W. A. SIMPSON & S. KIMBALL.

Device for Driving Cattle from Railroad Tracks.

No. 209,299. Patented Oct. 22, 1878.

Fig. 1.

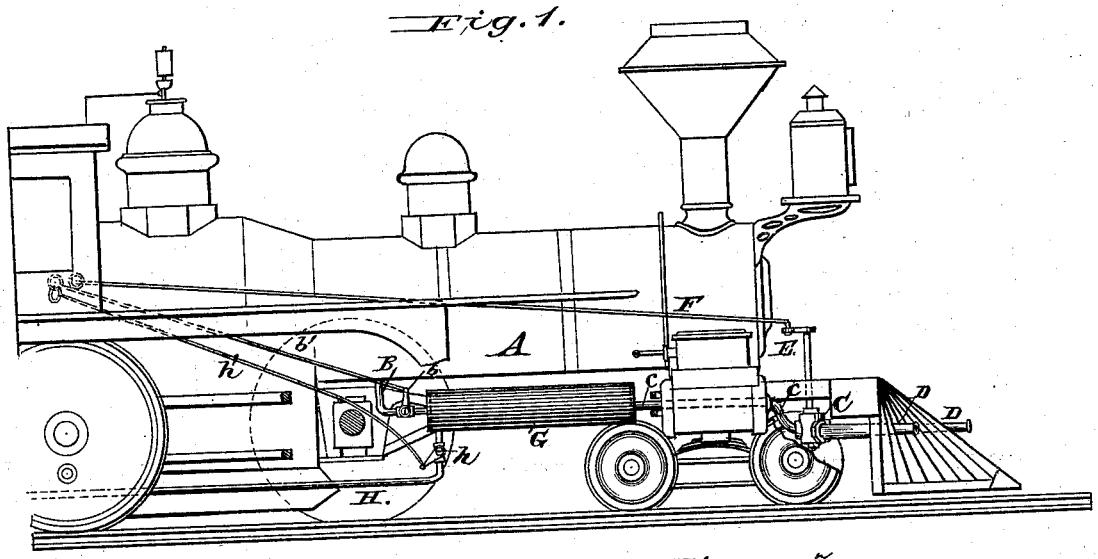


Fig. 3.

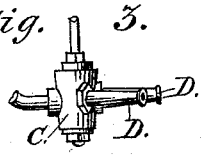


Fig. 2.

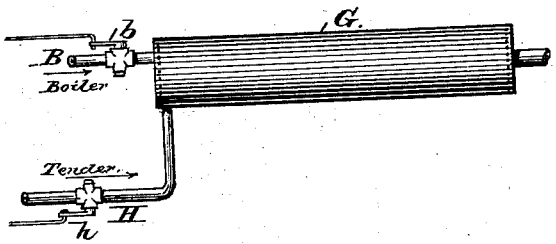


Fig. 4.

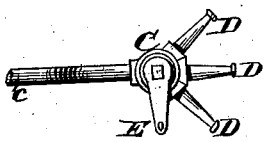
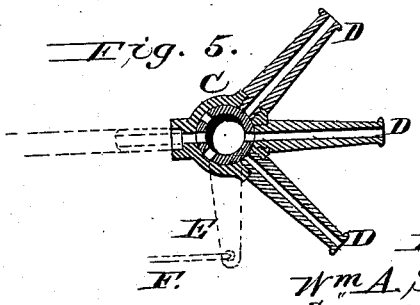


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM A. SIMPSON AND SAMUEL KIMBALL, OF LAWRENCE, KANSAS.

IMPROVEMENT IN DEVICES FOR DRIVING CATTLE FROM RAILROAD-TRACKS.

Specification forming part of Letters Patent No. **209,299**, dated October 22, 1878; application filed May 1, 1878.

To all whom it may concern:

Be it known that we, WILLIAM A. SIMPSON and SAMUEL KIMBALL, both of Lawrence, in the county of Douglas and State of Kansas, have invented certain new and useful Improvement in Devices for Driving Cattle from Railroad-Tracks, of which the following is a specification:

This invention relates to an improvement upon our patent for an improvement in alarms for locomotives to drive cattle from the track, dated January 29, 1878, and numbered 199,867.

