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SIGNAL APPARATUS.
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987,037.

Patented Mar. 14, 1911.

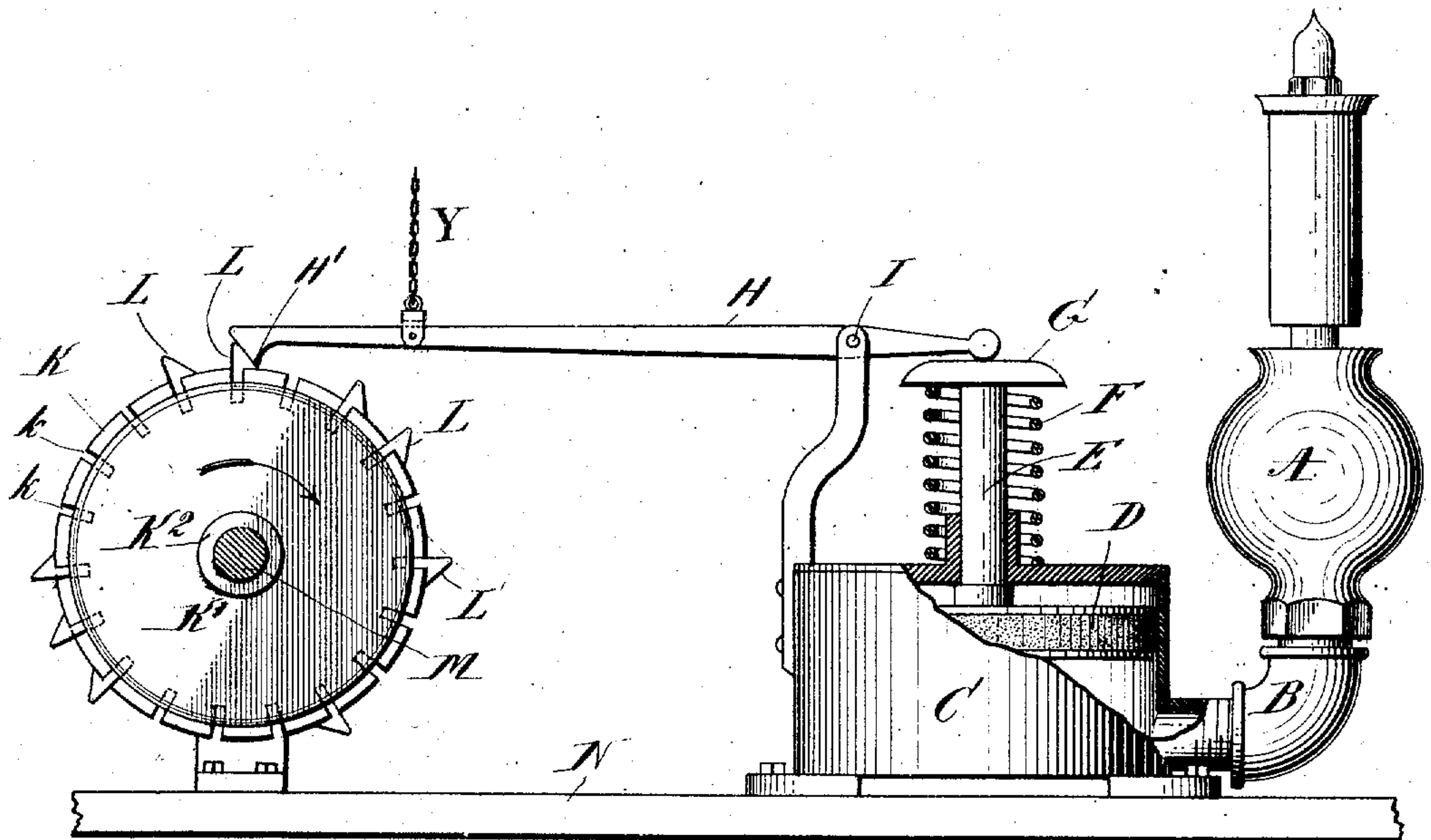


Fig. 1.

