

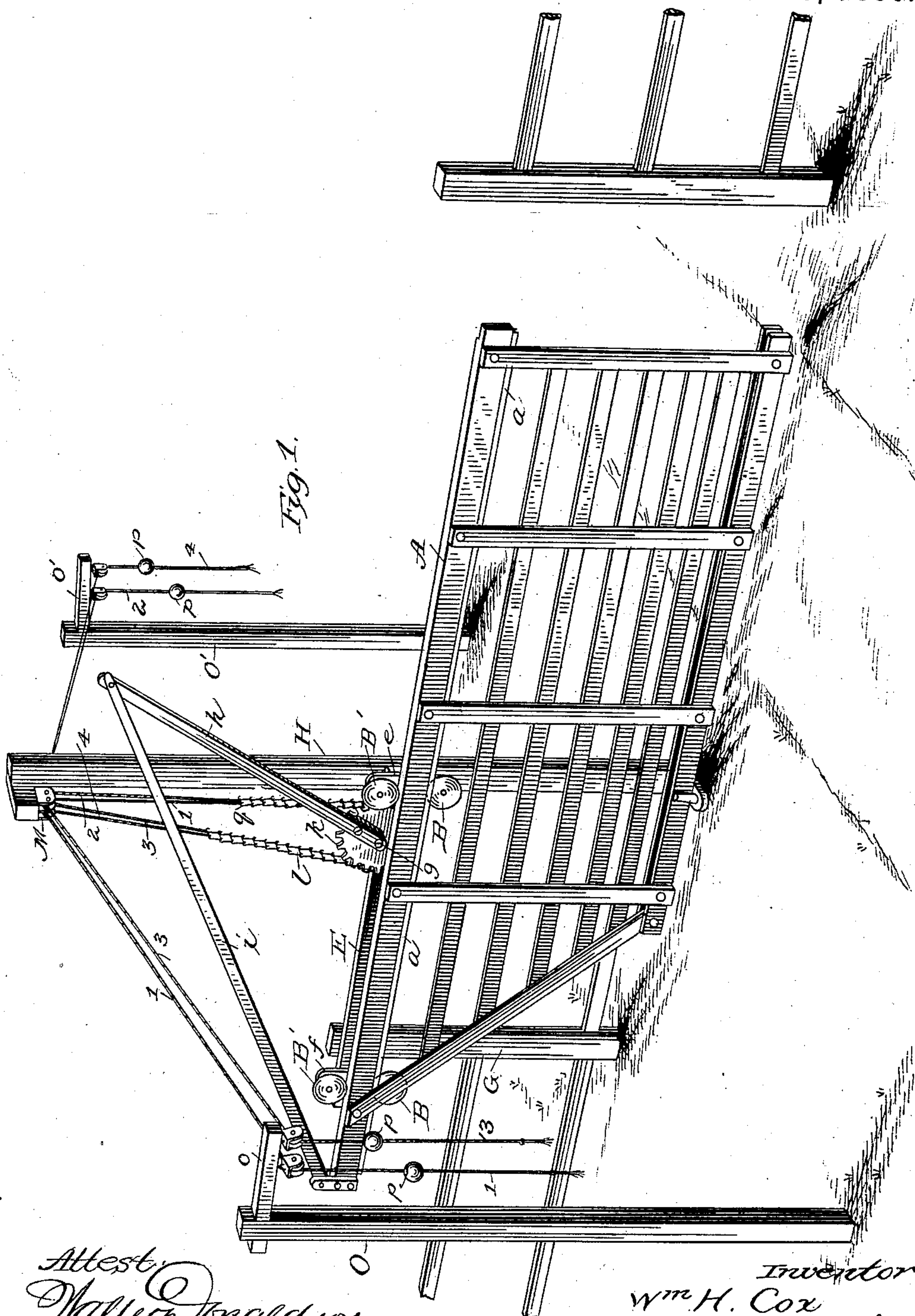
(No Model.)

2 Sheets—Sheet 1.

W. H. COX.
GATE.

No. 336,471.

Patented Feb. 16, 1886.



Attest
Mallory Donaldson
J. L. Middleton

Inventor
Wm H. Cox
by Joyce Spear.
Attys.

