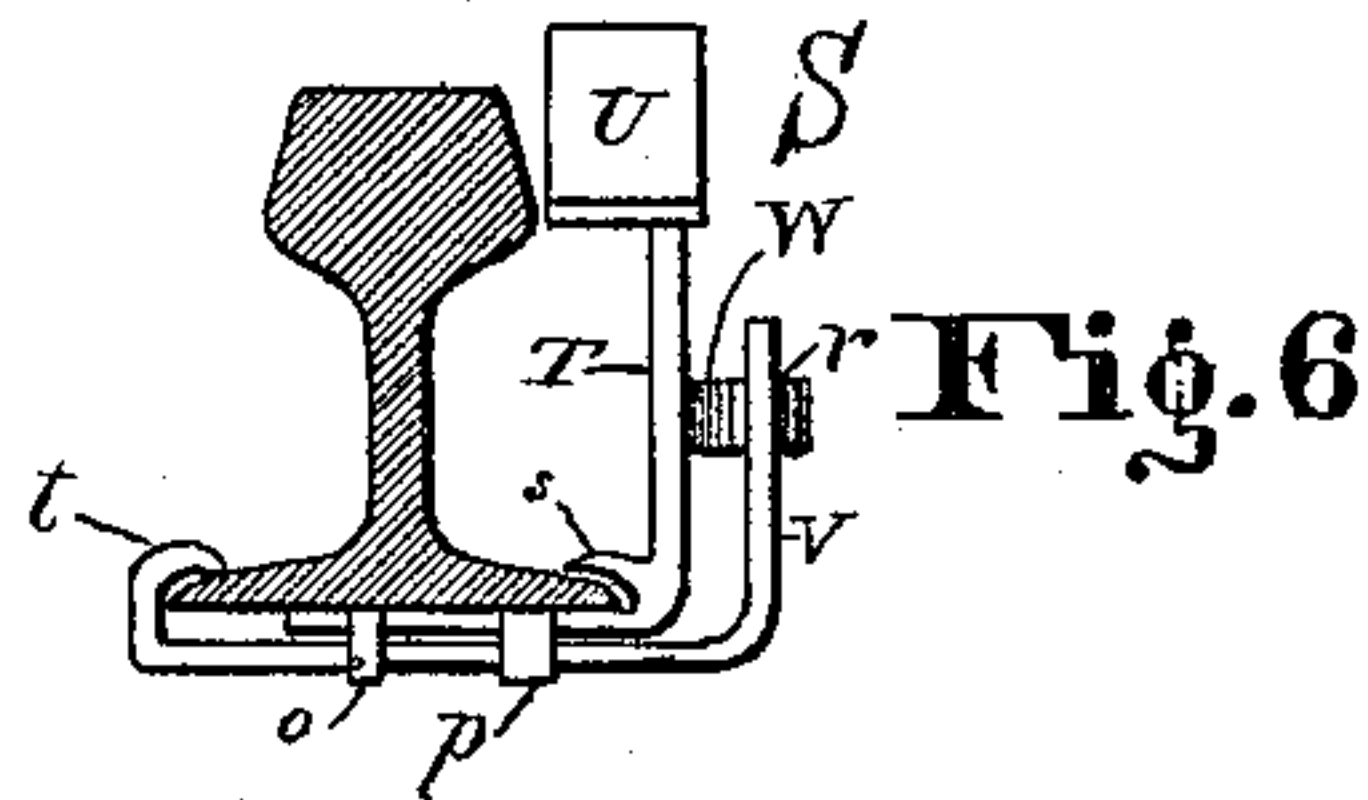
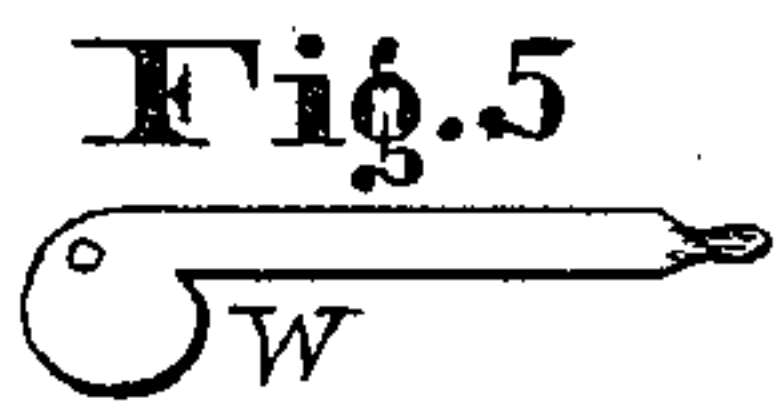
