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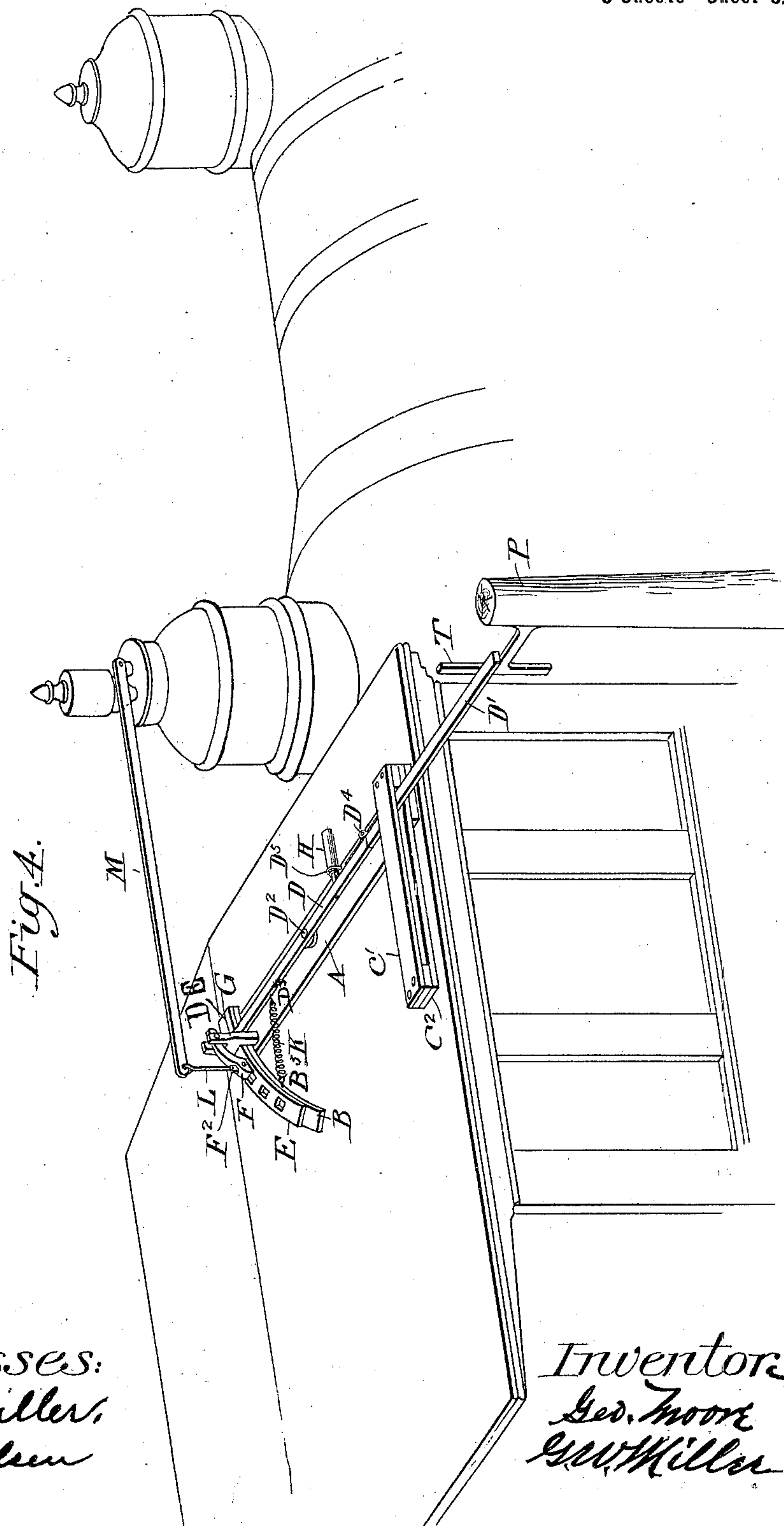
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G. MOORE & G. W. MILLER.
AUTOMATIC RAILROAD WHISTLE SIGNAL.

(Application filed June 6, 1901.)

(No Model.)

3 Sheets—Sheet 3.



UNITED STATES PATENT OFFICE.

GEORGE MOORE AND GEORGE W. MILLER, OF ELLSWORTH, IOWA.

AUTOMATIC RAILROAD WHISTLE-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 687,846, dated December 3, 1901.

Application filed June 6, 1901. Serial No. 63,486. (No model.)

To all whom it may concern:

Be it known that we, GEORGE MOORE and GEORGE W. MILLER, citizens of the United States, and residents of Ellsworth, in the county of Hamilton and State of Iowa, have invented a new Automatic Railroad Whistle-Signal, of which the following is a full, clear, and exact description.

