

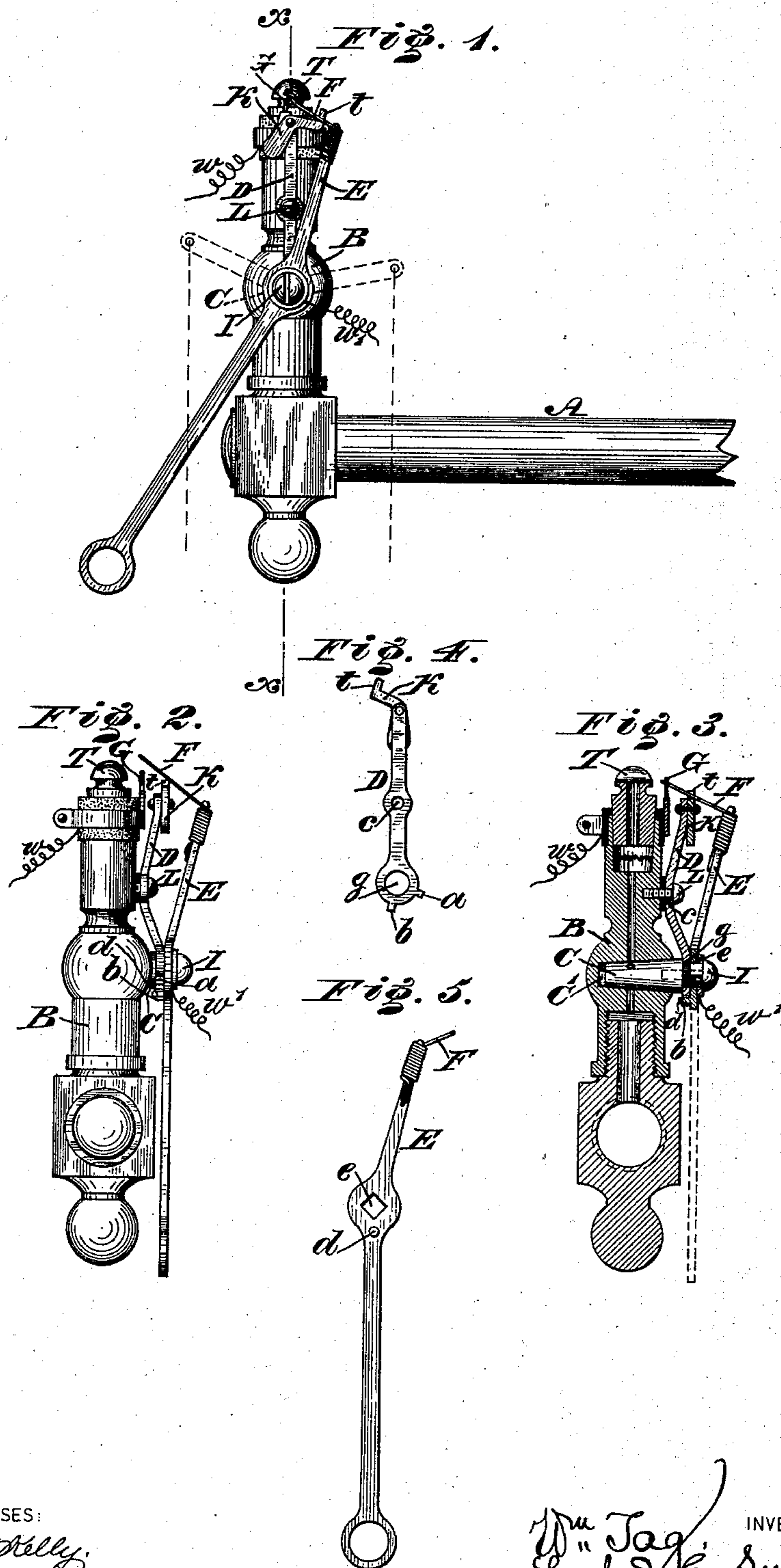
(No Model.)

W. TAG & S. C. SMITH.

ELECTRIC GAS LIGHTING DEVICE AND GAS COCK.

No. 384,796.

Patented June 19, 1888.



WITNESSES:

James H. Kelly.
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UNITED STATES PATENT OFFICE.

WILLIAM TAG AND SANFORD C. SMITH, OF PHILADELPHIA, PENNSYLVANIA.

ELECTRIC GAS-LIGHTING DEVICE AND GAS-COCK.

SPECIFICATION forming part of Letters Patent No. 384,796, dated June 19, 1888.

