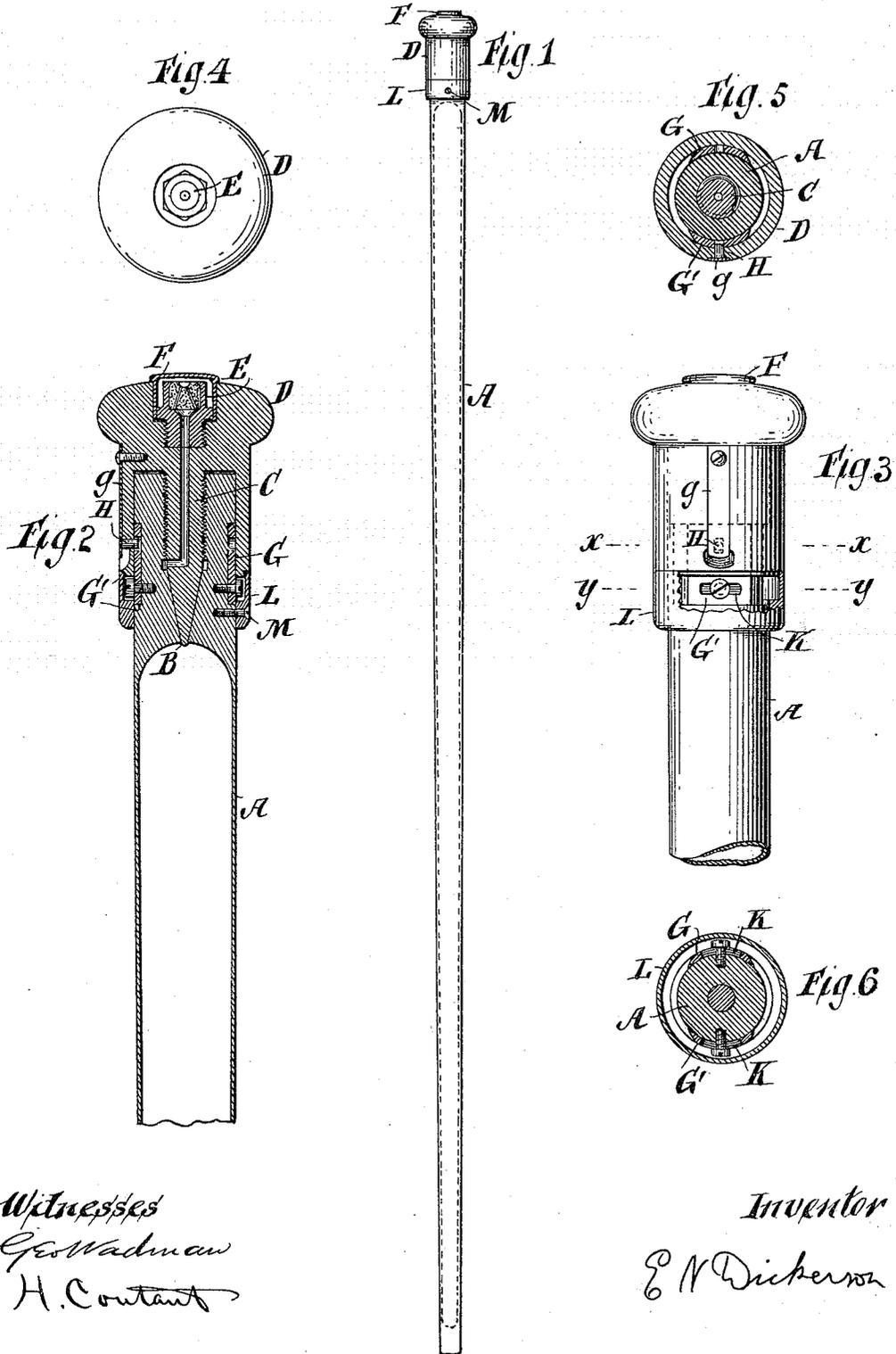


E. N. DICKERSON.
COMBINED CANE AND GAS LIGHT.

(Application filed Dec. 26, 1895.)

(No Model.)

