

(No Model.)

T. H. PARKER.
ELECTRIC GAS LIGHTER.

No. 286,481.

Patented Oct. 9, 1883.

Fig. 1.

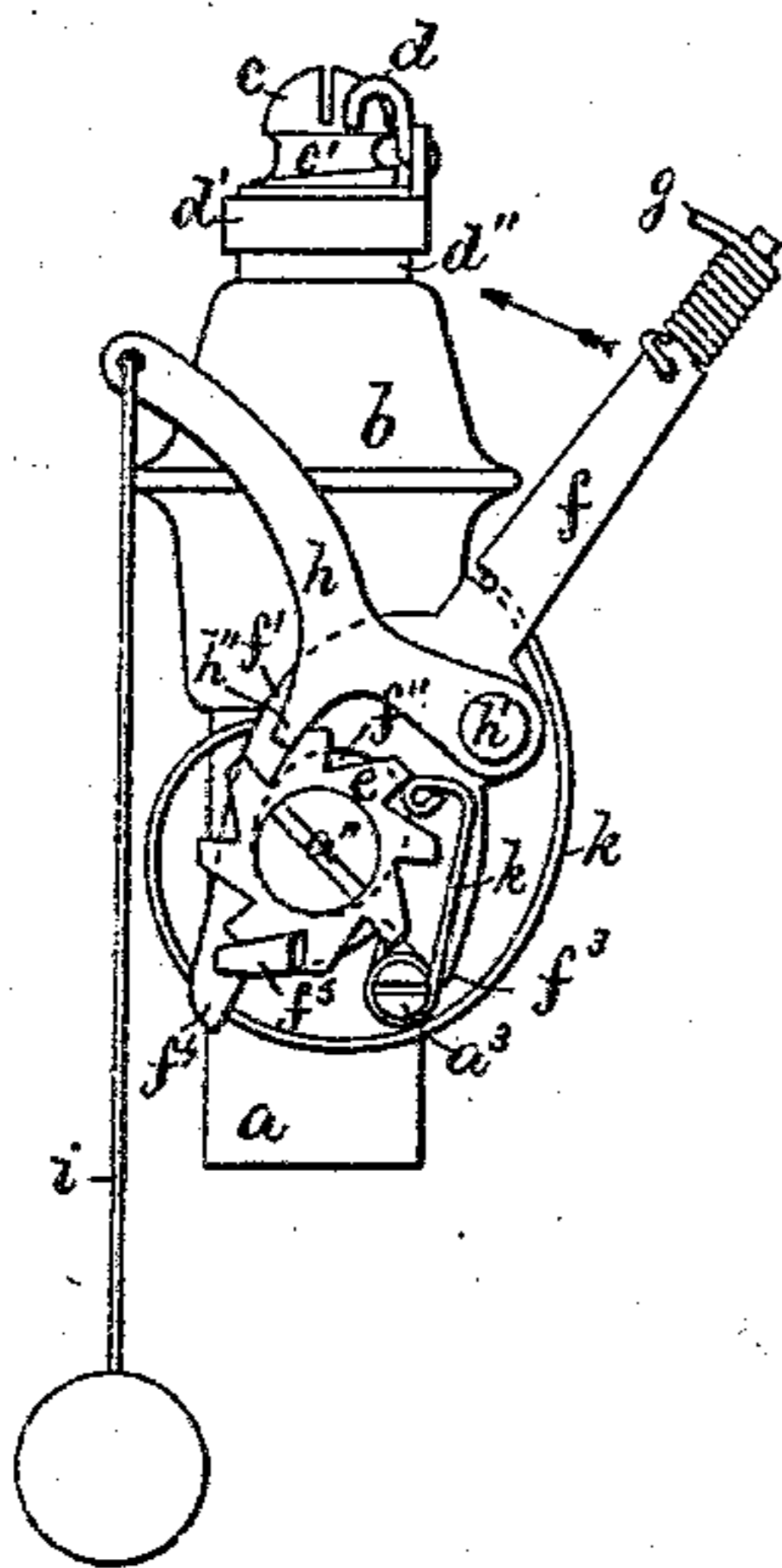


Fig. 3.

