(No Model.)

T. ARNDT.

AUTOMATIC RAILWAY SIGNAL.

No. 289,953. Patented Dec. 11, 1883.

Fig. 1.

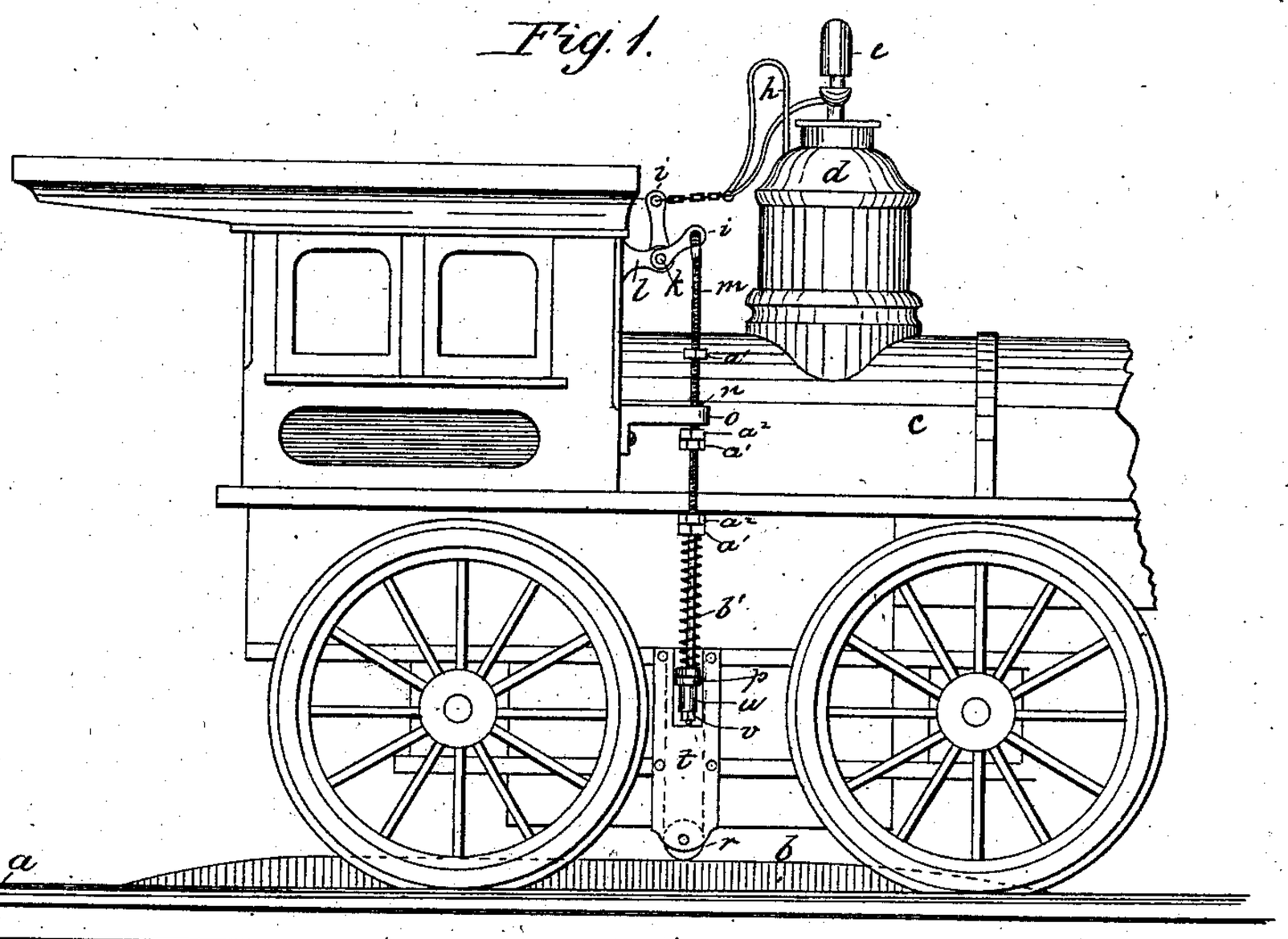


Fig. 2.

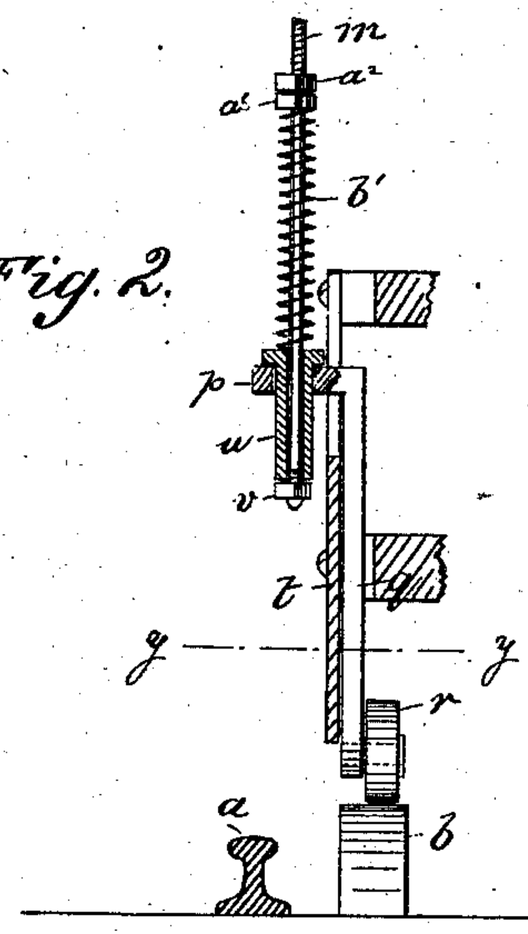


Fig. 4.

