

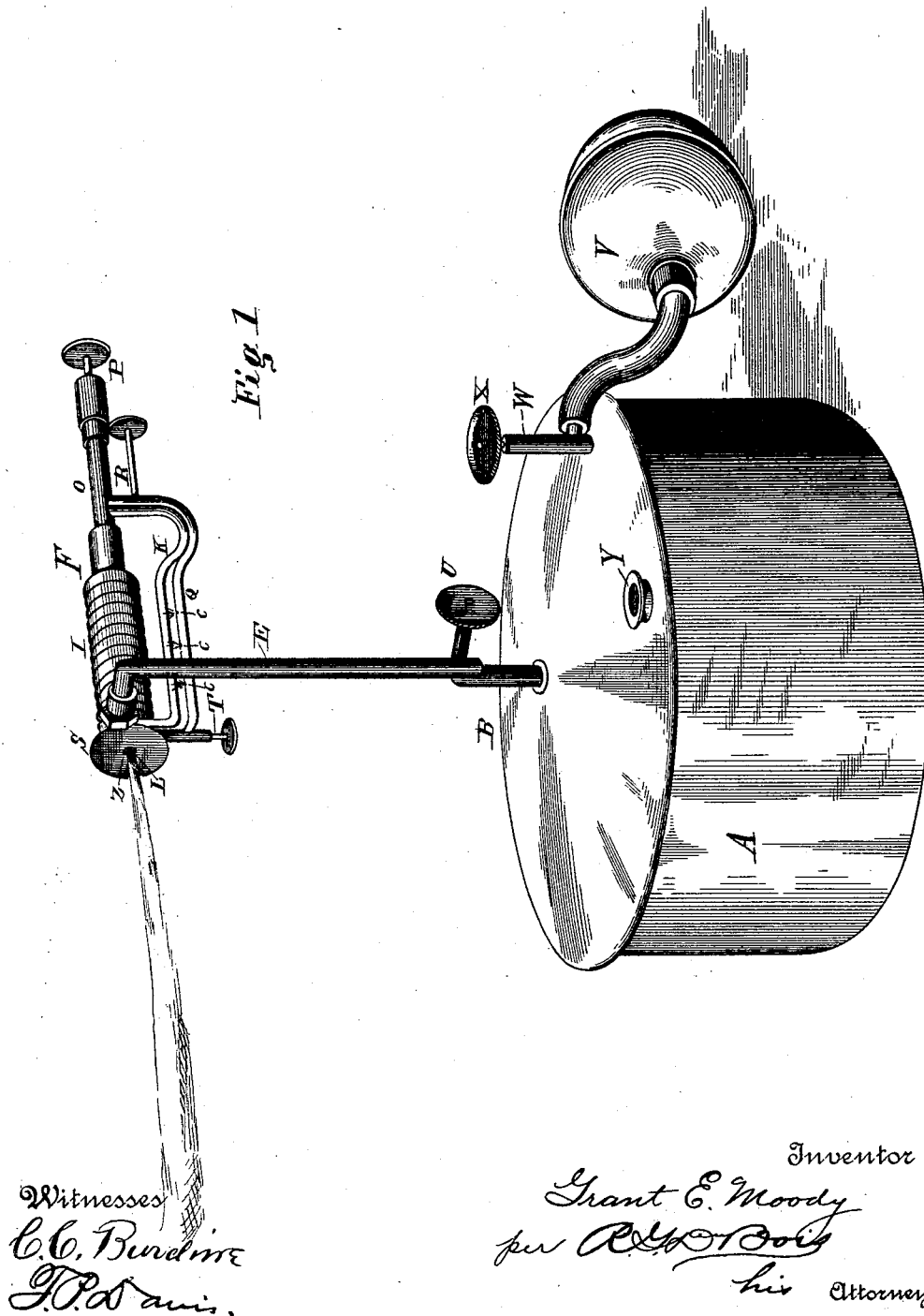
(No Model.)

2 Sheets—Sheet 1.

G. E. MOODY.
BLOW LAMP.

No. 454,139.

Patented June 16, 1891.



(No Model.)

2 Sheets—Sheet 2.

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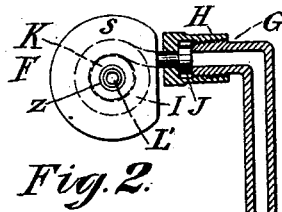


Fig. 2.

