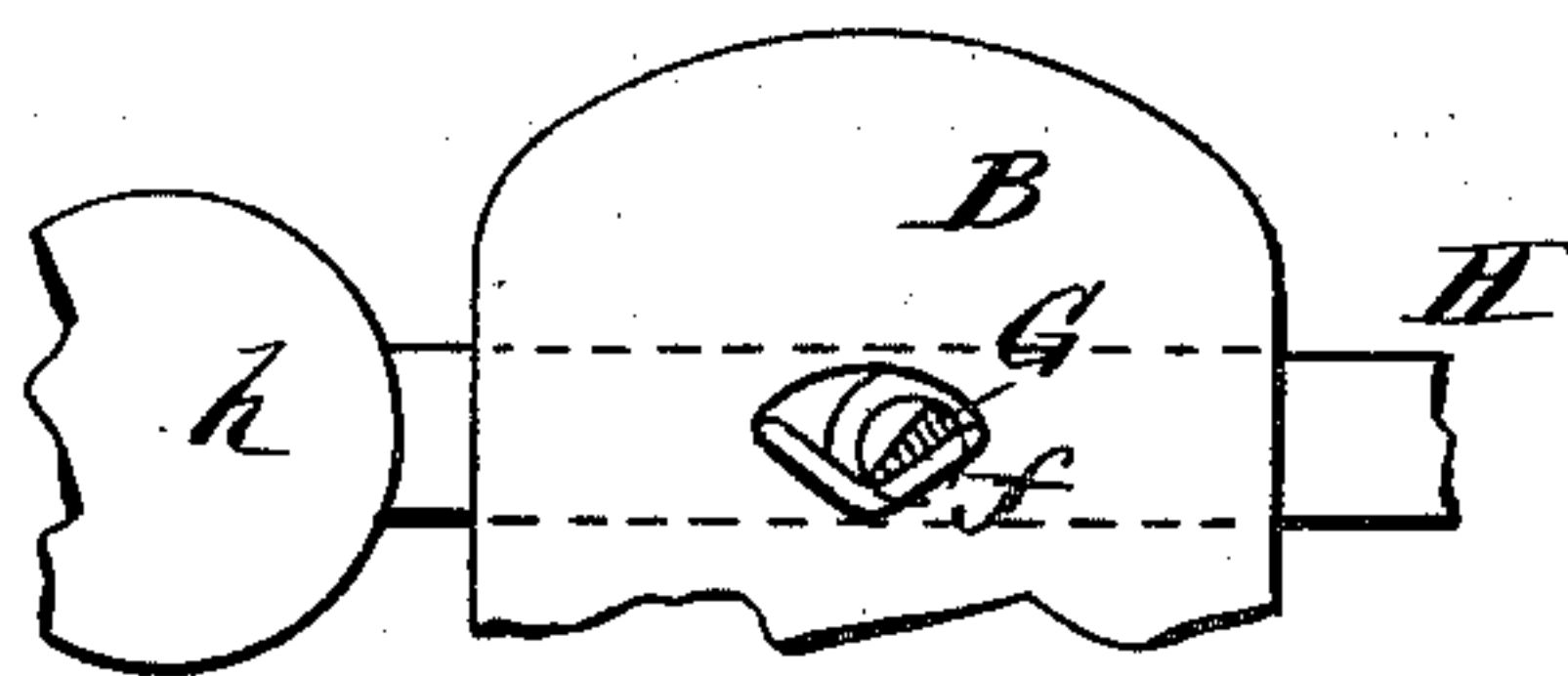