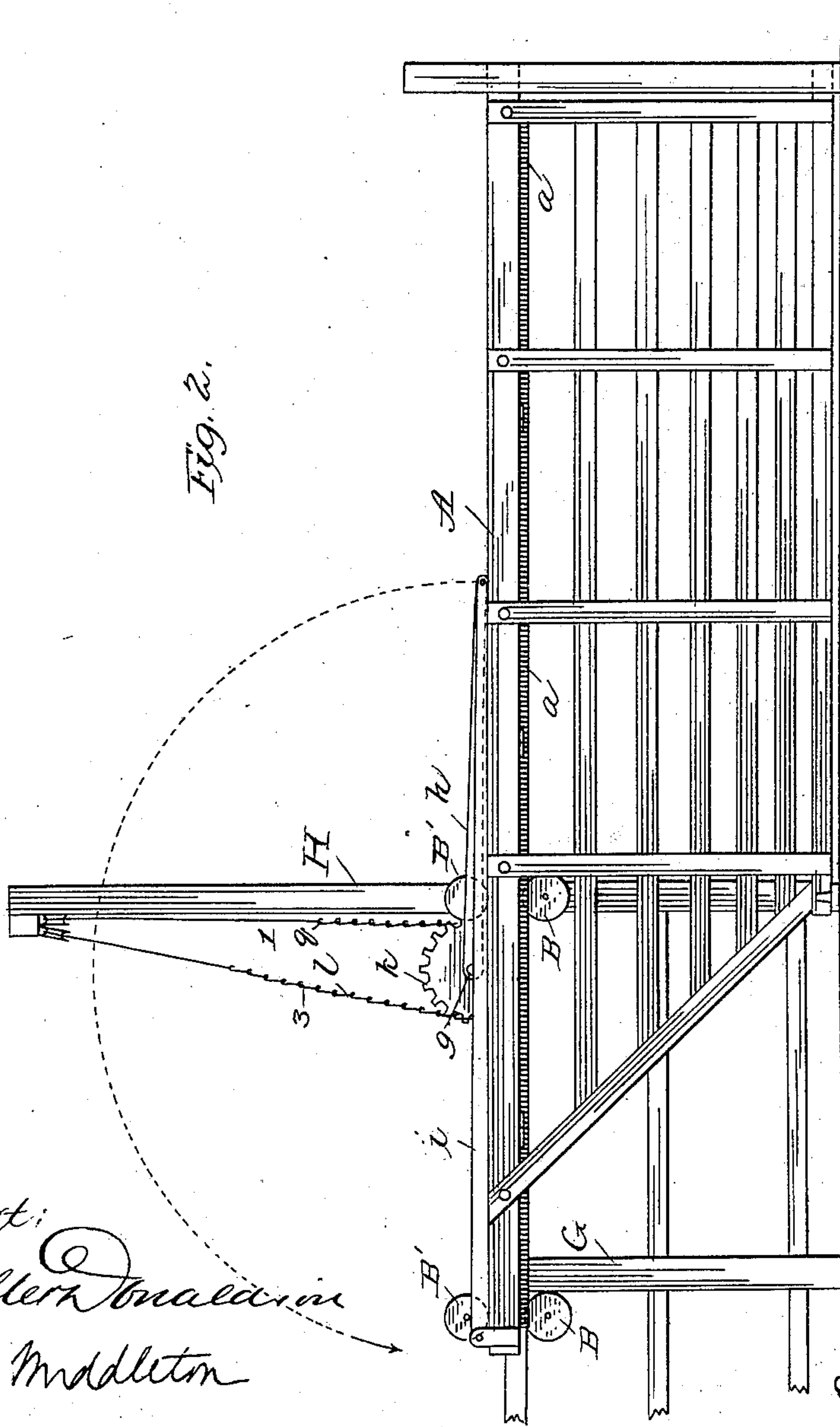
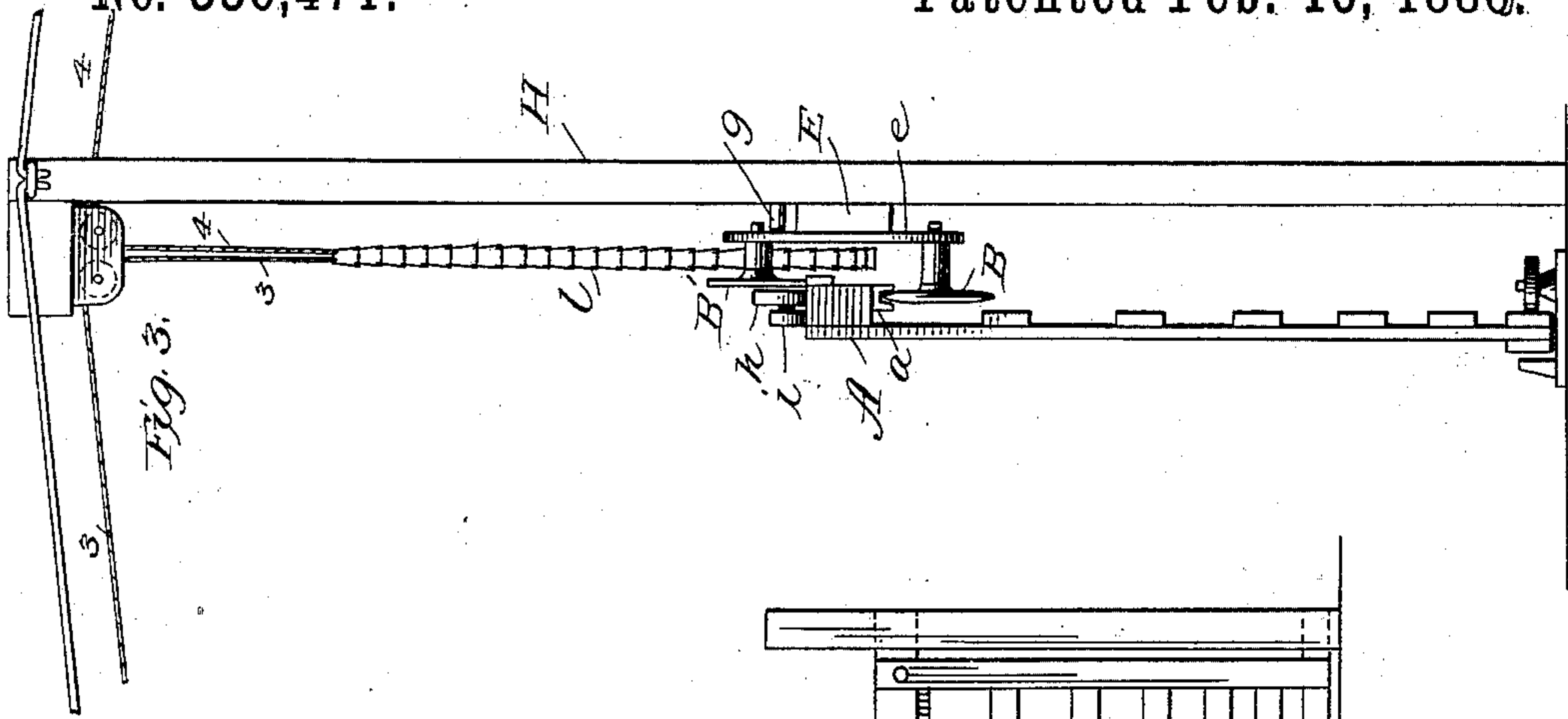
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UNITED STATES PATENT OFFICE.