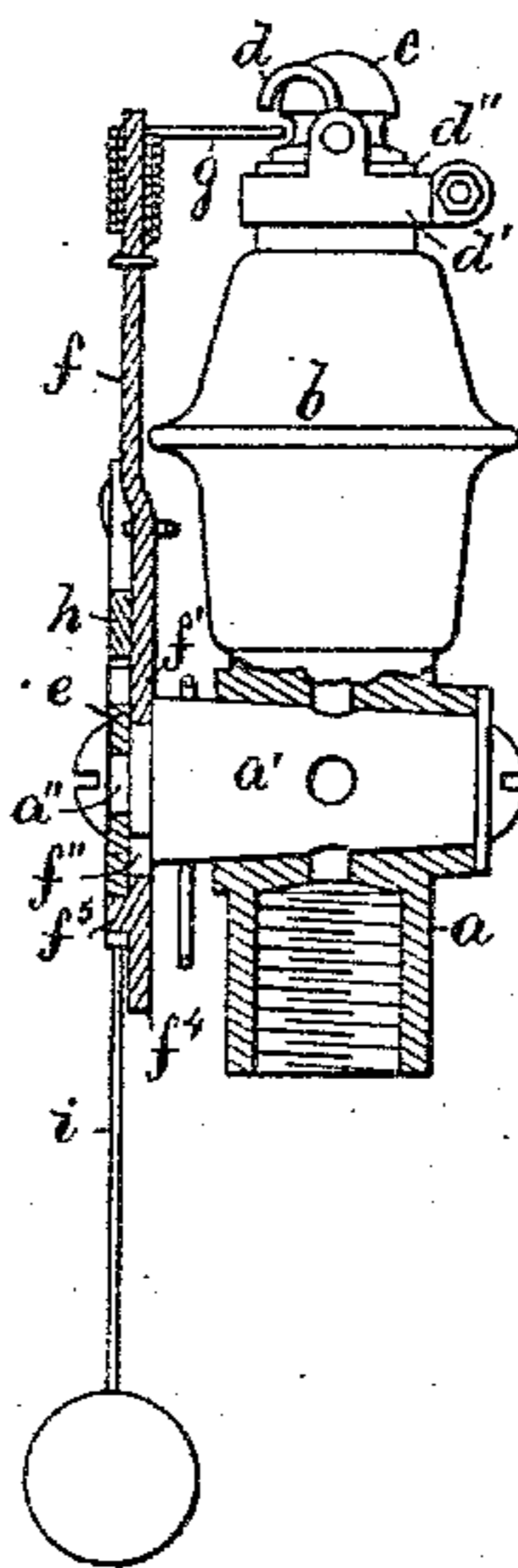


Fig. 4.