We have found, in using the device covered by our above-named patent, that, on account of the direct passage from the boiler to the nozzles, the expansive force of the steam in ejecting the water causes the stream to spread or diverge so soon after leaving the nozzles that the water cannot be thrown to so great a distance as is sometimes desirable.

It is the object of the present improvement to obviate this difficulty in the way of the efficient operation of our heretofore-patented device; and to this end it consists in interposing a cooler, condenser, or reservoir between the nozzles and the boiler, so that the steam in the boiler will act upon the water in said reservoir and eject it from the nozzle or nozzles in a steady stream or streams, which will be thrown without breaking to as great a distance as likely to be necessary for all practical purposes.

In the accompanying drawings, Figure 1 represents a side elevation of a locomotive supplied with our improved alarm and cattle-driver. Fig. 2 is a plan view of the same, showing a modification of the means of supplying the reservoir with water. Fig. 3 is a detached side view of the nozzles; Fig. 4, a detached top view, and Fig. 5 a horizontal section, of the same.

The letter A represents an ordinary locomotive-boiler, and B a pipe extending from the said boiler at any convenient point below the water-line. Said pipe connects with a reservoir, G, which we prefer to arrange underneath the boiler, from the front of which reservoir projects a pipe, *c*, provided with a stop-cock, C, having one or more straight nozzles, D, through which a current of water or steam, or both, may be projected in front of the locomotive by means of the pressure in the boiler, the stop-cock being supplied with suitable connections by which it can be brought under the control of the engineer, said pipe and nozzles to be located preferably under the front platform of the locomotive, but may be arranged above said platform, if desired.

The nozzles D are preferably made to diverge, as shown, so as to throw the water or steam to each side of the track as well as directly in front of the locomotive. The stop-cock C is provided with a lever, E, from which extends a rod, F, backward to the cab of the locomotive, and by means of which the cock may be operated, so that steam or water, or both, may be projected through the nozzles, or by which the cock may be closed to retain the water within the reservoir, as desired.

The pipe B, connecting the reservoir and boiler, is provided with a check or circulating valve, *b*, from which a rod, *b'*, extends back to the cab, in order to bring said valve under the control of the engineer.

From the reservoir, as shown in Fig. 1, a pipe, H, runs back, and is suitably connected to the water-tank of the engine-tender; and said pipe is provided with a cock, *h*, from which an operating-rod, *h'*, extends within reach of the engineer, so that the reservoir may be filled with cold water when required.

The use of water-supply pipe H may, however, be dispensed with, and by properly regulating the opening of the check or circulating valve the reservoir will be kept full of water from the boiler, and a proper temperature of the water in the reservoir be secured and controlled by the use of the check or circulating valve.

The operation of our device is as follows: The reservoir, constructed and connected according to either or both of the above-described modifications of our invention, is kept filled with water by the means indicated, and when the engineer perceives any animals ahead of the train he has simply to open the check or circulating valve *b*, and then the cock C, by means of the rod F, and the force of the steam-pressure

of the boiler is exerted upon the water in the reservoir, forcing said water through the nozzles, and the noise occasioned thereby will usually frighten the animals off; but should it fail in doing so, when the train approaches near enough to the animals the water projected upon them will effectually drive them from the track, thus saving the stock and preventing accidents and damage to the train.

What we claim is—

1. The combination, with the boiler of a locomotive, of a reservoir connected with said boiler by a suitable pipe, and provided with a stop-cock projecting in front of the locomotive, and having a lever under the control of the engineer, substantially as and for the purpose set forth.

2. The combination, with the boiler of a locomotive, of a suitable reservoir connected with said boiler by a suitable pipe below the water-line, and provided with a stop-cock having diverging nozzles projecting in front of the locomotive, and a water-supply pipe, said pipes and cock being supplied with suitable valves and operating-rods under control of the engineer, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands in the presence of the subscribing witnesses.

WILLIAM A. SIMPSON.
SAML. KIMBALL.

Witnesses:
A. HADLEY,
S. D. COFFIN.