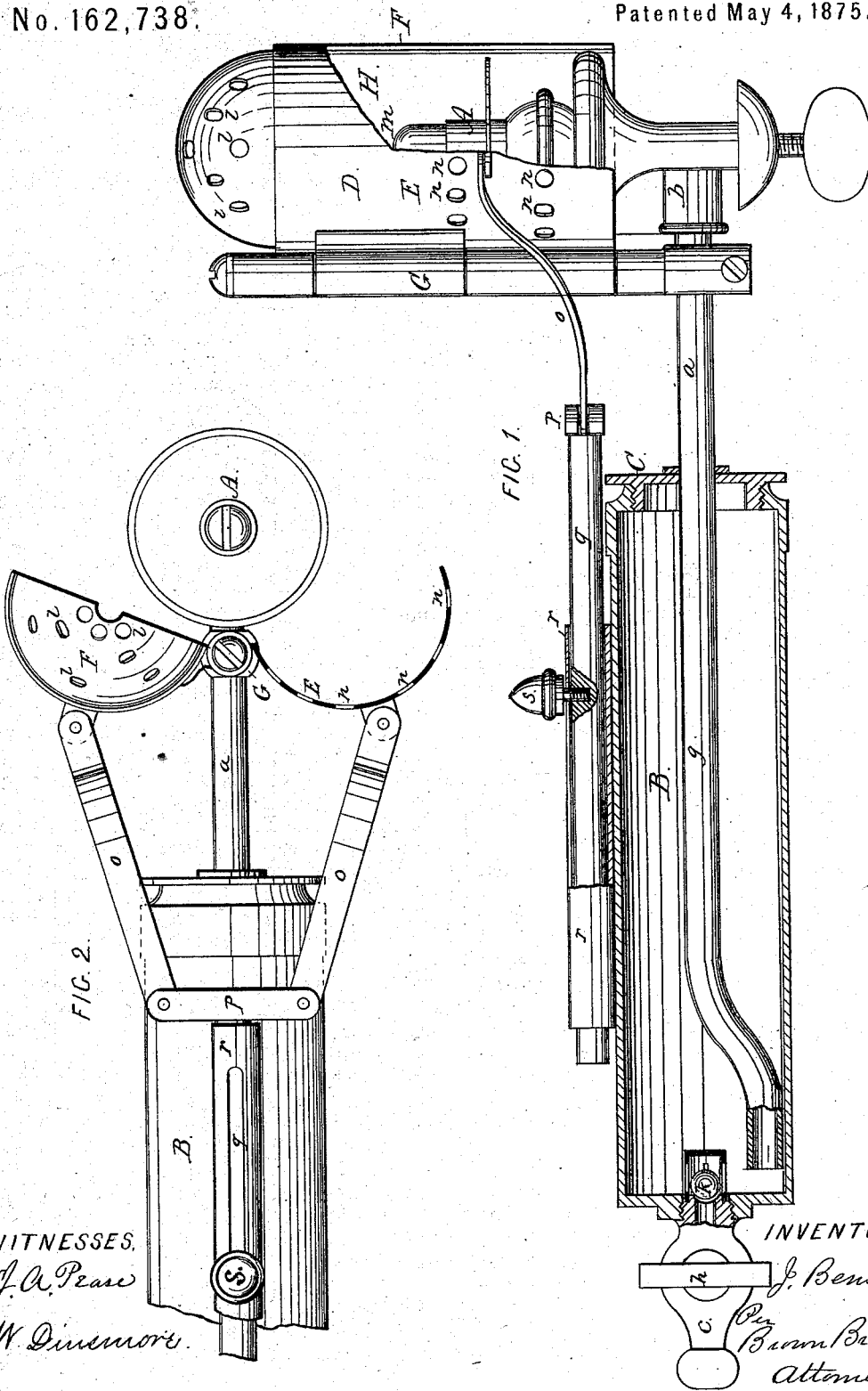


J. BENSON.  
Torch.

No. 162,738.

