

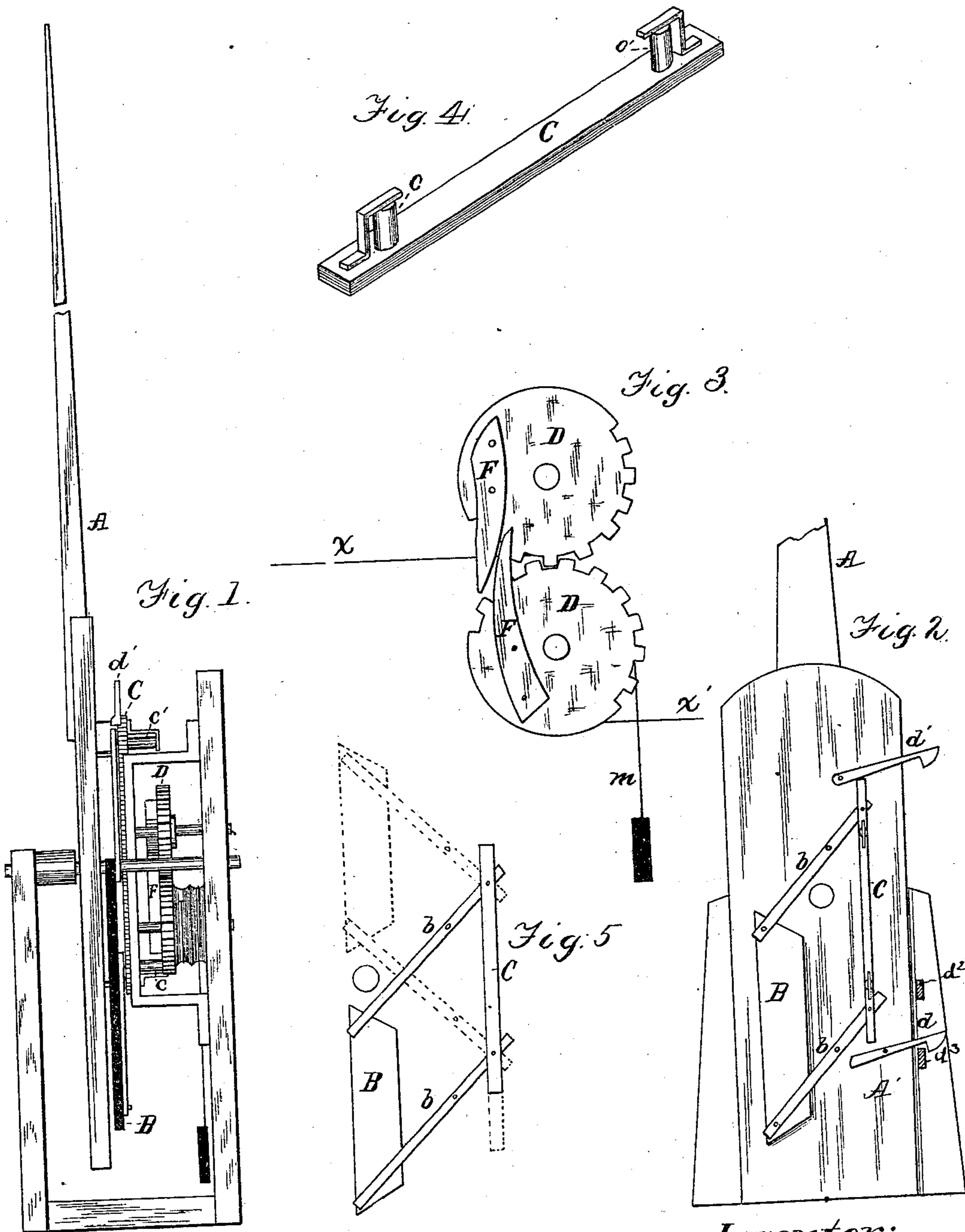
(No Model.)

2 Sheets—Sheet 1.

G. A. HALL.
RAILROAD GATE.

No. 282,631.

Patented Aug. 7, 1883.



