

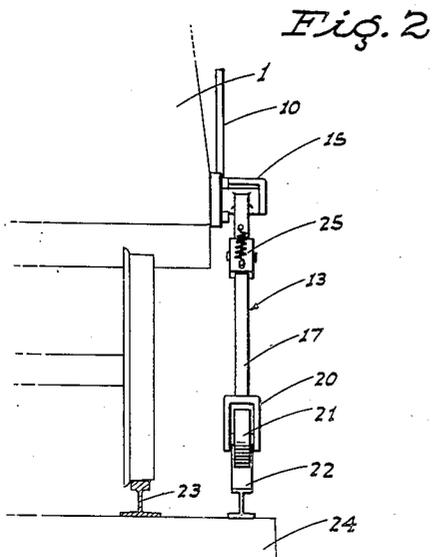
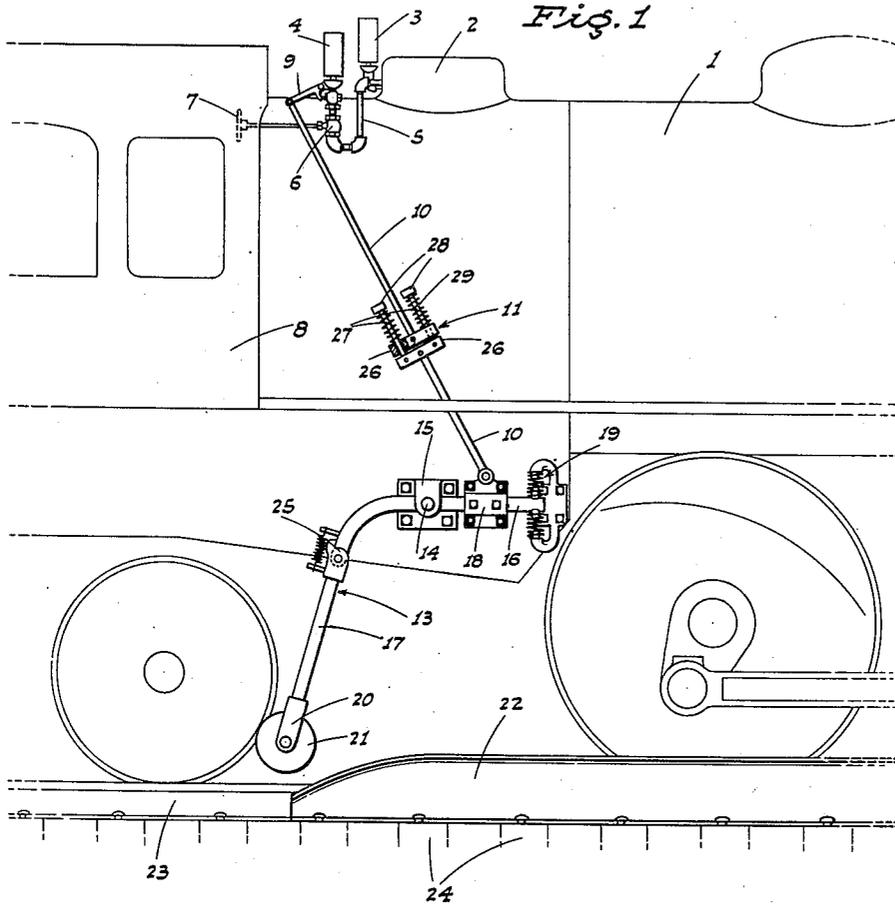
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L. ELLIOTT

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SELF-BLOWING WHISTLE FOR LOCOMOTIVES

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INVENTOR  
*Lee Elliott*

BY *Webster & Webster*  
ATTORNEYS

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## SELF-BLOWING WHISTLE FOR LOCOMOTIVES

Lee Elliott, Bakersfield, Calif.

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3 Claims. (Cl. 246-174)

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This invention relates in particular to, and it is an object to provide, a self-blowing whistle for railroad locomotives; such whistle being separate from, and operative independent of, the regular or main engineer-controlled whistle of the locomotive.

Another object of the invention is to provide a self-blowing whistle for railroad locomotives, which is operative, when the locomotive is under way, to automatically blow when the locomotive reaches each whistle point on the road, as, for example, at the approach to grade crossings.

A further object of the invention is to provide a self-blowing whistle for locomotives, which comprises a whistle on the locomotive, a whistle actuating assembly including a swingable lever depending from the locomotive at one side thereof, and longitudinally extending cam rails mounted on the ties outside the tracks adapted to engage and swing said lever upon passage of the locomotive, whereby to automatically cause blowing of the whistle.

A further object of the invention is to produce a simple and inexpensive device, and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Figure 1 is a side elevation of the present invention as arranged in connection with a railroad locomotive.

Figure 2 is a rear end view of the arrangement shown in Fig. 1.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 indicates generally a locomotive, which is shown in outline and which includes a whistle dome 2 and a main whistle 3, as is conventional.