Patented May 4, 1875.



WITNESSES.  
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# UNITED STATES PATENT OFFICE.

JOSEPH BENSON, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN TORCHES.

Specification forming part of Letters Patent No. **162,738**, dated May 4, 1875; application filed August 26, 1874.

### *To all whom it may concern:*

Be it known that I, JOSEPH BENSON, of Boston, Suffolk county, State of Massachusetts, have invented an Improved Torch, of which the following is a specification:

The object of this invention is to provide a torch for lighting vapor or other burners in street-lamps, to do which, as is well known, it is necessary that the torch-flame should be such as to heat the vapor-burner sufficiently to generate gas from the naphtha before the burner can and will light.

The present invention relates to certain improvements in lighting devices or torches which are provided with a burner, an oil reservoir and tank, and a pump for forcing the oil to the wick of the burner; and the invention consists of a peculiar construction and combination of parts to be hereinafter described.

In the accompanying plate of drawings the present invention is fully illustrated, Figure 1 being a side view of a torch, constructed according thereto, with some parts in section, and the shield closed about the burner. Fig. 2 is a view of the torch in a different direction from Fig. 1, and with the shield opened from the burner.

In the drawings, A represents a vapor-burner, which may be of any of the ordinary patterns. The invention in no manner relates to any particular form or construction of the vapor-burner, and, therefore, it is not considered necessary to herein more particularly refer to it. B, a tank or reservoir. This tank or reservoir is for the naphtha or other illuminating agent used, and it has a head, C, adapted for removal, to charge the reservoir with naphtha. The tank B connects by a pipe, *a*, with the feed-tube *b* of burner A, and the pipe *a* enters the burner-tube at right angles to its length. *g*, a tube, which is inside of tank B, and a continuation of the pipe *a* of the burner-tube *b*. The naphtha flows through the tank-tube *g* to the burner-tube, and it is arranged, as shown, to receive the oil near the end of the tank B, which is opposite to that end by which the tank B is connected to burner A. *c*, a nozzle, connecting with the inside of tank B. This nozzle *c* has a stop-cock, *h*, for opening and closing it, and through it air is to be forced into the tank, and therein compressed to a degree sufficient to se-

cure by its pressure on the oil in the tank a proper feed of the oil to the burner in the carrying of the torch. In this nozzle is a check-valve, *k*, adapted to close against the outward escape of the air or oil in the tank. D, a cylindrical shield for the burner A. The shield D is shown, as constructed, in two similar parts, E and F, which parts are hinged to a common post, G, of the torch. These parts E and F have holes *l* for the escape of the flame from the burner, and they, when closed, as shown in Fig. 1, completely surround and inclose the burner in its length and at its tip *m*, leaving a chamber or space, H, about the burner for its flame to burn in. The shield, at and about the burner proper, has holes *n* in its sides for feeding the flame with air. (See Fig. 1.) The two parts of the shield D are connected by pivoted links *o* to a common cross-bar, P, of a slide-rod, *q*, which is arranged along the length of the tank B for being slid within and through a guide-tube, *r*, attached to the tank. *s*, a knob of slide-rod *q* for convenience in operating it. The shield D, closed as above described, protects the flame when the torch is carried, and opening it the burner of the torch can be readily lighted when desired.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a vapor-burner and an oil-reservoir connected with the burner, for supplying the same with vapor, of a longitudinally-divided shield or cover, hinged together, and having perforations to permit the escape of flame, and adapted to open and close for covering and uncovering the burner, substantially as and for the purpose described.

2. The combination, with a vapor-burner and an oil-reservoir, of the longitudinally-divided shield, the two parts of which are hinged together, and the links attached to the two parts of the shield and to a sliding stem, substantially as described, whereby by moving said stem the shield is opened or closed, as set forth, for the object specified.

JOSEPH BENSON.

Witnesses:

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