

R. W. LOVE.

Reflector.

No. 103,905.

Patented June 7, 1870.

Fig. 2

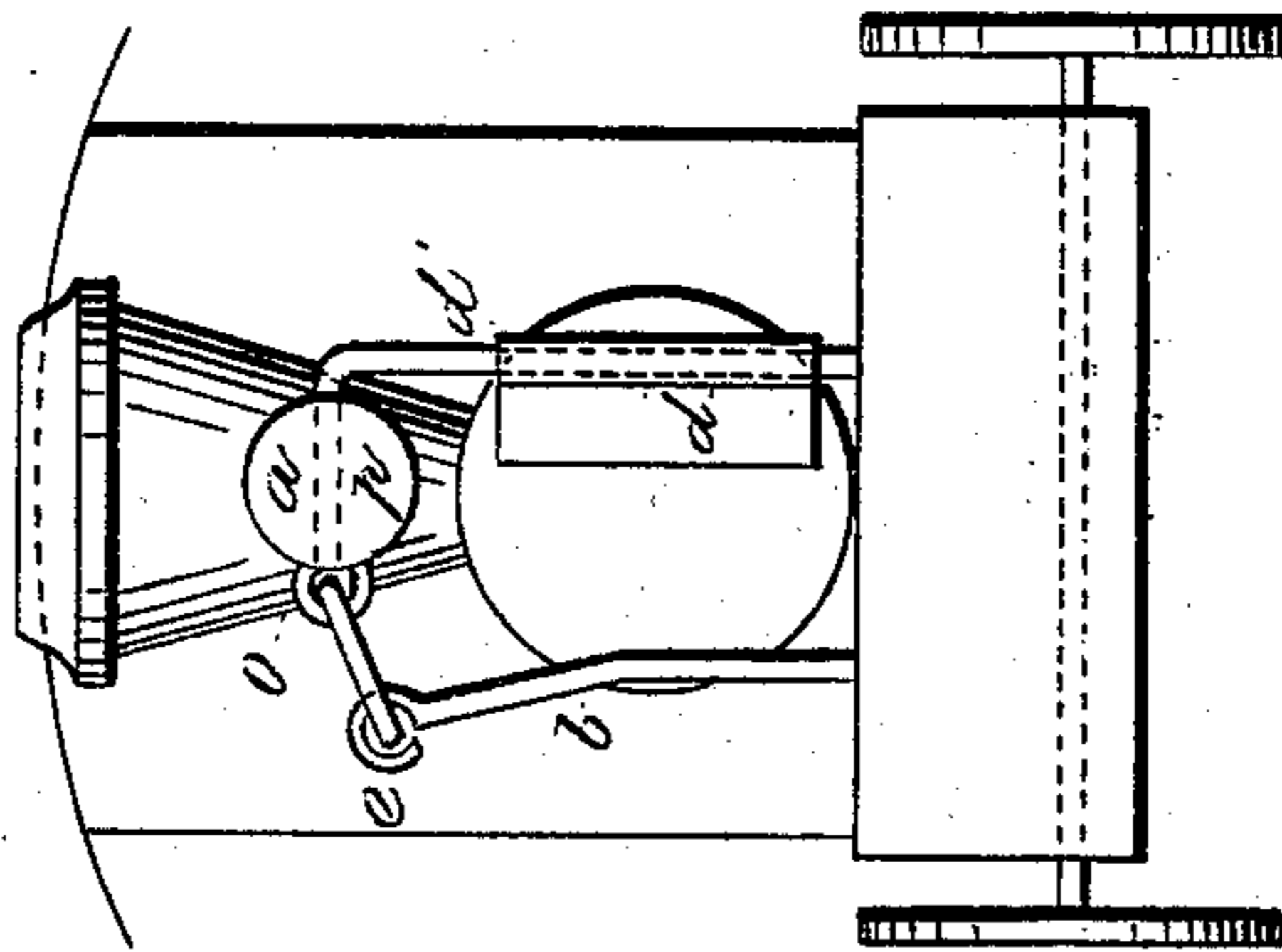
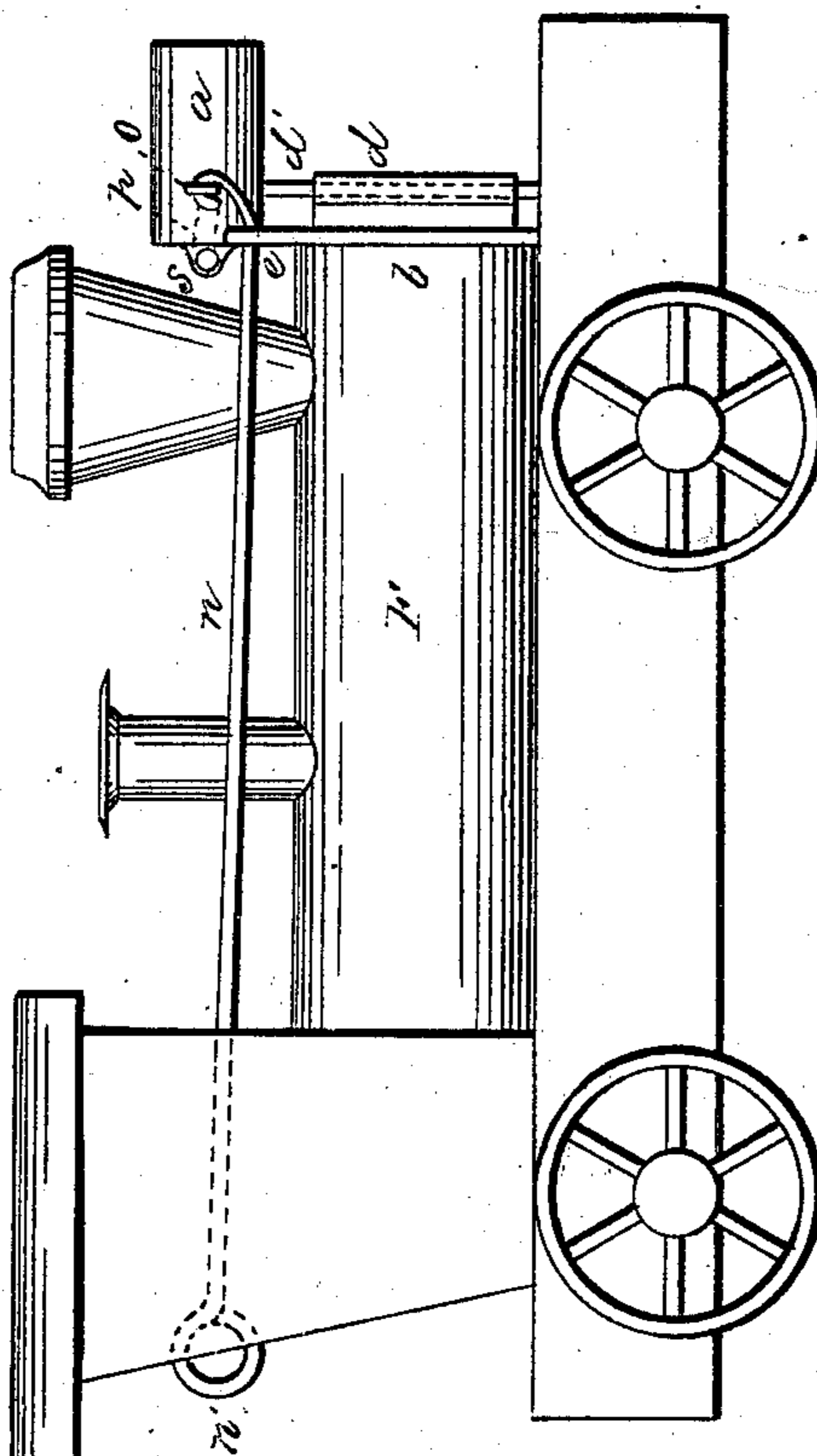


