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F. A. SMITH.

MINER'S LAMP.

APPLICATION FILED APR. 20, 1905.

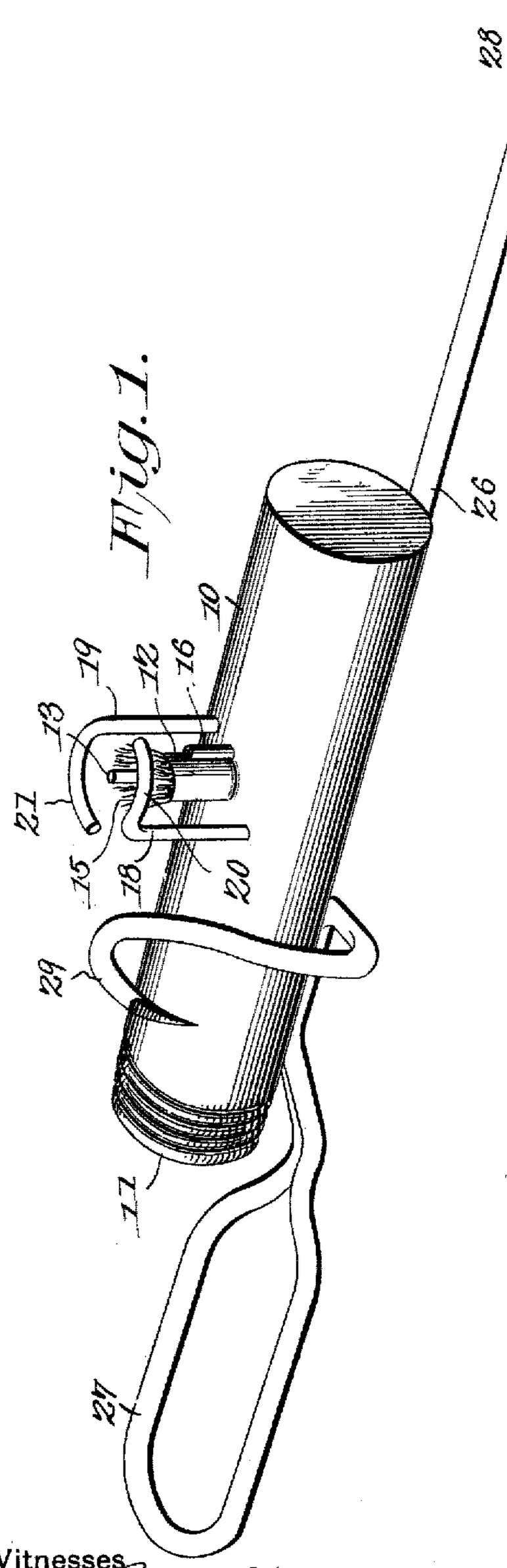

Fig. 1.

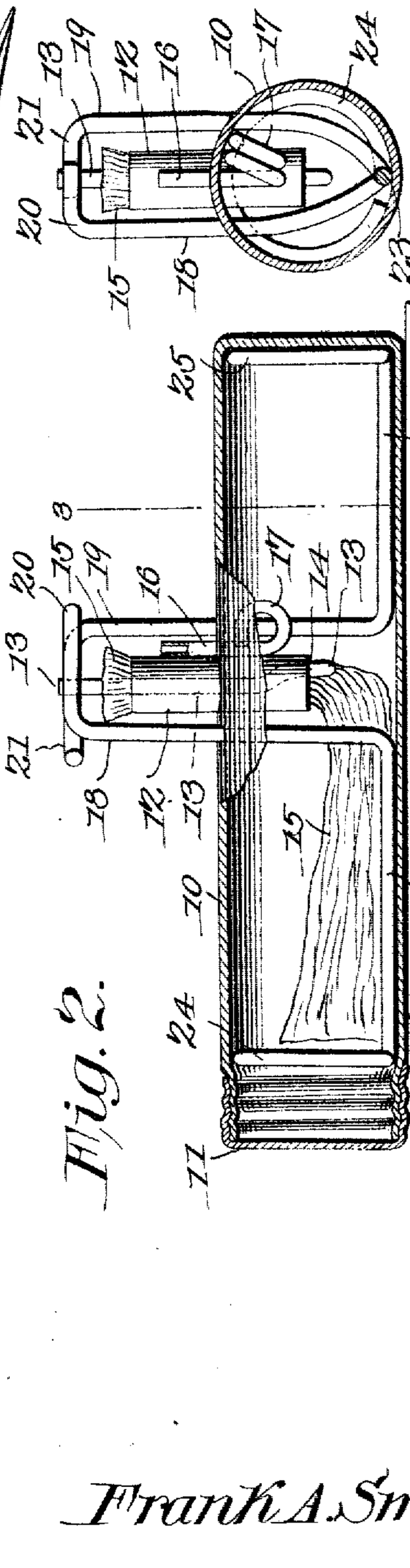

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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MINER'S LAMP.