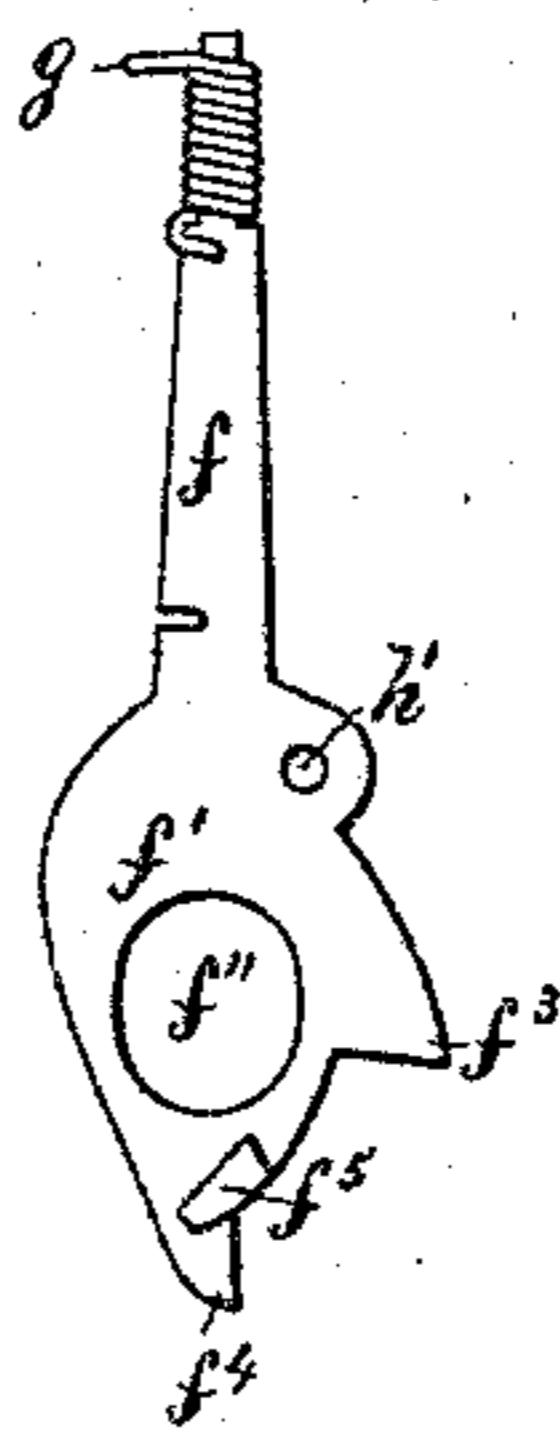


Fig. 2.