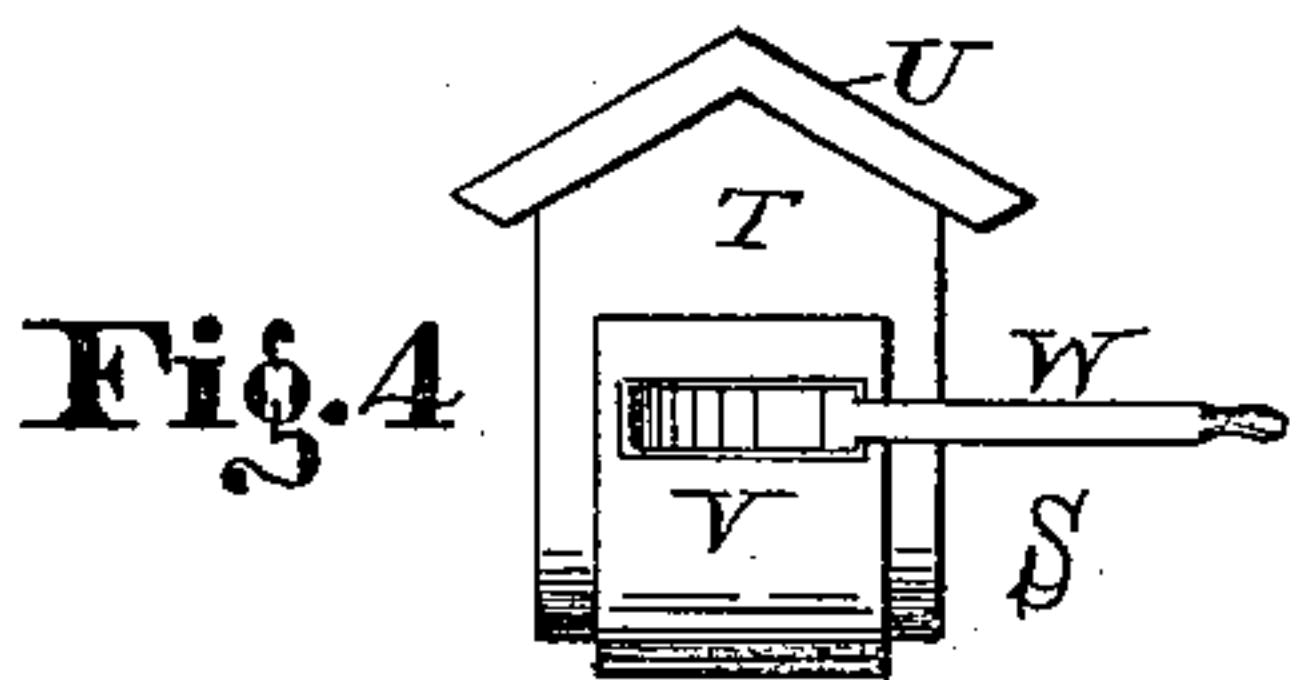
