

(No Model.)

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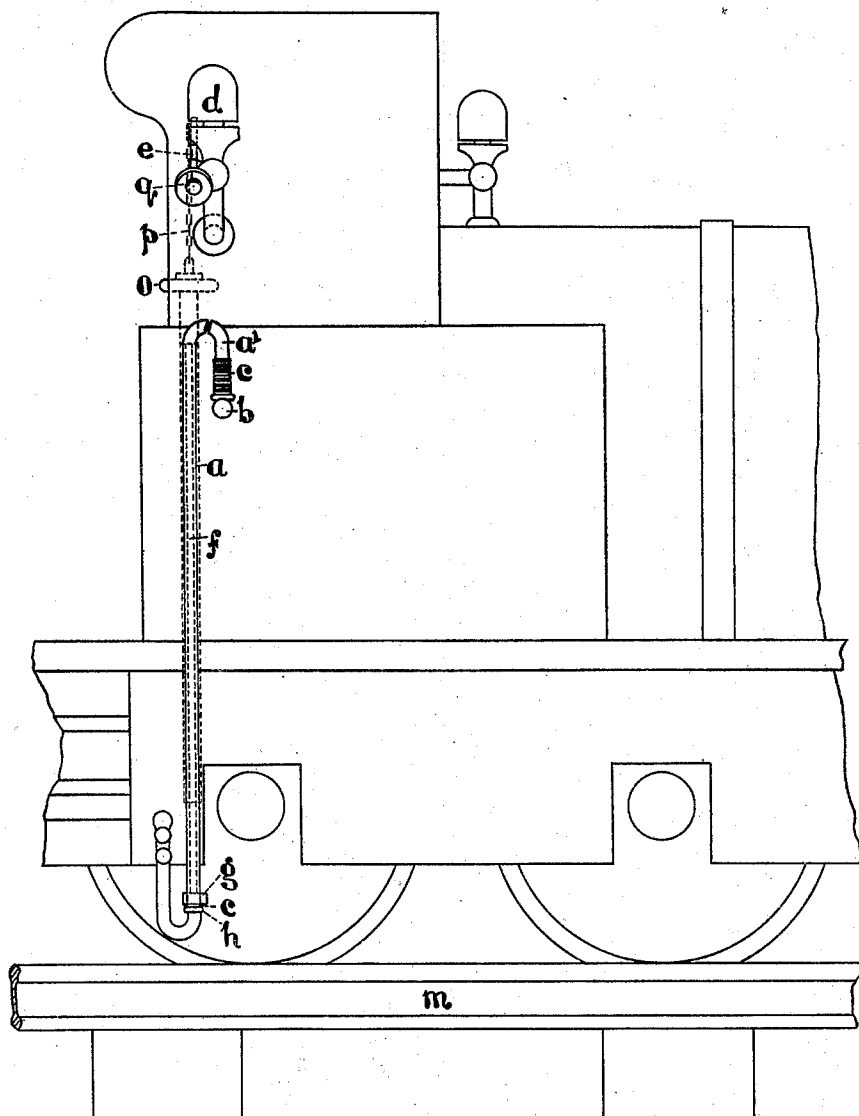
W. T. C. PRATT.

SELF ACTING CAUTION AND DANGER SIGNAL FOR RAILWAYS.

No. 567,865.

Patented Sept. 15, 1896.

FIG. 1.



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3 Sheets—Sheet 2.

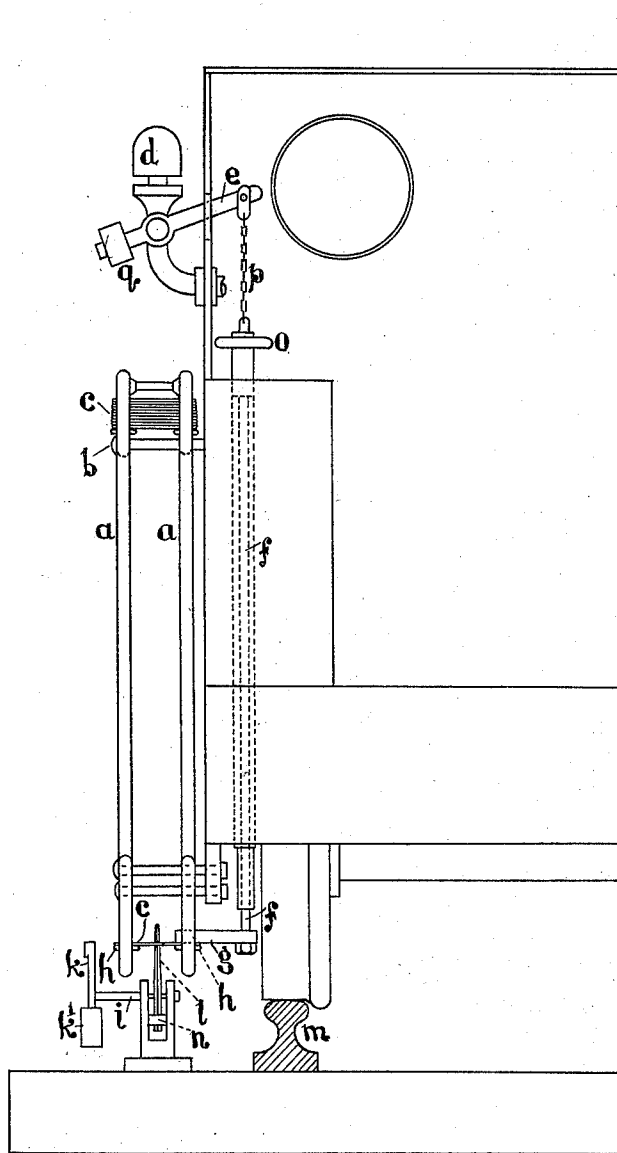
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FIG. 2.



