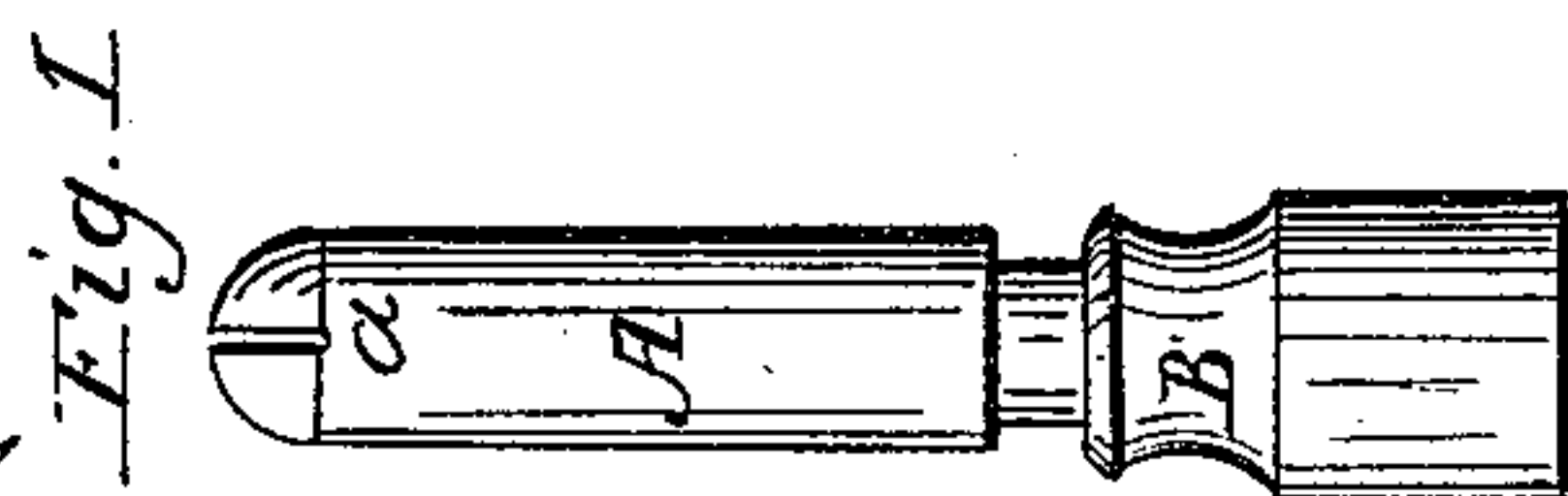
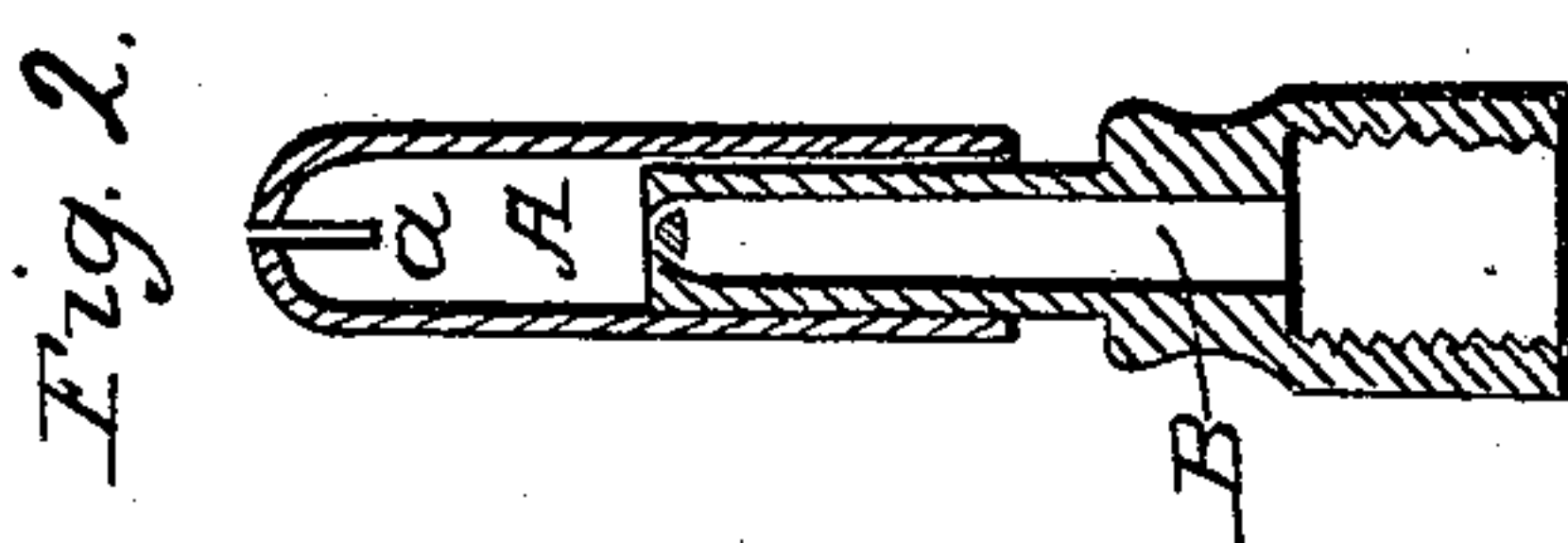
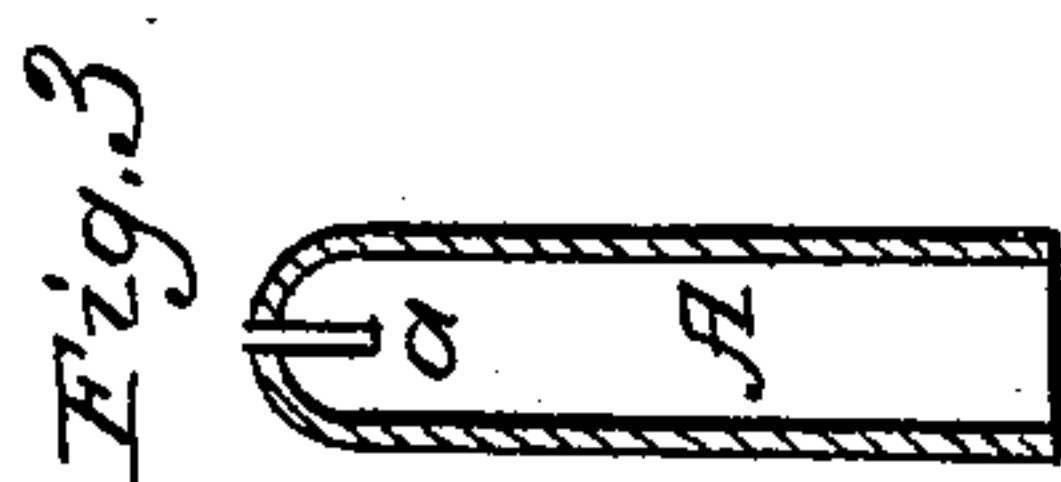