In addition to the main whistle 3 the locomotive 1 is fitted with a supplemental whistle 4 mounted adjacent the main whistle 3 and connected with the whistle dome 2 by piping 5. The piping 5 includes therein a normally open shut-off valve 6 controlled by a hand wheel 7 in the cab 8 of the locomotive 1. The supplemental whistle 4 includes a whistle control lever 9 adapted to be pulled downwardly in order to open said supplemental whistle.

A pull rod 10 is pivotally connected, at its upper end, to the outer end of the lever 9 and

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extends downwardly along one side of the locomotive at a forward and downward slope, said pull rod having interposed therein a yieldable coupling, indicated generally at 11, and which yieldable coupling is hereinafter described in detail.

A bellcrank lever, indicated generally at 13, is pivoted, intermediate its ends, as at 14, on a bracket 15 fixed to the side of the locomotive directly below the pull rod 10; said bellcrank lever 13 including a substantially horizontal top leg 16 which projects forwardly from the pivot 14, and a somewhat rearwardly inclined, depending leg 17 disposed to the rear of said pivot 14.

The pull rod 10 is pivotally connected by an adjustable member 18 to the top leg 16 of the bellcrank lever 13 ahead of the pivot 14 but intermediate the ends of said top leg.

Ahead of the adjustable member 18 the top leg 16 is fitted with a spring counterbalance unit 19.

At its lower end the depending leg 17 of the bellcrank lever 13 is formed with a downwardly opening fork 20 in which is journaled a cam roller 21, the bottom of the cam roller normally being disposed in a horizontal plane some distance above the top of the rails 22 of the road-bed on which the locomotive runs.

At each whistle point along the road-bed, and to the outside of the rail 23 adjacent the cam roller 21, there is provided one or more cam rails 22 extending parallel to said adjacent rail 23 and fixed to the ties 24 of said road-bed. Each cam rail 22 is of a height somewhat greater than the height of the adjacent rail 23.

When the locomotive is running on the rails 23 and reaches a whistle point, the cam roller 21 rides up each cam rail 22 as the latter is reached, and then runs therealong for the length thereof. When this occurs the bellcrank lever 13 is swung in a direction to lower the top leg 16 and to cause a downward pull on the pull rod 10, which results in downward swinging of the lever 9 and blowing of the supplemental whistle 4.

In this manner the supplemental whistle 4 is automatically blown at each whistle point and the number of blasts depends of course on the number of cam rails 23 mounted at such point. Further, the duration of each blast is dependent on the length of the corresponding cam rail 23.

In order to prevent breakage of the self-blowing whistle arrangement when the locomotive is backed up, and upon engagement of the

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cam roller 21 with a cam rail 23 in a reverse direction, the depending leg 17 is provided with a spring knuckle 25 which breaks in a forward direction. Thus, when the locomotive backs up and the cam roller 21 rides onto a cam rail 23, the lower portion of the depending leg 17 merely swings forwardly independently of the remainder of the structure.

Yieldable coupling 11 in the pull rod 10 compensates for any excess motion which may be applied to the bellcrank lever 13 when actuated by a cam rail, and which excess motion may result from lateral rocking of the locomotive, or other reasons.

The yieldable coupling 11 comprises parallel cross blocks 26 secured on adjacent ends of separate sections of said pull rod 10. Rods 27 are fixed on one block and slidably project through the other block parallel to the axis of the pull rod 10. The rods 27 extend some distance beyond said other block, and at their outer ends are formed with heads 28, and compression springs 29 engage between said heads 29 and such other block, whereby to normally resist separating movement of said blocks 26. It will be seen that under normal operating conditions the cross blocks 26 do not separate, but should the supplemental whistle lever 9 reach its lowermost position, and the pull rod 10 then continue further downward movement at its lower end, the yieldable coupling 11 will absorb such further downward movement without damage to the lever 9 or the supplemental whistle 4.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

1. In an automatic whistle system for a locomotive which includes a whistle having a projecting lever operable to be pulled down to effect

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operation of the whistle and a bell crank lever pivoted to the locomotive and including a substantially vertical leg and a horizontal leg with means on the end of the vertical arm operable to ride cam rails to swing such lever on its pivot; a pull rod connected between the horizontal leg of the bell crank lever and the whistle lever, such pull rod consisting of two co-axially disposed sections, a cross block on each of the adjacent ends of said sections, such blocks being spaced apart and lying substantially parallel to each other, substantially parallel rods on one block projecting some distance through the other block, heads on the outer ends of said rods, compression springs interposed between the heads and said other block, the tension of the springs being such as to normally resist relative movement of the blocks until movement of the whistle lever is effected by a downward pull on the pull lever.

2. A structure as in claim 1 including a member mounted for movement along the horizontal arm of the bell crank, means to fix said member in any adjusted position on such arm the lower end of the pull rod being pivoted to said member.

3. A structure as in claim 2 including a pair of opposed counter-balancing springs mounted on the locomotive, the free end of the horizontal leg of the bell crank lever being engaged between such springs.

LEE ELLIOTT.

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