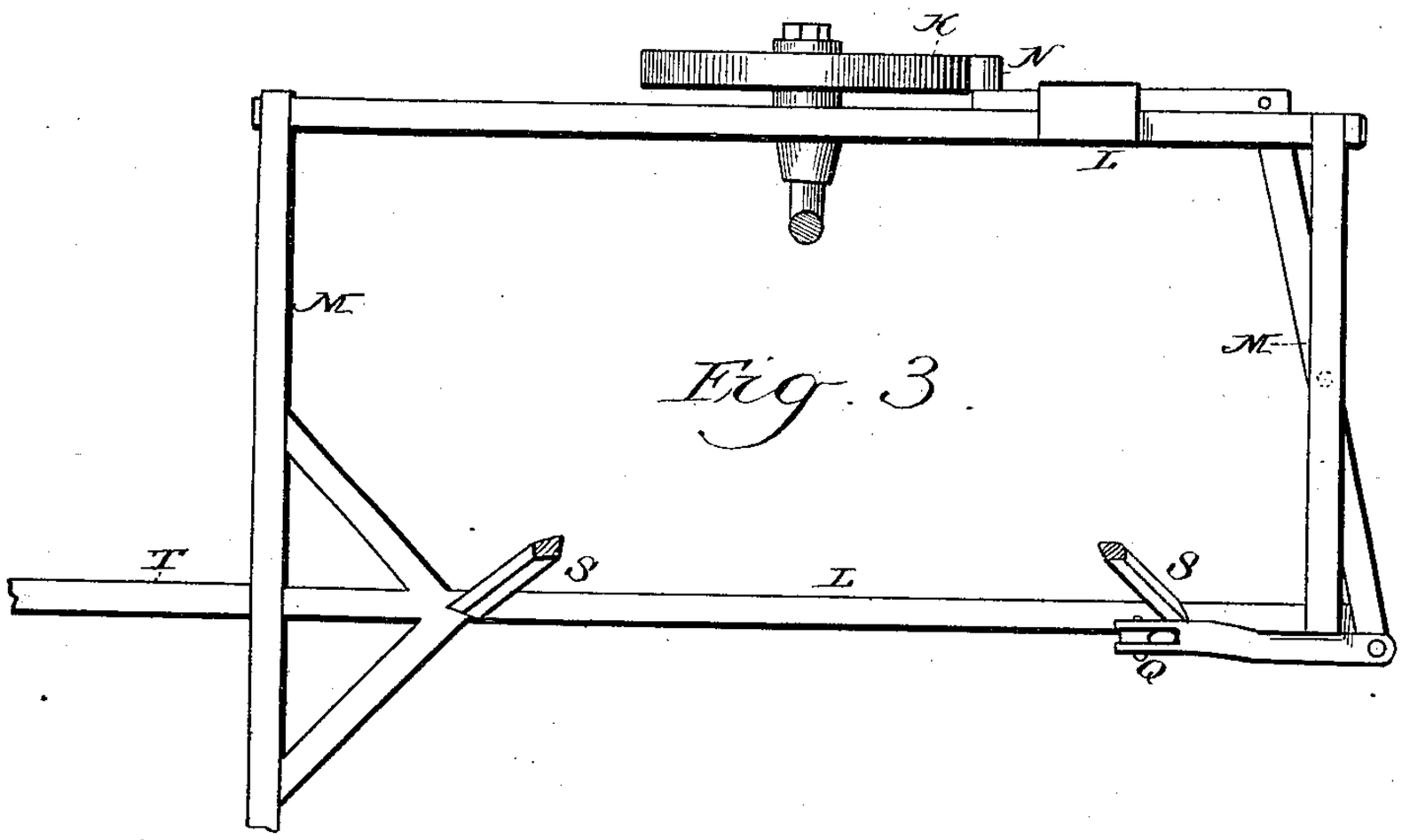

Fig. 3.

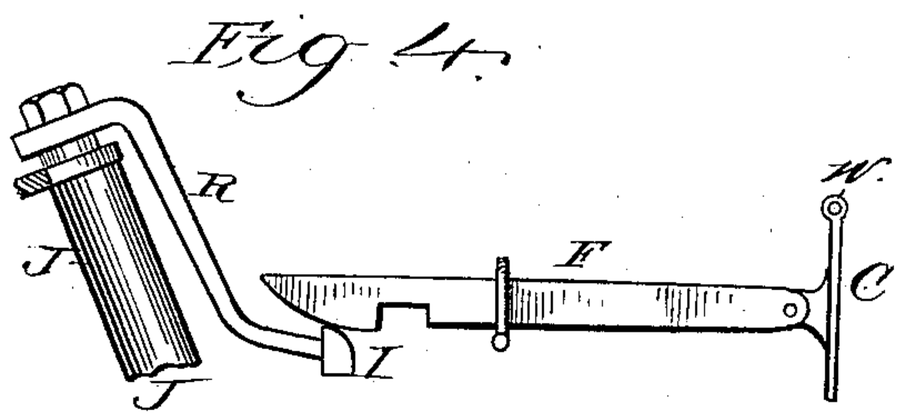

Fig 4.