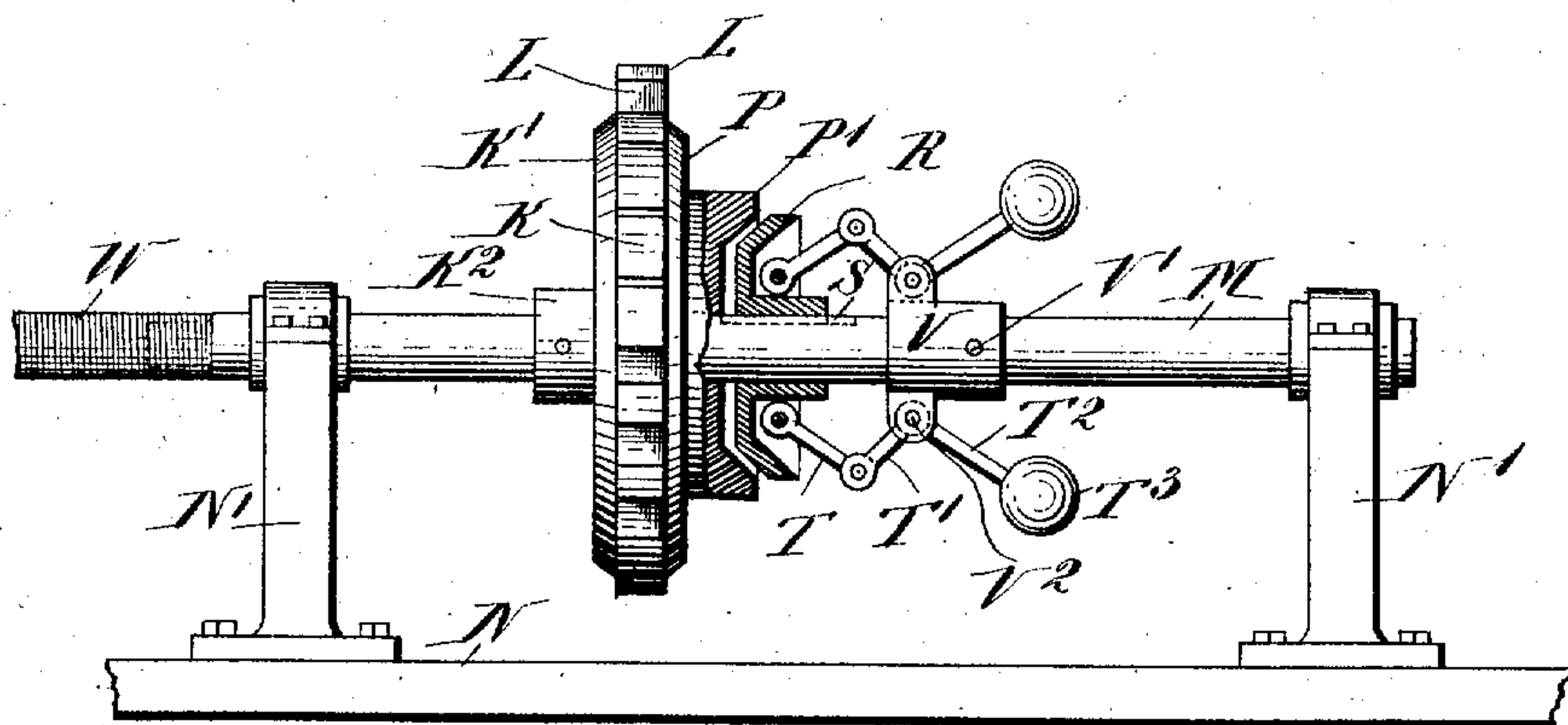


Fig. 2.

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SIGNAL APPARATUS.

987,037.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, REINOLD BERRENBURG, a citizen of the United States, and resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Signal Apparatus, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a signal apparatus to be sounded when excessive speed is attained.

The primary object of the invention is to provide an apparatus by which a signal will be sounded when the mechanism to which it is attached attains a greater speed than is desirable.

A further object is to provide a device of the class above described which shall indicate any desired number.

With the above objects in view the invention consists in the signal apparatus hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art from the following description.

The invention will be readily understood from an inspection of the accompanying drawing in which—

Figure 1 is a side elevation of the apparatus, a part being broken away to show the interior construction, and Fig. 2 is an end elevation of the same partly in section.

