

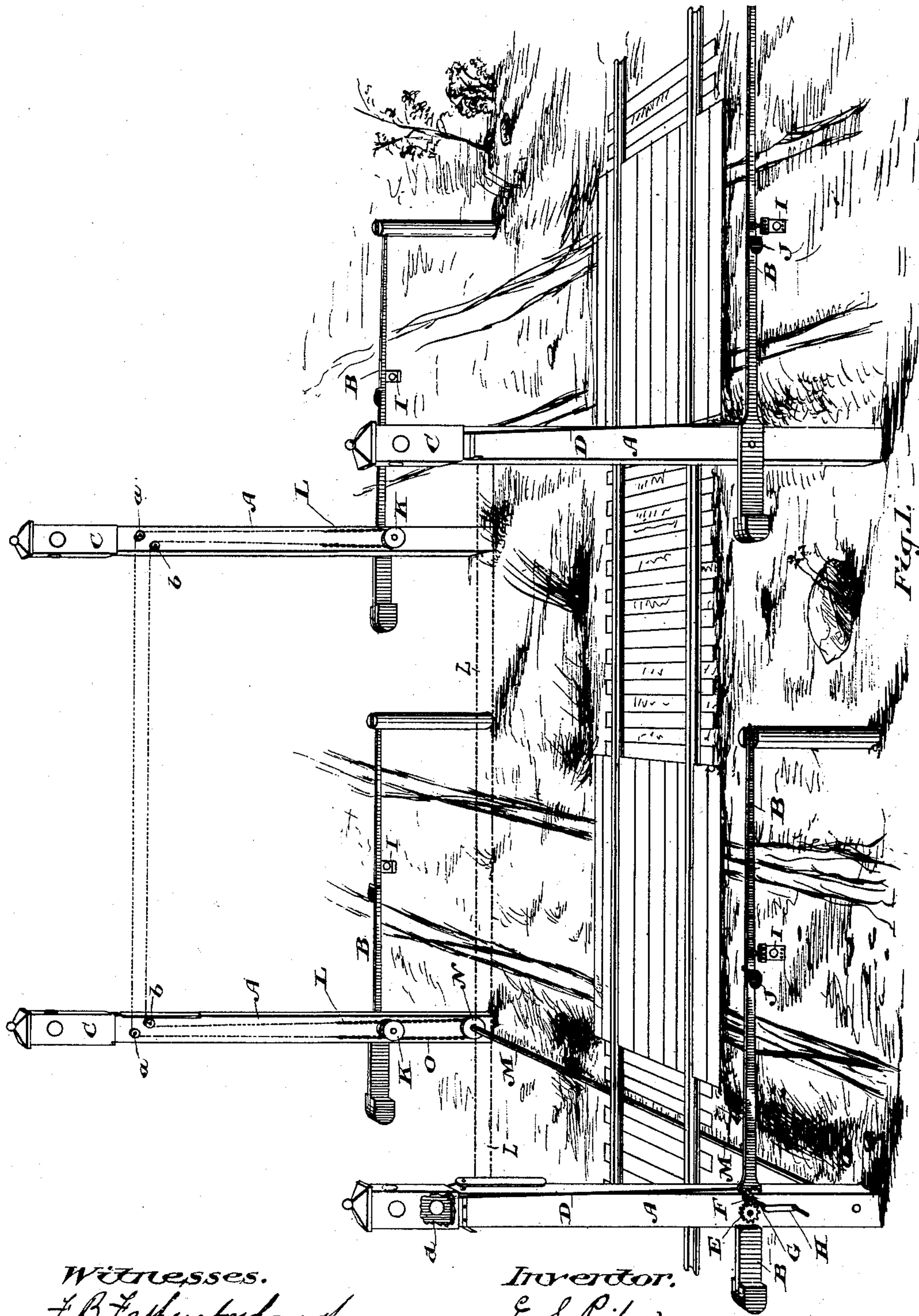
(No Model.)

2 Sheets—Sheet 1.

E. S. PIPER.
COMBINED RAILROAD GATE AND SEMAPHORE.

No. 363,675.

Patented May 24, 1887.



Witnesses.

F. B. Fethusbaugh

J. M. Jackson

Inventor.

