

No. 706,134.

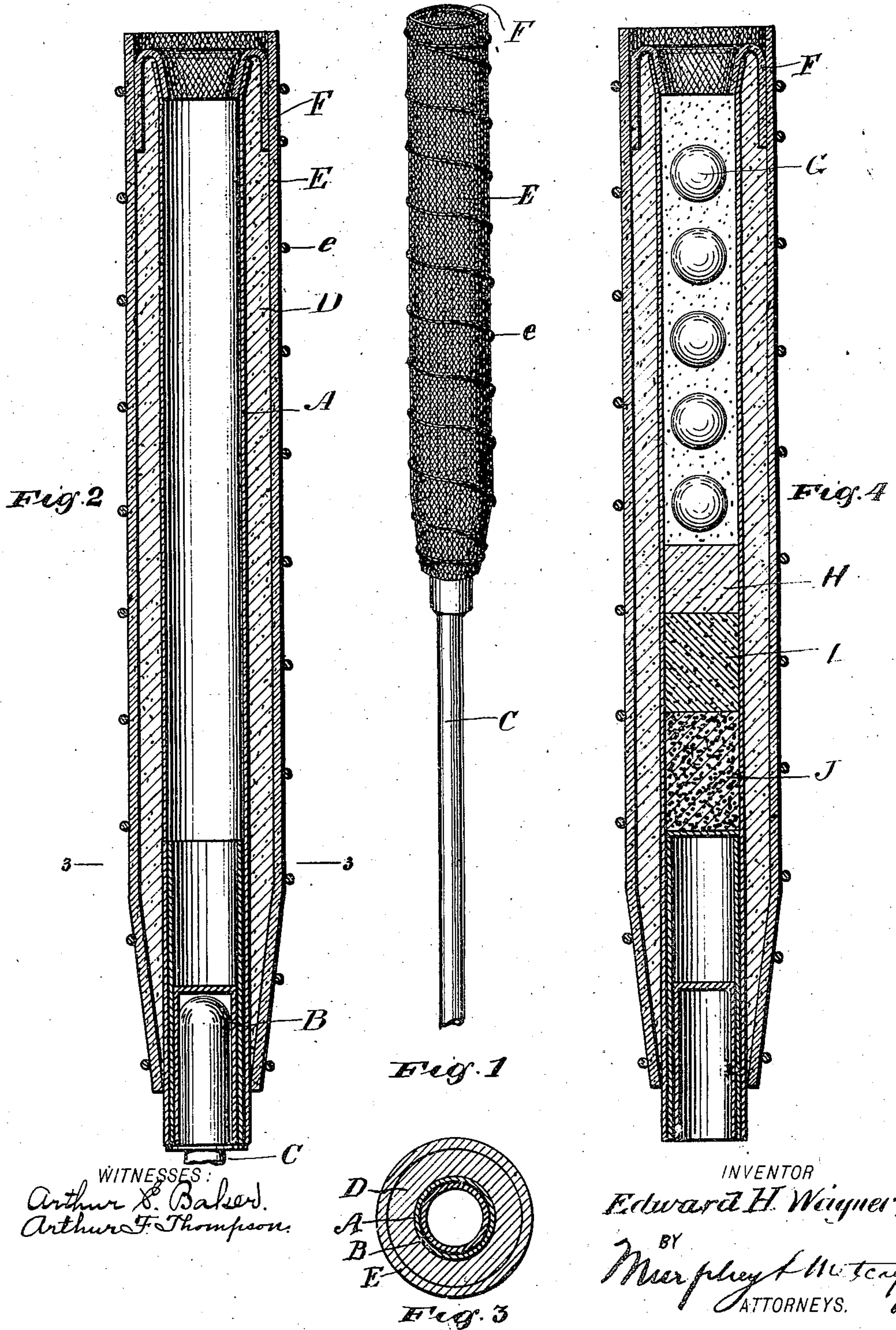
Patented Aug. 5, 1902.

E. H. WAGNER.

TORCH.

(Application filed Apr. 2, 1900. Renewed Mar. 4, 1902.)

(No Model.)





