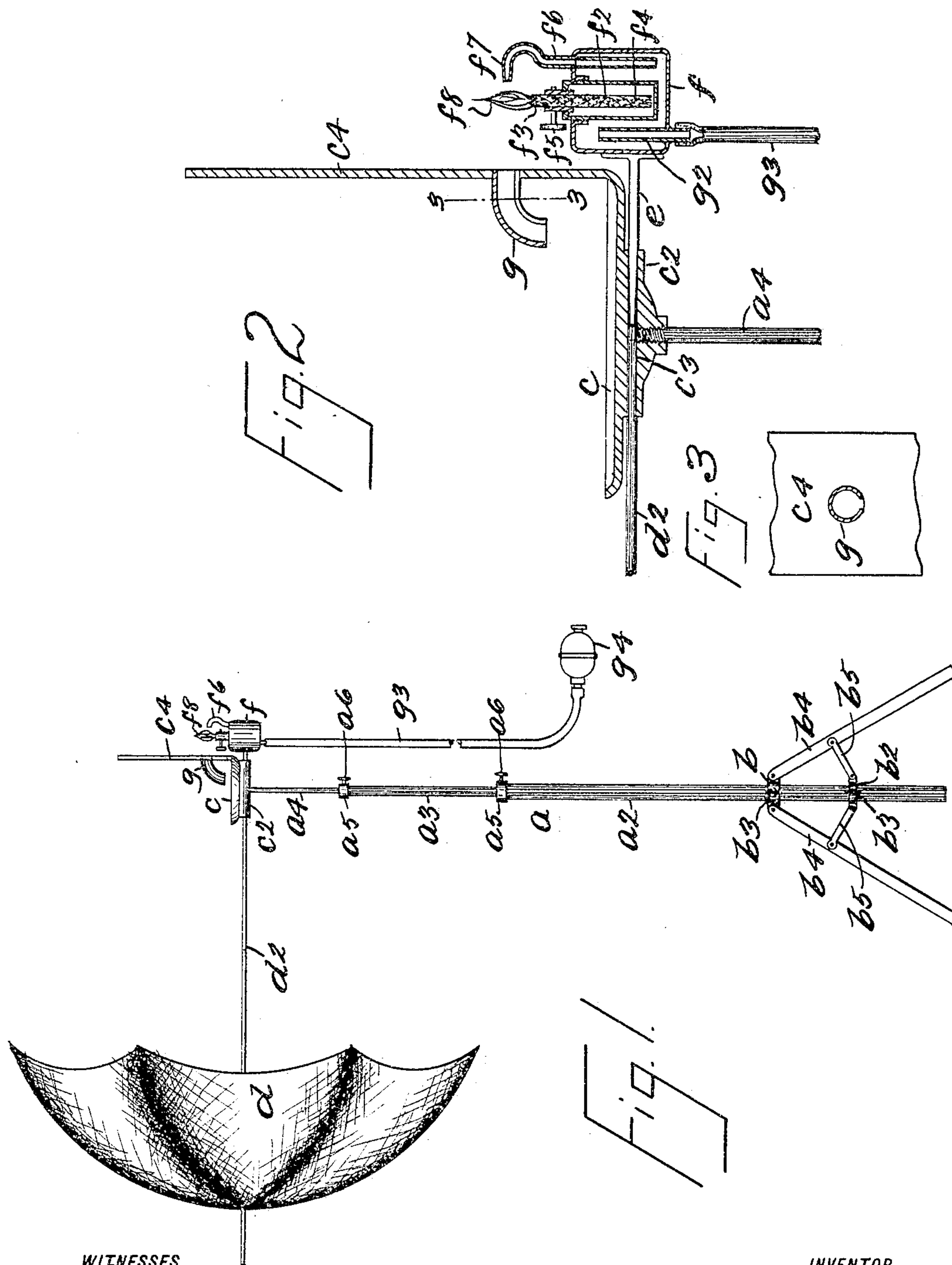


No. 793,085.

PATENTED JUNE 27, 1905.

R. E. MORRIS.
FLASH LIGHT APPARATUS.
APPLICATION FILED NOV. 28, 1904.



WITNESSES

F. A. Stewart
J. C. Hansen

BY

INVENTOR

Richard E. Morris

Edgar A. H. Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

RICHARD E. MORRIS, OF BROOKLYN, NEW YORK.

FLASH-LIGHT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 793,085, dated June 27, 1905.

Application filed November 28, 1904. Serial No. 234,507.

To all whom it may concern:

Be it known that I, RICHARD E. MORRIS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Flash-Light Apparatus, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to flash-light apparatus designed for use in taking photographic pictures; and the object thereof is to provide an improved apparatus of this class which is simple in construction and operation and which is much more convenient and successful in use than apparatus of this class as now constructed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a side view of my improved flash-light apparatus; Fig. 2, a sectional side view thereof, and Fig. 3 a section on the line 3 3 of Fig. 2.