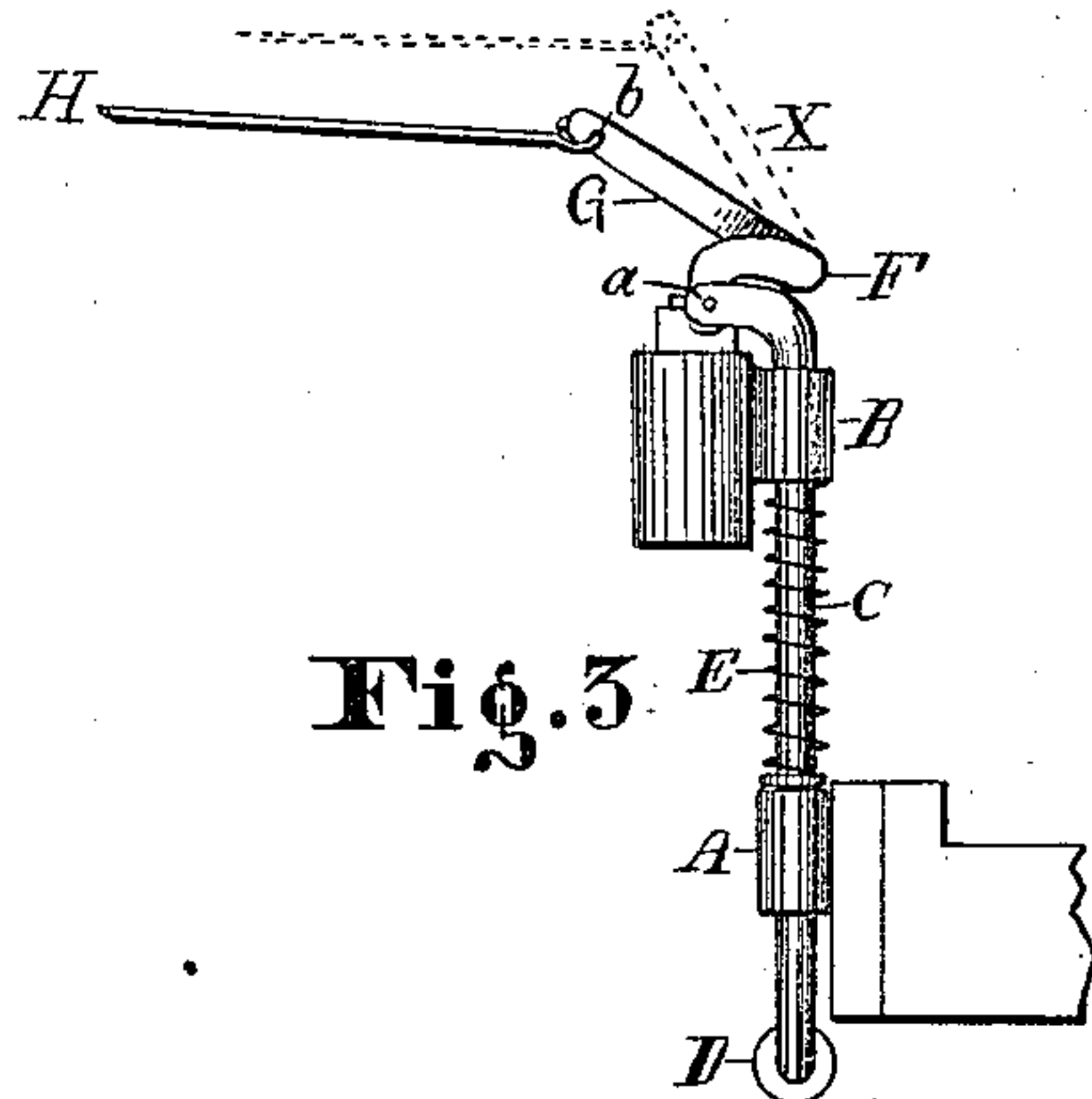
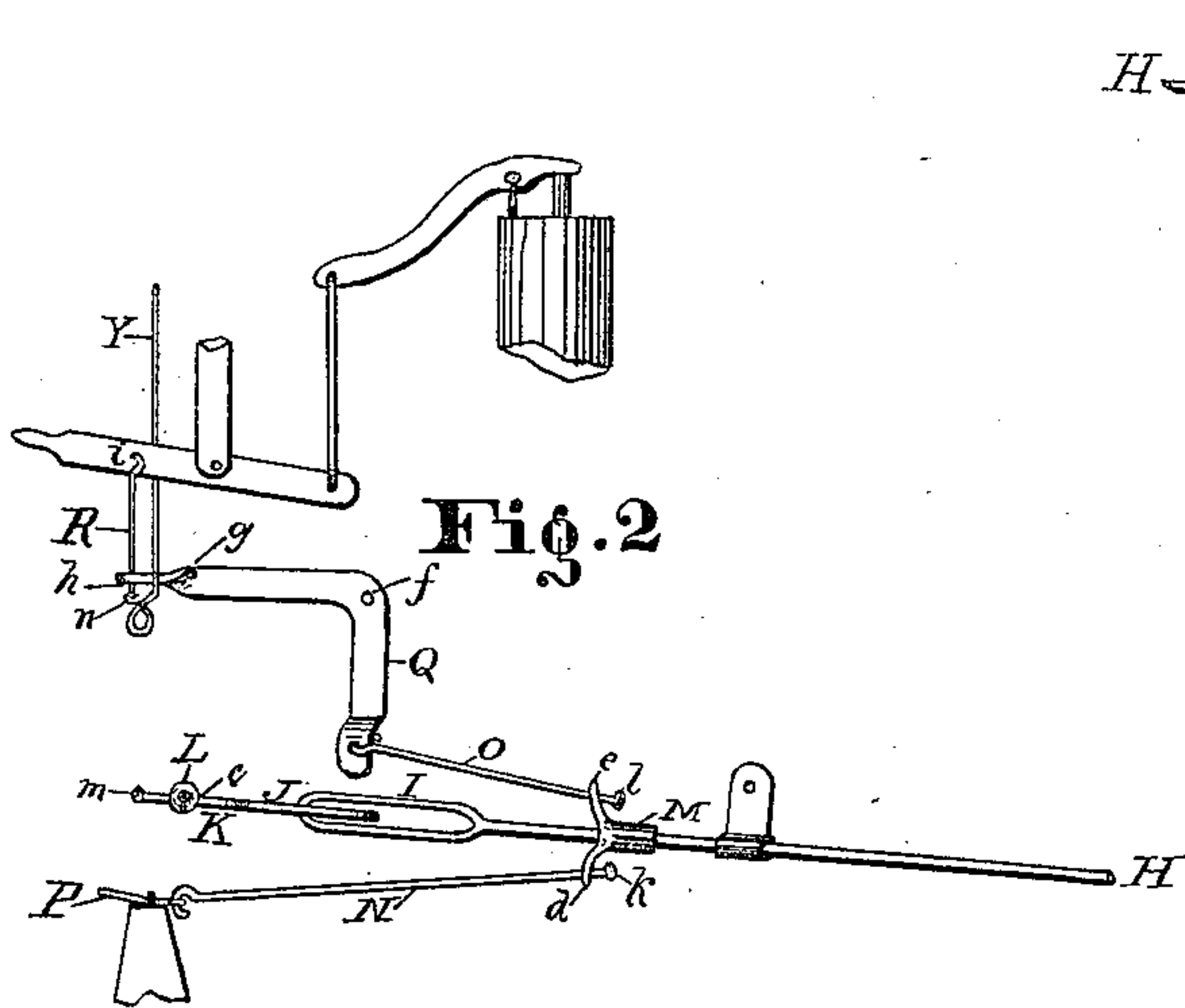