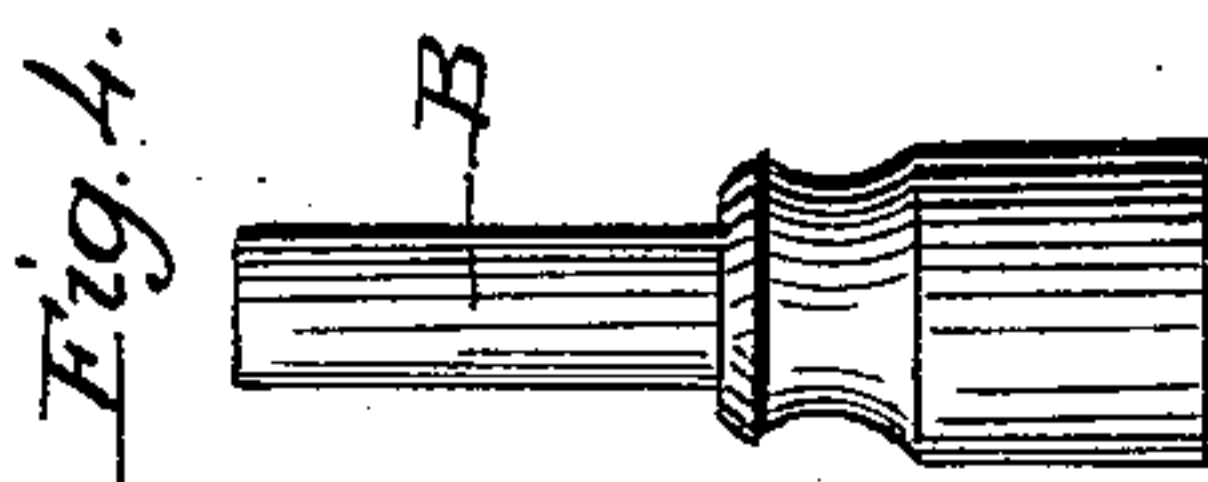
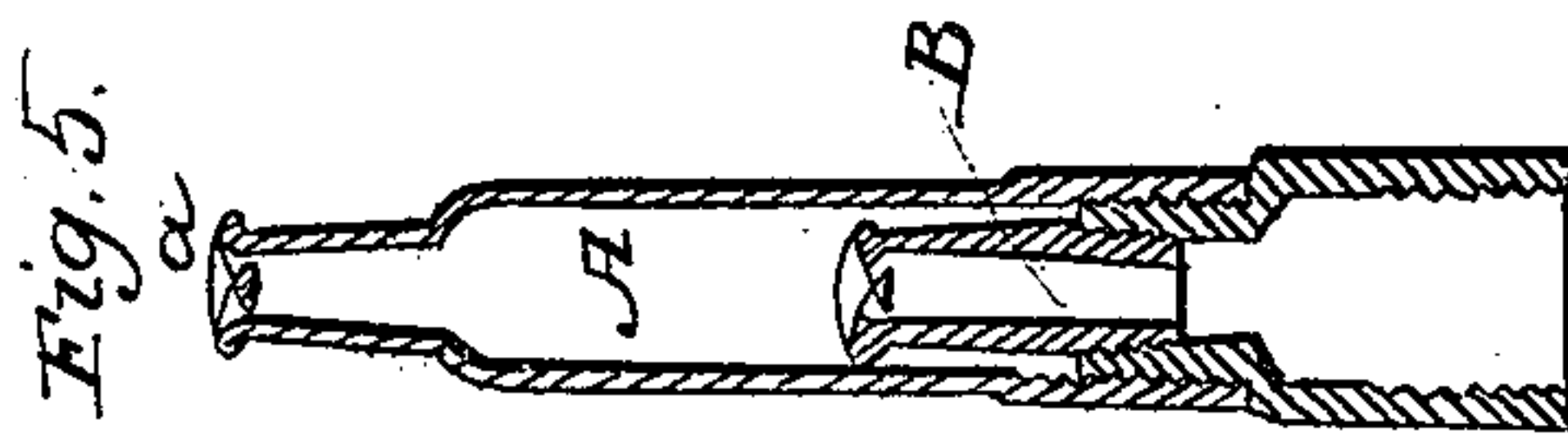