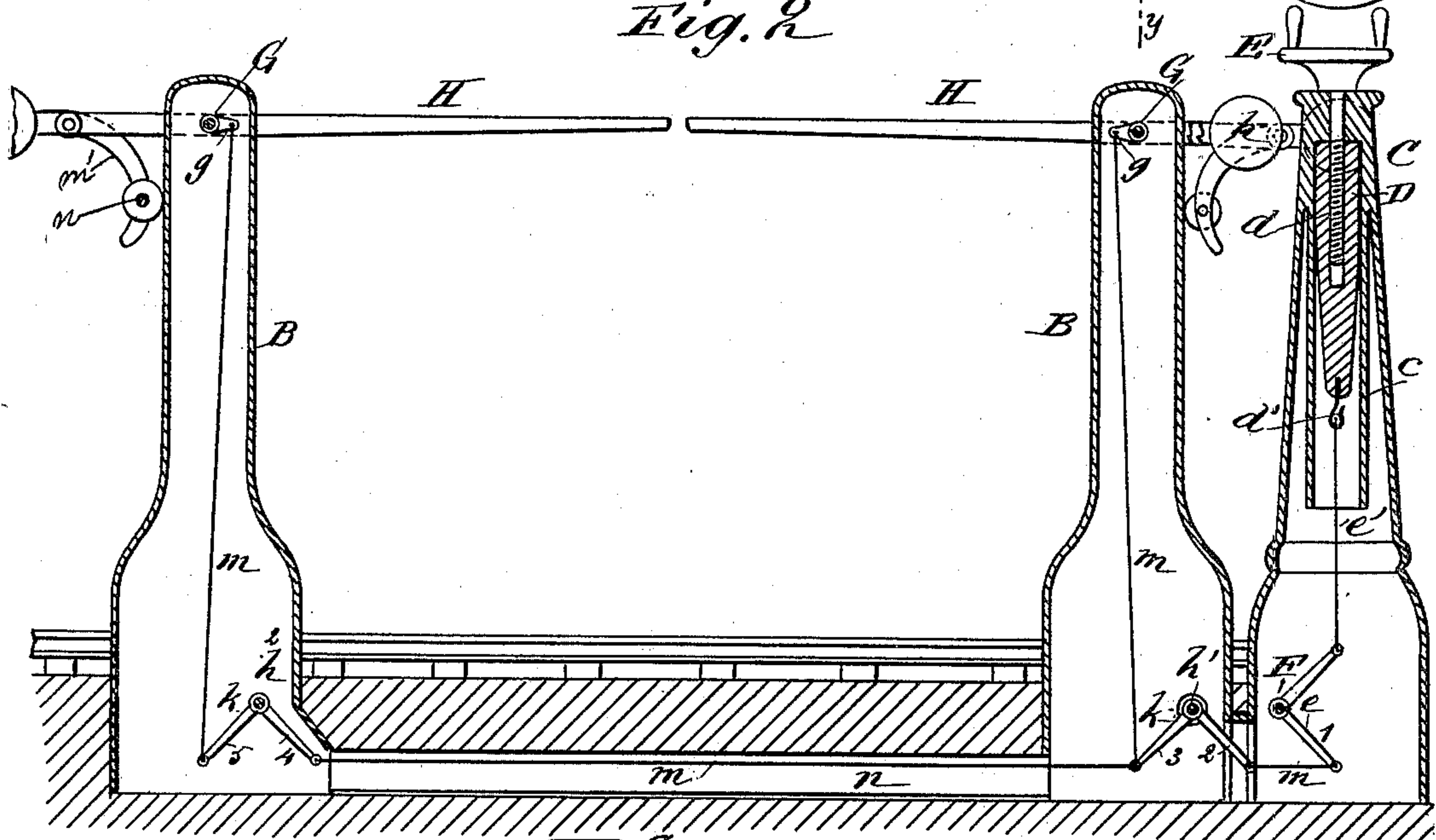
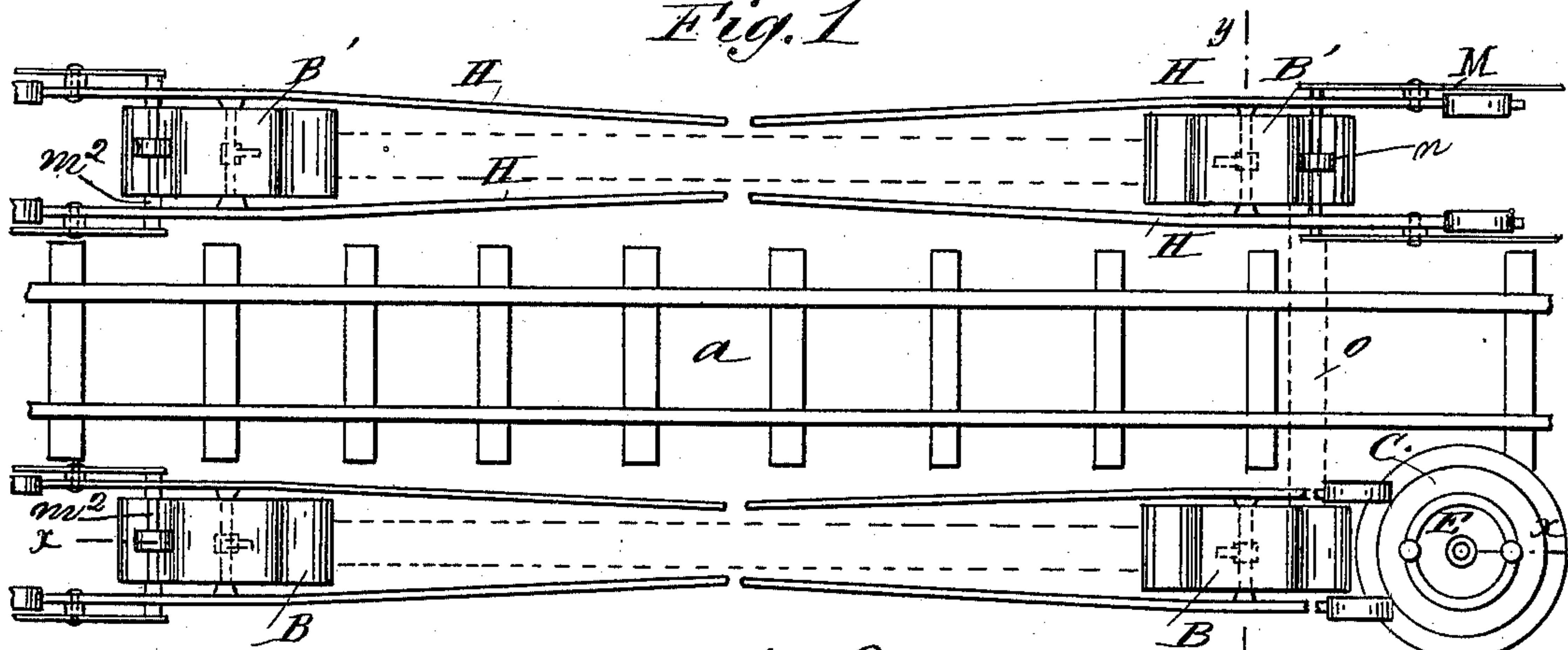
