J. H. WILLIAMS.

RAILWAY SIGNALS.

No. 182,396. Patented Sept. 19, 1876.

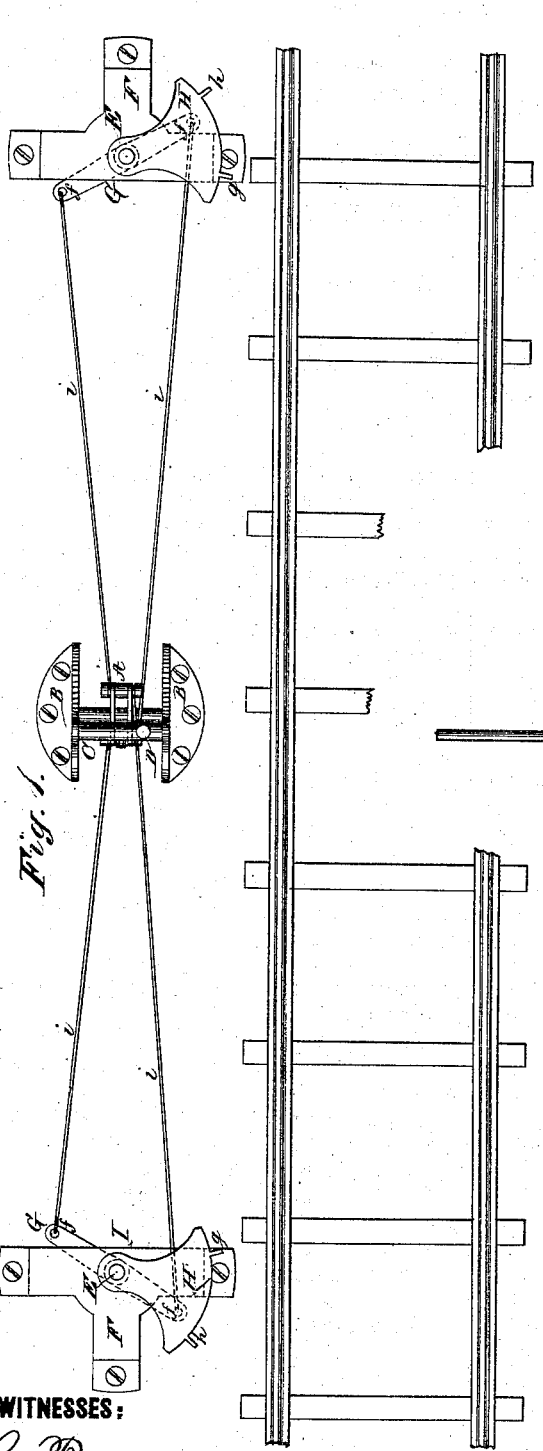

Fig. 1.