In the practice of my invention I provide a stationary support made in the form of a tripod and consisting of an upright standard or support a , composed in the form of construction shown of three telescopic members a^2 , a^3 , and a^4 , the parts a^2 and a^3 being provided at their upper ends each with a collar a^5 , having a set-screw a^6 , whereby the said parts may be adjusted to any desired height. The bottom portion a^2 of the upright standard or support a is provided near its lower end with two collars b and b^2 , each of which is provided with a set-screw b^3 , and said part a^2 is free to slide through the collars b and b^2 and may be secured therein at any desired point by means of the set-screws b^3 . Pivoted to the collar b are legs b^4 , three or more of which are employed, and these legs are also connected with the collar b^2 by means of links b^5 , and in this way I provide a firm support, the upright standard a being adjustable through the collars b and b^2 , so that said standard, or the lower end thereof, will rest on the ground or

on the floor at the same time that the legs b^4 also rest thereon.

Connected with the upper end of the top portion a^4 of the upright standard a is a receiver c , having a thickened base portion c^2 , into the bottom of which the part a^4 of the standard a is screwed, and the thickened bottom portion c^2 of the receiver c is provided with a horizontal recess, bore, or passage c^3 , into one end of which is inserted the stick d^2 of an umbrella d and into the opposite end of which is inserted a prong e , secured to a lamp f , and the receiver is provided adjacent to the lamp f with an upright plate or shield c^4 , in which is secured a tubular elbow g , one end of which opens outwardly through the shield or plate c^4 and the other end of which is directed downwardly over the receiver c , and the bottom of said elbow-pipe g is open longitudinally on the under side thereof.

The lamp f comprises a suitable reservoir, in the top of which is secured a tubular casing f^2 , which passes downwardly into the reservoir and the upper end of which is provided with a wick-tube f^3 , through which is passed a wick f^4 , which may be adjusted by means of an ordinary wick-adjuster f^5 , and in the top of the reservoir of the lamp f and on the outer side of the wick-tube f^3 is secured a gas or vapor tube f^6 , which also passes down into the bottom portion of the reservoir and the upper end of which is curved to form a hook-shaped member f^7 , which opens in the direction of the flame f^8 of the wick f^4 when the latter is ignited, and also in direct line with the open end of the elbow-tube g , which is secured in the shield or plate c^4 . Secured in the bottom of the reservoir of the lamp f is an air-tube g^2 , which passes upwardly into said reservoir to near the top thereof and to the lower end of which is secured a flexible tube g^3 , provided with an air-forcing bulb g^4 , by means of which air may be forced into the reservoir of the lamp f .

In practice the chemicals or other material designed to produce a flash-light are placed in or on the receiver c , which is preferably made in the form of a dish, and a small amount of ether is placed in the reservoir of

the lamp f . The tubular inner casing f^2 of the lamp f is then filled or partially filled with alcohol or other similar or suitable material, and the wick f^4 is ignited, so as to produce the flame f^8 . When it is desired to produce the flash-light, the bulb g^4 is compressed or manipulated in the usual manner, and air is forced into the reservoir of the lamp f , and the ether therein is blown out through the hook-shaped member f^7 of the tube f^6 in the direction of the flame f^8 and the open end of the elbow g , and said ether is ignited and passes through the elbow-tube g , and a strong flame or flame-blast is directed downwardly by the elbow-tube g onto the flash-light material in the receiver c , and the desired flash-light is produced.

The umbrella d is designed to protect the sensitized plate of the camera and to diffuse the light, and the camera may be held at any desired point with reference to the umbrella, the umbrella being held between the flash-light apparatus and the object photographed, and the umbrella d is preferably composed of white cheese-cloth in order that it may serve as a diffuser of light.

One of the chief features of this invention consists of the use of and means whereby I am able to use ether in the reservoir of the lamp and to force the same across the flame of the wick f^4 into and through the elbow-tube g , as my experience shows that this is the best material that can be employed for this purpose, and by using this material I am able to accomplish better results and to secure a more sure and positive ignition of the flash-light material in the receiver c than in any other way.

The umbrella d , as hereinbefore stated, serves as a light-diffuser, and any suitable device of this class of other form may be employed, the umbrella form herein shown being merely preferred.

It will be understood that the upright plate or shield e^4 , in addition to supporting the elbow-tube g , also protects the lamp from the flash-light, and the receiver c and the upright plate or shield e^4 may be provided with a covering of asbestos or other suitable non-combustible material, and it will be apparent that various changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages, and I reserve the right to make all such alterations therein as fairly come within the scope of the invention.

