W. L. JUKES.

Gas Burner.

No. 96,441. Patented Nov. 2, 1869.

Fig. 1

Fig. 2

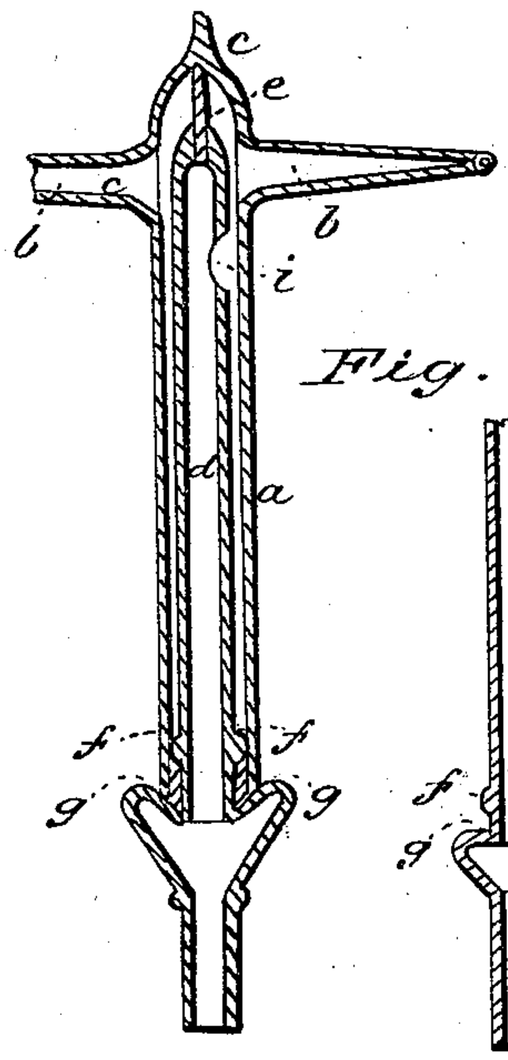


Fig. 3

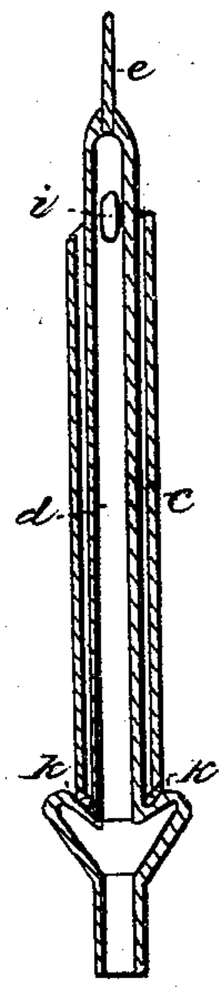


Fig. 4

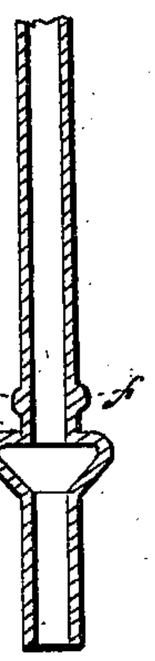


Fig. 5

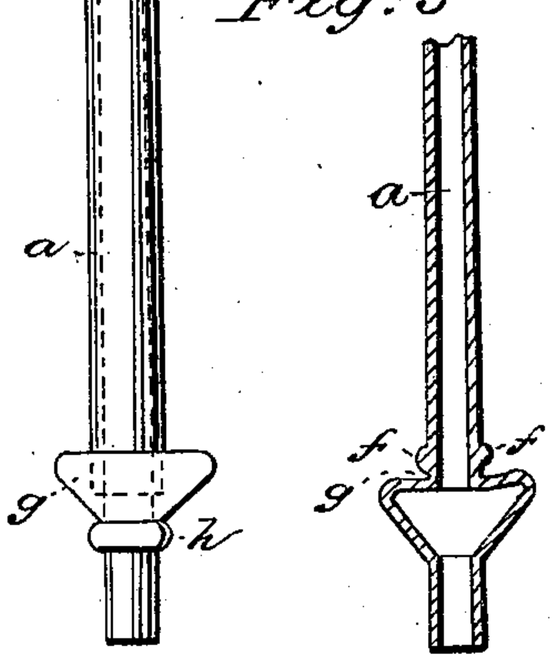
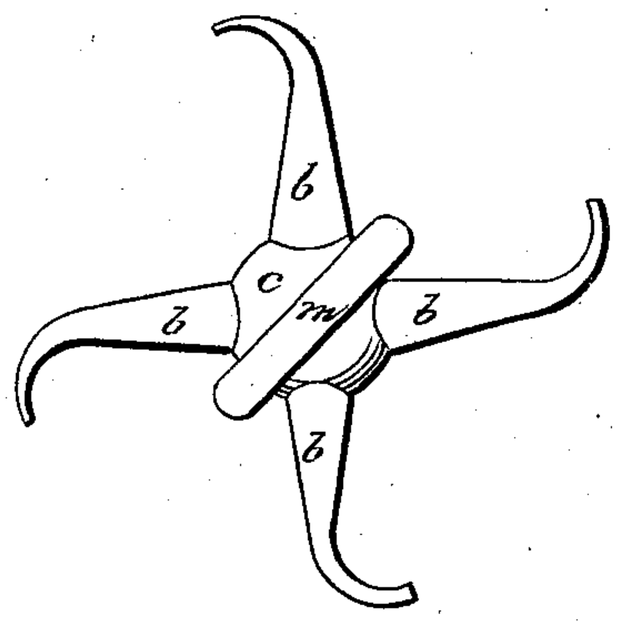


Fig. 6



Witnesses

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Thos. Hughes

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WESLEY L. JUKES, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, FREDERICK McLEWEE, PRENTICE H. PUTNAM, AND BRONSON MURRAY, OF SAME PLACE.