Fig. 1



Witnesses

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ROGER W. LOVE, OF WINDSOR, VERMONT.

Letters Patent No. 103,905, dated June 7, 1870.

IMPROVEMENT IN LOCOMOTIVE HEAD-LIGHTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ROGER W. LOVE, of Windsor, in the county of Windsor and State of Vermont, have invented a new and useful Improvement in Locomotive Head-Lights; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, as making a part of this specification, in which—

Figure 1 shows a side view of the cylindrical box containing the flame and reflector, the mode of attachment, and the mechanism by which motion is communicated.

Figure 2 shows a front view of the same devices.

By reason of the short distance illuminated, the head-light now used upon locomotive steam-engines is of but slight service to prevent accidents upon railways when these occur from obstructions placed or fallen upon the track, or from the misplacement of switches and draws in bridges, or from collisions with carriages at crossings, or from many other forms of danger to which trains are liable while moving rapidly during the night. A brilliant reflection is produced, illuminating objects close at hand, but with insufficient power to expose distant sources of danger.

In the present invention, by the form of the cylindrical box and reflector, the beams of light are concentrated and guided to such a distance as shall allow obstructions to be seen in time to prevent accident by stopping the train; from seventy-five to one hundred rods is generally sufficient for this purpose.

By means of a connecting-rod passing to the caboose, motion may be communicated to the box and reflector, either perpendicularly by a turn of the rod, or laterally by a slight backward or forward movement of the same. Thus the engineer is enabled to control the direction of his light, either to lengthen or shorten the distance illuminated on the track, or to throw the light across a curve, or outward upon carriage-roads when approaching a crossing.

A cylinder is used as best adapted to the purpose, the inner extremity and sides forming the bed for the reflector, indicated in the drawing by the dotted line *p* in the box *a*.

The use of the well-known calcium light, in connection with this invention is contemplated, and can be readily applied to render more effective the devices here shown and explained.

This combination would be of especial service for railway trains which pass along lines of road through new and unsettled districts, or where exposed to Indian depredations. Long reaches of road could thus be constantly under the notice of the engineer, preventing accident where accident would be specially deplorable.

My invention consists in the construction of the cylindrical box to assist in the concentration of the rays upon any point in advance of the locomotive.

My invention further consists in forming the reflector of a locomotive head-light upon the inner extremity and sides of the cylindrical box.

My invention further consists in the devices to change the direction of the rays by communicating motion to the box and reflector.

Attached rigidly to the boiler *F* is the support *b*, through which, at *e*, passes freely the adjusting and operating lever *n*.

The box *a* is hung upon the arm of the rod *d'*, the latter turning freely in the pivotal tube *d*.

A twist motion being applied to the rod *n* at *n'*, the box *a* swings upon the hinged joint at *s*, describing, at its extremity, the arc of a circle in a perpendicular plain.

A push or draw movement communicated to the rod, the box *a* swings laterally upon the pivotal point in *d*, describing at its extremity the arc of a circle in a horizontal plane.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the head-light reflector *p* of a locomotive-engine with the cylindrical tube *a*, and mechanism, substantially as described, for operating such tube and reflector, in the manner and for the purpose as set forth.

Also, the combination, substantially as described, for operating the said tube and reflector *p*, in manner and for the purpose specified, such combination consisting of the pivotal parts *s d d'*, the standard *b*, and the rod *n*, arranged and applied together and to the locomotive and the head-light reflector, as set forth.

ROGER W. LOVE.

Witnesses:

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