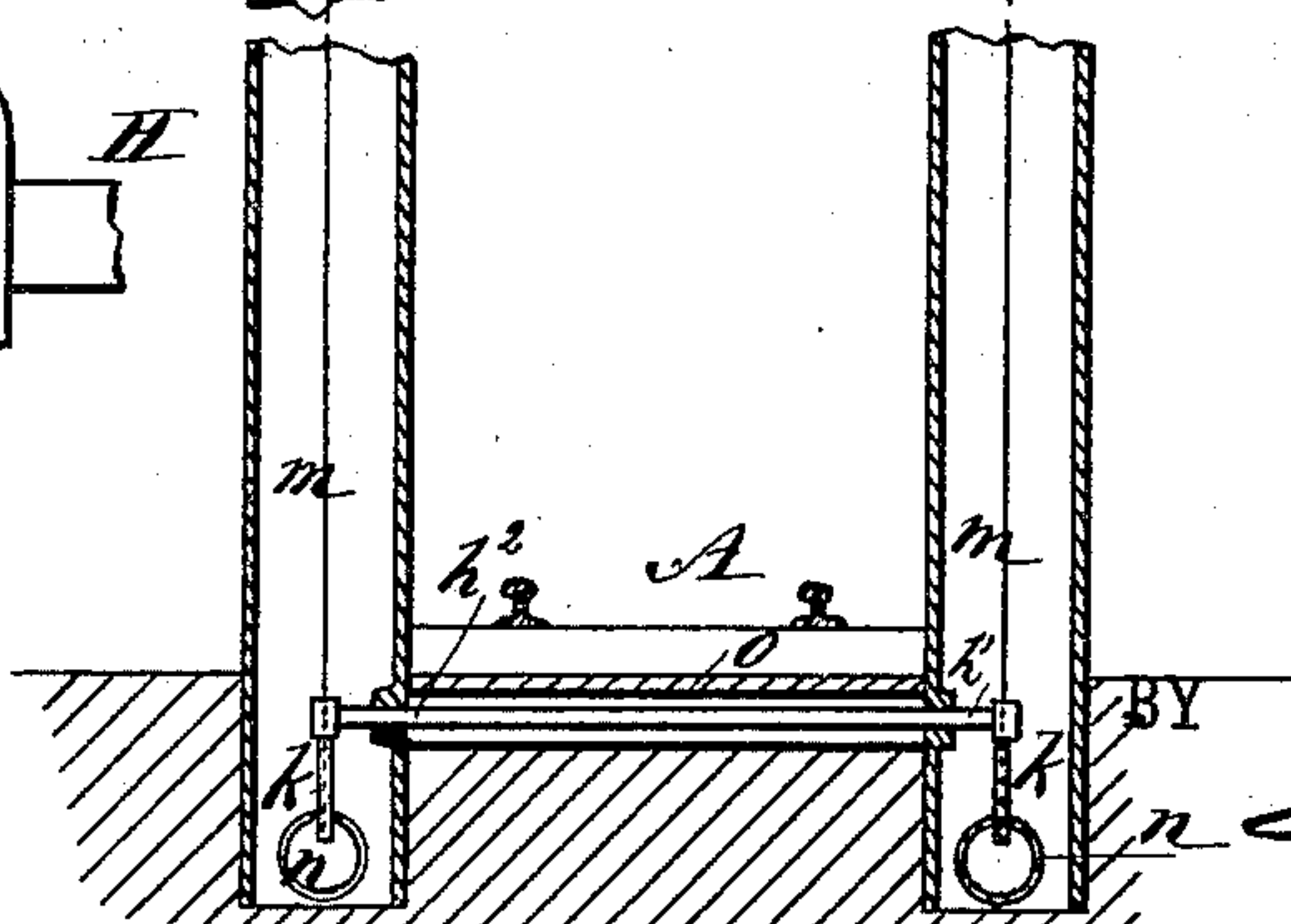