WILLIAM H. COX, OF VIRDEN, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 336,471, dated February 16, 1886.

Application filed October 6, 1885. Serial No. 179,137. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. COX, of Virden, in the county of Macoupin and State of Illinois, have invented a new and useful
5 Improvement in Gates; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to gates of that class which are adapted to be operated by persons
10 riding, without requiring them to dismount either to open or close the gate.

The object of my invention is to simplify the mechanism for operating the gate, to render its operation more certain, and to move
15 the gate by slight movements of the impelling-rope, so that the gate may be readily and easily opened by the person desiring to pass.

My invention consists of a crank-arm connected by a rod to a sliding gate, combined
20 with a sprocket-wheel and chain, and operating-ropes connected to the crank-arm above specified.

In the accompanying drawings, Figure 1 represents a perspective view of the gate partly open; and Fig. 2 is a side elevation of the
25 operating mechanism, showing the gate in closed position. Fig. 3 is an end view of the gate.

The gate A slides horizontally upon wheels
30 B B, mounted suitably upon posts or bars. A track, *a*, fixed to the under side of the top rail of the gate, is adapted to these wheels, and allows the gate to run smoothly suspended upon the wheels. The top rail, with the track, is
35 prolonged sufficiently to the rear to give the gate proper movement, and upper wheels, B', bearing upon the upper part of the top rail, serve to keep it in place; but I do not confine myself to this mode of suspending the gate, as
40 other means may be used, or the gate may be run upon a track on the ground. As represented, the supporting and guiding wheels are mounted upon studs in vertically-arranged plates *e f*. These plates are fixed to a cross-
45 bar, E, which is fixed to posts G H, set in the ground on one side of the gate and in a plane parallel to that of its movement.

In suitable journals on a bar, E, I mount a shaft, *g*, upon which I fix a crank-arm, *h*,
50 adapted to swing upon the shaft in the same plane in which the gate moves. The free end of this arm I connect by a rod or bar, *i*, to the

end of the upper bar of the gate, forming the connection by pivots. When, therefore, the shaft is rotated, the arm is swung through a
55 half-circle, or a little more, and the gate opened or closed, the arm being in length equal to half the movement required of the gate.

In order to rotate the shaft *g*, I fix thereon the sprocket-wheel *k*, around which I pass a
60 chain, *l*. The ends of this chain are carried upward and connected to ropes, through which the sprocket-wheel is moved. The post H is carried up a sufficient distance, so that the top of it may carry the ropes above the sweep of
65 the crank-arm. Two ropes are attached to each end of the sprocket-chain. The rope 1 is carried up through the sheave in the block M, and thence to one side over a block supported on the arm *o* of a post, O, the arm *o*
70 extending over the roadway on one side of the gate. The rope 2, from the same end of the sprocket-chain, runs through another sheave in the pulley M over the block on the arm *o'* of a post, O', on the same side of the roadway,
75 but on the other side of the gate, the arm *o'* also extending partly over the roadway. To the other end of the sprocket-chain are attached ropes 3 and 4, rope 3 running to a
80 block on the arm *o*, and rope 4 running to a block on the arm *o'*. The rope ends of each arm hang down near each other.

To hold the rope vertically and to take up the slack on each side as the other side is pulled, I provide each rope with a weight, *p*.
85 It will be observed that ropes 1 and 3 are upon one side and 2 and 4 upon the other side of the gate. The pulling of rope 1 will draw upon the end *q* of the sprocket-chain to open the gate, and will draw upon the inner ends
90 of the ropes 3 and 4, raising their outer ends, as shown in full lines in Fig. 1. After the rider has passed through the gate, he may pull upon rope 4 on the other side, and thus close the gate which has been opened by pulling on
95 rope 1. In the same way the pulling of rope 2 will open the gate and rope 3 will close the gate. It will also be observed that when the gate is closed the crank-arm lies down upon the upper bar of the gate, its pivotal shaft being only slightly above this bar. This carries
100 the bar or rod *i*, pivoted in the free end of the crank-arm, slightly below the axis of its pivoting-shaft, which locks the gate in a closed

position and prevents it from being opened by accident or by the rubbing or pushing of animals.

I claim as my invention—

5 In combination with a sliding gate and with the crank-arm moving in the plane of movement of the gate, and with the rod connecting the free end of said crank-arm with the gate, a sprocket-wheel fixed to the shaft of the
10 crank-arm, ropes 1 and 2, connected to one end of the sprocket-chain, and running one to a supporting-block on one side and the other

to a supporting-block on the other side of the gate, and ropes 3 and 4, running one to a supporting-block on one side of the gate and the
15 other to a supporting-block on the other side of the gate, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. H. COX.

Witnesses:

GEO. H. COX,

H. C. BRADLEY.