

No. 868,233.

PATENTED OCT. 15, 1907.

A. M. TURKINGTON.  
ELECTRIC IGNITER FOR GAS STOVES.

APPLICATION FILED SEPT. 25, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

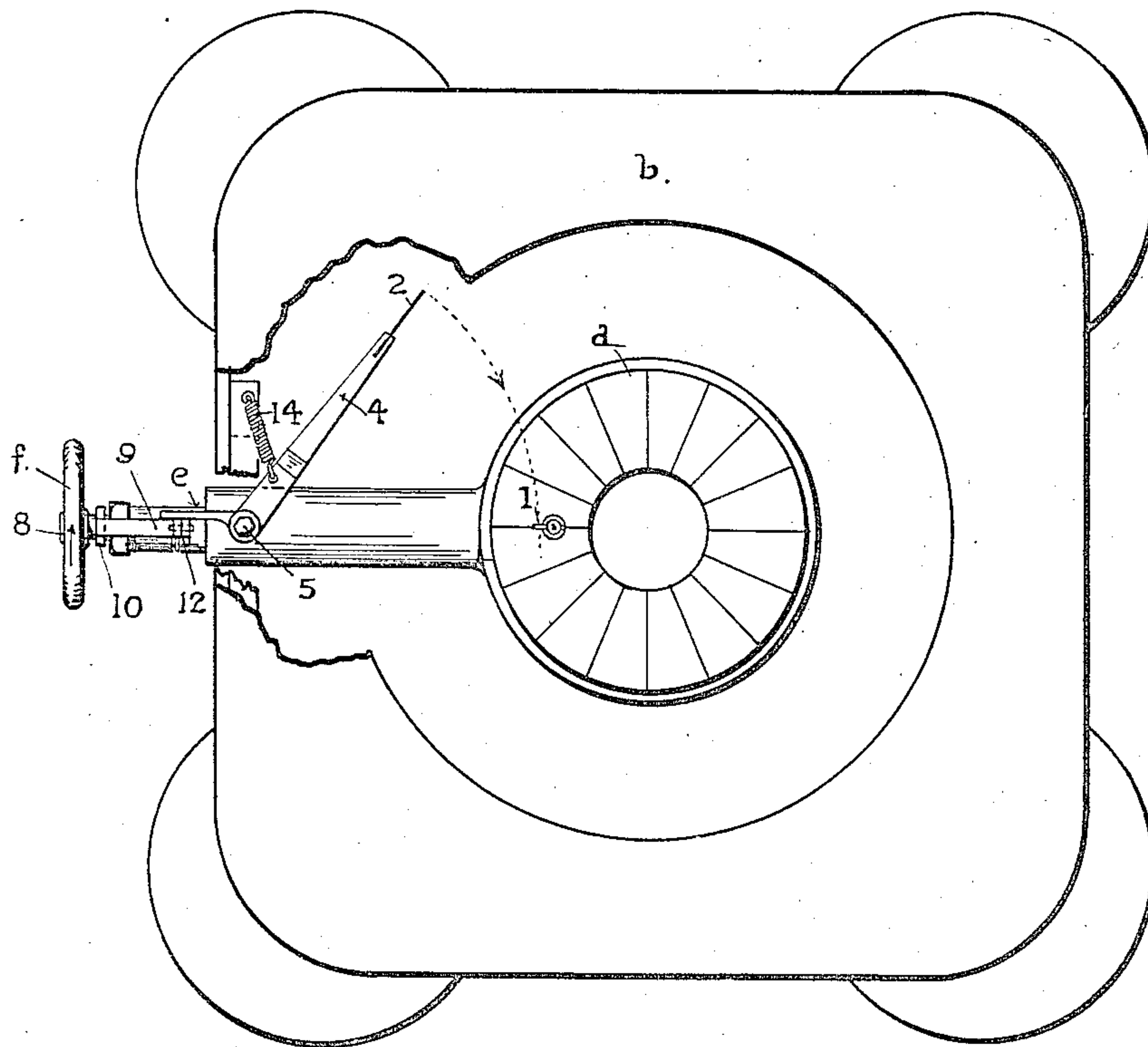
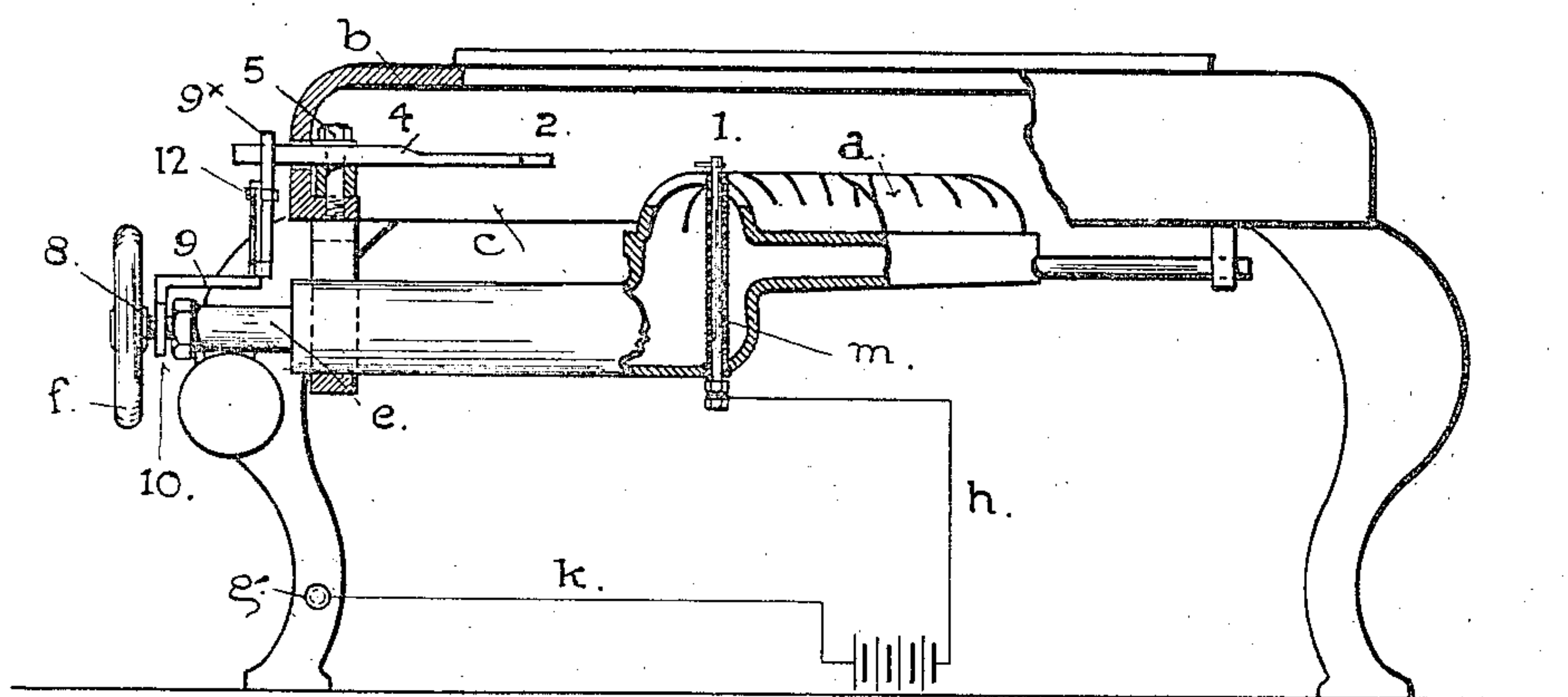