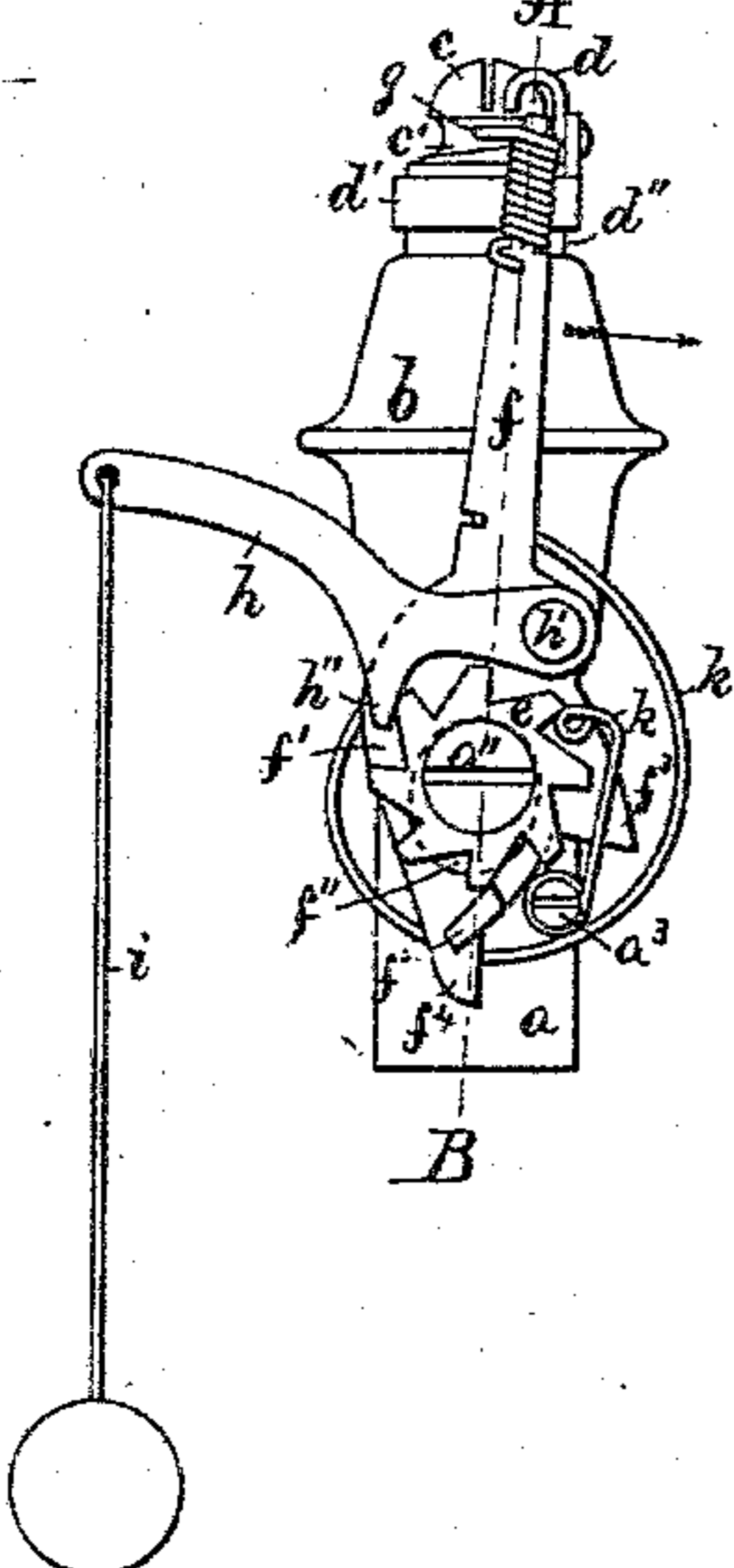
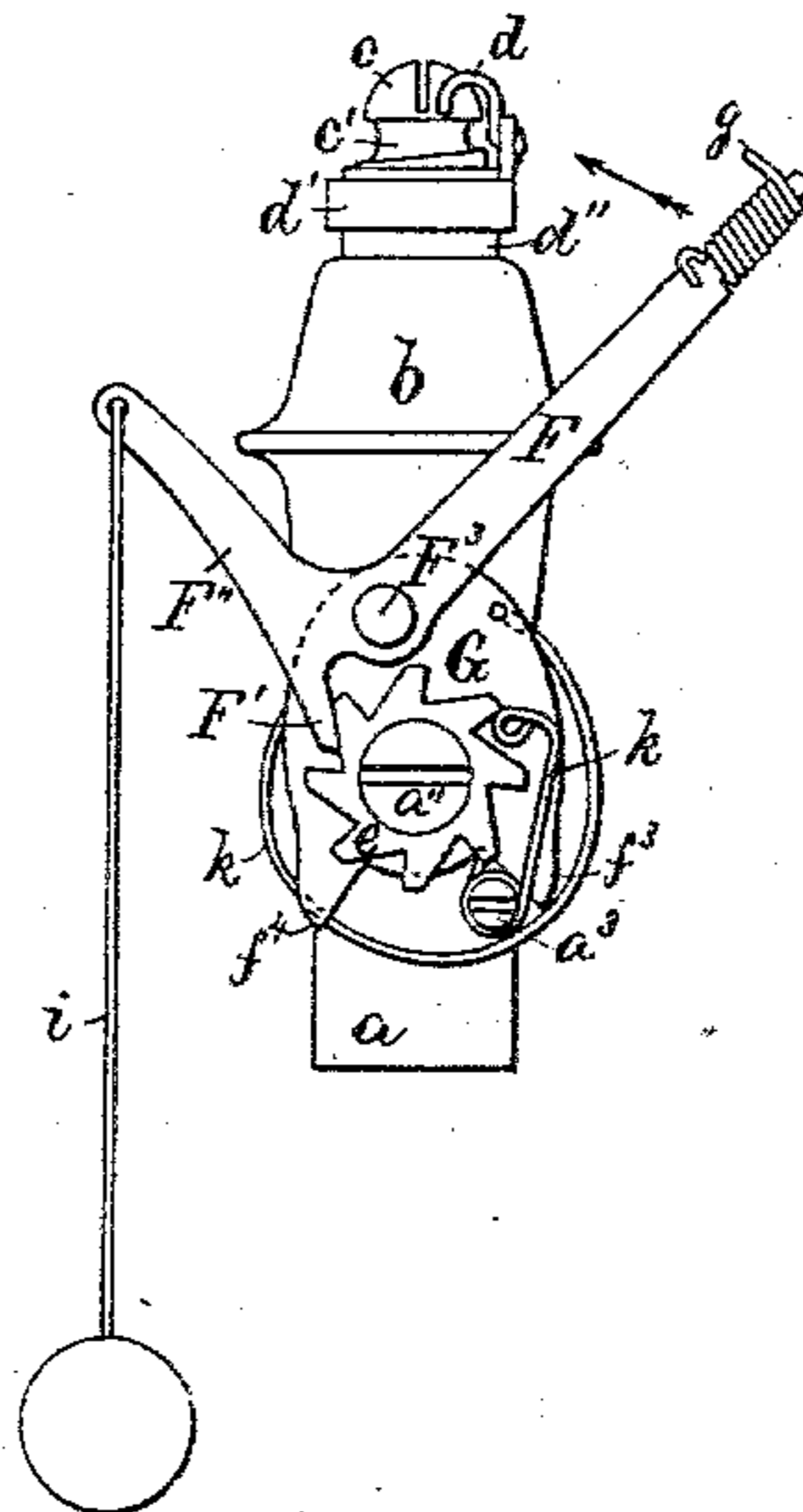


