J. Roscoe,

Lubricator.

No. 37,245. Patented Dec. 23, 1862.

Witnesses;

Sam'l Adams

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Inventor;

James Roscoe

UNITED STATES PATENT OFFICE.

JAMES ROSCOE, OF LEICESTER, ENGLAND.

IMPROVED LUBRICATOR FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **37,245**, dated December 23, 1862.

To all whom it may concern:

Be it known that I, JAMES ROSCOE, of Leicester, England, in the Kingdom of Great Britain, have invented a new and useful Improvement in Lubricators for Steam-Engines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a side elevation of the improved lubricator, drawn to a scale of half full size. Fig. 2 is a vertical section of the lubricator, showing the internal construction thereof; Fig. 3, a detached portion thereof.

The nature of my invention consists in so constructing a lubricator as to enable tallow to be employed as the lubricant, and, further, in adapting thereto an air pipe or vessel for the purpose of forcing out the lubricating matter, as follows:

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct a vessel, A, of brass or other suitable material, the ends whereof are made spherical. B is a hollow stud, and C a solid stud screwed and fitted each with a nut, D, for connecting the lubricator to the front plate, E, of the smoke-box of a locomotive-engine. G is a cup into which the tallow is poured or put for filling the vessel A up to the line *a a*. H is a screw-plug, fitting in a screwed hole formed in the piece *b*, fixed across the cup G. The point of the plug H is formed conical and fits steam-tight in a corresponding recess or seat at *c*. I is a metal pipe fixed by one end to the plug H. K is a copper pipe communicating with the steam-chest and the cylinders of the engine. L is a cock for drawing off any water that may accumulate in the vessel A.

The operations of this improved lubricator are as follows: Suppose the vessel A to be charged with tallow, the plug H, with its air-pipe I, is afterward inserted, the cock L being closed. Steam is then admitted by the pipe K into the vessel A, and, exerting pressure on the surface of the tallow, melts the same and causes it to mix with the steam and pass into the cylinders of the engine at each stroke of the pistons, and thus lubricates the same, and suppose the engine to be going down an incline, and the steam to be shut off, as is the common practice, the air contained in the pipe I, being compressed, will expand when the pressure of the steam is removed and force out a portion of the tallow from the vessel A, along the pipe K, into the cylinders of the engine, and thus lubricate the same; and this mode of lubricating the cylinders of locomotives when going down inclines constitutes an important feature in this invention, as it prevents cutting of the faces of the slides. The pipe K, being made of copper, will prevent the tallow freezing in very cold seasons.

It will appear obvious that by a very simple modification the above-described lubricator may be adapted to any kind of steam-engine.

Having now fully described my invention and the manner of operation, I hereby declare that what I claim as my invention, and desire to secure by Letters Patent, is—

Constructing a lubricator with an air-pipe, I, in combination with the other parts, substantially as described and represented.

JAMES ROSCOE.

Witnesses:

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