

(No Model.)

S. M. WILLIAMS.
FLASH LIGHT BURNER.

No. 505,014.

Patented Sept. 12, 1893.

Fig. 1

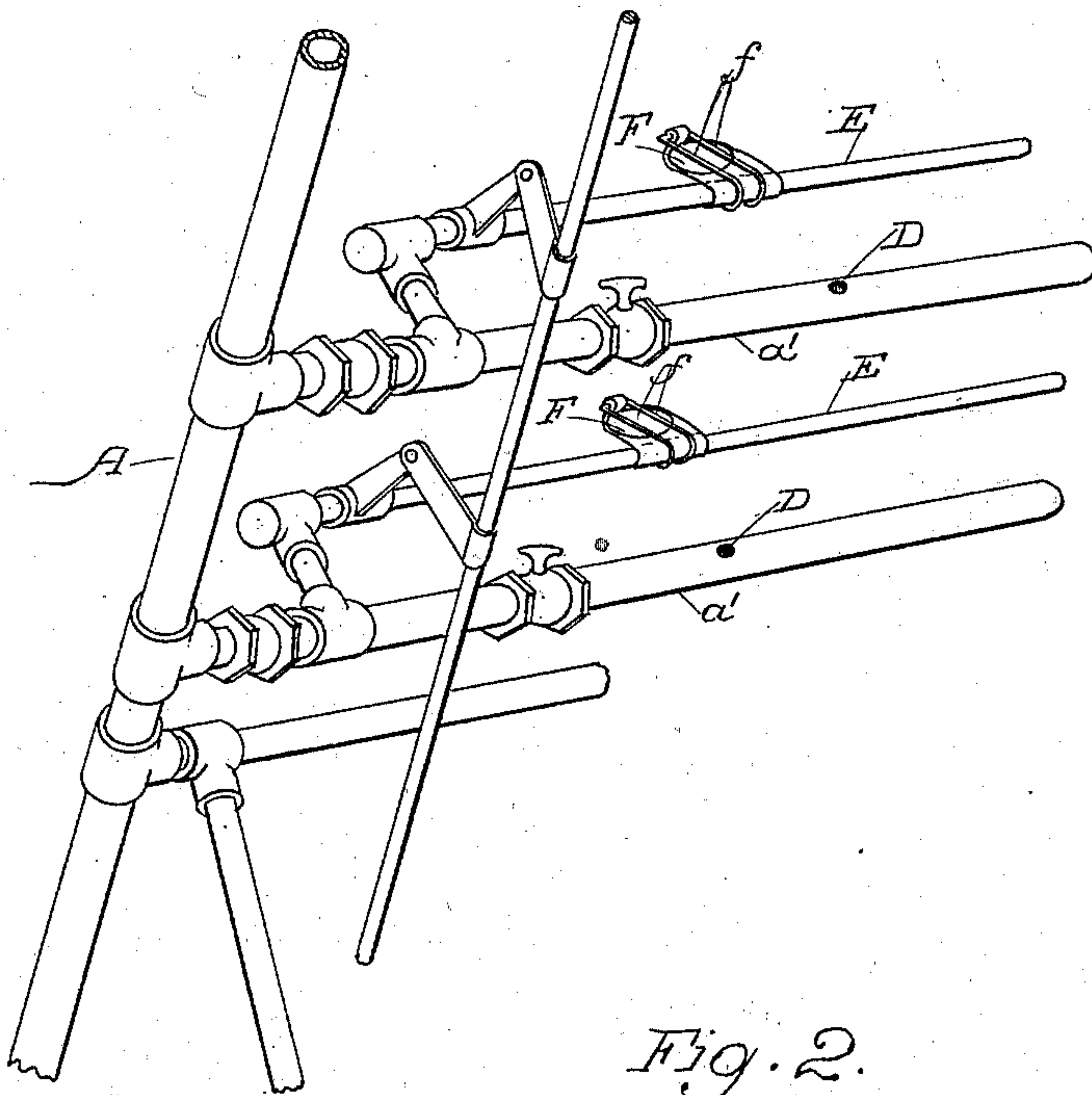
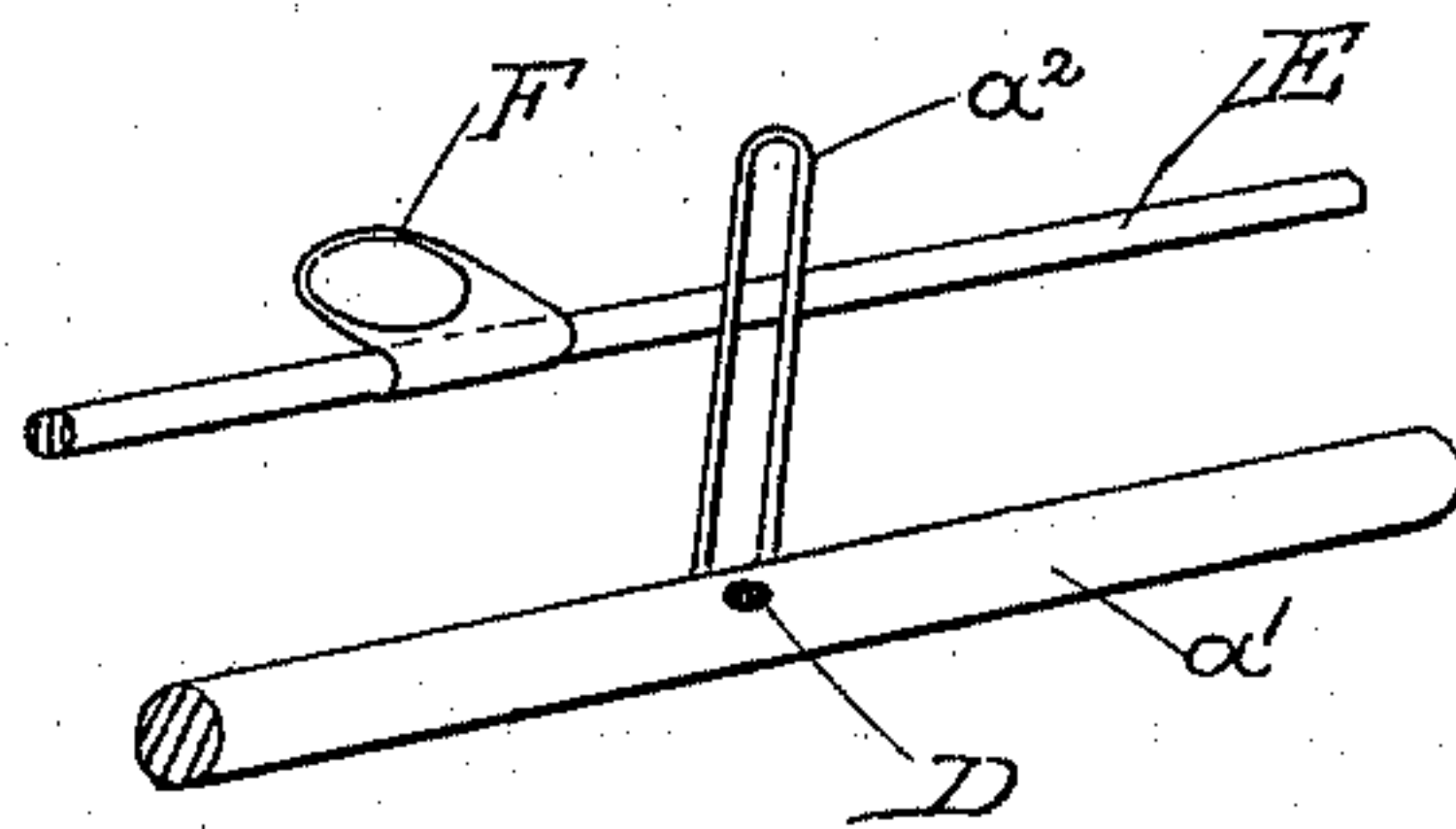


Fig. 2.



