

(No Model.)

T. M. PIERCE.  
FIREWORKS TORCH.

No. 494,439.

Patented Mar. 28, 1893.

Fig. 1.

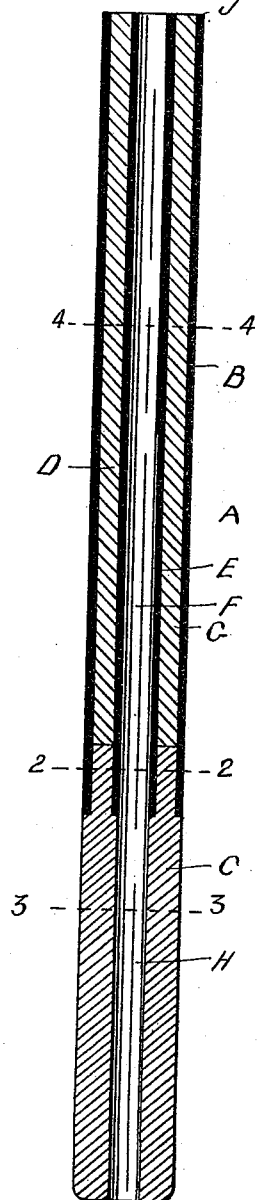


Fig. 2.

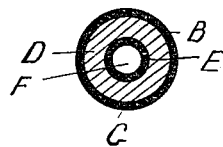


Fig. 4.

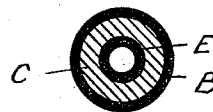
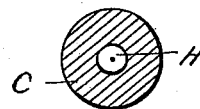


Fig. 3.



WITNESSES.

*Barrie E. Nichols.*  
*E. M. Gittle*

INVENTOR.

*Thomas M. Pierce*  
*Per Edwin W. Brown*  
*Attorney*

# UNITED STATES PATENT OFFICE.

THOMAS M. PIERCE, OF CONCORD, MASSACHUSETTS.

## FIREWORKS-TORCH.

SPECIFICATION forming part of Letters Patent No. 494,439, dated March 28, 1893.

Application filed May 11, 1892. Serial No. 432,646. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS M. PIERCE, of Concord, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Fireworks Torches or Signals, of which the following is a full, clear, and exact description.

This invention has for its object the supply of air to the center of the flame of the burning composition of a fireworks torch, to produce not only better flame but to lessen the quantity of smoke generated by the burning material, and the invention consists of a fireworks torch having a handle provided with a central longitudinal passage extending through the length of the torch and through the handle, all substantially as hereinafter fully described reference being had to the accompanying sheet of drawings in which is illustrated a fireworks torch constructed in accordance with this invention.

Figure 1 is a central vertical section. Figs. 2, 3 and 4 are cross sections respectively on lines 2—2, 3—3 and 4—4, Fig. 1.

In the drawings A represents a fireworks torch of which B is a casing or tube of paper or other suitable material, C a handle inserted and secured in the lower end of the casing or tube, which handle can be of wood or any suitable material and D is the fireworks composition all as usual in the manufacture of fireworks and needing no more particular description herein except as to the present invention.

Centrally longitudinally within the tube or casing B is a tube E of paper or any suitable material having an air passage F through it,

which tube extends the length of the tube or casing B and is secured at its lower end in the handle C, which leaves a vertical annular chamber G between it and the outer casing or tube, in which annular chamber is placed the fireworks composition D.

In the handle C is a central vertical air passage H which extends therethrough its full length and communicates with the passage F of the central tube E.

In the use of the torch it is held in the hand by the handle or supported in any suitable manner, and ignited at the upper end J, in the usual manner and as the composition burns at the upper end a draft of air is created up through its air passage H in the handle and tube supplying air to the center of the flame. The central tube also gives additional strength to the torch.

Having thus described my invention, what I claim is—

A fireworks torch composed of an outer casing, a longitudinal central tube, having an air passage through it, an annular chamber between the two tubes for the fireworks composition, a handle secured to the lower end of the casing, having a central longitudinal air passage through it communicating with the air passage in the central tube.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS M. PIERCE.

Witnesses:

EDWIN W. BROWN,  
CARRIE E. NICHOLS.