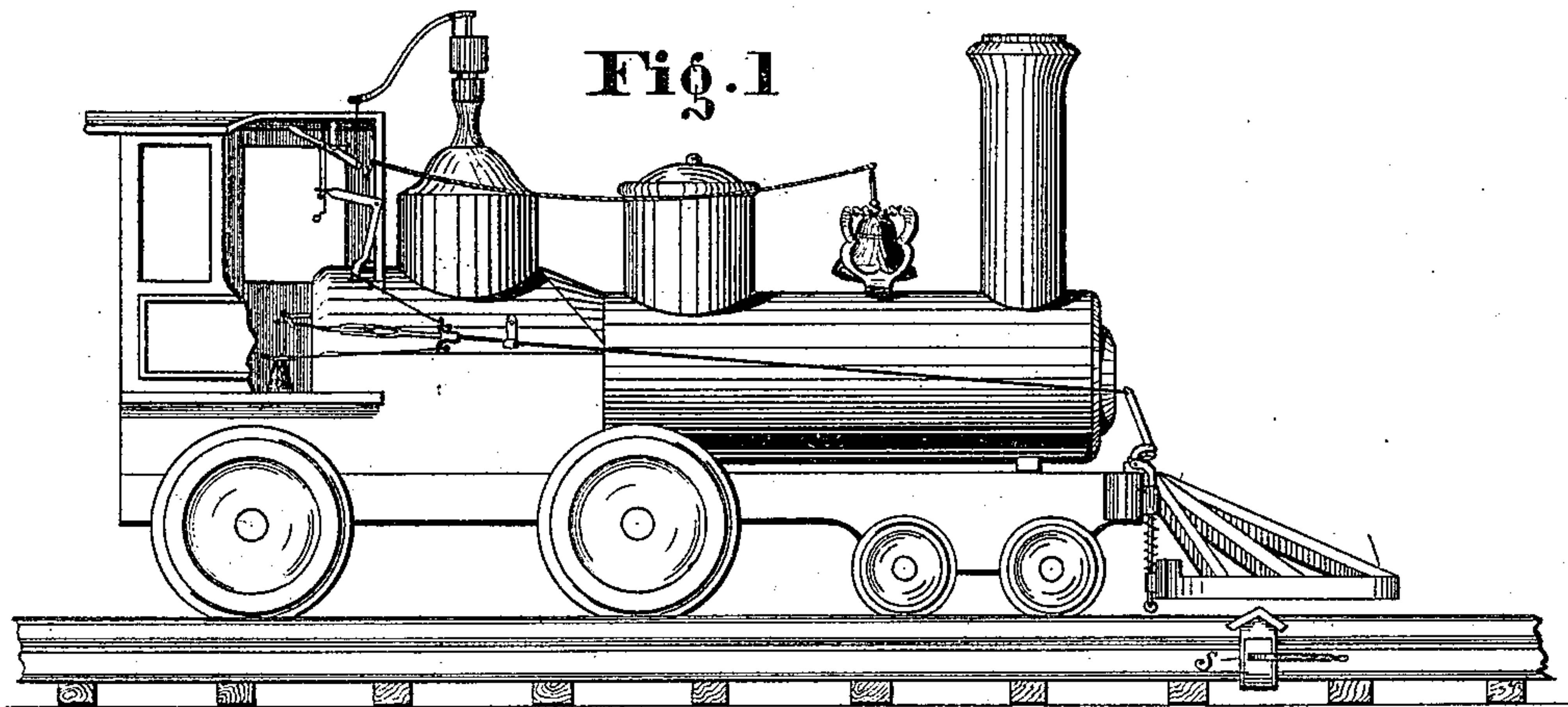