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UNITED STATES PATENT OFFICE.

SYLVESTER M. WILLIAMS, OF SAN FRANCISCO, CALIFORNIA.

FLASH-LIGHT BURNER.

SPECIFICATION forming part of Letters Patent No. 505,014, dated September 12, 1893.

Application filed December 24, 1892. Serial No. 456,251. (No model.)

To all whom it may concern:

Be it known that I, SYLVESTER M. WILLIAMS, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Flash-Light Burners; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of burners for flash light powders used in producing artificial light for photographic exposures, in which one or more swinging cups are employed, adapted to throw the charge of powder into a flame, said class being represented by the device patented to me January 26, 1892, No. 467,696, to which said patent reference is hereby made, as I shall illustrate and describe my present invention in connection therewith.

My invention consists essentially in a flash light burner having a swinging cup to deliver the charge of powder, a flame burner into the flame of which the powder is thrown, and an obstructing piece interposed in the path of flight of the powder, acting as a means for dividing up the charge before it reaches the flame.

It also consists in a special arrangement of said obstructing piece in connection with the cup and embodying my invention in its best form.

The success of flash light exposures depends largely upon the instantaneous ignition of the powder. No matter how combustible or explosive a powder may be, it is easily possible to extinguish the flame by throwing the powder into it. This must be guarded against, and it is the object of my invention to prevent this, by breaking or dividing up the charge of powder so that it will not reach the flame in such a solid mass as to smother it, before it explodes. Being thus broken up it will more surely and immediately burn, thus giving the required instantaneous exposure.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a perspective view of my flash light burner. Fig. 2 is a view showing a different arrangement of the obstructing piece.

I have not deemed it necessary herein to illustrate the complete burner of my former patent, it being sufficient to show a portion of the frame A, gas pipe a' with flame burner D, here shown as a mere hole for a jet, rock shaft E, and cup F. The powder is placed in the cup F and by rocking shaft E the cup is swung and the charge of powder is thrown into the flame.

In connection with these parts my present invention includes an obstruction placed in the path of flight of the powder, of such a nature as to divide or break up the charge before it reaches the flame. This obstruction may be of any suitable character, such as a bar, a rod, a wire, an arm, a piece of netting or coarse gauze, and it may be located and arranged at any point in the flight of the powder. Thus, in Fig. 2 I show it in the shape of a wire loop a^2 secured to the gas pipe a' and rising just in front of the flame or jet from the burner. But the best form is shown in Fig. 1 in which the front of the cup is provided with the obstruction which may be in the shape of coarse gauze, or a traversing arm, or best, as here shown, in the form of a wire loop f . This acts to break and divide up the charge as it leaves the cup, and at the same time it is of such an open nature as will permit the ready introduction of the powder, and the cleansing of the cup when required. Being on the cup it is not open to the objection of the arrangement shown in Fig. 2 of being in the way of cleaning the gas pipe.

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

1. In a flash light burner, the combination of a flame burner, a swinging cup adapted to receive and to throw a charge of powder into the flame, and an obstructing piece interposed between the cup and flame burner in the path of flight of the powder whereby the powder is broken up or divided before reaching the flame, substantially as herein described.

2. In a flash light burner having a flame burner, a swinging cup adapted to receive and to throw a charge of powder into the flame, said cup having an obstructing piece

in its front whereby the powder upon leaving the cup is broken up or divided, substantially as herein described.

3. In a flash light burner having a flame
5 burner, a swinging cup adapted to receive and to throw a charge of powder into the flame, said cup having the obstructing wire traversing its front whereby the powder upon

leaving the cup is broken up or divided, substantially as herein described. 10

In witness whereof I have hereunto set my hand.

SYLVESTER M. WILLIAMS.

Witnesses:

S. H. NOURSE,

J. A. BAYLESS.