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FIG. 3.

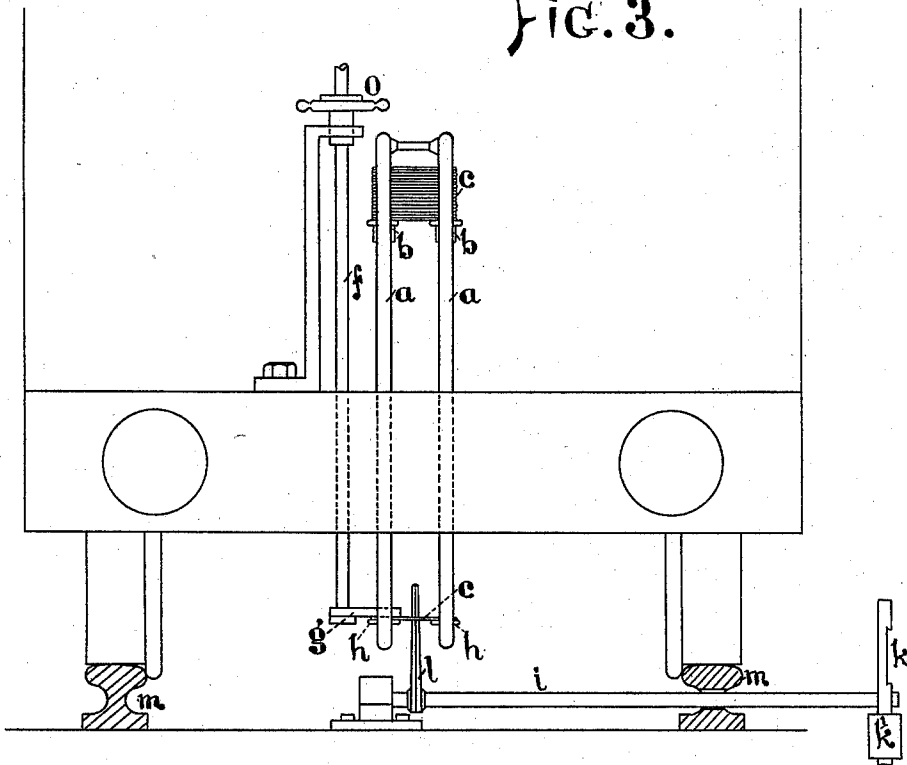
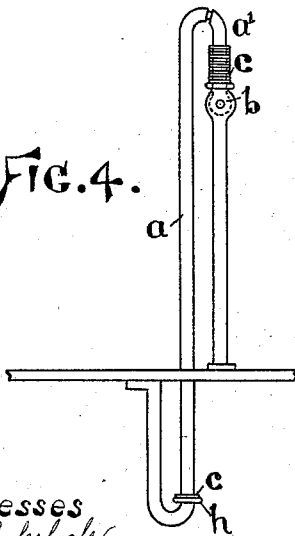
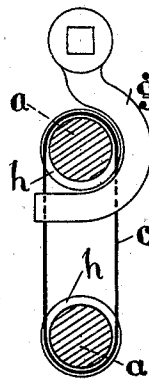


FIG. 4.



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FIG. 5.



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UNITED STATES PATENT OFFICE.

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SELF-ACTING CAUTION AND DANGER SIGNAL FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 567,865, dated September 15, 1896.

Application filed November 29, 1895. Serial No. 570,511. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS CASSEL PRATT, gentleman, a subject of the Queen of Great Britain and Ireland, residing at 10 Downleaze Sneyd Park, Bristol, England, have invented an Improvement in Self-Acting Caution and Danger Signals for Railways, of which the following is a specification.

This invention relates to an auxiliary signal to be used on railways in addition to and in connection with the ordinary signals, and has for its object to sound a whistle or gong on the engine when the ordinary signal is at "danger," so as to warn the driver and guard that such is the case in the event of their not having noticed the fact by reason of fog or from any other cause.

