A. Hartman
Rail Road Gate

No. 75013 — Patented Mar. 3. 1868

Fig. 1.

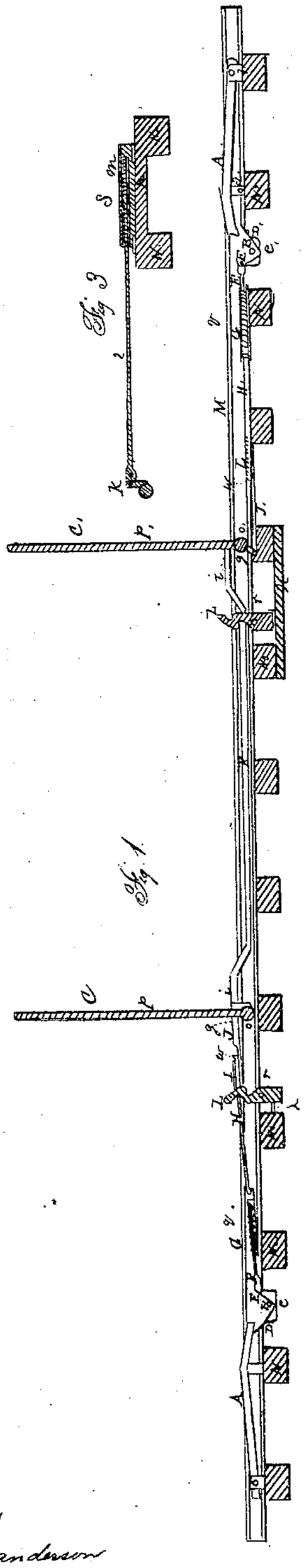

Fig. 2.

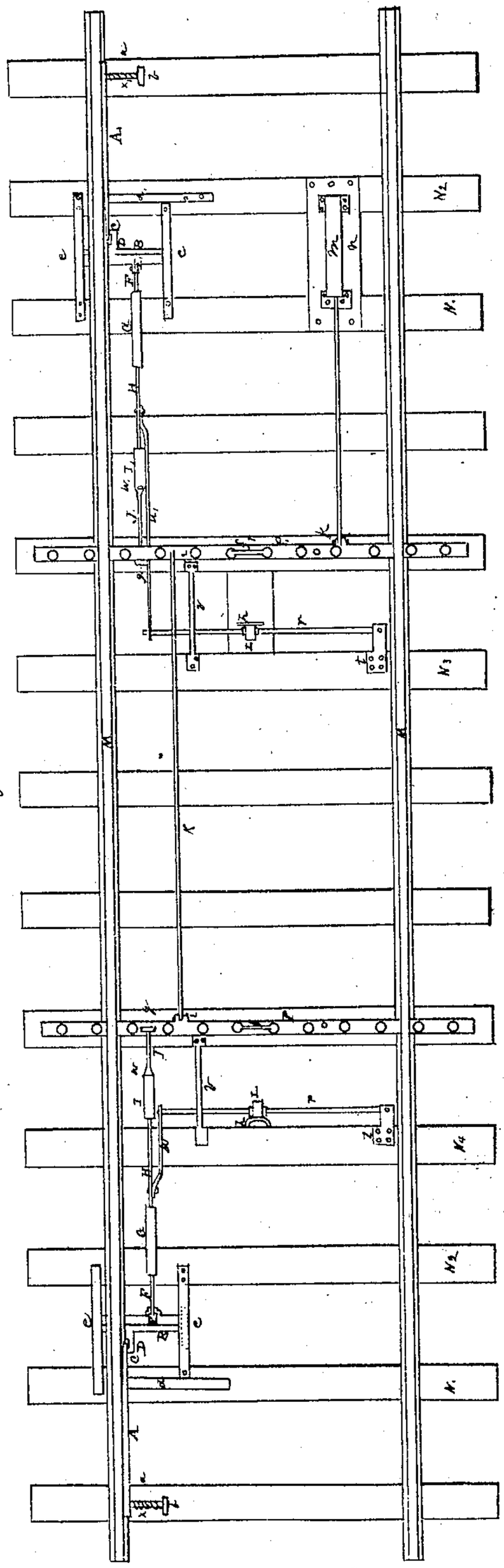

Fig. 3

Witnesses
Chas F. Manderson
Geo. Gaster

Inventor
Andrew Hartman
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United States Patent Office.

ANDREW HARTMAN, OF CANTON, OHIO

Letters Patent No. 75,013, *dated March* 3, 1868; *antedated February* 22, 1868.

IMPROVEMENT IN RAILROAD-GATES.

The Schedule referred to in these Letters-Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ANDREW HARTMAN, of Canton, in the county of Stark, and State of Ohio, have invented new and useful Improvements in Railroad-Gates; and I do hereby declare that the following is a full, clear, and exact description of my invention, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon, in which drawings—

Figure 1 is a side view of my improved gates.

Figure 2 is a plan of the same.

Figure 3 is a detached side view of the rod, spring, &c., which close the gates.