E. S. Piper

By Donald C. Ridout & Co
Attys

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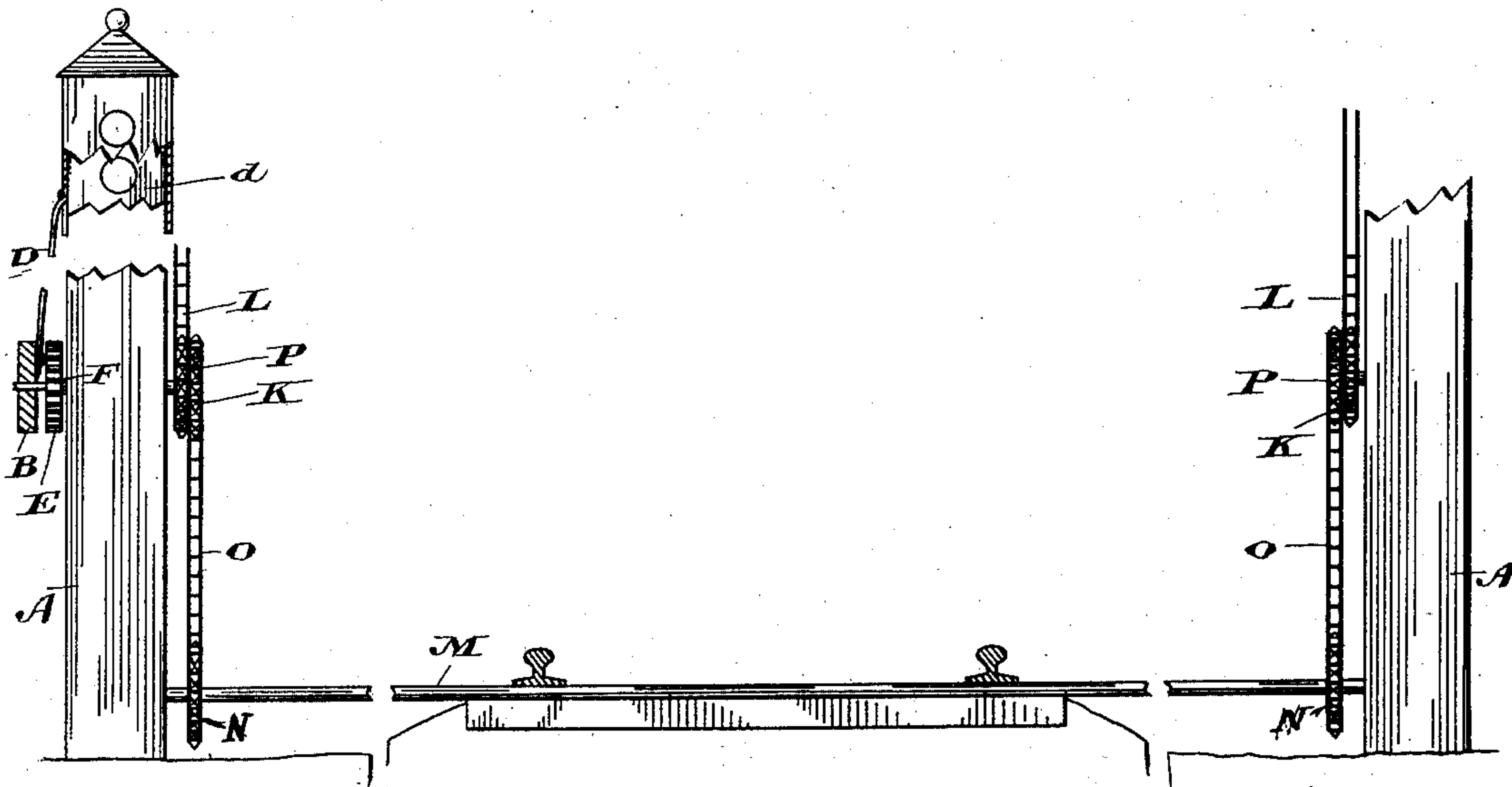


Fig. 2.