In order that my said invention may be more clearly understood, I will now proceed to describe the same with reference to the drawings accompanying this specification, in which—

Figure 1 shows a side elevation of a portion of the back part of a locomotive-engine having my mechanism adapted thereto. Fig. 2 shows a portion of half of the back of a locomotive-engine also furnished with my mechanism at the side thereof. Fig. 3 shows the back of a locomotive-engine with my invention adapted between the wheels, as hereinafter described. Figs. 4 and 5 are detached parts hereinafter referred to.

The same letters denote the same parts in all the views.

With reference to Figs. 1 and 2, I fix to one or both sides of the engine a frame composed of two rods *a a*, bolted together and in the form of a hook at top and bottom. The upper hooked portions are divided into two, so that the divided parts *a'*, which are pivoted at *b*, may be turned back, for the purpose hereinafter described.

c shows a number of oval rings (communicators) made of metal or other suitable material. These rings pass over the rods *a a*, forming the frame, the bulk of such rings being on the upper hooked portions *a'*, (which portions are turned back on the pivots *b* in order to put the rings on.) *d* shows a supplementary whistle actuated by the lever *e*, rod *f*, and chain *p*. The lower end of the rod *f* has a hooked piece *g* fixed horizontally at

its lower extremity, so as to partially encircle one of the rods *a*, as shown to an enlarged scale detached at Fig. 5.

q is a weight on the lever *e*, nearly heavy enough to counterbalance the weight of the chain *p*, handle *o*, rod *f*, and hook-piece *g*, so that the weight resting on the ring *c* may not be excessive. At the lower ends of the rods *a* I provide collars or projections *h* for one of the rings *c* to rest upon, as hereinafter described. I may have the above arrangement fitted on each side of the engine, or on one side only, or in the center, as shown in Fig. 3. The method of fixing the rods *a* to the engine in this latter case is shown detached in side elevation at Fig. 4.

On the permanent way I have the following mechanism in connection with the ordinary signal: To the rod from the signal-box, which actuates the signals, I connect the rod *i* (see Figs. 2 and 3) by means of lever *k*, such lever having a counterbalance-weight *k'*. The lever *k* is fixed at one end to the rod *i*, and at the opposite end of this rod I fix a knife *l* in such position that when the rod *i* is turned upon the ordinary signal being put at "danger" the knife *l* is in a vertical position, as shown in Figs. 2 and 3, and is kept locked in such position so long as the signal remains at "danger."

n, Fig. 2, shows a bar to prevent the knife *l* being forced down by the ring *c* on the engine at the time of contact, as hereinafter described. When the signals are at "all right," the knife *l* lies in a horizontal position.

m shows the rails.

The action is as follows: The frame or frames formed by the rods *a a* are first supplied with a number of rings or communicators *c*, these being placed on the upper hooked portions *a'* by turning such portions partially back on the pivots *b b*. The handle *o*, fixed to the rod *f*, is then raised and turned, so as to cause the hooked piece *g* to clear the rods *a*. One of the rings or communicators *c* is then brought up and dropped down the rods *a a* and will fall and rest on the collar or projection *h*. The handle *o* is then turned in an opposite direction to that aforesaid, so as to bring the hooked piece *g* back into its normal position, as shown at Fig. 5, *i. e.*, so as to rest on the ring or communicator *c*.

Now, supposing the signal to be at "danger," the knife *l* would be locked in a vertical position, either between the rails *m m*, as at Fig. 3, or at one side of the rails, as at Fig.

5 2. It will be seen on reference to these figures that as the engine travels it will bring the ring *c* on the lower extremity of the rods *a a* into direct contact with the knife *l*, and this will have the effect of cutting the said
10 ring *c*, which will consequently fall off the rods *a a*, and the support being thus taken from under the hook *g* will cause the rod *f* to fall, and thus actuate the whistle *d* by means of the lever *e* and chain *p*, and this whistle
15 will be kept blowing until another ring *c* is dropped down the rods *a* and the hooked piece *g* is brought over it and supported as aforesaid. Of course I may use the ordinary whistle, if found desirable, instead of having
20 a supplementary one.

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

1. In a self-acting caution and danger signal, the combination with two vertical rods
25 having upper hooked ends, of a plurality of rings carried by the said ends, a ring similar to those aforesaid carried near the lower extremity of the said vertical rods, a hooked arm adapted to rest upon the said
30 ring, a rod carrying at one end the hooked

arm aforesaid and connected at its other end to a whistle or other signal device, and means for disrupting the ring *c* when the switch is set at the danger-point, substantially as described.

2. In a self-acting caution and danger signal for railways, the combination with a whistle or other signal, of a chain and rod connected thereto, a hooked arm carried at the lower extremity of the said rod, a ring
40 upon which normally rests the aforesaid hooked arm, and by the disruption of which ring the latter is caused to descend, means for throwing said arm in and out of engagement with the said ring, two vertical rods
45 carrying the aforesaid ring and a plurality of similar rings carried near the upper ends of said vertical rods, a blade pivotally mounted in the roadway and connected to the signaling device through a counterbalanced
50 arm and adapted to be held in a vertical position when the signal is at the danger-point and to disrupt the ring *c* when it comes in contact with said blade, substantially as described.

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