(No Model.)

H. F. HUNT.
AUTOMATIC RAILWAY SAFETY SIGNAL.

No. 438,625.

Patented Oct. 21, 1890.



WITNESSES

J. C. Smith,
A. A. Biddle

INVENTOR

H. F. Hunt
W. H. Burdick
Atty.

UNITED STATES PATENT OFFICE.

HARMON F. HUNT, OF TRUMBULL, OHIO.

AUTOMATIC RAILWAY SAFETY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 438,625, dated October 21, 1890.

Application filed February 19, 1890. Serial No. 341,070. (No model.)

To all whom it may concern:

Be it known that I, HARMON F. HUNT, a citizen of the United States, residing at Trumbull, in the county of Ashtabula and State of Ohio, have invented new and useful Improvements in Automatic Railway Safety-Signals; and I do hereby declare that the following is a full, clear, and complete description thereof.

The nature of my improvement relates to an attachment to a locomotive, which, in connection with certain movable appliances clamped to the rail of the track, blows the whistle, closes the throttle, and sets the air-brake automatically and simultaneously.

That the invention may be seen and fully understood, reference will be had to the following specification and the annexed drawings, which form a part thereof, in which—

Figure 1 is a view showing the locomotive with certain of the said improved signals in position thereon. Figs. 2 and 3 are enlarged detail views of the said signal; and Figs. 4, 5, and 6 are enlarged detail sections of the said invention, which are attached to the rail of the track.

Like letters designate like parts throughout the specification and drawings.