As shown in the drawings the whistle is indicated by A, which may be of any suitable kind, and is connected to an air compressor by a pipe B. The air compressor comprises a cylinder C having a piston D provided with a stem E having a flat head G. A spring F tends to draw the piston D upwardly to the top of the compressor cylinder. A lever H, pivoted at I serves to depress the piston, which, in expelling air through the pipe B causes the whistle A to sound.

The device for operating the lever H and through it causing the whistle to sound may be described as follows: Upon the base N two standards N¹. N¹ are affixed as shown. These standards support the shaft M upon which a detent wheel, having detachable detents or teeth L, L, is loosely mounted. This detent wheel consists of the central disk K which is made with a series of recesses or notches k, k which are constructed to receive the shanks of the detents L, L.

Each of said detents has an inclined face so that as the wheel rotates in the direction indicated by the arrow, the outer end H¹ of the lever H is moved upwardly thus depressing the inner end which will in turn act upon the piston D and cause the whistle to sound. The detents are held in place by two plates P and K¹ clamped against their shanks. The plate K¹ may be held by a collar K² or any other suitable device.

Rotation is given to the shaft M by a flexible shaft W which may be connected with any of the moving parts of a machine or vehicle. The detent wheel is connected to the shaft M by a clutch comprising the cupped member P¹ attached to the detent wheel so that said wheel will rotate with it, but loosely mounted on the shaft, and a complementary member R adapted to engage said cupped member. The member R is free to move longitudinally along the shaft M, being provided with a spline S. The moving part R of the clutch is caused to move into and out of action by a toggle device consisting of the toggle links T pivoted at one end to the part R and at the other end to the arms T¹ of the bell crank levers T¹, T², which are pivoted at V² to the sleeve V, said sleeve being secured to the shaft M by a pin V¹.

Heavy weights T³ are connected to the free ends of the arms T² of the bell crank levers, so that when the shaft M turns at a velocity beyond the desired speed the weights T³ will move outwardly under centrifugal action, and thus cause the toggle device to force the part R of the clutch to engage with the part P¹ and cause the detent wheel to rotate and sound the alarm. The detents L, L may be placed in any desired order so as to indicate any number; as placed in the drawing the number would be 2—3—1—1—2, that is 23,112. It is obvious that any arrangement may be made so that any number may be sounded.

For convenience the operator may use the cord Y to give a signal, that is, cause the whistle to sound independently of the detent wheel.

While I have illustrated and described a preferred embodiment of the invention, I am aware that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims.

Therefore I do not wish to be limited to all the details of construction shown and described, but

What I claim is:—

5 1. A signal apparatus, comprising a whistle, an air compressor, means connecting the compressor and whistle, a detent wheel, means operatively related to said detent wheel for operating said compressor,
10 and speed-controlled means for rotating said wheel.

2. A signal apparatus, comprising a whistle, an air compressor, means connecting the compressor and whistle, a detent
15 wheel, means operatively related to said detent wheel for operating said compressor, driving means, a clutch operatively related to said detent wheel and driving means, and speed-controlled means for operating said
20 clutch to connect the detent wheel to the driving means.

3. A signal apparatus, comprising a whistle, an air compressor, means connecting the compressor and whistle, a rotary
25 shaft, a detent wheel loosely mounted upon said shaft, a clutch mounted on said shaft, a centrifugally operated device connected to said clutch, whereby when said shaft rotates beyond a certain speed the clutch will connect the shaft with said detent wheel to
30 cause the latter to rotate, and means for

transmitting motion from said detent wheel to said air compressor.

4. A signal apparatus, comprising a whistle, an air compressor, means connecting the compressor and whistle, a detent
35 wheel, a lever operatively related to said detent wheel for operating said compressor, a rotary shaft, a clutch, and speed-controlled means for operating said clutch to connect
40 the detent wheel to the shaft.

5. In a signal apparatus, the combination of a detent wheel having a series of recesses in its periphery, detachable detents having their shanks receivable in said recesses,
45 clamping disks arranged to press upon the shanks of the detents to hold them in place, a clutch having one member connected to one of said disks, a rotary shaft, speed-controlled means for operating said clutch to
50 connect the detent wheel to the shaft, and a signal controlled by the detents on said wheel.

In testimony whereof, I have signed my name to this specification in the presence of
55 two subscribing witnesses, on this 14th day of November A. D. 1908.

REINOLD BERRENBURG.

Witnesses:

FRANK G. PARKER,
JOHN BUCKLER.