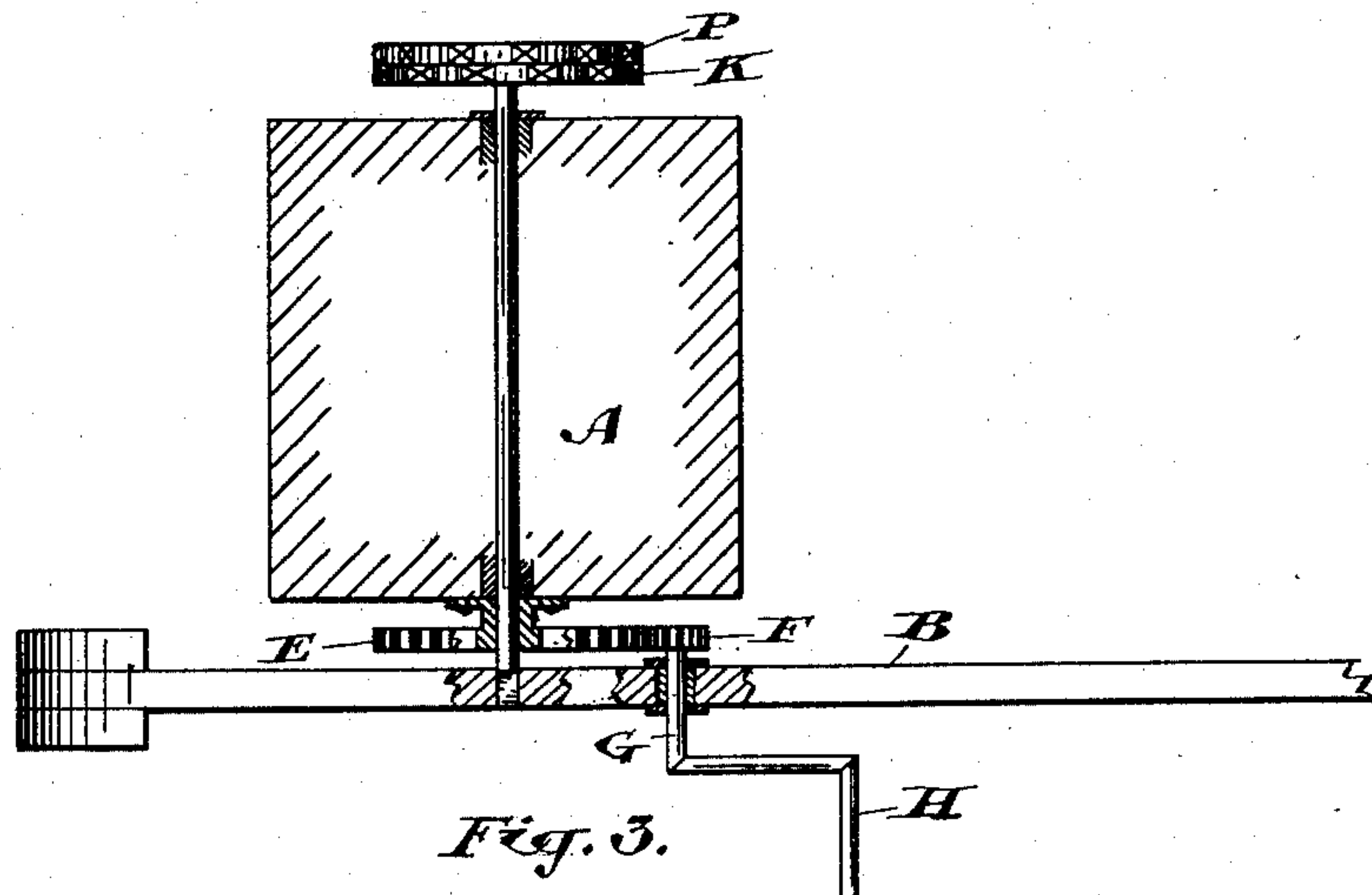


Fig. 3.

Witnesses:

H. B. Fetherstonhaugh

J. M. Jackson

Inventor:

E. S. Piper
by Donald C. Ridout Jr
Att'y

UNITED STATES PATENT OFFICE.

EDWARD S. PIPER, OF TORONTO, ONTARIO, CANADA.

COMBINED RAILROAD-GATE AND SEMAPHORE.

SPECIFICATION forming part of Letters Patent No. 363,675, dated May 24, 1887.

Application filed June 17, 1886. Serial No. 205,431. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SPENCER PIPER, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, manufacturer, have invented a Combined Railroad-Gate and Semaphore, of which the following is a specification.

The object of the invention is to design a safety road-gate to work in connection with the semaphore patented by me in the United States on the 14th day of October, 1884, under No. 306,641, and in Canada on the 30th of April, 1884, under No. 19,269, the arrangement being such that a number of gates and semaphores can be operated simultaneously from one spot; and it consists in the peculiar combinations and the novel construction, arrangement, and adaptation of parts, as more fully hereinafter described and claimed.