# UNITED STATES PATENT OFFICE.

EDWARD H. WAGNER, OF NEW YORK, N. Y.

## TORCH.

SPECIFICATION forming part of Letters Patent No. 706,134, dated August 5, 1902.

Application filed April 2, 1900. Renewed March 4, 1902. Serial No. 96,608. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD H. WAGNER, a subject of the King of Denmark, and a resident of the city, county, and State of New York, have made certain new and useful Improvements in Torches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to produce a torch which shall be inexpensive to manufacture and safe to use and which will produce a brilliant illumination without excessive smoke or flaming.

To this end it consists in the arrangement and combination of parts herein shown and described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved torch and the handle used therewith. Fig. 2 is a longitudinal section on a larger scale. Fig. 3 is a cross-sectional view on the line 3 3, Fig. 2; and Fig. 4 is a longitudinal section showing a modified construction.

Similar reference characters are employed to designate corresponding parts in all the views.

In the construction which I have illustrated in the drawings, Fig. 2, the torch consists of a hollow tube A, preferably constructed of stiff paper or cardboard. The lower end of this tube A is provided with a socket B, adapted to receive the end of the holder or stick C, by which the torch is carried. Surrounding the central tube or core A is a layer of inflammable or combustible substance D in a solid or semisolid condition, such as paraffin, and around the layer D is secured a covering E of some suitable material, which is firmly held in place by a cord or binder e, which serves to stiffen the structure and hold the parts in place. In practice I have employed for the covering E a section of tubular wicking composed of loosely-woven cotton fabric impregnated with paraffin. In the upper end of the torch is a short section F of similar fabric or material, which is bent over the inside of the tube and serves to protect the layer D and also to hold the melted paraffin when the torch is made, as hereinafter described.

In use the torch is ignited by lighting the fabric E at the top of the torch, and as it burns down slowly the paraffin with which it is impregnated and the layer of paraffin or other equivalent substance which may be employed inside thereof burn with an intense clear flame without excessive smoke.

The torches are constructed in various sizes, and I have found that one about twelve inches in length will under favorable circumstances burn for an hour or more.

In Fig. 4 I have shown a modification combining the torch proper with certain pyrotechnic devices. As shown, the tube A is constructed like an ordinary Roman candle, so that as the torch burns away the pyrotechnic substance will ignite, and the flaming balls G will be thrown out exactly as in the case of a Roman candle. Below the balls F, I have as a modification indicated other pyrotechnic substances H, I, and J. These may consist of different-colored fires or other substances calculated to produce spectacular effects; but it will of course be understood that the pyrotechnic devices employed in connection with my torch will be varied as desired.

I prefer paraffin as the inflammable substance to be employed in my improved torch on account of its cleanliness, safety, and comparative freedom from smoke; but I do not intend to be understood as limiting my invention to the use of this substance, as any suitable equivalent therefor may be used instead.

In constructing my torch the fabric or absorbent substance constituting the outer layer E is preferably thoroughly saturated or impregnated by immersing it in melted paraffin before putting the parts together. When the layer E is in the form of a seamless hollow section, as shown, it is placed over the tube A, and into the space between the tube A and the layer E melted paraffin is burned. This quickly hardens; but before setting the binder e is wound tightly around the same. When the torch is formed in this way, it is inverted, and the section F is of course placed in position to prevent the melted paraffin from running out at what is then the lower end of the torch.

It will of course be understood that the fabric or absorbent material E, forming the outer



layer of the torch, need not necessarily be of tubular formation.

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

5 1. As a new article of manufacture, a torch consisting of a hollow tube containing pyrotechnic material, an annular layer of solid combustible material surrounding said tube  
10 and a combustible fabric inclosing said layer, substantially as shown and described.

2. As a new article of manufacture, a torch consisting of an absorbent outer layer impregnated with a suitable combustible substance such as paraffin, a tubular core and a layer of combustible substance such as paraffin interposed between the outer layer and the core, substantially as shown and described.

EDWARD H. WAGNER.

Witnesses:

S. G. METCALF,  
A. F. THOMPSON.