2 Sheets—Sheet I.



Witnesses
Geo. Wadman
H. Coutant

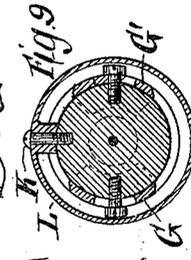
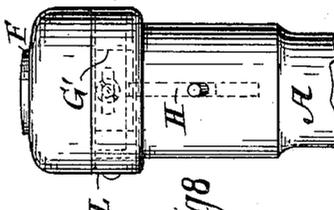
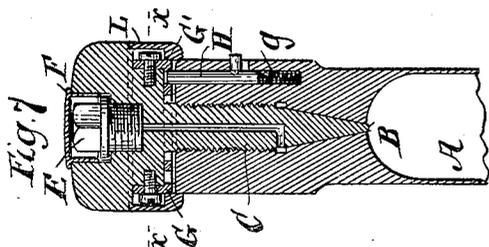
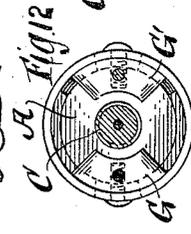
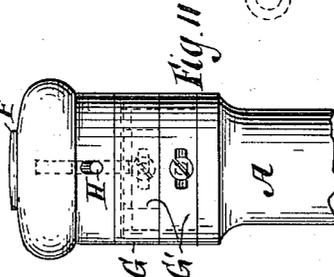
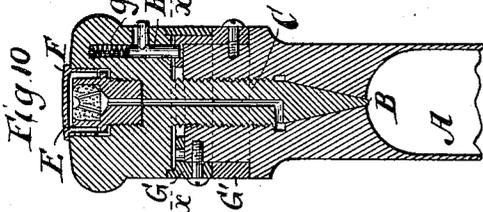
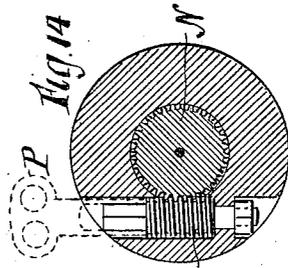
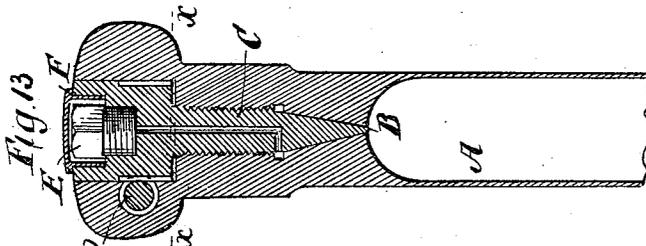
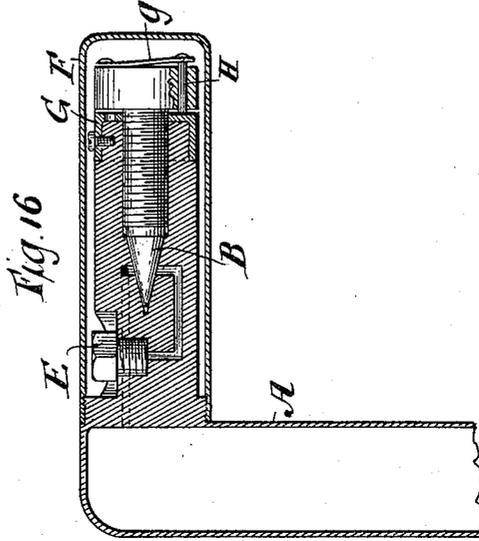
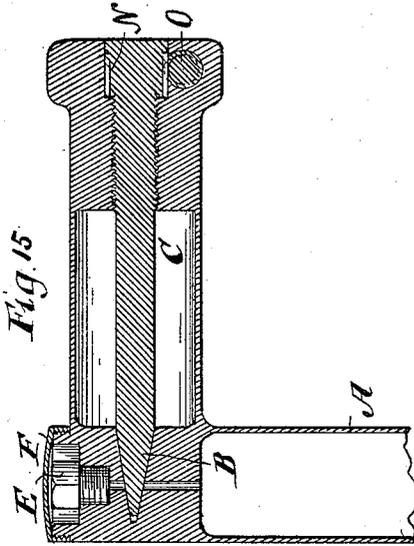
Inventor
E. N. Dickerson

E. N. DICKERSON.
COMBINED CANE AND GAS LIGHT.

(Application filed Dec. 26, 1895.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses
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H. Contant

Inventor
E. N. Dickerson

UNITED STATES PATENT OFFICE.

EDWARD N. DICKERSON, OF NEW YORK, N. Y.

COMBINED CANE AND GAS-LIGHT.

SPECIFICATION forming part of Letters Patent No. 610,478, dated September 6, 1898.

Application filed December 26, 1895. Serial No. 573,301. (No model.)

To all whom it may concern:

Be it known that I, EDWARD N. DICKERSON, of the city, county, and State of New York, have invented a new and useful Improvement in a Combined Cane and Gas-Light, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

This invention relates to a cane or walking-stick provided with suitable means for retaining a supply of liquefied illuminating-gas, such as liquefied acetylene gas, and burning the same through a suitable burner when required. The invention, as shown as applicable to a cane or walking-stick, is also applicable to an umbrella or similar article.

My invention consists of a cane or similar article provided with a chamber for receiving an illuminant under pressure, such as liquefied gas, having a burner mounted thereon and a valve attached and operated by the handle of the cane, substantially as hereinafter more particularly pointed out.

When liquefied gas of high pressure is used, it is very important that the adjustment of the valve on its seat shall be accurate. A slight difference in the opening of that valve makes a great difference in the flame, resulting, if the valve is too widely open, in a blowing of the flame and a too rapid escape of what is necessarily a limited amount of gas.