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

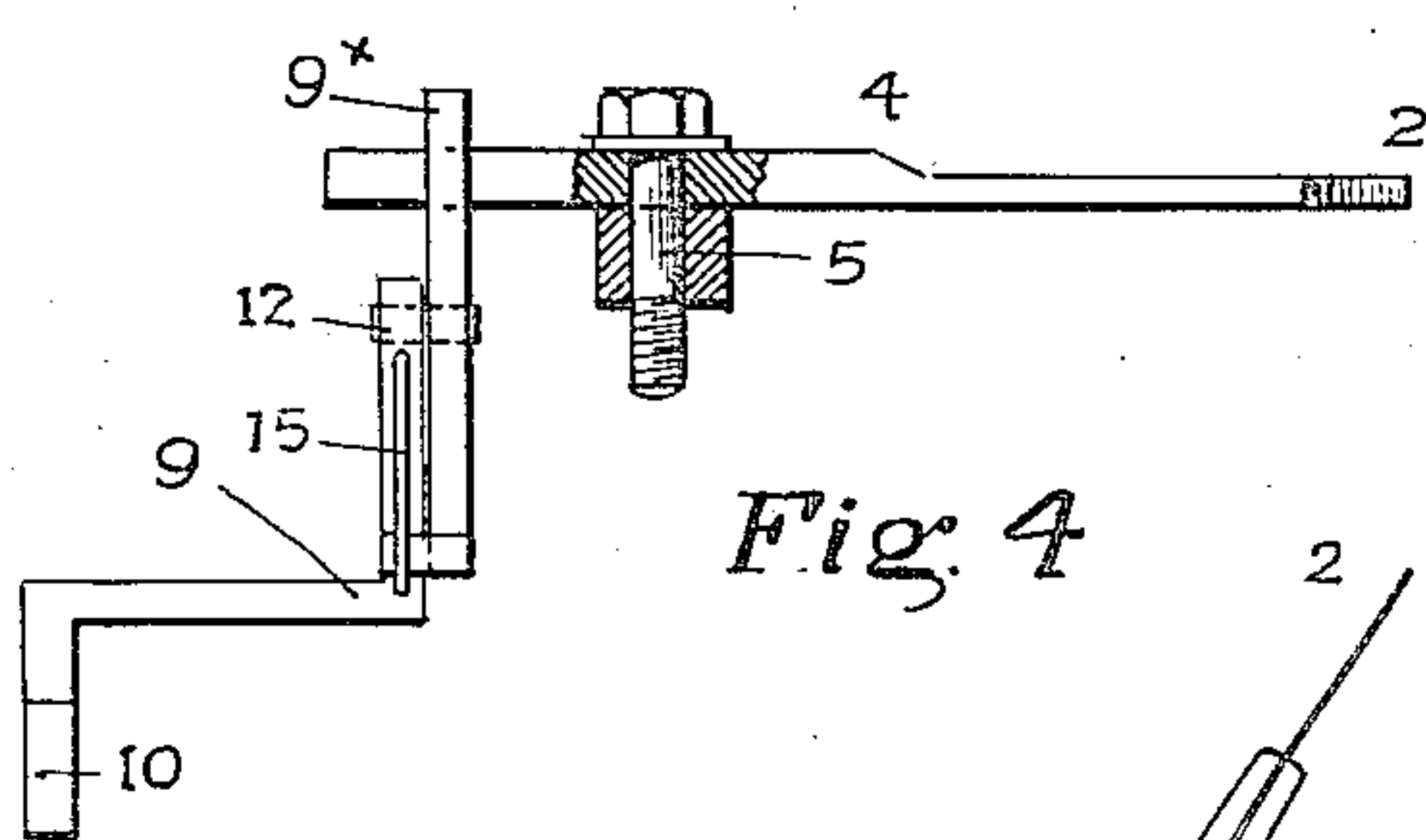
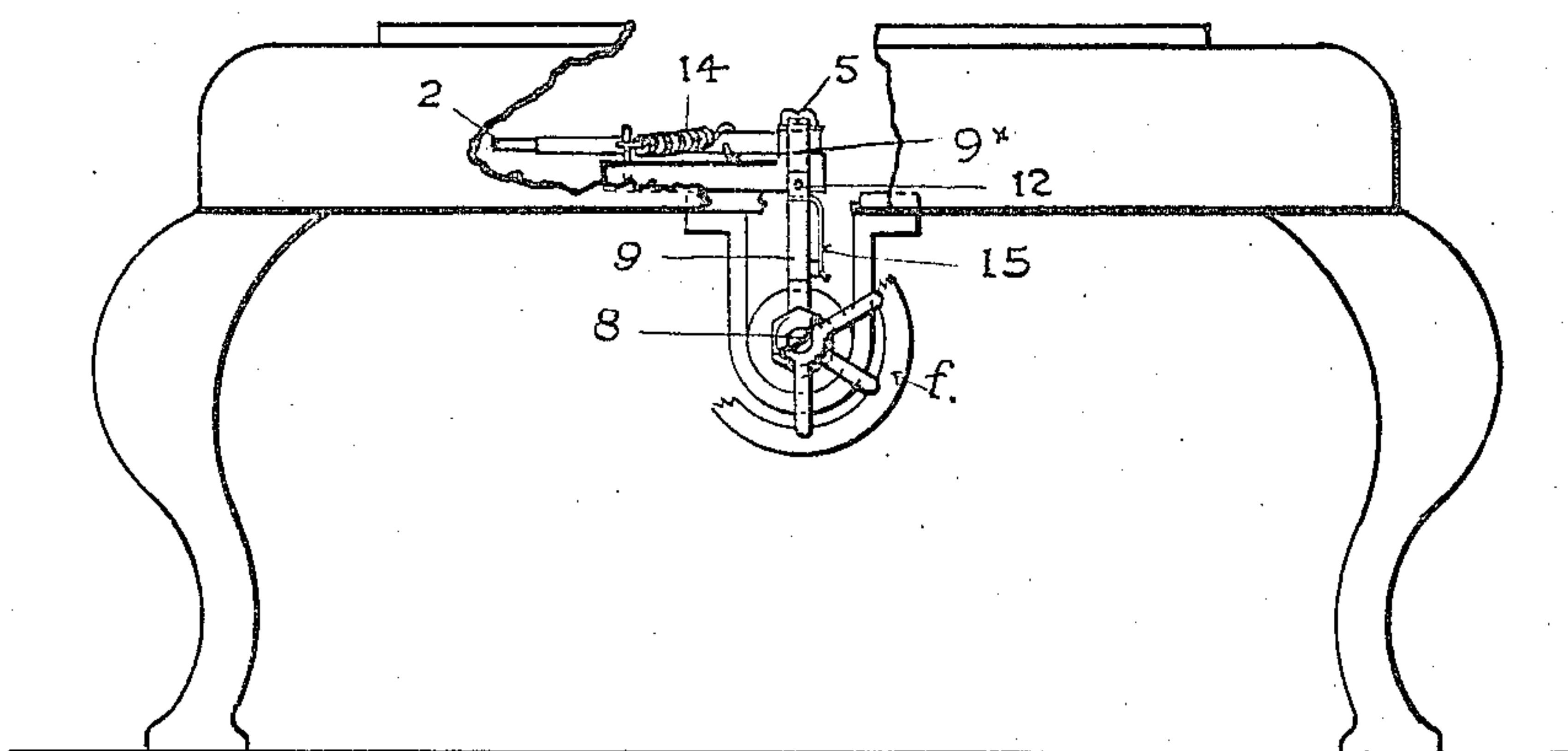


