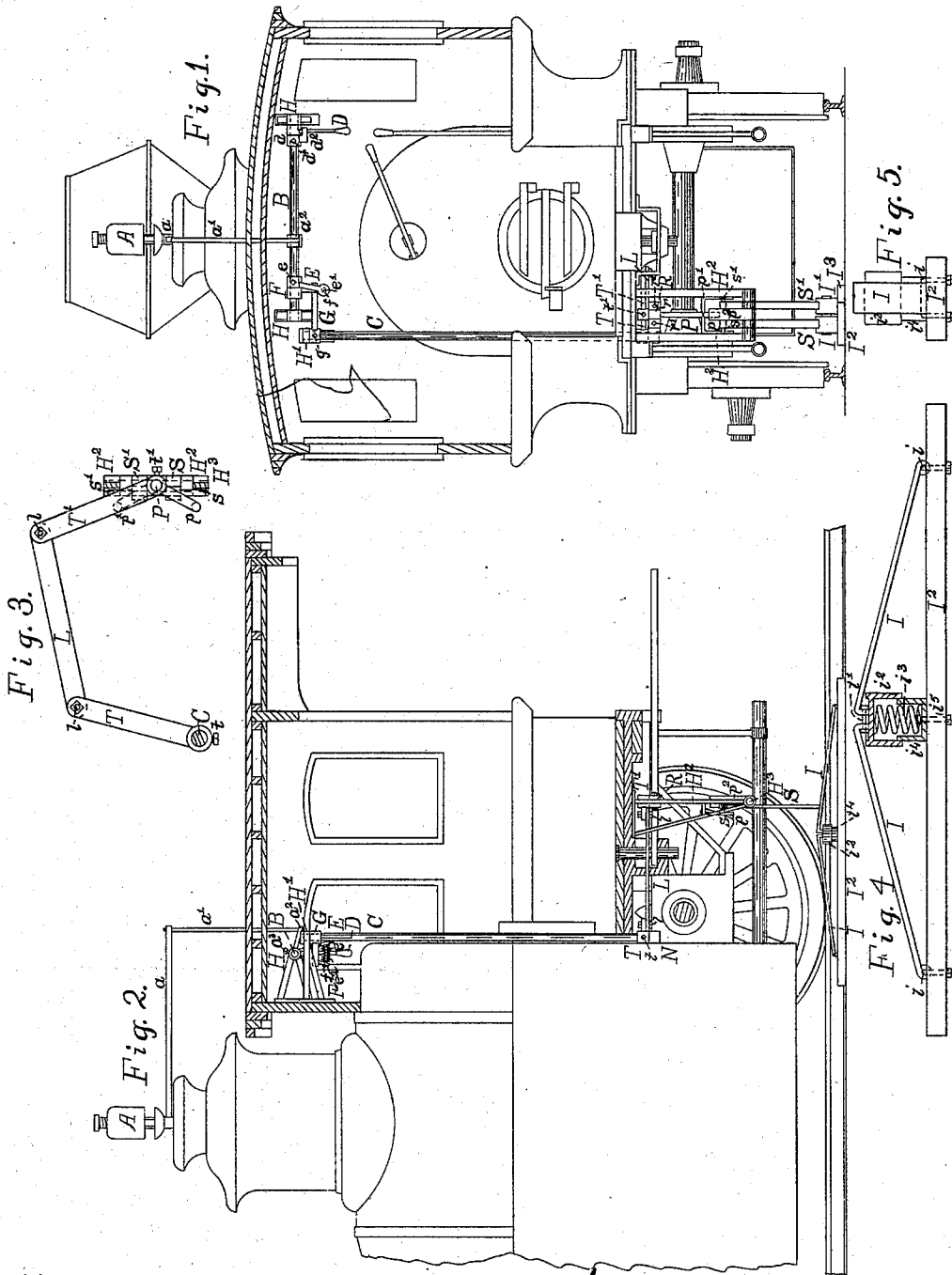


E. A. LELAND.

DEVICE FOR BLOWING LOCOMOTIVE WHISTLES AUTOMATICALLY.

No. 278,440.

Patented May 29, 1883.