Our object is to prevent the dangers and accidents incident to railway-trains passing street-crossings, curves, and other danger-points along the line where warnings are required to notify persons that a train is approaching. Steam-whistles are provided on locomotives to be operated by engineers to signal such warnings; but in some instances dependence upon the action of engineers is not security, and their duty is forgotten or prevented, and sometimes their action is too late and allows the locomotive to approach the point of danger too closely, before the whistle is sounded, to permit of persons getting out of the way in time to avert a catastrophe.

Our object is to provide automatic mechanism that will positively and automatically operate the steam-whistle on a moving locomotive when at such distance from a crossing, curve, or other danger-point that it will be heard in time as a warning to all persons and animals to get off and keep off the track.

Our invention consists in the construction, arrangement, and combination of operative elements with a locomotive, steam-whistle, and fixed posts, as hereinafter set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view showing the operative parts of our invention in their normal position relative to each other and a fixed post as required to be actuated by contact with a fixed arm on the post as a locomotive passes the post. Fig. 2 shows the operative parts in position as occurs when a locomotive carries them past the fixed post and its fixed arm. Fig. 3 is a plan view that shows the operative parts as adjusted by a backward motion of a locomotive. Fig. 4 is a perspective view that shows our invention applied on a locomotive as required for practical use. Fig. 5 is an end view of the frame and lever, showing mechanism connected therewith for operating the steam-whistle.

The letters A, B, C', and C² designate a rigid frame adapted to be fixed on the roof of a locomotive-cab, as shown in Fig. 4.

D is a jointed lever fulcrumed to the central part of the flat base portion A of the rigid frame. The part B of the rigid frame is a flat plate in the form of an arc, and the part C' and C² at the other end of the part A is a straight right-angled extension provided with a slot and adapted to serve as a bearing for the lever D, that extends through the slot, as clearly shown in Fig. 4.

E is a curved and flat plate fitted to slide on the fixed plate B and is fixed to the end of the lever D and provided with a plurality of openings, (marked 1 2 3 in Fig. 1.)

G is a frame fixed to the part A and arched over the plate B to serve as a bearing for the movable plate E.

F is a stop-carrier pivoted to the top of the frame G, and O is a stop pivoted to said carrier and adapted to enter on the return movement of the lever the openings 1 2 3 in succession, as required to cause a steam-whistle to make an equal number of distinct sounds or notes.

H is a pneumatic governor attached to the frame on the cab in any suitable way, and the piston-rod connected with the lever in such a manner that the governor will normally aid returning and retaining the lever in position as shown in Fig. 1 and also aid in regulating the speed of the return movements of the lever.

K is a coil-spring fixed to the lever D and the fixed plate B in such a manner that the force stored therein by the movement of the lever into position as shown in Fig. 2 will be exerted to return the lever to its normal position, as shown in Fig. 1.

M is a lever fixed to the valve-stem of a steam-whistle on a locomotive, as shown in Fig. 4 or in any suitable way, in such a manner that successive motions of said lever will cause the whistle to make successive signal sounds. This lever is connected with the stop O, pivoted in the end of the carrier F, by means of a rod L, that is connected with the end of the lever and the stop, as shown in Fig. 4 or in any suitable way, so that when the lever D is operated, as shown in Fig. 2, the stop O drops into the openings 1 2 3 in

the plate E, and in so doing the lever M is vibrated vertically as required to operate the valve of the steam-whistle to make an equal number of signal sounds in succession. It is obvious the number of openings for admitting the stop device O and their distances apart may vary as required to vary the number of sounds and the duration of successive signal notes or sounds produced.

10 P is a fixed post located near the track at such a place and distance from the point of danger as may be desired, and T is a cross-head on the end of an arm projecting horizontally from the post, as clearly shown in 15 Fig. 4, in such a manner that when a locomotive passes the post the free end of the lever D will come in contact with the cross-head T and be vibrated thereby as required to actuate our automatic mechanism carried on the 20 locomotive, in such a manner that the steam-whistle will be positively sounded at the proper time and place without any attention whatever from the engineer or any other person on or off the locomotive or train of cars 25 attached to the locomotive.

Having thus described the construction, arrangement, and combination of the different parts and their functions and the application, the practical operation of our invention and 30 its utility will be readily understood by persons familiar with the art to which it pertains.

What we claim as new, and desire to secure by Letters Patent, is—

1. In automatic mechanism for operating a 35 steam-whistle on a locomotive, a fixed base, an arc fixed to one end of the base, a jointed lever fulcrumed to the base, a curved plate fixed to one end of the lever and provided with one or more openings or depressions to 40 admit a stop, a stop-carrier adjustably connected with the base and a stop pivotally connected with the stop-carrier to enter said openings in the curved plate, arranged and combined to operate in the manner set forth 45 for the purposes stated.