No. 814,241. Specification of Letters Patent. Patented March 6, 1906.

Application filed April 20, 1905. Serial No. 256,522.

To all whom it may concern:

Be it known that I, FRANK A. SMITH, a citizen of the United States, residing at Victor, in the county of Teller and State of Colorado, have invented a new and useful Miner's Lamp, of which the following is a specification.

This invention relates to lamps in which paraffin, lard-oil, tallow, and similar illuminants, which require a certain degree of heat to melt them as they are consumed, is employed, and has for its object to provide simply-constructed and easily applied and operated devices whereby the heat of the lamp is utilized to maintain the illuminant in condition for burning.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of embodiment of the invention capable of carrying the same into practical operation.

In the drawings thus employed, Figure 1 is a perspective view of the improved device. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section on the line 3 3 of Fig. 2 with the suspension means detached.

The improved device comprises a receptacle 10 for the illuminant, preferably in tubular form, and provided with a closure 11 at one end in screw-cap form. Disposed upon the receptacle 10 is a wick-tube 12, extending into the same and also projecting therefrom. Disposed within the wick-tube is a heating member 13, of good heat-conductive material, such as copper, projecting both above and below the wick-tube, and with an offset at 14 for attachment to the wick-tube. The wick material (represented at 15) thus entirely surrounds the heating member within the wick-tube and is extended longitudinally of the receptacle, as shown.

Disposed through the receptacle 10, preferably adjacent to the wick-tube, is an air-inlet tube 16, extending above the receptacle, likewise into the same, with the inner end portion coiled into a plurality of "whirls" 17, the terminal of the last coil being disposed close to the upper inner face of the casing 10. By this means the air is caused to travel for a considerable distance within the air-tubing before it emerges into the chamber above the luminant, and is warmed in its passage as the coils are partly immersed in the relatively warm material in close proximity to the heater member 19. Thus no danger exists of the entrance of cold air directly to the chamber above the luminant, and thereby lessening the influence of the heater members.

Disposed through the receptacle 10, preferably adjacent to the wick-tube, are heating members 18 19, of good heat-conductive material, such as copper, the upper ends curved, as at 20 21, around the igniting end of the wick-tube and extended in opposite directions within the receptacle and along the bottom, as at 22 23, and coiled around the interior of the same at the ends, as at 24 25. By this means a relatively extended amount of the conductive material is within the receptacle and in direct contact with and immersed in the illuminating material and in position to exert its influence thereon. A relatively extended amount of the conductor material is also within the direct influence of the flame at the igniting end of the wick-tube, so that the illuminant will be constantly maintained in a melted or combustible condition.

Attached to the receptacle 10 is a supporting member 26, preferably of wire, extended at one end into a handle 27 and at the other end into a spur 28 for insertion into a crevice or other aperture into a wall or for driving into a timber or other wood structure and also provided with a lateral hook 29 for hanging over a projection of any kind. The device is thus capable of being supported at any of the various points in mines or other localities where required in convenient position for the operatives.

The device may be readily adapted for use in various localities, but, as above noted, is more particularly designed for the use of miners and other operatives in underground structures or constructions.

Having thus described the invention, what is claimed is—

1. A miner's lamp comprising a body having a wick-tube extending through one of its walls, and an air-tube extending through the wall of the body adjacent to and parallel with said wick-tube and with the inner portion coiled into a plurality of whirls disposed with the terminal of the last coil in close proximity

to the upper side of the body and to the wick-tube.

2. A miner's lamp comprising a cylindrical body provided with a spur for attachment to a support, a wick-tube extending through one side of the body intermediate the ends, a heating member disposed centrally within and rigidly attached to the tube, an air-tube extending through the wall of the body adjacent to the tube and with the inner portion coiled into a plurality of whirls and with the terminal in close proximity to the tube and the top of the body, heat-conductors adjacent the tube and surrounding the wick and extending into and across the body in opposite directions and terminating in coils adjacent the ends of the body.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK A. SMITH.

Witnesses:
B. F. ZIMMERMAN,
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