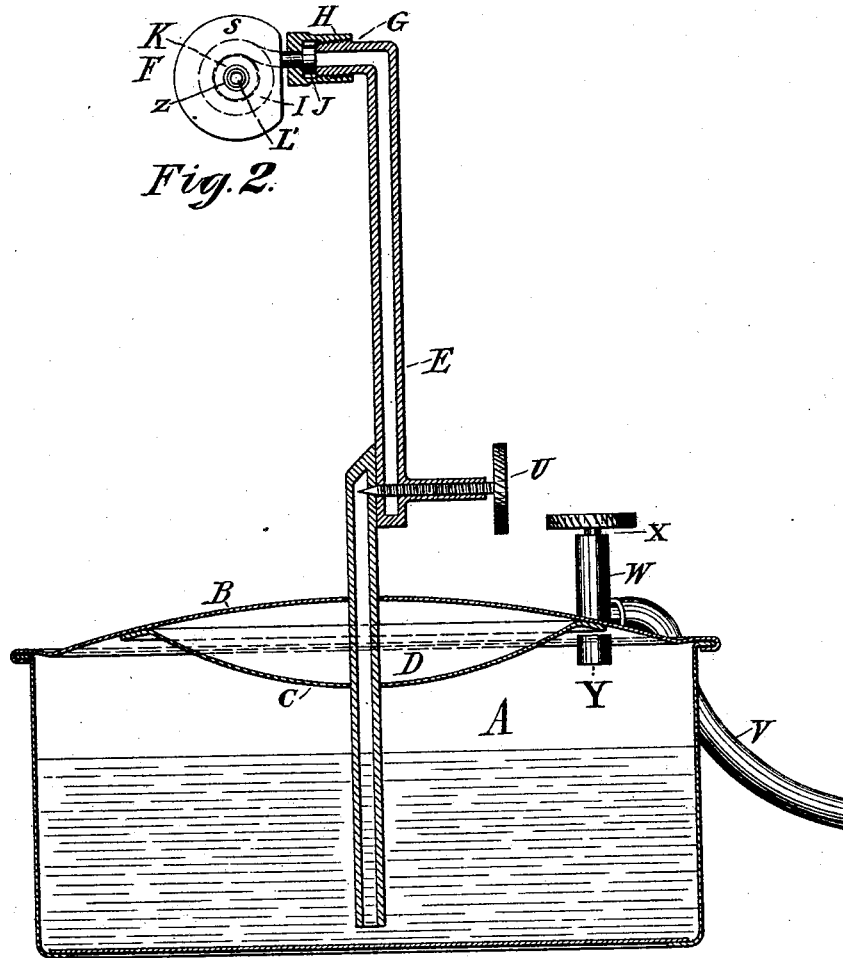
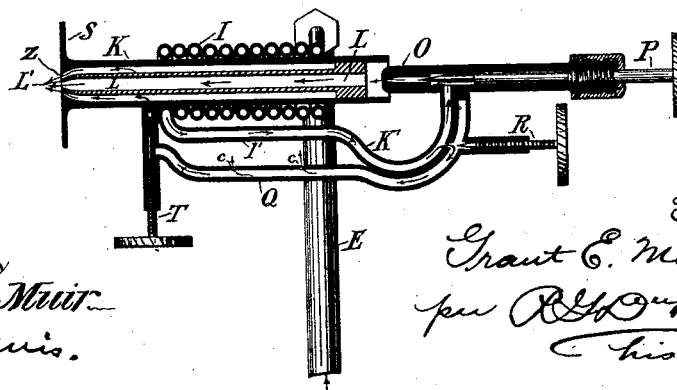


Fig. 3.



Witnesses
Edw. A. Muir
J. D. Davis.

Inventor
Grant E. Moody
per *Alfred Boie*
his Attorney

UNITED STATES PATENT OFFICE.

GRANT E. MOODY, OF KENDALLVILLE, INDIANA.

BLOW-LAMP.

SPECIFICATION forming part of Letters Patent No. 454,139, dated June 16, 1891.

Application filed May 27, 1890. Serial No. 353,292. (No model.)

To all whom it may concern:

Be it known that I, GRANT E. MOODY, a citizen of the United States, residing at Kendallville, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Blow-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that class of blow-lamps especially intended for goldsmiths, tin-smiths, dentists, and others who need a small blown flame for brazing, welding, and general heating purposes in the practice of their trade.

The object of my invention is to provide a self-blowing lamp that will produce a continuous and steady flame for quite a length of time without pumping, so that it will become for a time automatic in its action and allow the operator free use of both hands, and will not require any effort whatever to keep it in force except an occasional recharging of the compressed-air reservoir.

A still further object is to produce a simple, cheap, durable, and effective device for general workshop purposes.

With this purpose in view my invention consists in the peculiar features and combinations of parts more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a general perspective view of the exterior of my complete device; Fig. 2, a vertical section through the reservoir and stand-pipe, and Fig. 3 a longitudinal section through the burner.