Witnesses:
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 H. H. Jewery

Inventor:
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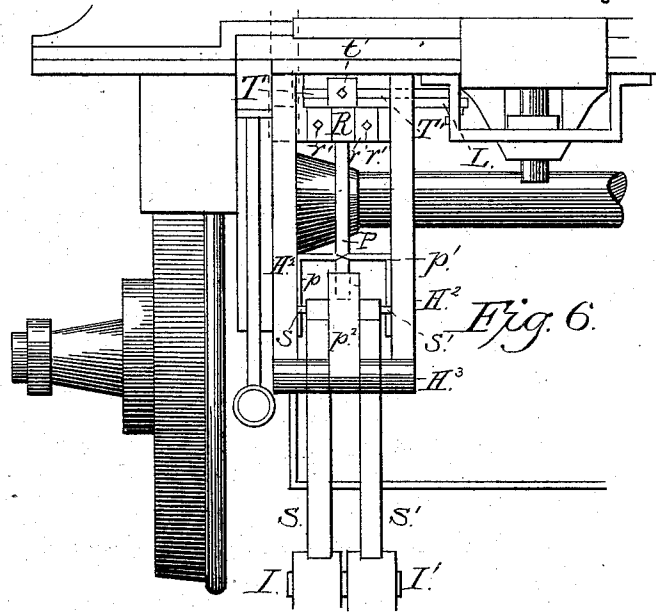


Fig. 6.

Fig. 7.

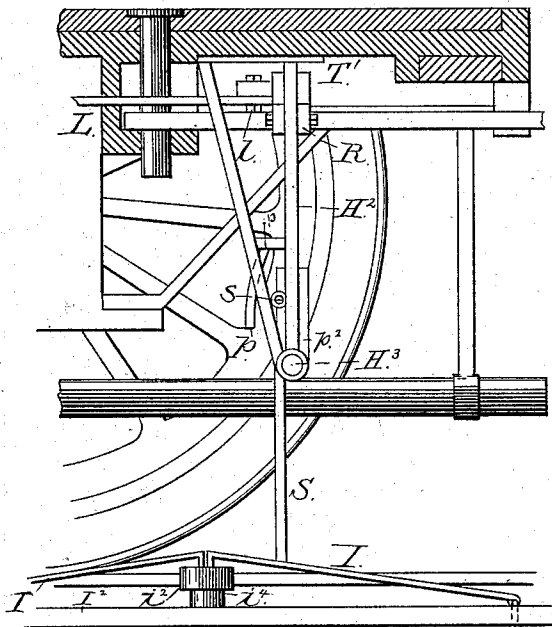
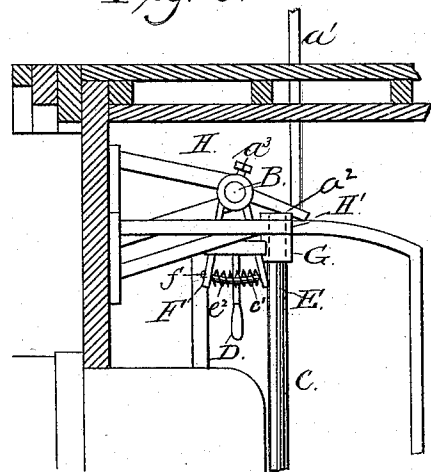


Fig. 8.



Witnesses;

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UNITED STATES PATENT OFFICE.

EDWIN A. LELAND, OF HOLYOKE, MASS., ASSIGNOR OF THREE-FOURTHS
TO CHAS. P. LYMAN AND HERVEY K. HAWES, BOTH OF SAME PLACE.

DEVICE FOR BLOWING LOCOMOTIVE-WHISTLES AUTOMATICALLY.

SPECIFICATION forming part of Letters Patent No. 278,440, dated May 29, 1883.

Application filed July 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWIN A. LELAND, a citizen of the United States, residing at Holyoke, in the county of Hampden and Commonwealth of Massachusetts, have invented a certain new and useful Device for Blowing Locomotive-Whistles, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

Figure 1 is a rear end elevation, partly in section, of a locomotive-engine with my invention attached. Fig. 2 is a side elevation and section of a portion of a locomotive-engine. Fig. 3 is a plan view of horizontal levers connecting the vertical shaft C with mechanism actuated by the reciprocal levers S S'. Fig. 4 is a view of a step to be affixed to the railroad-track. Fig. 5 is a front elevation of said step. Figs. 6, 7, and 8 are enlarged views of the mechanism in detail.