Figure 1 is a perspective view showing two roads or highways crossing a railway-track, safety-gates for the highways being connected to the semaphore-posts used as signals for the railway-track. Fig. 2 is a cross-section of the track, showing the position of semaphore and connections shown at the left-hand side of Fig. 1. Fig. 3 is a cross-section of semaphore-post A, showing means of operating the gate.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the semaphore-post, near the base of which the safety-gate B is pivoted, the semaphore-lamp case C being placed on the top of the post A and operating in the manner described in the patents hereinbefore referred to.

D is a rod connecting the vertically-movable signal-jacket of the lamp case C with the safety-gate B.

E is a gear-wheel fastened upon semaphore-post A, and through which the pivoted shaft of the safety-gate B passes. This gear-wheel meshes with the gear-pinion F, fastened to the spindle G, which is journaled upon the gate B and provided with a crank-handle, H. This connection described enables the safety-gate B to be raised or lowered by simply turning the crank-handle H; and as the vertically-movable jacket *d* of the lamp-case C is connected by the rod D to the gate B, the said jacket *d* moves with the gate, and is arranged so that when the gate is lowered to close the highway a red light is visible from the high-

way and a white light from the railroad-track, and when the gate is elevated so as to open the highway a white light in the semaphore will be seen from the highway and a red light made visible from the railroad-track. In addition to these signals, I provide a lamp, I, which I hang upon the gate B, as indicated. This lamp has only glass upon the two sides which face the highway, so that the said glasses, which are red, will not be visible to the engine-man on an approaching train. When the gate B is elevated, the lamp I will hang so that its glass shall be hidden by the blind J. This blind is connected to the gate B, as indicated, so that while hiding the lamp I when the gate is elevated it stands clear of the lamp when the gate is lowered. Consequently a red light is only exposed to the highway when the gate is lowered.

In order to operate a number of gates from one semaphore-post, I place the sprocket-wheels K and P in the end of each of the two pivoted shafts or spindles in the gates B shown on the semaphore-posts A to the left-hand side of Fig. 1. For the convenience of operating, I usually place these sprocket-wheels K and P on the side of the post opposite to that on which the gate B is situated.

Around the sprocket-wheel K, I carry an endless chain, L, up the post A sufficiently high so that it can pass over the highway without interfering with passing teams; and in order to carry it over the said highway I pivot on the post A the small sprocket-wheels *a* and *b*, carrying the chain L over them, as indicated, to the next semaphore-post, where it is carried down and around a sprocket-wheel, K, attached to the pivoted shaft of the latter's gate. In this way, as will be understood by reference to the drawings, all the gates connected in this manner operate simultaneously in the same direction.

In order to operate gates on opposite sides of the railroad-track a wire may be arranged in the same manner; but I think it will be better to extend a shaft, M, below the track and journal it in the posts A opposite to each other, fixing a sprocket-wheel, N, to each end of the shaft and connecting them by endless chains O to the sprocket-wheels P on the pivoted shafts of the gates B.

From this description it will be noticed that

any number of semaphores may be operated simultaneously from one point.

What I claim as my invention is—

- 5 1. The combination, with the post A, vertically-movable jacket *d*, gate B, pivoted to said post, and the rod D, connecting said gate and jacket, of the gear-wheel E, secured to the post, spindle G, and gear-pinion F, all substantially as and for the purpose specified.
- 10 2. The pivoted gate B, connected to the vertically-movable jacket *d* by the rod D, in combination with the chain O, sprocket-wheel N, sprocket-wheel P on the pivot of said gate, and shaft M, arranged to operate simultaneously
- 15 two or more safety-gates, substantially as and for the purpose specified.
3. The combination, with the post A and gate B, pivoted thereon, of the gear-wheel E, secured to said post, the spindle G, journaled

upon and moving with the gate B and provided with a handle, and the gear-pinion F on said spindle and meshing with the gear-wheel E, substantially as and for the purpose specified. 20

4. The combination, with the pivoted gate B, movable jacket *d*, and the rod D, connecting said gate and jacket, of the sprocket-wheel K and gear-wheel E on the pivot of said gate, shaft M, sprocket-wheel N thereon, chain O, connecting said sprocket-wheels, and the spindle G and gear-pinion F, all substantially as and for the purpose specified. 25 30

Toronto, May 7, 1886.

EDW. S. PIPER.

In presence of—

CHARLES WRIGHT CLINTON BALDWIN,
ALICE KATHLEEN THOMPSON.