Fig. 4

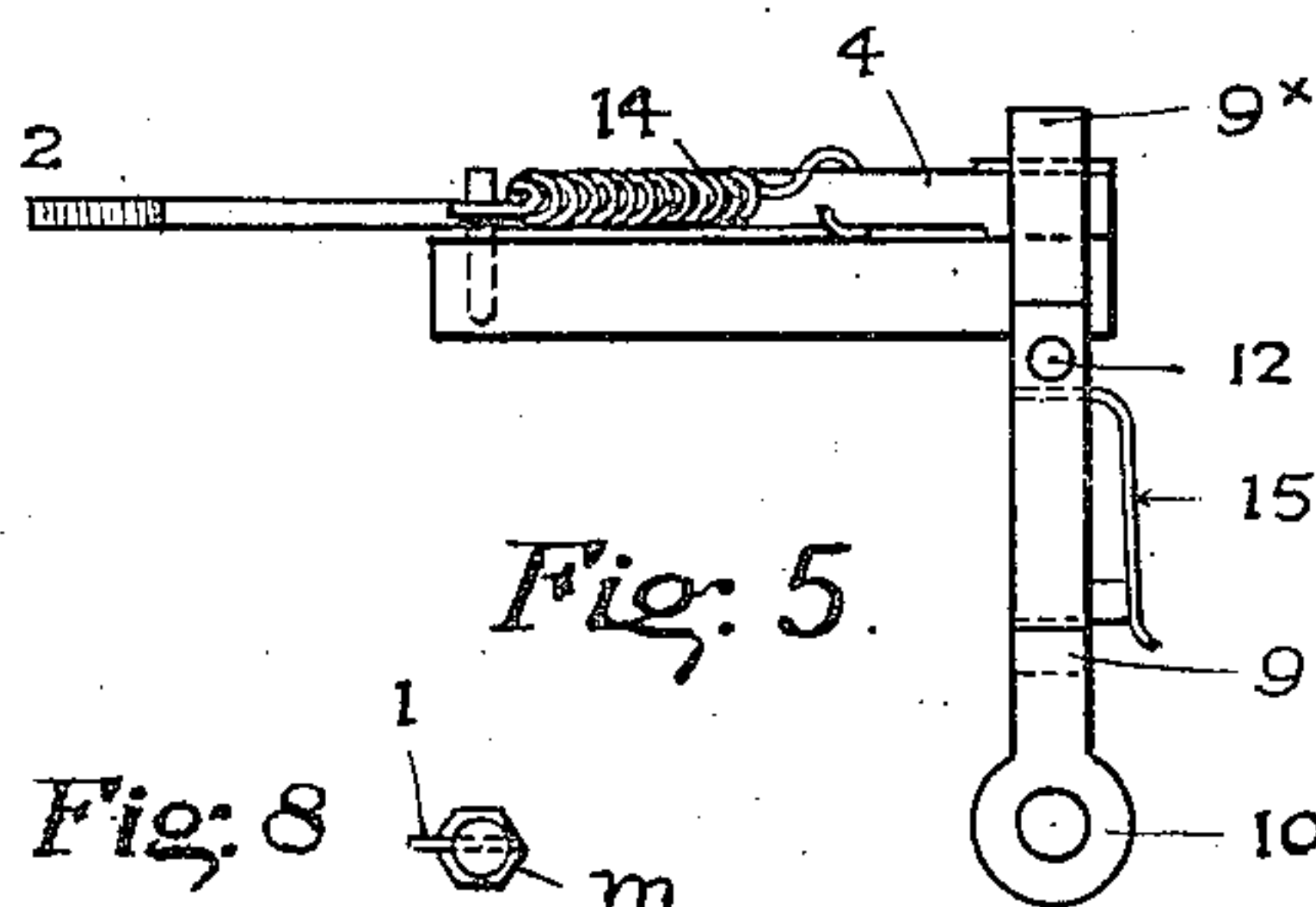


Fig. 5

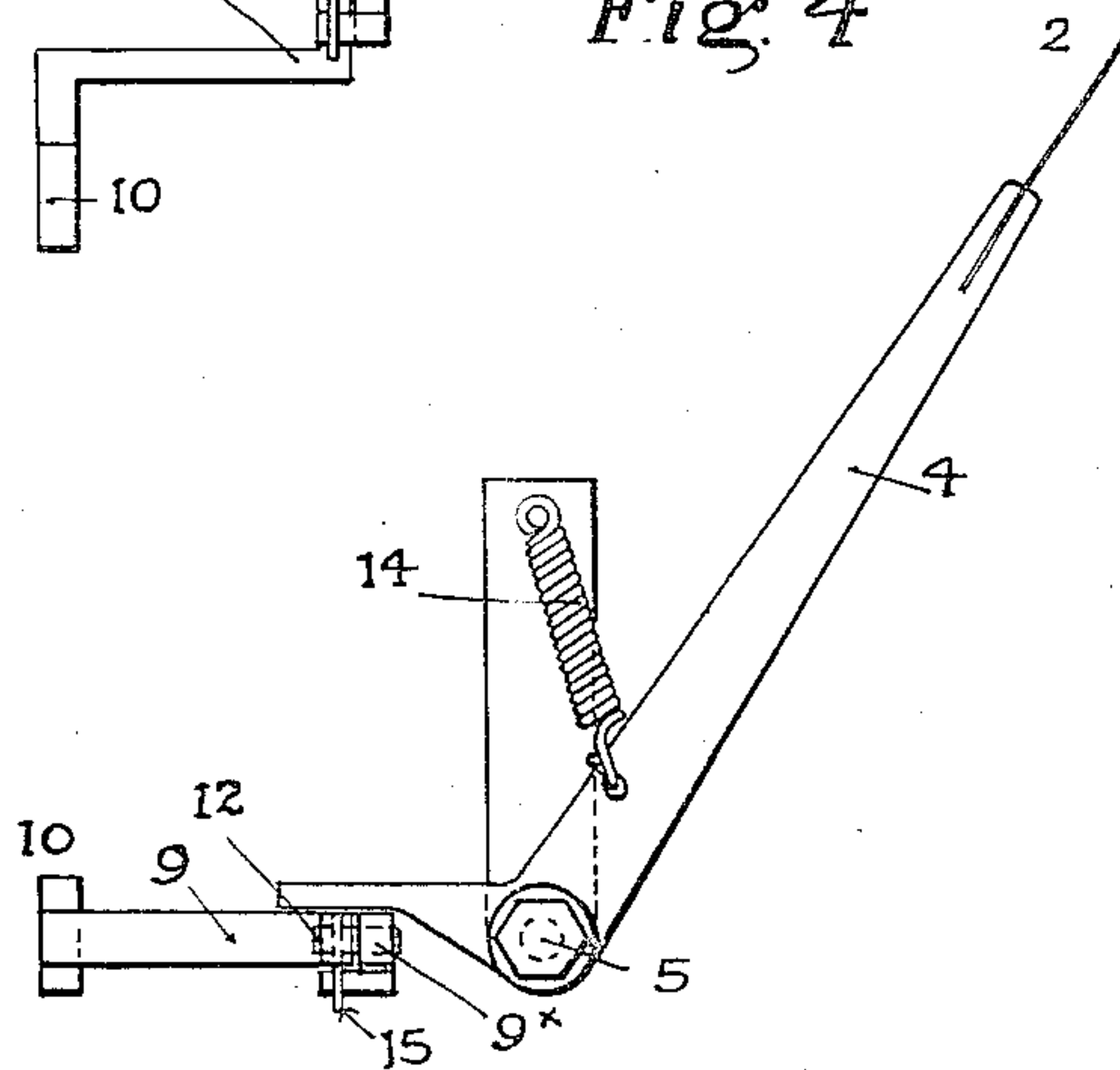


Fig. 6

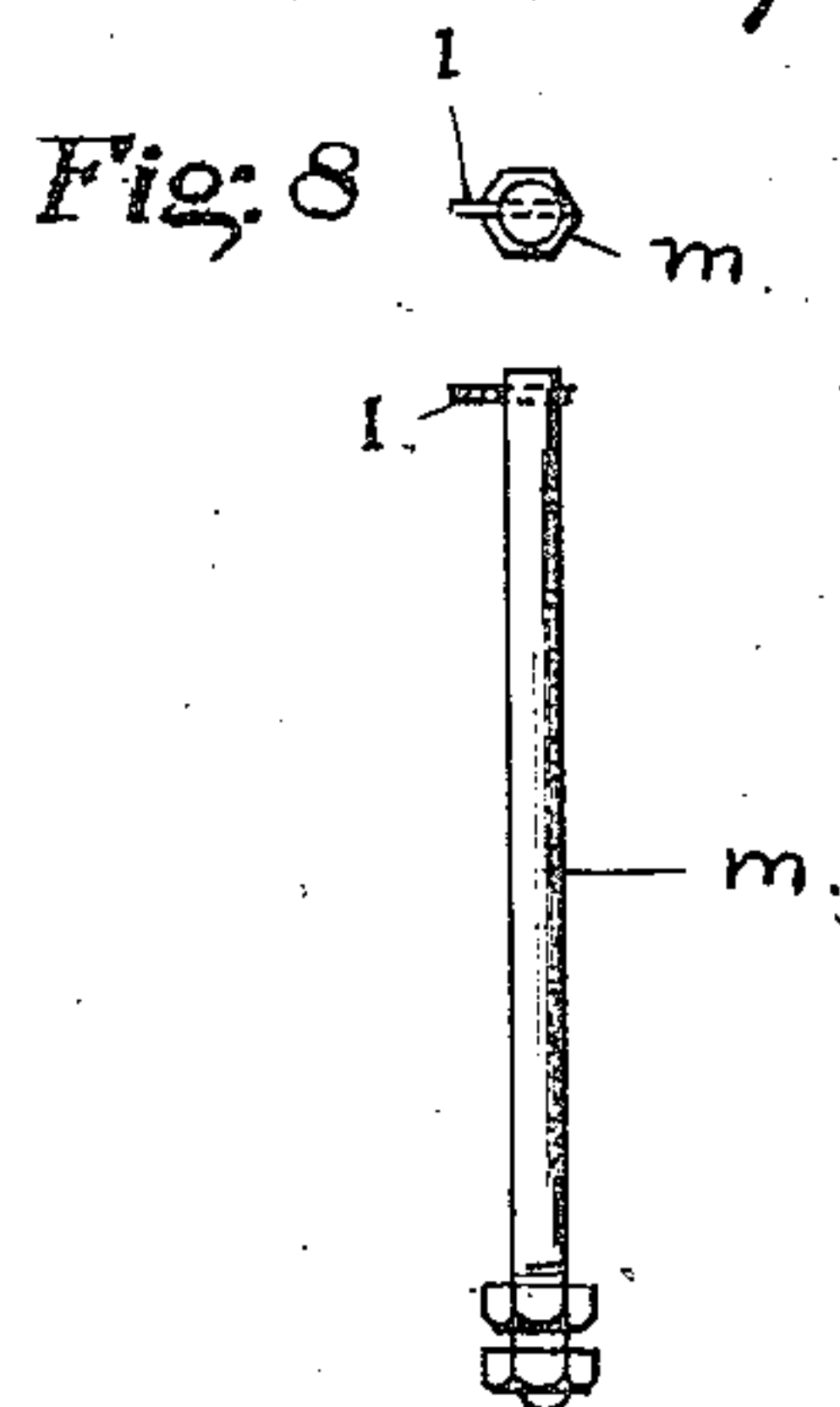


Fig. 7

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# UNITED STATES PATENT OFFICE.

ALFRED M. TURKINGTON, OF BERKELEY, CALIFORNIA.

## ELECTRIC IGNITER FOR GAS-STOVES.

No. 868,233.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed September 25, 1906. Serial No. 336,195.

To all whom it may concern:

Be it known that I, ALFRED M. TURKINGTON, a citizen of the United States, residing in Berkeley, in the county of Alameda and State of California, have invented new and useful Improvements in Electric Igniters for Gas-Stoves, of which the following is a specification.

This invention relates to means or devices for lighting the burner of a gas stove, or range by electricity.

It has for its object to provide a "sparker", or electric-igniter to be operated, or caused to light the gas, by or from the movements of the inlet valve which controls the flow of gas to the burner, in such manner that the burner will be lighted automatically whenever the gas is turned on at the burner.