WITNESSES

L. M. Reynolds

F. C. Lathrop

INVENTOR

Samuel M. Lockwood

UNITED STATES PATENT OFFICE.

SAMUEL M. LOCKWOOD, OF NEW YORK, N. Y.

INCLINED-WHEEL EARTH-EXCAVATOR.

SPECIFICATION forming part of Letters Patent No. 335,229, dated February 2, 1886.

Application filed March 27, 1885. Serial No. 160,310. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. LOCKWOOD, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Inclined-Wheel Earth-Excavators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this machine is to excavate earth.

Figure 1 is a perspective view of the entire machine. Fig. 2 is a cross-section taken through line *x x* on Fig. 1. Fig. 3 represents a plan view of the frame, showing the brake. Fig. 4 represents an enlarged view of latch, trigger, and earth-gate.

A is the inclined wheel, which may be of any diameter—probably most conveniently twelve feet in a wheel that is to be used in connection with carts or cars. The dirt is carried on the rim B of the wheel A, which rim may be of any width. For a twelve-foot wheel fourteen or sixteen inches would be a proper width for said rim. The said rim is to be dished or beveled, like the rim of an ordinary table-plate, in order that it may lie flat where it rests on the ground. The inside of this rim consists of gates C. There should be one gate between each pair of spokes D of the inclined wheel. About nine spokes should be in the inclined wheel, although any number may be used. A convenient number of gates also is nine to each machine. The gates may be of any width. A convenient width is twelve or fourteen inches. The gates are hung by hinges W at the top of the gate, and are connected with arms E, at or near the outer end of arms, said arms running from the hub of inclined wheel to the gates, said arms to be fastened to the spokes by bolts or in any other manner at the point where they intersect said spokes, for the purpose of strengthening the machine. The gates have latches F, running from about the center of the gates. These latches may be of any length, a convenient length being about four feet, and may be of any size, according to the material used. The latches run from the gates to the circle G, and catch on said circle. Said circle may be of any material, may be of any size, a convenient size being about from one to two inches thick, and may be about two feet distant from the hub and resting on spokes of wheel A. From the top of axle H of inclined wheel an arm, R, is extended toward the latch, with a piece, I, across the end of said arm. Said piece may be of any desired thickness at the center, tapering down to the ends of the same, so that the latches rising over the center of the same are lifted high enough to take them off of the aforesaid circle, and thus the gates or doors are let down and the earth is dumped.

The hub J of inclined wheel may be forty inches (more or less) in length, and larger or smaller in size, according to material used in construction of the same. If made of wood, it should be a foot or more in thickness. Any material may be used in the construction of the machine.

Underneath the inclined wheel is a supporting-wheel, K, which may be of any convenient size to carry the inclined wheel at an angle of about thirty degrees, more or less. Said wheel should have a wide tire, and may be constructed similarly to an ordinary cart-wheel, but must be heavy enough to carry the inclined wheel when the same bears on it, one side of the inclined wheel resting on the ground.

The frame L is supported on the side toward the supporting-wheel on the axle of said supporting-wheel, which axle H is crooked, so as to extend through the hub of the inclined wheel, and also form the axle of the inclined wheel. Frame L is supported on the side toward the plow P by means of arms or braces S, extending from the axle of the inclined wheel above the hub of said wheel to said frame, as set forth in the drawings. Said frame is connected at the ends by cross-pieces M.

To retard motion and to prevent the machine from rotating toward the plow, a brake, N, is connected with the frame L, running parallel with the frame. It may run around either the front or the rear end of frame. Around the rear will be most convenient. It may be on the top of frame or underneath the frame. Underneath will be most convenient. Said brake must extend to the supporting-wheel and act on said supporting-wheel. The lever by means of which the brake is operated should be on the side next the plow, and where it can

be reached by the man driving or the man plowing.

The machine is moved by the team attached to the tongue T, which may be similar to a wagon-tongue, but should be stronger, and must be a stiff tongue.

P is an ordinary plow attached to the frame, the object of which is to throw the dirt on the inclined wheel.

The machine may be worked with two teams of oxen or horses or any other power, and needs two men to handle it—one to handle the plow and the other to manage the teams. The machine itself is automatic.

As the machine is drawn forward, the inclined wheel revolves on its axis, and thus the earth is carried to the depositing-place at the top of inclined wheel.

The parts R and I are described as the "trigger" in the specification. By removing the trigger entirely from the machine the machine can be used as a self-loading cart.

I claim—

1. The combination, with an inclined-wheel excavator and its plow, of the frame, and the stiff tongue, and the supporting-wheel, and the crooked axle forming an axle for both wheels, and a brake adapted to be applied to the supporting-wheel, substantially as and for the purposes set forth.

2. The described self-adjusting latches and dirt-gates, and the circle on which the latches are fastened or caught, and the mechanism for working the same.

3. The combination, with an inclined-wheel excavator, of a brake applied to the supporting-wheel.

4. The combination, with an inclined-wheel excavator, of a stiff tongue, which tongue is attached directly to the frame and may form part of the frame, as in the drawings, which frame runs continuously around the entire machine, and which frame is no part of plow-beam, nor is plow-beam part of it.

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

SAMUEL M. LOCKWOOD.

Witnesses:

J. C. LATHROP,

D. H. GRAVES.