Patented Sept. 6, 1887.



C. Sedgwick

Fig. 5



Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

NICKOLAS THELEN, OF SCHENECTADY, AND HENRY CLUEVER, OF ALBANY,
NEW YORK.

RAILROAD-CROSSING GATE.

SPECIFICATION forming part of Letters Patent No. 369,621, dated September 6, 1887.

Application filed January 4, 1887. Serial No. 223,396. (No model.)

To all whom it may concern:

Be it known that we, NICKOLAS THELEN, of Schenectady, in the county of Schenectady and State of New York, and HENRY CLUEVER, of Albany, in the county of Albany and State of New York, have invented a new and Improved Railroad-Crossing Gate, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in railroad-crossing gates, and has for its object to provide gates upon each side of a track which may be readily raised and lowered simultaneously by one person, and which will effectually bar the crossing.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of our railroad-gates in position for use, and Fig. 2 is a vertical longitudinal section through line *xx* of Fig. 1. Fig. 3 is a transverse vertical section through line *yy* of Fig. 1, and Fig. 4 is a detail view illustrating the knife-edge bearing of arm-shafts in the posts. Fig. 5 is a detail view of the rear pivoted auxiliary arm.

In the construction of my railroad-gates, A represents a track, and B B' hollow posts, preferably made of iron, two upon each side of the said track opposite each other at the sides of a crossing. To the rear of one of the aforesaid posts or standards B or B' another post, C, is placed, also hollow, provided with a central tube, *c*, adapted to extend downward to about the center thereof, and an elongated block, D, having smooth sides, within said tube, the block D being held to slide in the tube *c* by a screw, *d*, engaging a threaded hole in the said block at the top, which screw, passing through the upper portion of the standard C, is provided with an integral hand-wheel, E. Across the lower portion of the standard C, below the surface of the ground, a shaft, F, is journaled, having keyed thereon within said standard an angular lever, *e*, to the upper arm of which lever a wire, *e'*, is secured, the other

end being attached to the block D by a hook, *d'*, or equivalent device attached to the lower end of said block.

The standards or posts B B' are provided at the top upon opposite sides with more or less V-shaped apertures, *f*, in the same horizontal plane, adapted to receive shafts G, having knife-edges to overcome friction, as shown in Fig. 4. The said shafts G are made to extend beyond the outer faces of the said posts or standards B B', and to them are securely attached horizontal arms H near one end thereof, the said arms being at their short ends provided with weights *h*, purposed when the said arms are free to carry them upward to a vertical position.

Each shaft G is provided with an arm, *g*, secured thereon centrally within the posts or standards B B', as shown in Figs. 2 and 3, and the said posts or standards are provided with transverse shafts *h' h''* in the same horizontal plane with the shaft F of the standard C, and also with angle-levers *k*, keyed upon said shafts *h' h''*, and similar to the angle-lever *e* of the aforesaid standard C.