Fig 5.



Witnesses

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UNITED STATES PATENT OFFICE.

THEODORE H. PARKER, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO CHARLES E. AND FRANK FULLER, OF SAME PLACE.

ELECTRIC GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 286,481, dated October 9, 1883.

Application filed June 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, THEODORE H. PARKER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Electric Gas Lighters; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in electric gas-lighters; and it has for its object to return the movable electrode to its normal position after the gas is lighted without passing such electrode through the flame or bringing it in contact with the insulated stationary electrode at the tip of the burner, by which arrangement the movable electrode is prevented from being heated and losing its spring-temper, as well as preventing the deposit of carbon from the flame on said movable electrode, and thus insuring a proper and clean metallic contact-point between the stationary and movable electrodes, and thus preventing failures in lighting the gas at the first break of the electric current, which is so common with ordinary electric gas-lighters in which the movable electrode passes back through the flame after the gas is ignited.

By operating the movable electrode as above set forth, unnecessary waste of battery-power is prevented.

The invention is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a front elevation of the improved electric gas-lighter, showing the movable electrode swung back to its normal position. Fig. 2 represents a front elevation of the same, showing the movable electrode in the act of passing back below the flame after the gas-jet has been ignited. Fig. 3 represents a vertical section on the line A B, shown in Fig. 2. Fig. 4 represents a front view of the movable electrode-lever shown detached from the burner; and Fig. 5 represents a modified form of my invention.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a represents the stop-cock body, with its four-way cock *a'*, as usual.

b is the hollow burner, with its lava tip *c*, to which is secured the insulated stationary electrode *d* in the ordinary manner. The electrode *d* is attached to a metal band, *d'*, which is connected by means of a wire to the battery in the usual way.

d'' is a suitable insulating material interposed between the interior of the metal band *e'* and exterior of the lava or other tip, *c*, as is common in electric gas-lighters of this kind.

e is a ratchet-wheel, as usual, secured to the forward end of the outwardly-projecting shank *a''* of the cock *a'*. The said ratchet-wheel *e* has twice as many teeth on its circumference as there are openings in the cock *a'*, by which arrangement the latter will be opened or closed by turning the ratchet-wheel *e* around its axis a distance equal to the pitch of the teeth thereon.