Application filed September 22, 1887. Serial No. 250,393. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM TAG and SANFORD C. SMITH, citizens of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Electric Gas-Lighting Devices, which improvement is fully set forth in the following specification and accompanying drawings.

Our invention relates to improvements in electric gas-lighting devices; and to this end it consists in a novel attachment to the tip for preventing the electrodes from sparking on their back-stroke, and to prevent grounding of the battery when the gas is turned down. This attachment is in the nature of a pivoted rider, which allows the electrodes to contact when the gas is turned on, and causes the moving electrode to ride over the fixed electrode when the gas is turned off, or when the movable electrode returns on the back-stroke.

The invention further consists in the combination and arrangement of parts, as herein-after set forth and claimed.

It will be better understood by referring to the accompanying drawings, in which Figure 1 represents a side elevation, showing the several parts in action. Fig. 2 represents an end elevation of the same. Fig. 3 represents a vertical section on line *x x*, Fig. 1. Fig. 4 is a detail view of the rider for the movable electrode. Fig. 5 is a side elevation of the movable electrode and the hand-lever for manipulating it, and the gas-cock.

Similar letters of reference indicate corresponding parts in the several figures.

A is the gas-pipe; B, the burner screwed thereto in the usual manner, and T is the tip.

C is the cock, fitted in its socket C' from one side only, as shown, thus leaving less chance of leakage and making a neater-appearing burner.

D is a stout metallic arm having at its lower end a hole, *g*, adapted to slip over the shouldered end of the cock C when in place, and held in place against the burner by a screw, L, fitting in a hole, *e*, and adapted by reason of said screw to adjust the cock into and out of the socket C'. On the upper end of the arm D is pivoted a weighted lever, K, having a square abutment on one side of its upper end and a sloped rising portion on the other side.

E is an arm fixed to the cock by a square socket, *e*, and screw I, and adapted to open or close said cock.

F is a movable electrode of wire, of well-known construction, affixed to the upper part of the swinging arm, and adapted to contact with the fixed electrode G, attached to a band of usual construction, and insulated, as shown, from the burner.

w w' are the wires running from the battery. (Not shown.)

a and *b*, Fig. 4, are two stops on the arm D, to limit the throw of the arm E by the lug *d*, as will be understood on inspection of Figs. 4 and 5.

The operation is as follows: On the forward throw of the arm E (see Fig. 1) the cock is opened and the movable electrode rides up the inclined plane of the tilting lever or rider K and tilts it to the right, thus coming in contact with the fixed electrode, thereby producing a spark. It passes on and over said rider, which latter assumes a vertical position, as shown in Fig. 4. If, now, the gas be turned off, the movable electrode on its back-sweep abuts against the square shoulder *t*, which causes said movable electrode to ride over and free of the fixed electrode, thus avoiding a spark, and hence unnecessary waste of battery. If the gas be turned down, a like action takes place, and it is not possible to ground the battery by operation of the cock. The adjustment of the cock C is readily made by screw L and arm D, as will be understood on inspection.

We are aware that it is not new to provide electric gas-lighters with means for preventing sparking of the electrode, and we do not therefore claim such, broadly; but

What we do claim as new, and desire to secure by Letters Patent, is—

1. In an electric gas-lighting device, the combination of a stationary electrode, a pivoted movable electrode, and a pivoted rider in the path of said movable electrode, adapted to permit the electrodes to contact in the advance movement of the movable electrode, and to prevent such contact on its retrograde movement, substantially as described.

2. In an electric gas-lighter, a fixed electrode and a movable electrode, in combination with a fixed support or arm carrying a weighted

rider, for preventing contact of the electrodes on the back action of the movable electrode, substantially as described.

3. In a gas-lighting device, the combination
5 of the fixed electrode and the movable electrode attached on an arm fixed to the gas-cock, with a tilting rider lying in the path of the movable electrode and pivoted to an arm, which in turn has a bearing against the cock and holds it in
10 place, substantially as described.

4. A burner with an adjustable cock, in combination with an insulated fixed electrode secured to said burner, an actuating-arm of the cock carrying the movable electrode, and
15 the adjusting-arm for the cock carrying a

pivoted weighted rider, said parts being combined substantially as described.

5. In an electric gas-burner, an insulated fixed electrode, an arm carrying the pivoted weighted rider and having the stops *a* and *b*,
20 and an actuating-arm of the cock carrying the movable electrode and having the lug *d*, said parts being combined substantially as and for the purpose set forth.

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Witnesses:

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