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

1. In a flash-light apparatus, an upright support, a receiver connected with the top thereof and provided at one side with an upright plate or shield having an elbow-pipe secured therein and one end of which is directed

downwardly over said receiver, a lamp adapted to be connected with the receiver adjacent to said shield and on the outer side thereof, and provided with means for directing a jet of ether through the flame of said lamp into and through said elbow-tube, substantially as shown and described.

2. In a flash-light apparatus, an upright support, a receiver connected with the top thereof and provided at one side with an upright plate or shield having an elbow-pipe secured therein and one end of which is directed downwardly over said receiver, a lamp adapted to be connected with the receiver adjacent to said shield and on the outer side thereof, and provided with means for directing a jet of ether through the flame of said lamp into and through said elbow-tube, said elbow-tube being open longitudinally on its under side, substantially as shown and described.

3. A flash-light apparatus, comprising an upright support, a receiver connected with the top thereof and provided at one side with an upright shield, an elbow-tube secured to said shield and passing therethrough and one end of which is directed downwardly over said receiver, a lamp adapted to be connected with the receiver and to be supported on the outer side of the shield and provided with means for directing a jet of ether through the flame thereof into and through said elbow-tube, and means for supporting a light-diffuser on the opposite side of said receiver, substantially as shown and described.

4. In an apparatus of the class described, a flash-light lamp comprising a reservoir having a central casing secured in the top thereof and extending downwardly thereinto and provided with a wick-tube and means for adjusting the wick, said reservoir being also provided in the bottom thereof with an air-supply tube which extends upwardly thereinto, and in the top thereof and at one side of said wick-tube with a gas-jet tube which extends downwardly thereinto and the upper end of which is turned in the direction of the wick-tube, the inner ends of the air and gas tubes terminating within the reservoir adjacent the top and bottom, respectively, thereof, substantially as shown and described.

5. In an apparatus of the class described, a vertically-adjustable support, a receiver connected with the top thereof and provided at one side with an upright shield, an elbow-tube secured in said shield and passing there-through and one end of which is directed downwardly over said shield, said elbow-tube being also open longitudinally on its under side and a lamp adapted to be connected with the receiver and supported on the outer side of said shield and provided with means for forcing an igniting-jet into and through said elbow-tube, substantially as shown and described.

6. In an apparatus of the class described, a

receiver provided at one side with an upright shield, an elbow-tube secured therein and passing therethrough, and one end of which is directed downwardly over said shield, and a lamp adapted to be connected with and supported by said receiver on the outer side of said shield, said lamp being provided with means for forcing a jet of vapor into and through said elbow-tube, substantially as shown and described.

7. In an apparatus of the class described, a receiver provided at one side with an upright shield, an elbow-tube secured therein and passing therethrough and one end of which is directed downwardly over said shield, a lamp supported by said receiver on the outer side of said shield and provided with means for forcing a vapor-jet through said elbow-tube, and a light-diffuser supported on the side of the receiver opposite the lamp, substantially as shown and described.

8. An apparatus of the class described, comprising an upright support, a receiver mounted on the top thereof and provided at one side with an upright shield having an opening therein, a lamp detachably connected with the receiver and on the outer side of the shield, and means for directing the flame of the lamp through the opening in the shield onto the receiver, substantially as shown and described.

9. In an apparatus of the class described, a flash-light lamp, comprising a reservoir having a central removable casing secured in the top thereof and extending downwardly thereinto and provided with a wick-tube, said reservoir being also provided in the bottom thereof with an air-tube which passes upwardly thereinto, and in the top thereof and at one side of

said casing with a gas-jet tube which extends downwardly thereinto, and the upper end of which is turned in the direction of the wick-tube of said casing, and an air-forcing device connected with the lower end of the air-tube, the inner ends of the air and gas tubes terminating within the reservoir adjacent the top and bottom, respectively, thereof, substantially as shown and described.

10. In an apparatus of the class described, a support, a receiver mounted on the top thereof and provided at one side with a vertically-arranged shield having an opening, and a lamp detachably connected with said receiver on the outside of said shield, said lamp comprising a reservoir having a central casing secured in the top thereof and extending downwardly thereinto and provided with a wick-tube, and means for adjusting the wick, said reservoir being also provided in the bottom thereof with an air-supply tube which extends upwardly thereinto, and in the top thereof and at the side of the wick-tube opposite said shield with a gas-jet tube which extends downwardly thereinto and the upper end of which is turned in the direction of the said wick-tube, the inner ends of the air and gas tubes terminating within the reservoir adjacent the top and bottom, respectively, thereof, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 26th day of November, 1904.

RICHARD E. MORRIS.

Witnesses:

F. A. STEWART,

C. E. MULREANY.