A connection is now effected between the angle-levers *k* of the standards B B, the angle-lever *e* of the standard C, and the arms *g* of the shafts G by means of wires *m*, in the following manner: A wire is attached, respectively, to the arm 1 of the angle-lever *e* and to the adjacent arm, 2, of the lever *k* of the standard B, the other arm, 3, of said lever *k* being attached in the same manner to the lever *g* of the arm H of the same standard, B, and through a tube, *n*, placed under ground, extending parallel with the track and connecting the two standards B, a wire is extended, having one end attached to the arm 3 of the aforesaid angle-lever *k* and the other end secured to the arm 4 of the equivalent lever *k* of the second standard B, the other arm, 5, of which lever is connected in the same manner with the arm *g*, located in the upper portion of the said second standard B. The levers of the two standards B' upon the opposite side of the track are connected in the same manner as the levers of the standards B, motion being communicated from one standard, B, to the opposite standard, B', by the extension of the shaft *h'* across the track

beneath the same within a tube, O, so that the said shaft will extend from the center of the one standard to the center of the other, as shown in Fig. 3.

5 To the outer side of the weighted arms H, between the standards B B' and the weights *h*, we pivot auxiliary arms M, to extend rearward in the same horizontal plane with the said main arms H when said gate-arms are closed, and as the weighted main arms H are thrown up vertically the said auxiliary arms M resume a parallel vertical position. The purpose of these auxiliary arms is to bar any passage that may exist between the standards B
15 B' and the permanent barrier. This is effected by pivoting the auxiliary arms at one side their center, as shown, and curving the shorter end, *m'*, inwardly toward the standards and then outwardly, while the longer straight end is adapted to extend, when the main gate-arms are closed, directly rearward from the standards.

The two parallel auxiliary arms M of each standard are united at their curved ends *m'*
25 by a transverse rod, *m*², journaled therein, carrying in the middle a friction-roller, *n*, which roller is adapted to bear against the side of the standard. Thus as the main arms H are manipulated to a horizontal or vertical
30 position the auxiliary arms M assume a corresponding position.

As the operator, by means of the hand-wheel, causes the block *d* to travel downward, thereby relieving the tension upon the wire, the arm
35 H of each standard B B' will be carried to a vertical position by the action of the weight *h* attached thereto, affording a free passage across the track. When it is desired to close the passage, the hand-wheel is turned in a reverse direction, thereby bringing the block *d*
40 to the position shown in Fig. 2, which action operates the levers *e* and *k* through the wire connections *m*, bringing each arm simultaneously to a closed or horizontal position.

45 Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The block held to slide in a standard and having connected thereto a wire connected to
50 an angle-lever, said block being apertured to

receive a screw, in combination with a standard provided with a shaft carrying gate-arms and a crank, a second angle-lever, a second wire connecting one arm of said second lever with said crank, and a third wire connecting
55 the other arm of said second angle-lever with the first-named angle-lever, substantially as and for the purpose set forth.

2. The combination, with the standard C, provided with a sliding block, D, a screw entered at the top of said block, an angle-lever, *e*, and wire connection *e'*, of the standard B, provided with angle-lever *k*, counterpoised arms H, attached to a knife-edged shaft, G, auxiliary arms M, pivoted to said counterpoised arms H, a crank, *g*, attached to said shaft G, and a wire, *m*, connecting the said levers *e k* and crank *g*, substantially as shown and described.

3. The combination, with the standard C, provided with a sliding block, D, a screw entered at the top of said block, an angle-lever, *e*, and a wire, *e'*, connecting said lever and block, of the standards B B, connected by the tube *n* and provided with angle-levers *k*, counterpoised arms H, attached to knife-edge shafts G, journaled in said standards, auxiliary arms M, provided with friction-rollers, *n*, pivoted to said counterpoised arms, cranks *g*, attached to said knife-edge shafts, and wires
80 *m*, connecting the said levers *e k* and crank *g*, all operating substantially as herein shown and described.

4. The combination, with the standard C, provided with a block, D, a screw threaded in
85 said block, and an angle-lever, *e*, the standards B B, provided with angle-levers *k*, and shafts G, having cranks and carrying-arms H and auxiliary arms M, and the connection *e'* and *m* between said levers and cranks, of the standards B' B', provided with shafts G, arms H, and angle-levers *k* and their connections, and the shaft *h'*, connecting the angle-levers *k* of the opposite posts B B', substantially as shown and described.

NICKOLAS THELEN.
HENRY CLUEVER.

Witnesses:

WILLIAM WEBER,
CONRAD RISSBERGER.