Witnesses:
Wm. A. Rosenbaum
E. F. Schafhirt

Inventor:
Geo. A. Hall
By A. K. Brownie and
Warren C. Stone Attys

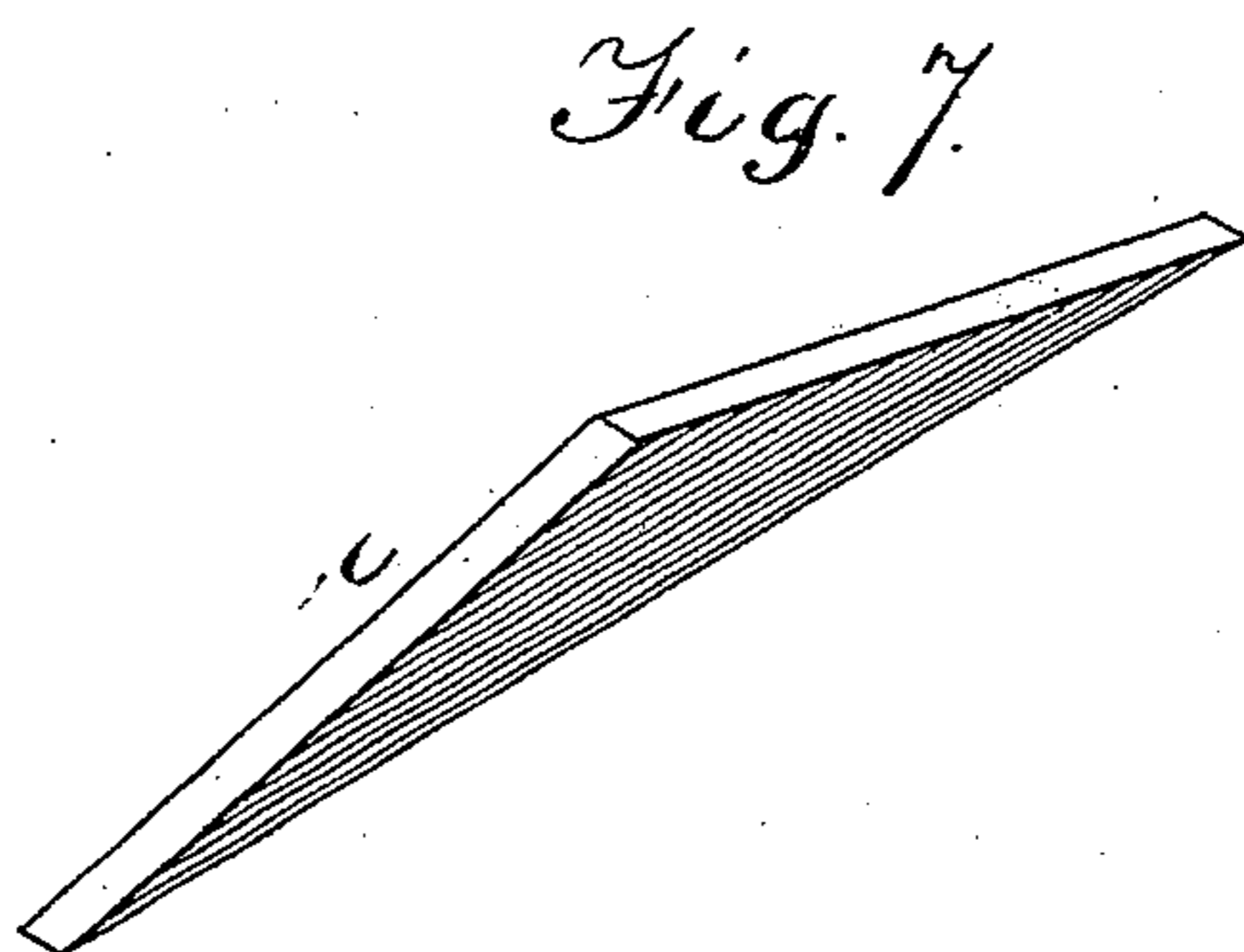
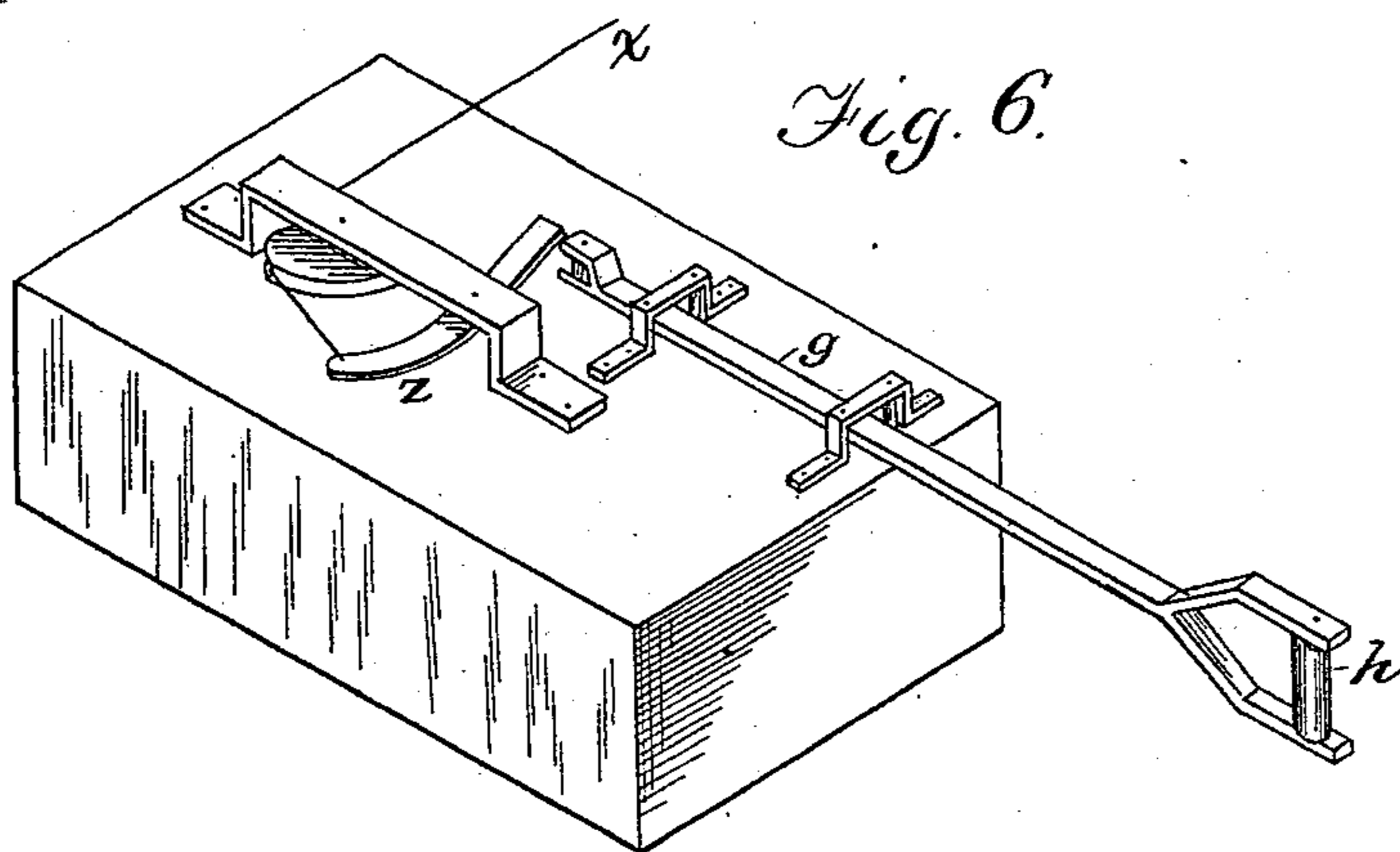
(No Model.)