The nature of my invention consists in the novel construction and arrangement of several rods, levers, springs, sockets, &c., as hereinafter set forth, in such a manner that the flanges of the cars or locomotive, by acting on the lever on the side of the rail, shall cause the gates to turn down into a flat position, so as to allow the train to pass over them; also in the peculiar arrangement of the catches that hold the gates down while the train is passing, and which, by the action of a lever attached to the rear car of the train, release the gates as soon as the train has passed, when the gates assume their original vertical position.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The gates C C′ are of iron or other suitable material, being made by forming the slats *p p′* into the horizontal bars O O′. These horizontal bars may pass through the rails M, as shown, or have a box attached to the bottom of the rail, being in either case free to rotate. The levers A A′ are placed at the side of the rail, the hollow of the rail being filled by a suitable-shaped piece, wood or iron, and have the bolts *a a′* as axles, one end of the bolts *a a′* being in the rail, and the other end in the irons *b b′*. The levers A A′ have their ends *c c′* made in an oblique wedge-shape, so that when a wheel comes to the lever A, and first strikes the end, *c*, the flange of the wheel comes between the rail M and lever A, and slides the lever A along on the bolt *a*, while a wheel approaching in the opposite direction, the flange runs on the lever A′, and forces it down, instead of sliding it on the bolt *a*, for a reason hereafter shown. The rock-shafts B B′ are hung in the boxes *e e e′ e′*, which are fastened in irons which pass from the ties N^1 to N^2, as shown. The arms D D′ of these rock-shafts are directly under the ends *c c′* of the levers A A′, and have a hook from the end *c c′*, passing through an eye in their ends. The rods F F′ are attached to the arms E E′, and on the opposite ends of these rods, on the spiral springs *q q′*, which are arranged in the boxes G G′, as shown. The rods H H′ are attached to the boxes G G′, and pass through the slides I I′, and have nuts, *w w′*, on their other ends, as shown, the rods being made so as to slide through the slides I I′, so that one side of this automatic arrangement shall not interfere with the free action of the other side. The rods J J′, having the slides I I′ at the ends, are attached to the arms *g g′* on the horizontal bars O O′ of the gate C C′. The rod *l* is attached to the arm *k* of the gate C, and on its other end is the spiral spring *s*, which is enclosed in the box *m*, which box is secured to the board *n* on the ties N^1 N^2. The springs *d d′* keep the levers A A′ up to their places, and the springs *x x* keep the levers A A′ pressed against the rail M, as shown. The lever K is attached to two arms, *i i′*, on the bars O O′, said arms being either on the top or bottom of the bars O O′, the object being to cause both gates to rise and fall simultaneously. The catches L L′ are hung on the rods *r r′*, being free to rotate on said rods. The rods *r r′* are attached at one end to the irons *t t′* on the ties N^3 N^4, and pass through a slotted hole in the bars *v v′*, and are attached at their other ends to the rods *u u′*, which rods are attached to the rods H H′, as shown in fig. 2. The bars *f f′* are placed at such a distance from the horizontal bars O O′, and between two adjacent slats of the gates, as that when the gates are rotated into a flat position, these bars *f f′* are caught by the catches L or L′, and the gates are held down.

The operation of these gates is as follows: A train approaching the gates, and first coming on to the lever A, depresses said lever, and causes a rotation of the rock-shaft B, which acts on the parts F, G, H, I, J, and by thus drawing on the arm *g*, causes the gate C to rotate into a flat position, and as the gates C and C′ are connected by the bar K, as before shown, both gates will be caused to assume the same flat position. The spring *q* prevents the motion caused by the action of the lever A from being too rapidly communicated to the gates. The rod *u* being attached to the rod H, draws back the lever *r*, on which is hung the catch L, and the bottom of said catch striking against the stop *h*, causes the catch L to be turned back, so as to prevent its catching the

bar *f* when the gates come into a flat position. The slides I′ allowing the rod H′ to slide through it, there will be no action of the lever *r′*, on which is hung the catch L′; consequently, when the gates assume a flat position, the catch L′ catches on the bar *f′*, and the gates are held down until the last car passes, when a bar, to be attached to the rear end of the last car, strikes the top of the catch L′, and throws it back, thus releasing the gates, which, by the action of the rod *l* and spring *s*, attached to the arm *k*, causes the gates to assume their original position. The flanges of the car-wheel pass between the lever A′ and the rail M, causing the lever to slide along the rod *a*, but causing no action of the rock-shaft B′. The action of a train, when coming towards the gates, and first coming on to the lever A′, is precisely analogous to that just described, and need not be particularly specified. In this manner I arrange the gates, with the machinery as shown, at any point where a highway crosses the railroad, the whole forming a self-operating apparatus, and preventing cattle or stock of any kind from coming on to the track, excepting at the point where the highway crosses the railway-track.

I do not claim the gates C C′ as my invention, but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the rods F, H, J, box G, spring *q*, slide I, and nut *w*, the several parts being arranged in the manner and for the purpose herein specified.

2. The combination of the lever A, and the springs *d* and *x*, the several parts being arranged as and for the purpose herein set forth.

3. The combination of the gates O O′, rods K and *l*, arms *i i k*, spring *s*, and box *m*, the several parts being arranged in the manner and for the purpose specified.

4. The peculiar arrangement of the irons *t t′*, levers *r r′*, catches L L′, slotted irons *v v′*, rods *u u′*, and stops *h h′*, the several parts being used as and for the purpose herein specified.

5. The peculiar arrangement and combination of the gates, levers, rock-shafts, rods, springs, boxes, slides, catches, and slotted irons, as herein shown, the whole forming a self-operating apparatus, in the manner and for the purpose herein specified.

As evidence that I claim the foregoing, I have hereunto set my hand in presence of two witnesses.

ANDREW HARTMAN.

Witnesses:

CHS. F. MANDERSON.

E. N. BEEBOUT,