The object of my invention is to cause the automatic blowing of locomotive-whistles at railroad-crossings and other points where by law it is required to blow them, and is especially valuable in case of accidents, as settling all question or doubt as to the fact of blowing.

Fig. 1 is a rear elevation and section of the cab of a locomotive-engine shown in my invention.

A is the whistle, and a' is the rod connecting the whistle-lever with the lever a^2 , attached to shaft B by set-screw a^3 .

B is the horizontal shaft, attached to the front side of the cab by the stands H.

C is the vertical shaft, passing in front of the left-hand corner of the boiler down through the floor of the cab.

D is the lever loose on shaft B, for blowing the whistle by hand.

E is the lever fastened to the shaft B by set-screw e , and to the side of said lever E is fastened the rod e' . e' passes through the hole f in lever F.

e^2 is a spring around e' , which gives an elastic connection between levers E and F.

F is a loose lever on shaft B, having in its outer end the hole f .

G is a lever fastened to the upper end of shaft C by the set-screw g . The lever G

presses against the lever F, affording the means of opening the whistle.

d is a collar fastened to shaft B by set-screw d' , and d has a finger, d^2 , against which lever D bears or presses when blowing the whistle by hand.

H H are the stands forming bearings for the shaft B.

H' is a stand forming bearing for upper end of shaft C.

H² H² are the stands carrying the bearings for levers S S' and shaft P.

H³ is a shaft on which the levers S S' swing.

I I' are the inclined levers, against which the levers S S', respectively, strike alternately to operate my invention.

I² I² are pieces of plank to which the inclined levers I I' are attached by the hinges i i .

i' is a bolt connecting the inner ends of I I'. i^2 is an inverted cylinder passing over the cylinder i^4 and containing the spring i^3 .

i^5 is a bolt fastening cylinder i^2 to the plank I².

L is a link connecting levers T T' by bolts l l .

N is the stand forming bearing for lower end of shaft C.

P is an upright shaft having the fingers p p' near its lower end, which extend horizontally from the shaft P, on opposite sides thereof, but not in a line exactly transverse to the engine, but symmetrically at a small angle in advance of such a line, as shown in Fig. 3, and to the upper end is fastened the lever T'.

p^2 is a bearing for shaft P.

R is a friction-bearing near the upper end of shaft P. r is the cap of said bearing, which is tightened by bolts r' r' .

S S' are levers swinging on shaft H³, and having at their upper extremity fingers s s' .

T is a lever fastened near the lower extremity of shaft C by set-screw f .

T' is a lever fastened to the upper extremity of shaft P by set-screw f' .

As the engine approaches, for instance, a crossing, at a suitable distance therefrom one of the levers—say S—encounters the inclined lever I, arranged upon the track, and is by it swung rearward. Its pin s strikes the finger p upon the shaft P, pushing it forward and rotating shaft P in such direction as to draw the

rod L rearward. This rotates shaft C, whose arm G, acting upon the lever F, pushes with an elastic pressure (due to the spring e^2) the lever E rearward, so rotating the shaft B, and through its connections blows the whistle. The latter continues blowing until, the engine advancing a suitable distance, the lever S' encounters a second incline, I', and, acting upon the opposite finger, p' , of shaft P, reverses the above-described movements and shuts off the whistle.

It is obvious that the fingers $p p'$ must be arranged on shaft P as above described in order that as S acts upon it S' may not be acted upon by it in a reverse direction, and the converse.

I claim as my invention—

1. The step shown in Fig. 4, which may be made of band-iron and affixed to the railroad-track between the rails and fastened to wood planks, in combination with the reciprocal le-

vers S S', as shown in Fig. 6, and the loose lever F in said figure, operated by the lever G against the resisting-spring f in Fig. 2 to move the lever E, as and for the purpose set forth.

2. The combination of the levers S S' with the shaft P, having fingers $p p'$, and mechanism connecting with the whistle for operating the same automatically, substantially as specified.

3. The loose lever F, in combination with the lever G, the resisting-spring f , lever E, and the shaft B and its connections with the whistle, as set forth, to provide an elastic leverage on the horizontal shaft B, as and for the purpose set forth.

EDWIN A. LELAND.

Witnesses:

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H. H. TWORGY.