S. S. ROBINSON.

SPIRIT-LAMP.

No. 175,506. Patented March 28, 1876.

FIG. 1.

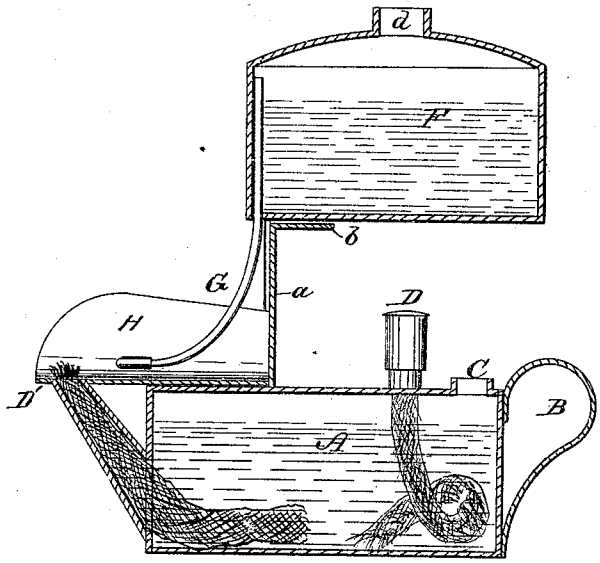


FIG. 3.

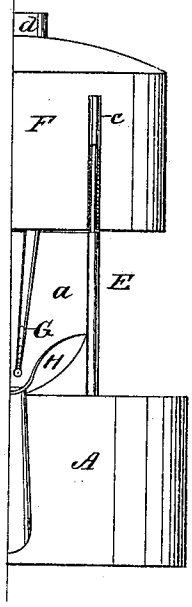
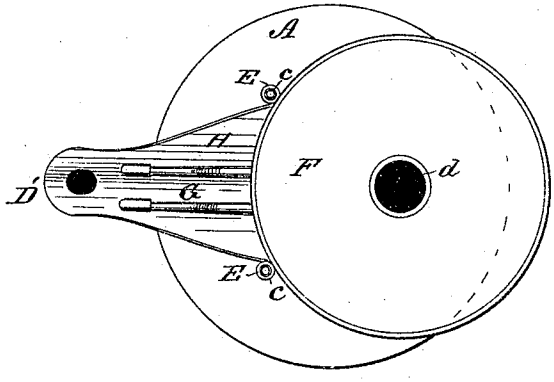


FIG. 2.



WITNESSES:

W. W. Hollingsworth

Solon P. Kenyon

INVENTOR:

S. S. Robinson

BY Munn & Co

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SYLVANUS S. ROBINSON, OF HOLDEN, MISSOURI, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM M. COVENTRY, OF SAME PLACE.

IMPROVEMENT IN SPIRIT-LAMPS.

Specification forming part of Letters Patent No. **175,506**, dated March 28, 1876; application filed February 25, 1876.

To all whom it may concern:

Be it known that I, SYLVANUS S. ROBINSON, of Holden, in the county of Johnson and State of Missouri, have invented a new and Improved Spirit-Lamp; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a vertical section; Fig. 2, a plan view; Fig. 3, a vertical front elevation of half of the lamp.

The object of my invention is to provide an improved combined spirit-lamp and blow-pipe for the use of mechanics, chemists, and students; and it consists in the peculiar construction and arrangement of a lamp, having a detachable water receptacle or boiler, located above some of the burners of the lamp, and provided with one or more steam-pipes with small orifices, which open near one of the burners, so that the heat of a part of the burners generates steam, which, issuing from the orifices of the steam-pipes, forms a blow-pipe which directs the flame of the burner outwardly to a point or focus for convenient use.

In the drawing, A represents the body of the spirit-lamp, which forms the receptacle for the alcohol or burning fluid. This lamp is provided with a handle, B, an inlet, C, for the burning-fluid, and burners D D′. The burners D are arranged upon the top part of the lamp, and contain wicks, the flames from which serve to generate steam in the boiler above. They are, as here shown, two in number; but I may increase the number at will to effect the more rapid generation of steam when a stronger flame is required. The burner D′ issues inclinedly from the side of the lamp, after the manner of a spout, and contains the wick whose flame is to be utilized by the blow-pipe. Upon the upper surface of the lamp, between the burners D and the burner D′, is constructed two standards, E, which are connected by a screen, *a*, and a support, *b*. F is the boiler or water receptacle, formed with sockets *c* upon its sides, which slide over the ends of standards E, which latter, together with the stand *b*, support the boiler in its position above the burners D. Connected with the boiler F, and descending therefrom, are the curved steam blow-pipes G. These pipes are one or more in number, and open inside the boiler, at a point above the level of the water and in the steam-space, and terminate below in fine nozzles or blow-pipe orifices, near the flame of the burner D′, so that when steam is generated in the boiler by the burner D the jets impinge against the flame of burner D′, and direct it outwardly to a focus, so as to be conveniently utilized. To direct the steam-jets full upon the flame, and to prevent the lateral swaying of the latter from the wind, I arrange a spout or trough, H, about the burner D′ and the steam-orifices, and extend the same back to the screen *a*. The object of the screen is to brace and stiffen the standards, and also to shield the burner D from the current of air induced by the steam-jets, which would otherwise draw the flame of the boiler-burners to one side and impede the generation of steam. The boiler is provided with an opening, *d*, for the introduction of water, which is stopped when the lamp is in operation by a suitable plug or valve, and the burners are all provided with the ordinary caps *e* to prevent the waste of the fluid from evaporation.

What I claim is—

1. The lamp A, having the standards E and the screen *a* located between the burners D and D′, in combination with the boiler, having one or more pipes G and sockets *c*, as and for the purpose described.

2. The combination of lamp A, having burners D D′, the standards E, and screen *a* located between said burners, the trough H, and the boiler F, having one or more pipes G and sockets *c*, as and for the purpose described.

The above specification of my invention signed by me this 14th day of February, A. D. 1876.

SYLVANUS S. ROBINSON.

Witnesses:

JAMES M. DUKE,

F. B. HAWES.