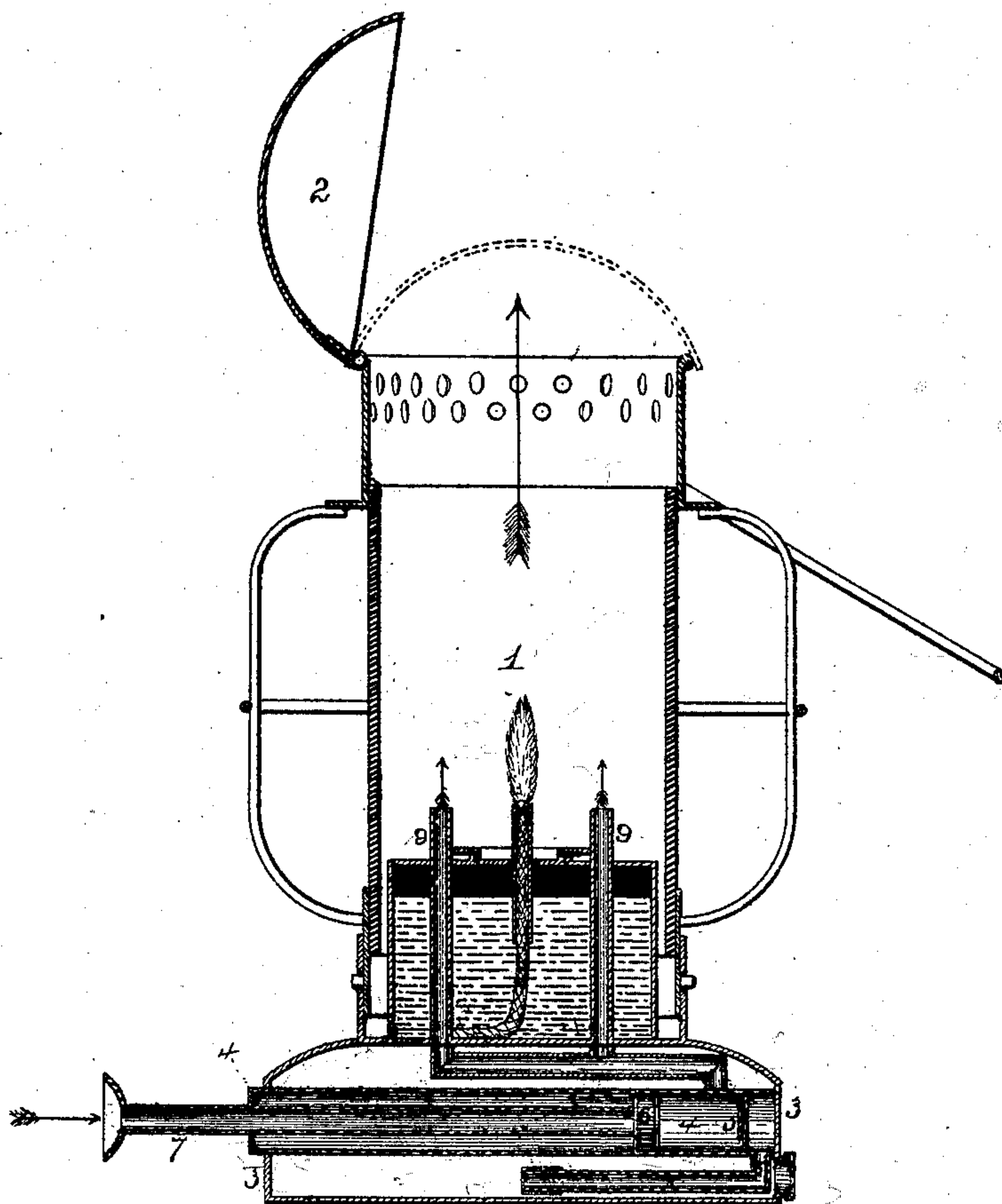


I. W. SHALER.  
Signal-Lanterns.

No. 143,425.

Patented Oct. 7, 1873.



WITNESSES.

*Wm. C. Duhamel*  
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INVENTOR.

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# UNITED STATES PATENT OFFICE.

IRA W. SHALER, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN SIGNAL-LANTERNS.

Specification forming part of Letters Patent No. **143,425**, dated October 7, 1873; application filed June 23, 1873.

*To all whom it may concern:*

Be it known that I, IRA W. SHALER, of Brooklyn, county of Kings and State of New York, have invented certain new and useful Improvements in Railroad Signal-Lanterns, of which the following is a specification:

The nature of my invention relates to an improvement in signal-lanterns for railroads; and it consists in securing to the bottom of a common lantern a chamber or reservoir for holding some volatile oil. In this chamber is placed a small pump, having a hollow piston, the end of which is closed by the thumb, in drawing the gas into the pump-barrel. After the barrel has been filled, by blowing through the piston, the gas is driven upward through two tubes, placed one on each side of the lamp-burner, where it instantly flashes into a flame a foot or more in height, and gives a signal which can be seen a long distance.

The accompanying drawing represents my invention.

1 represents an ordinary railroad-lantern, having its cap 2 hinged on, so that it can be thrown back, and leave the top of the lantern open for the signal-flame to flash through. To the bottom of this lantern is secured the chamber 3, of any desired shape or size, for holding any light volatile oil, which will be held in suspension in the cotton, placed in any suitable holding devices therein. Across the top of this chamber is placed the pump-barrel 4, provided with a valve, 5, in its rear end. Working in this barrel is the piston 6, operated by the hollow piston-rod 7, for the purpose of drawing the gas from the reservoir, up through the pipe 8, into the pump-barrel. In drawing this piston outward, so as to suck up the gas, the thumb should be pressed over the open end, so as to close it air-tight, and then, by

applying the mouth to the end and blowing through the piston, all the gas contained in the pump-barrel is blown upward through the two tubes 9, which pass up through the oil-lamp, one on each side of the burner. The instant the vapor or gas leaves the ends of the tubes it ignites from the oil-burner, and shoots upward through the open top of the lantern in a flame which can be seen for a long distance.

Having thus described my invention, I claim—

1. The combination, in a signal-lantern, of the reservoir provided with pump-barrel, hollow piston, and induction and eduction tubes, with a lamp, as set forth, all arranged and operating for the purpose of forcing a volume of gas into contact with the flame of the lamp, by applying a blast at the outer end of the hollow piston.

2. The combination, with the lamp-burner, of one or more tubes, arranged in such relation to the lamp-burner that when volatile oil or gas is forced through said tube or tubes from an independent reservoir it will be ignited by the flame, substantially as set forth.

3. The combination of the lamp of a signal-lantern with the apparatus, substantially as described, for forcing gas or volatile oil from a source independent of the lamp-reservoir into the immediate proximity of the flame, for the purpose of producing a flash-light signal.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 20th day of June, 1873.

IRA W. SHALER.

Witnesses:

HENRY JAMES,  
W. J. JAKES.