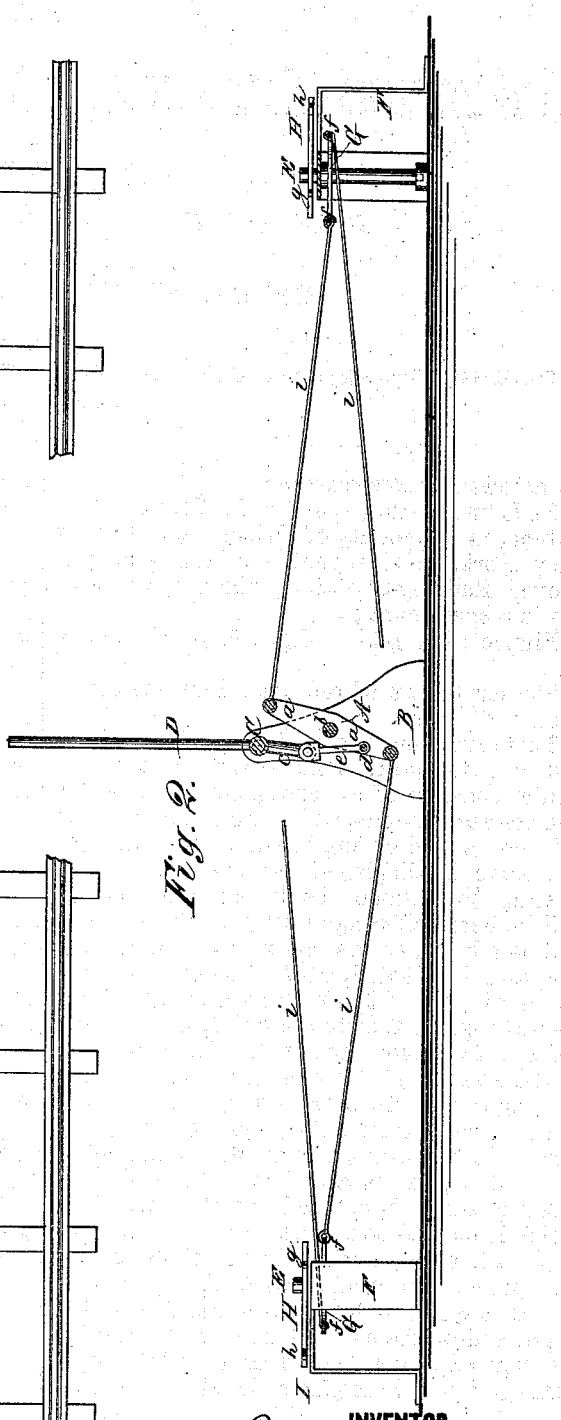

Fig. 2.

WITNESSES:

H. Rydquist

John Goethals

INVENTOR:

J. H. Williams

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN H. WILLIAMS, OF ALBION, NEW YORK.

IMPROVEMENT IN RAILWAY-SIGNALS.

Specification forming part of Letters Patent No. **182,396**, dated September 19, 1876; application filed August 21, 1876.

To all whom it may concern:

Be it known that I, JOHN H. WILLIAMS, of Albion, in the county of Orleans and State of New York, have invented a new and Improved Railway-Signal, of which the following is a specification:

Figure 1 is a plan. Fig. 2 is a side elevation.

Similar letters of reference indicate corresponding parts.

This invention relates to signals used on railways to indicate an approaching train; and it consists of an arrangement of levers and connecting-rods, which are combined with a danger signal or flag in such a manner that the same is displayed by the action of a passing train upon the levers and rods, as will be hereinafter more fully described.

A is a lever, consisting of two equal arms, *a a*, and is pivoted, at *b*, between suitable standards, B. C is a rocking shaft, that has its bearings in the standards B, and is provided with a short arm, *c*, that is connected to the lever A, at *d*, by the connecting-rod *e*. A longer arm, D, is attached to the rocker-shaft C, the normal position of which is vertical. To this arm a flag or other usual indicator of danger is attached. E is a vertical rocking shaft, supported by the frame F, which is located some distance from the crossing. G is a lever, consisting of the arms *f f*, that projects an equal distance from the shaft E. H is a sector-shaped arm attached to the upper end of the shaft E and provided with the lugs *g h* that project from its curved edge. This sectoral arm is placed in such a relation to the track that a passing engine, carrying a spring or finger, engages one of the lugs and turns the arm. The lever G is connected by the rods *i i* to the lever A. At I a device is placed which is in all respects similar to that just described, except that it is connected with the lever A so as to act in the opposite direction.

The operation is obvious. The engine of the passing train, carrying a spring that engages the lug *g* on the lever H, turns the said lever and, through the action of the lever G, rods *i*, lever A, and connecting-rod *e*, throws the arm D into a horizontal position, displaying the flag or other signal of danger. As the engine passes the signal and moves the lever H at I, the arm D is thrown into a vertical position, when the signal is not observable.

The action of the apparatus is the same whether the trains come from one direction or the other.

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

1. The arrangement of the lever A, connecting-rod *e*, and signal-arm D, substantially as shown and described.

2. The combination of the sectoral arm H, shaft E, lever G, rods I, lever A, connecting-rod *e*, and signal-arm D, substantially as shown and described.

JOHN H. WILLIAMS.

Witnesses:

C. D. ROSS,

O. C. BENTON.