My invention will be readily understood from the accompanying drawings, in which—

Figure 1 represents an elevation of my completed cane; Fig. 2, a cross-section through the upper part of Fig. 1; Fig. 3, an elevation on an enlarged scale of another side of Fig. 1; Fig. 4, a plan view of the top of the cane, showing the burner with cap removed; Fig. 5, a section through Fig. 3 on the line xx ; Fig. 6, a section through Fig. 3 on the line yy . Figs. 7 to 16 show views of modifications; Figs. 7, 10, 13, 15, and 16, cross-sections through the upper part of the cane; Figs. 8 and 11, external elevations of Figs. 7 and 10; Figs. 9, 12, and 14, cross-sections through Figs. 7, 10, and 13 on the lines xx .

The body of the cane, which is also the gas-holder, is shown at A. It is preferably a steel tube closed at the end and adapted to withstand a pressure sufficient to retain the inclosed liquefied acetylene gas. It is pro-

vided at its upper end with a suitable handle and means for supporting the gas valve and burner.

In the forms shown in Figs. 4 to 14 a straight-handled cane is exhibited, and in Figs. 15 and 16 a cane having a handle at right angles to the cane proper is exhibited. The valves B shown are larger than would be used in practice for the sake of clearness of the drawings. Any suitable form may be employed provided the opening is capable of very fine adjustment. The valve-stems C, which are used to rotate the valve, are provided with handles or projecting portions capable of being rotated. They extend through the valve-chamber, being supported therein by finely-cut screw-threads. The valve-stems may also be provided with stuffing-boxes, though these are not ordinarily required.

Referring to Figs. 1 to 6, the upper handle D of the cane turns the valve-stem and itself supports the burner E, which when not in use may be covered with the cap F. The valve-chamber is provided with adjustable slotted stops G G', having slots with which the spring-pin H engages in the open and closed positions of the valve. This spring-pin H, as shown, is mounted upon a spring g , attached to the head D of the cane. The adjustable slotted pieces G G' may be made in one piece if desired, thus forming a collar, though I prefer to divide the collar in two portions, as shown in Fig. 5, for independent adjustment. They are capable of lateral adjustment around the head of the cane by means of slots, as shown at K, Fig. 6, being clamped against the head of the cane by screws. The upper portions are provided with slots (shown clearly in Fig. 5) to receive the spring-pin H. The heads of the clamping-screws of these plates are protected by the collar L, adjustable by screw M, which when raised covers the ends of these screws, as shown in Figs. 2 and 3. The valve is closed in the position shown in Fig. 1 and is held closed to prevent the escape of gas by the engagement of the pin H in the collar or locking-plate G'. In order to turn on the burner, the spring g is raised by the thumb and the head turned to the left until the pin H engages in the slot in the plate G, which has been previously adjusted to the proper point,

and the cap F being removed the gas is lighted. This flame is not readily affected by a draft and will stand a strong wind without being extinguished. The burner E must be of small
 5 capacity and should be provided with suitable means—as, for instance, a hexagon head, as shown—for removal. When removed, its place
 10 is taken by a filling-tube from a tank containing liquefied acetylene, and the valve B being opened the liquefied gas passes into the
 15 body of the cane.

The arrangement shown in Figs. 7 to 12 is substantially the same, excepting in these cases the locking devices are slightly different
 15 in arrangement. In Figs. 7, 8, and 9 the slotted plates G G' are made angular and turned into a space between the revolving head of the cane and the body of the cane,
 20 while the spring-bolt H, operated by spring g, is in the body of the cane.

In Figs. 10, 11, and 12 two complete rings are shown instead of two annular segments. The locking-bolt H engages with the ring G'
 25 in the closed position, as shown in Fig. 10, and with the ring G in the open position. In this case no cover is shown, but the adjustment of the rings is controlled by external
 30 projecting screws.

In Figs. 13, 14, and 15 the valve is provided with a geared head N, with which the worm-

screw O engages. This worm may be turned by key P to exactly the proper position.

In Fig. 16 the cover F covers both the burner E and the adjusting arrangements. In this
 35 case the head of the valve carries the spring-bolt H, which locks in the slot in the adjustable collar G when the valve is open. It is
 40 not necessary in this case to lock the valve when closed, for there is no tendency for the valve to be opened when the cover F is in position. In the other cases this is important,
 45 as otherwise the valve might be opened accidentally while the cane was in use.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of a cane, consisting of a closed chamber for receiving an illuminant
 50 under pressure, a burner mounted on the top of said cane, and a valve attached and turned by the handle of the cane which serves both as a handle for such cane and as a key for the
 55 valve, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

E. N. DICKERSON.

Witnesses:

H. COUTANT,

W. LAIRD GOLDSBOROUGH.