Back of the ratchet-wheel *e* is located on the shank *a''* the movable electrode-lever *f*, the hub *f'* of which has a slotted perforation, *f''*, that encompasses the shank *a''*, and on which it may turn as well as move in a radial direction.

g is the platinum electrode, attached to upper end of the movable electrode-lever *f*, as shown.

a³ is a stationary stop-pin secured to the stop-cock body *a*, against which the stop projections *f³* and *f⁴* on the lever *f* come at rest at the limit of the stroke of said lever.

h is a pawl-lever hinged at *h'* to the lever *f*, and provided with a tooth or pawl, *h''*, which is caused to engage in the teeth of the ratchet-wheel *e* when the pawl-lever *h* is pulled downward by taking hold of the chain or cord or rod *i*.

f⁵ is a pawl projection attached to or made in one piece with lower end of pawl-lever *f*, which projection is made to engage with the teeth on the ratchet-wheel *e* when the pawl-lever *h* is pulled downward.

k is a coiled spring wound around the pin *a³*, and having one end adapted to rest in the space between two successive teeth on ratchet-wheel *e*, and its other end attached to elec-

trode-lever f , as shown. Said spring-wire k thus serves two purposes—namely, to prevent the ratchet-wheel e from moving in more than one direction around its axis, and to keep it stationary during the return motion of lever f , as well as to draw the lever f in a radial direction toward the center of the shank a'' . An inclined groove, c' , is preferably made on one side of the tip c , to allow for the unobstructed return motion of electrode g , after the gas has been ignited, without coming in contact with the flame or the insulated stationary electrode d .

The operation of my invention is as follows: Before the gas is turned on and lighted, the different parts are in their normal positions, as shown in Fig. 1. To turn on or light the gas I pull the chain or rod i downward against the influence of the spring k , causing the pawl h'' to actuate the ratchet-wheel e , by which the gas-passage is opened and the electrode-lever f moved in the direction shown in the arrow in Fig. 1, and in so doing its electrode g comes in contact with the stationary insulated electrode d , and by continuing the motion of said electrode-lever f a spark is emitted between the electrodes when the current is broken, causing the gas to be ignited. During the forward motion of the electrode-lever f in the manner as above described, it is automatically pressed outward in a radial direction against the influence of the spring k by the combined action of the pawls h'' and f^5 on the ratchet-wheel e , so as to make and break the contact between the electrodes d and g ; but when the operator relieves his hold on the chain or rod i , (after the stop projection f^4 is brought in contact with the stationary stop-pin a^3 ,) the electrode-lever f is automatically carried back to its normal position by the influence of spring k , and during such backward motion the said lever f is drawn toward the center of the cock by the spring k and the pawl f^5 passing backward over a tooth of the now stationary ratchet-wheel e sufficiently to permit the electrode g to pass beneath the electrode d and beneath the flame, as above set forth, and so on.

The modification shown in Fig. 5 consists only in making the pawl F' , pawl-lever F'' , and electrode-lever F in one piece, and hinging the same at F^3 to the hub G , which is supported on the shank of the cock, by which the same result is obtained. In said modification the other parts of the invention are arranged, combined, and made to operate in the same manner as hereinabove set forth.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

1. In an electric gas-lighter, the combination of a stationary electrode located at the tip of the burner, a movable electrode adapted in its forward movement to touch and break contact with the stationary electrode, and in its backward movement to pass beneath it and the flame, so as not to be affected by the flame, and means for operating the movable electrode, substantially as described.

2. In an electric gas-lighter, the combination of a stationary electrode at the tip of the burner with an oscillating and radially-movable lever carrying an electrode, and means for operating the lever to cause its electrode to touch and break contact with the stationary electrode in the forward movement of the lever, and to pass beneath the stationary electrode and the flame in the backward movement of the lever, substantially as and for the purpose described.

3. In an electric gas-lighter, the stationary electrode d at the tip of the burner, in combination with the slotted lever f , hinged on the gas-cock, and having stops f^3 f^4 , pawl projection f^5 , hinged pawl-lever h , its pawl h'' , the ratchet-wheel e , spring k , stop-pin a^3 , and movable electrode g , as and for the purpose set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

THEODORE H. PARKER.

Witnesses:

ALBAN ANDRÉN,
HENRY CHADBURN.