2. In automatic mechanism for operating a steam-whistle on a locomotive, a fixed base, an arc fixed to one end of the base, a jointed lever fulcrumed to the base, a curved plate 50 fixed to one end of the lever and provided with one or more openings or depressions to admit a stop, a stop-carrier adjustably connected with the base and a stop pivotally connected with the stop-carrier to enter said 55 openings in the curved plate and bearings fixed to the ends of the base to support the free ends of the jointed lever, arranged and combined to operate in the manner set forth for the purposes stated.

60 3. In automatic mechanism for operating a steam-whistle on a locomotive, a fixed base, an arc fixed to one end of the base, a jointed lever fulcrumed to the base, a curved plate fixed to one end of the lever and provided 65 with one or more openings or depressions to admit a stop, a stop-carrier adjustably connected with the base and a stop pivotally con-

nected with the stop-carrier to enter said openings in the curved plate, bearings fixed to the ends of the base to support the free 70 ends of the jointed lever and means for normally retaining the jointed lever parallel with the fixed base, arranged and combined to operate in the manner set forth for the purposes stated. 75

4. In automatic mechanism for operating a steam-whistle on a locomotive, a fixed base, an arc fixed to one end of the base, a jointed lever fulcrumed to the base, a curved plate 80 fixed to one end of the lever and provided with one or more openings or depressions to admit a stop, a stop-carrier adjustably connected with the base, a stop pivotally connected with the stop-carrier to enter said openings in the curved plate, a bearing fixed 85 to the end of the base to support the free end of the jointed lever, means for normally retaining the jointed lever parallel with the fixed base and a governor for regulating the speed of the vibrating motions of the pivoted 90 lever, arranged and combined to operate in the manner set forth for the purposes stated.

5. In an automatic device for operating a steam-whistle on a locomotive, a jointed lever fulcrumed to a fixed base on a locomotive, a 95 fixed frame or bearer for supporting a pivoted stop-carrier, a stop device pivotally connected with the free end of the stop-carrier, a fixed curved plate on the short arm of the jointed lever, one or more openings in the curved 100 plate to admit the stop, means for vibrating the lever to drop the stop into said openings, arranged and combined to operate in the manner set forth for the purposes stated.

6. In an automatic device for operating a 105 steam-whistle on a locomotive, a jointed lever fulcrumed to a fixed base on a locomotive, a fixed frame or bearer for supporting a pivoted stop-carrier, a stop device pivotally connected with the free end of the stop-carrier, a fixed 110 curved plate on the short arm of the jointed lever, one or more openings in the curved plate to admit the stop and means for vibrating the lever to drop the stop into said openings, and means for automatically returning 115 the lever and stop-carrier to their normal positions, arranged and combined to operate in the manner set forth for the purposes stated.

7. In an automatic device for operating a steam-whistle on a locomotive, a jointed lever 120 fulcrumed to a fixed base on a locomotive, a fixed frame or bearer for supporting a pivoted stop-carrier, a stop device pivotally connected with the free end of the stop-carrier, a fixed curved plate on the short arm of the jointed 125 lever, one or more openings in the curved plate to admit the stop, means for vibrating the lever to drop the stop into said openings, means for automatically returning the lever and stop-carrier to their normal positions and 130 supports or bearings for the lever and the curved plate on the end of the lever, arranged and combined to operate in the manner set forth for the purposes stated.

8. In an automatic steam-whistle operator on a locomotive, a fixed post having a fixed arm at its top portion and a cross-head on the free end of the arm extending vertically, in
5 combination with a jointed lever extended horizontally from the top of a locomotive to operate a steam-whistle on a locomotive in the manner set forth for the purposes stated.

9. An apparatus for operating a steam-
10 whistle on a locomotive comprising a base fixed on the locomotive and provided with bearings at its ends to support a lever, a jointed lever fulcrumed to the base, a curved plate provided with one or more openings to
15 admit a stop device fixed to the end of the stop-carrier, a bearer fixed to the base to support a stop device adapted to enter the open-

ings in the curved plate, a governor for regulating the motion of the lever, means for retaining the lever in its normal position on the
20 base, a fixed post at the side of a railroad-track, an arm fixed to the post to project toward the track and a cross on the end of the arm to project vertically, a lever fixed to the valve of a steam-whistle and connected with
25 the stop-carrier by the stop, arranged and combined to operate in the manner set forth for the purposes stated.

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In presence of—

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