Passing through a bracket A, attached to the outer edge of the cow-catcher and through a bracket B, connected with the outer edge of the pilot, is the adjustable rod C. At the lower extremity of the rod C and about on a line with the top of the rail is a small wheel or roller D. On the rod C and between the brackets A and B is a spiral spring E. The upper terminal of the rod C is pivoted to a crank-shaft F at *a*. The crank-shaft F passes along the pilot and through two or more loops or brackets attached to said pilot, these loops forming bearings for said crank-shaft. Attached to the crank-shaft F is the arm G. Pivoted to the arm G at the point *b* is a rod H. The rod H passes back to the cab of the locomotive. At the end of the rod H is a long link I. The link I is connected with another similar link J, which is on the end of the rod K. The rod K passes through the lever-bar L at *c*. Stationary on the rod H, forward of the link I, is a sleeve M. Projecting from the sleeve M are the two arms *d* and *e*. Passing through the arms *d* and *e* are the rods N and O, the rod N, being hooked or pivoted to the

air-brake P, and the rod O being pivoted to the lever Q. Said lever Q has its fulcrum at *f*, where it is pivoted to the cab and bent at a right angle. The lever Q is twisted at the point *g*, so that the rod R can pass through said lever at *h*. The upper end of the rod R is hooked or pivoted to the whistle-lever at *i*. On the end of the rod N is a knob *k* to prevent the end from drawing through the arm *d*. There is also a knob *l* at the end of the rod O to keep said rod from drawing through *e*. There are also knobs *m* and *n* at the ends of the rods K and R for the same purpose.

The portable slide S, of which Figs. 4 and 6 are enlarged views, is constructed as follows: The standard T has secured to its top portion a gable U, the ridge of said gable being higher than the top of the rail. On the lower part of the standard T, which passes beneath the rail, are two loops *o* and *p*, in which the clamp V can slide. Pivoted in the clamp V at *r* is a cam W, of which Fig. 5 is a detail view. To clamp the slide to the rail, the claws *s* are placed over the foot of the rail, the lower part of the standard T having first been passed under the rail and brought up snug to the base of said rail. The cam is then turned parallel with the rail, and by its pressure against the standard T the clutch *t* is brought over the foot of the rail on the opposite side from the claws *s*.

In the operation of this automatic railway safety-signal the slide mechanism S, Fig. 1, is securely clamped to the rail. When the locomotive passes over this part of the rail, the slide U being somewhat higher than the top of the rail, the wheel D comes in contact with said slide, and in rolling up over same the rod C is forced upward. The rod C being pivoted to the crank-shaft at *a*, the crank-shaft is caused to turn. By this means the arm G is brought into the position shown by dotted line X. The rod H, being pivoted to the arm G, is moved forward simultaneously with the arm G, and in like manner the rods N and O, which are attached to the rod H by means of the sleeve M, are also moved forward. The rod N being hooked to the air-brake P, the said air-brake is therefore set by the moving forward of the rod N. The rod O being hooked to the lever Q, and the lever Q being in turn pivoted to the rod R at *h*, and the rod R

hooked to the whistle-lever at *i*, the forward impulse of the rod O causes the whistle to be sounded by its conjoint action therewith. When the lever Q, which is connected with the whistle-lever by means of the rod R, is brought down, it engages the spring Y and is held there in position, causing the whistle to continue to sound until released.

It will be seen that by means of the links I and J and the knobs *k*, *l*, *m*, and *n*, the whistle, air-brake, and throttle can each be operated independently of the above-described appliance.

What I claim, and desire to secure by Letters Patent, is—

1. In combination with the rail or rails, a standard T, provided with the clamp for securing the said standard to the rail, and a cam W, pivoted upon the clamp and arranged in connection with the slide U, movably secured to the said rail or rails, substantially in the manner and for the purpose described.

2. In an automatic railway safety-signal, a wheel or roller pivoted to the lower terminal

of an adjustable rod C, said rod being supported in brackets in front of the locomotive, in combination with the spiral-spring shaft, and slide mechanism S, arranged substantially in the manner and for the purpose set forth.

3. In an automatic railway safety-signal, the rod H, arranged in connection with the whistle-lever, throttle-links I J, and air-brake, in combination with the crank-shaft F, operating conjointly in the manner and for the purpose substantially as set forth.

4. The combination, with an automatic railway safety-signal, of the rod H, connected with the throttle by means of the links I J, the crank-shaft F and slide mechanism S, in correlation with the rail, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HARMON F. HUNT.

Witnesses:

NELSON BROWN,
EDWARD KENNAH.