D. H. SOLLIDAY.

Gas Burner.

No. 25,372.

Patented Sept. 6, 1859.



Witnesses:  
J. A. Solliday  
Joseph G. Ath.

Inventor:  
David H. Solliday

# UNITED STATES PATENT OFFICE.

DANIEL H. SOLLIDAY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO EDWD. H. ASHCROFT, OF BOSTON, MASSACHUSETTS.

## GAS-BURNER.

Specification of Letters Patent No. 25,372, dated September 6, 1859.

*To all whom it may concern:*

Be it known that I, DANIEL H. SOLLIDAY, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Burning Gas or in Gas-Burners; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, is a side view, and Fig. 2, a longitudinal section of a gas burner provided with my improvement, or so constructed as to enable me to put in operation, my invention. Fig. 3, is a sectional view of the chambered thimble or flame cap, which covers the main eduction tube or part of the burner. Fig. 4, exhibits the latter part separate from the flame cap.

The nature of my invention consists in combining with an ordinary burner, whether of the batwing or fishtail kind, or one provided with one or more discharging orifices at its upper end, a chambered cap tube or thimble made to fit loosely thereon and have one or more discharging orifices at its top and so applied to the main burner as to form a gas expansion chamber between the eduction orifice or orifices of the said main burner and that or those of the said cap, such cap or thimble being made simply to slip on and fit loosely at its lower edge to the main burner or to be screwed thereto or otherwise applied so as to be capable of being easily detached therefrom, as occasion may require and allow when in place a small amount of air to pass between it and the main burner and into the said cap in order that the air may mingle with the gas that may be discharged into the cap and be burned with it on the cap.

In the drawings, A, exhibits the said cap or thimble, *a*, being its eduction orifice. When used, it is placed on the main burner, B, as shown in Figs. 1, and 2, of the drawings, or as exhibited in Fig. 5, which is a section of a burner, provided with my invention or improvement and representing the thimble as screwed on the neck of the

main burner; A, being the thimble and B, the burner.

By means of my improvement, an ordinary fishtail or batwing burner can be made to give fifty per cent., or very much more light from the same amount of gas; and furthermore, the flame is much steadier when the gas is burned on the thimble than when inflamed on the main orifice of the burner. The rationale of the operation I shall not attempt to explain, as such is not necessary, practice having fully demonstrated that results essentially as above set forth take place in the use of my improvement or invention.

I lay no claim to the inventions described and claimed in the United States' Patents Nos. 9396, and 11674; nor do I claim any application of the supplemental burner to the main burner wherein the fitting of the two together is so close that air cannot pass through the joint, whether it be a screw or otherwise, provided such be the only means by which a small amount of air can enter the supplemental chamber or tube in order to mingle with the gas before it escapes out of the top of the said supplemental tube or cap. As a necessary part of my invention, the supplemental chamber or cap is to have some means or inlet for air to pass into it and mingle with the gas. Now, this may be accomplished by what may be termed a "close fit or fitting" of the cap burner, A, on the burner, B, but still it should not be an air tight fit or fitting, or it may be a close or an air tight fit and the cap, A, may have one or more small holes in it to let air into it, or it may be otherwise formed so that air may enter it while the gas may be burning on its top.

What therefore I claim is—

The application of the conical or chambered burner A to the main burner B, in manner and for the purpose substantially as hereinbefore set forth.

DANL. H. SOLLIDAY.

Witnesses:

PETER HAY,  
E. C. HAY.