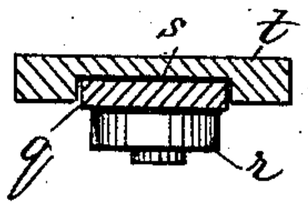
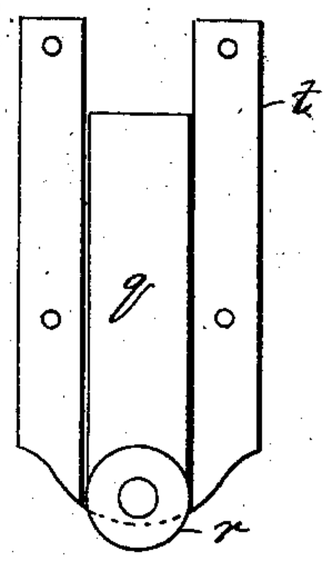


Fig. 3.



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AUTOMATIC RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 289,953, dated December 11, 1883.

Application filed June 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, THEOPHILUS ARNDT, a citizen of the United States, residing at Florin, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Improvement in Automatic Railway-Signals; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to letters marked on the accompanying drawings, in which—

Figure 1 is a side view of a locomotive with my improvements. Fig. 2 is a rear elevation of my improvement, partly in section, and Fig. 3 is a detail view. Fig. 4 is a detailed sectional view on line *y y* of Fig. 2.

My invention relates to improvements in automatic railway-signals; and it consists in the peculiar construction and arrangement of the parts, as hereinafter more fully set forth, and pointed out in the claims.

In the accompanying drawings, *a a* represent the two rails of a railway-track, and *b* represents a rail sloped at its ends and arranged near one of the rails of the track and above it, so as to be just cleared by the cow-catcher, and preferably between the rails, as shown in the drawings.

c represents a locomotive of the usual form, provided with a steam-drum, *d*, having a steam-whistle, *e*, attached thereto, the latter being secured to a vertical spring-rod, *h*, bent downward, preferably at its upper end, and secured to one end of the inner one of the cranks *i* of the horizontal double-crank shaft *k*. The double-crank shaft *k* is journaled in the bracket *l*, fixed to the frame of the cab. The outer crank, *i*, is provided at its end with a threaded vertical rod, *m*, which passes through a hole, *n*, in the outer end of the stay-plate or bracket *o*, secured to the frame of the cab, and thence passes near its lower end through the right-angular projection *p*, secured to the upper end of the plate *q*, to the lower end of which the wheel *r* is secured, which wheel, in the movement of the locomotive, is adapted to run on the sloped rail *b*, inside one of the rails, and operate the steam-whistle. This construction is extremely simple, involving but few parts, and is much cheaper than the ordinary construction. The plate *q*, carrying the wheel *r*, rises and falls in passing over the sloped rail *b* in a recess, *s*, made in one side of the plate *t*.

t represents a plate secured to the frame of the locomotive over the plate *q*, to hold it in place, and at the same time to permit the plate *q* to slide up and down freely in the recess *s*.

u represents a thimble retained upon the lower end of the vertical rod *m* by a nut, *v*, below the angular projection *p*. The upper end of the thimble *u* is provided with a head, which rests upon the angular projection *p* of the sliding plate *q*. The function of the thimble *u* is to prevent binding of the rod *m* in its movements up and down. The rod *m* is threaded and provided with nuts *a'* above and below the bracket *o*, and having jam-nuts a^2, to hold the adjusting-nuts *a'* in any desired position. The functions of the nuts *a'* a^2 on the rod *m* are to adjust the length of rod *m* and the tension of spring *b'*. A spiral spring, *b'*, encircles the lower end of the rod *m* and lies between the head of the thimble and the nut *a'* for adjusting the tension of the spring. When desired, the rod *m* may be raised high enough by adjusting the upper nut *a'*, to avoid operating the whistle by the rise and fall of the plate *q* and wheel *r* as they pass over rail *b*.

What I claim as my invention is—

1. The combination, with the sloped rail *b*, elevated above the track, and steam-whistle *e*, of the double-crank shaft *i i k*, bracket *o*, threaded rod *m*, spiral spring *b'*, thimble *u*, nuts *a'*, and plate *q*, carrying the wheel *r*, substantially as described, and for the purpose set forth.

2. The combination, with the steam-whistle *e*, connected with the double-crank shaft *i i k*, of the stay-plate *o*, threaded rod *m*, carrying spiral spring *b'*, thimble *u*, plate *q*, having wheel *r* at its lower end, and plate *t*, substantially as described, and for the purpose set forth.

THEOPHILUS ARNDT.

Witnesses:
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