A represents a reservoir or tank adapted to receive gasoline, kerosene-oil, or other suitable liquid. This reservoir is provided with a double top B, formed by a metal sheet C, fastened upon its under side so as to form a chamber D, to better protect the contents of the tank from the direct heat caused by the fire from oil which may accidentally drop from the burner. The tank is made preferably of copper to make it capable of holding a strong charge of air. A stand-pipe E rises from the center of the tank and is provided with a burner F. This burner F is pivoted in the end of an elbow G, extending at right angles from the top of the stand-pipe. The

pivotal connection consists of a sleeve H, which fits over the end of the elbow G, and is rigidly secured thereto, and receives the end of a vapor-generating coil I, provided with a head J, fitting snugly within the sleeve. This arrangement permits the burner to be turned in various directions to enable the operator to throw the flame wherever desired. This coil I winds around a hollow cylinder K, which has within it a draft-tube L, provided with a tapering front end L', from which the flame issues. A continuation I' of the coil extends back parallel with and below the tube K to the first convolutions of the coil, thence downward at K' and upward to a nozzle or escape-pipe O, placed in alignment with the draft-tube L and regulated by a valve P. An additional or auxiliary tube Q extends below the pipe O and coil I to the interior of the tube K to supply vapor thereto and to assist in keeping the blaze going. Perforations c in the top of this tube permit the oil to escape, which being ignited supplies heat to the coil above, besides furnishing a supply to the tube K. The valves R and T control the inlet and outlet orifices of the tube Q, so that the vapor or oil may have free passage from the pipe or tube I' back to the vapor-tube K, or may be permitted to escape only out of the perforations c.

The vapor-tube K is provided at its forward end L' with a disk S, having a central opening, into which the tapering end of the draft-tube projects, thus leaving a circular escape-orifice Z, from whence the vapor passes and is ignited.

The stand-pipe is provided with a valve U, with which to open and close communication between the burner and tank. The lower end of the stand-pipe extends down nearly to the bottom of the tank and is adapted to be surrounded by oil.

An air-pump V, which may be of any suitable form, is attached to an inlet-pipe W, commanded by a valve X. Oil is admitted to the tank through the opening Y.

The preferred construction having been described, I will now proceed to describe the operation of my device. The valve U upon the stand-pipe is first closed and the valve X opened. Then the air pump or bulb is operated until the air-space above the oil in

the tank is well filled with compressed air. The valve X is now closed and the valve U opened, whereupon the pressure of the compressed air in the tank will immediately cause the oil to ascend the stand-pipe, from whence it goes to the generating-coil, through which it travels until arrested by the valve P, commanding the nozzle O. Now when the valve R is open and the valve T closed, as in Fig. 3, the oil escapes from the coil and passes along the pipe I', thence backward through the pipe Q, and out through the small perforations c. Upon lighting this escaping oil it heats the coil above and converts or partially converts its contents into vapor. The valve P may now be opened, which will permit a fine stream of oil and vapor to escape from the nozzle O into the draft-tube L. A light being now applied at the escape-orifice Z, a flame will be produced, and its size and force can be regulated by the valve P. The amount of oil or vapor supplied to the burner can be easily regulated by the valve P, and therefore this valve controls the flame, for the wider it is opened the greater will be the length of the flame. When the compressed air in the tank becomes exhausted, the pressure can be easily renewed by the air bulb or pump V.

It is evident that many slight changes which might suggest themselves to a skilled mechanic could be resorted to without departing from the spirit and scope of my invention. Hence I do not limit myself to the exact construction herein shown; but,

Having thus described the preferred form of my device, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bench-lamp, the combination of an air-tight tank having a pump communicating therewith, a valved pipe extending out of said

tank, a burner pivoted on the end of said pipe, said burner comprising a hollow cylinder containing a draft-tube, a coiled pipe connected with said valved pipe and tank and surrounding said cylinder and having an extension thereof passing back to a valved nozzle directed into said draft-tube, and an auxiliary pipe connected to the generating-coil and provided with valves and perforations, as and for the purpose specified.

2. In combination with an air-tight tank and pipe leading therefrom, a burner connected with said pipe, said burner comprising a hollow cylinder containing a draft-tube, a coiled pipe surrounding said cylinder and connected with said pipe and provided with a valved extension, a perforated auxiliary pipe provided with valves, and a valved nozzle communicating with both of said pipes and pointing into said draft-tube, all arranged and adapted to operate in the manner and for the purpose set forth.

3. In combination with an oil-reservoir and a pipe leading therefrom, a coiled pipe provided with valves and connected with aforesaid pipe, a draft-tube surrounded by the coiled pipe, a valved nozzle pointing into said tube, an extension on the end of said coiled pipe, and a valved auxiliary pipe located below and connected with the coil and provided with perforations, said extension and auxiliary pipe being connected with said nozzle, in the manner and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GRANT E. MOODY.

Witnesses:

W. A. MOODY,

W. C. McKELLAR,