2 Sheets—Sheet 2.

G. A. HALL.
RAILROAD GATE.

No. 282,631.

Patented Aug. 7, 1883.



Witnesses:

Wm. A. Rosenbaum
E. F. Schafhirt

Inventor:

Geo. A. Hall

By

A. K. Brown and

Warren C. Stone *Attys.*

UNITED STATES PATENT OFFICE.

GEORGE A. HALL, OF SOUTH WATERFORD, MAINE.

RAILROAD-GATE.

SPECIFICATION forming part of Letters Patent No. 282,631, dated August 7, 1883.

Application filed April 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. HALL, of South Waterford, in the county of Oxford, State of Maine, have invented certain new and useful Improvements in Railroad-Gates; and I do hereby declare the following to be a full, clear, and exact description thereof, such that persons skilled in the art to which it appertains may be able to make and use the same.

The object of my invention is to provide a gate for railroad-crossings which may be automatically operated to close and to open the roadway by a moving train; and it consists in certain novel appliances for carrying out this object which will be particularly pointed out in the claims.

My invention is applied to a swinging gate which vibrates or swings in a vertical plane.

In the drawings, Figure 1 is an end elevation of the gate and its immediate attachments, the gate being in an erect or elevated position. Fig. 2 is a side view of the lower or weighted end of the gate with certain parts attached thereto. Fig. 3 is a detail view of the gears and cams for operating the gate through the movable parts shown in Fig. 2; and Fig. 4 is a separate view of the shifting-bar shown in Figs. 1 and 2. Fig. 5 is a view of the shifting-bar, vibrating levers, and shifting weight. Fig. 6 is a view of a part of my apparatus which is placed at some distance from the crossing, to be operated upon directly by an attachment to some part of the moving train; and Fig. 7 is a view of a double-incline piece to be attached at the proper level to the engine or some part of the train.

A is the arm of the gate, and A' is the lower counterbalance part thereof, to which is applied a movable weight, B, as shown in Fig. 2. This weight B is hung upon two loosely-pivoted arms, *b b*, connected, as shown, to the broad counterbalanced end of the gate. Pivoted to these arms is the shifting-bar C, provided with anti-friction rollers *c c'*, as shown in Fig. 4.

d d' are catches, which operate either by spring or gravity to catch upon a suitable part of the frame to hold the gate in either its vertical or horizontal position.

D are gear-disks adjusted in a frame alongside the base or weighted end of the gate, at-

tached to which are cams F F. By the side of one of these geared disks is a double-grooved pulley or sheave. Around one part of this sheave are wound and secured line-wires *x x'*. These line-wires extend to some considerable distance in both directions from the crossing, and at their other extremities connected with a device such as shown in Fig. 6, where the wire passes around a sheave and is connected with the lever *z*. There is also connected with the double sheave above referred to a weight, *m*.

g, Fig. 6, is a thrust-rod provided with a friction-roller, *h*, adapted to be thrust outward by a cam or incline, *i*, Fig. 7, attached to some part of a moving train.

The operation of my apparatus is as follows: The gate being open and a train approaching the crossing provided with a projection, *i*, comes into operative connection with the thrust-rod *g*, and it acts upon the lever *z*, thereby pulling the wire *x*. Said wire, through its sheave in the frame, operates the disks D and cams F F. The lower cam, coming in contact with the bottom friction-roller, *c*, of the shifting-bar C, throws it down and unlocks the catch *d* from *d'*, and at the same time carrying the shifting weight B above the pivot of the gate, thereby throwing the center of gravity toward the arm end of the gate, when it drops automatically, and is caught and held in position by the catch *d'* engaging with the upper bar, *d'*. When the train has passed the crossing and the road is clear, the projection *i* strikes another thrust-rod *g*, and operating in a similar manner to that already described through the wire *x'*. The shifting-rod C is thrown in the opposite direction, disengaging the catch *d'* and throwing the shifting weight B on the outer or lower end of the gate-bar, when it rises automatically and is caught and held in position by the catch *d*. The weight *m* serves to bring the disks and cams back to their normal position and keep the wires taut.

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

1. In a gate for railway-crossings, the combination of shifting-bar C, shifting weight B, and cams F F, as herein described.

2. The combination of catches *d d'*, shifting-

bar C, and cams F F, whereby the gate is locked and released, as and for the purposes set forth.

3. In a railroad-gate-operating mechanism, 5 the combination therewith of thrust-rod *g*, lever *z*, guide-pulley, and wire *x*, as herein described, and for the purpose set forth.

4. The combination of thrust-rod, line- 10 wire, operating-pulley, disks D D, cams F F, and shifting-bar C, whereby the weight is shifted to one side or the other of the pivot of the gate, as specified.

5. The combination of the cams F F, operated as described, and the shifting-bar for operating the shifting weight, and the catches *d* 15 *d'*, as herein specified.

In testimony whereof I hereunto subscribe my name.

GEORGE A. HALL.

Witnesses:

F. E. TIMBERLAKE,
H. SMITH.