Letters Patent No. 96,441, *dated November* 2, 1869.

GAS-BURNER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WESLEY L. JUKES, of the city, county, and State of New York, have invented a new and useful Improvement in the Construction of Gas-Burners which revolve; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an elevated side view of a revolving gas-burner with my improvement, and

Figure 6 is a top view.

Figure 2 is a vertical section, taken through the centre of the instrument.

Figures 3, 4, and 5, are vertical cross-sections, taken through the centre of the instrument, and show modifications of my invention.

Like letters designate like parts in all the figures.

I have already applied for a patent upon the parts marked *a*, *b*, *c*, and *d*, in the several drawings, in combination with parts not shown in the accompanying drawings, one of which is a cup attached to the tube *d* at *h*, fig. 1, and filled with liquid, in which the lower end of the tube *a* was immersed, to prevent the escape of gas.

The object of my improvement is to dispense with this cup and its contained liquid, and the advantages gained are—

First, a decrease of friction, and possibility of adding ornaments of greater weight at the top of the burner, by extending the same beyond the arms *b b*.

Second, the freezing or evaporating of the liquid in the cup is obviated.

Third, the burners may be made to revolve in any plane, either horizontal, vertical, or inclined, while, before, the motion was restricted to a horizontal plane.

The parts of the burner before used are the tube *d*, through which the gas flows, and is discharged at *i*, figs. 2 and 3.

Upon the pivot *e* rests the tube *a*, with arms *b b b b*. The gas which flows into this tube *a* from the opening *i*, if prevented from escaping at its lower end, must pass out at the ends of the arms *b b*, and by its pressure will cause them to revolve.

The device for preventing the escape of gas at the lower end of the tube *a* is a part of my present invention, and is constructed as follows:

Within the tube *a*, at any distance below the opening *i*, and to the tube *d*, I secure a ring of sufficient thickness to nearly fill the space between the inner and outer tubes, as shown at *f f*, figs. 2, 4, and 5, or immediately below the end of the tube *a*, I form a lip upon the tube *d*, as shown at *k* in fig. 3, the outer edge of which forms a ring, almost touching the outside of the tube *a*, and this ring may be placed near the bottom of the tube *a*, or at any required height.

It is desirable on account of friction to give the rings as narrow an edge as practicable, but it is not essential to the operation of my invention that they should be of any peculiar form.

The tube *a* is thus allowed to revolve freely around or within these rings, but gas would escape, and to prevent this, I place a few drops of any liquid upon the ring, which, being attracted both by the tube *a* and the ring *f* or *k*, fills the space, and makes a perfect joint, which will not leak under any pressure of gas necessary to work the burner.

As the liquid used will in time wear away or be evaporated, and to prevent the necessity for frequently replenishing the ring, I also form the lip *g*, figs. 1, 2, 4, and 5, and place upon the same a few extra drops of liquid, which will flow up the tube *d*, to the ring *f*, when inside of the tube *a*, or along the lip to the ring *k*, when outside of the tube *a*, and thus supply any deficiency.

This flow of liquid from the reserved supply to the ring is aided by the revolving motion of the tube *a* around the ring.

This lip *g* may be made in almost any form, modifications being shown in figs. 4 and 5, and does not touch the tube *a*, but may be extended into an outer ring, as shown at fig. 3, and before described.

I also extend the upper end of the tube *a*, as shown at *m*, figs. 1 and 6, and form the same into any desirable figure or form, which revolves with the burner, greatly adding to the beauty thereof.

It will be seen that the ring *f f* need not be attached to the tube *d*, but may be attached to the tube *a* on its inner side, leaving the space to secure a free revolution of the said tube *a* between the ring and the tube *d*, or the ring may be placed on the outside of the tube *a*, and the space be left between it and the extended lip *g*.

Again, the ring may be made like a washer, and have no permanent attachment to either tube, but be simply secured in position, and the liquid used to perfect the joint will thus fill the spaces on both of its sides, securing the same end, to wit, a gas-tight joint.

In like manner the lip *g* may be attached to the inner side of the tube *a*, or be formed by its extension, and turned toward the tube *d*, and support the ring *f f*, leaving the space between it and the tube *a*, which would be the reverse of the construction shown in fig. 3, and would be used in like manner, and produce similar results.

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

1. In a revolving gas-burner, forming a gas-tight joint

between the revolving tube *a* and the fixed tube *d*, by the use of a ring attached or fitting closely to the tube *d*, and so nearly touching the inner or outer side of the tube *a*, as to secure the adhesion thereto of so much liquid as will fill the space between the ring and tube or tubes, or its equivalents.

2. The use of the lip *g* attached to the tube *d*, or its equivalent, as and for the purposes described.

3. In a revolving gas-burner, in combination with the ring *f* or *k*, extending the tube *a* beyond the arms *b b* in any desired form, as and for the purposes hereinbefore described.

WESLEY L. JUKES.

Witnesses:

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F. F. CORNELL, Jr.