To such end and object, chiefly, my invention comprises a novel igniter for the burner of a gas stove consisting essentially of a pair of electrodes or contacts normally in open circuit with a battery, or other source of electricity, one of the electrodes being stationary as to position with respect to the burner and situated in required proximity to the gas apertures therein, and the other of said electrodes being situated normally out of electrical contact with said stationary electrode, but capable of being brought into metallic contact with such stationary electrode to produce an electric spark, and means actuated by or from the gas-controlling valve operating to bring one electrode into contact with the other electrode and thereby producing an electric spark in the region of the outflowing gas whenever the gas is turned on.

The nature of my said invention and the manner in which I proceed to produce, construct apply and carry out the same are set forth at length in the following description, in which reference is had to the accompanying drawings forming part of this specification.

Figure 1 of the drawings represents in side-elevation one form or kind of gas-stove having combined therewith an electric igniter embodying my invention. Parts of the stove are broken away to show the igniter more clearly. Fig. 2 is a plan, or top-view of the parts represented in Fig. 1. Fig. 3 is a front-view, taken from the left side of Fig. 1. Fig. 4 represents a side-view on an enlarged scale, of the movable electrode and the mechanism connecting it with the spindle of the inlet-valve to operate it from the rotary movement of the spindle. Fig. 5 is a view of the plan represented in Fig. 4 looking from the left side of the figure. Fig. 6 is a top-view of Fig. 4. Fig. 7 is a side-view of the stationary electrode, and Fig. 8 a top-view of the same.

The stove represented in the drawing is one of well-known construction provided with what is known as a "sawed burner", in which the outlet-apertures are formed by slits radiating from a common center in an annular body, and to which the gas is supplied through a needle-valve *e*. The same illustrates what I consider

to be the best form and application of my invention to that form of burner or valve; but is not intended to limit or restrict the application or scope of the invention to the particular style of burner, nor to the type of valve here shown. In this device, two electrodes 1—2, forming the terminals of the two poles of a battery, are so placed or arranged with relation to the apertures of the burner *a* that on bringing the two parts together the battery circuit will be closed and a spark generated within the field or range of the escaping gas at one or more of the burner-apertures, at the instant of the electrodes making and breaking contact. One of these electrodes is best fixed in position directly on the burner-body, or in such proximity to one or more of the outlet-apertures that the point of the electrode will lie close to the same. The other electrode 2 being a movable contact is mounted or placed on some part of the stove-frame or body adjacent to the burner, and in such relation to the fixed electrode that the points of the two electrodes will be brought together with a wiping or sliding contact by a short movement of the movable electrode, with the effect to generate a spark of sufficient volume or quality to ignite the gas.

As it is quite important that the burner should be lighted as soon as the flow of gas takes place at the burner-apertures, in order to insure its ignition before the volume of escaping gas becomes too great for safety, I connect the movable electrode with the valve that controls the admission of the gas to the burner that the two electrodes will be brought together and a spark will be generated on the instant that the gas is admitted to the burner.

In the present construction the movable electrode 2 is fixed on the free end of an arm 4, that is pivotally attached by a bolt 5 to a stationary part of the stove body, such for example, as the flange that joins the top *b* to the casting *c* that forms the side of the body. The end of the arm situated on the opposite side of the pivot 5 is connected with the rotatable spindle 8 of the valve *e* by an arm 9 secured to the spindle so as to extend perpendicularly upward from it and at right angles to the arm 4 that carries the electrode 2.

The arm 9 is fixed to the spindle by a ring or collar 10 fastened behind the hand-wheel *f* of the valve and that portion which stands above the spindle is formed or provided with a jointed upper member 9<sup>x</sup> which is attached to the lower member 9 by a hinge-joint of such character that the two members will be rigid and operate as a single member under the rotation of the spindle in the proper direction to open the valve; or on the other hand, the upper member 9<sup>x</sup> will break or yield at the joint 12 when the arm 9 moves in the opposite direction. In the first-mentioned movement of the arm 9 in which it is pressed against the side of the electrode carrying arm from that direction, it will operate to throw the arm 4 with a quick movement across the stationary



electrode; but on turning the valve-spindle in the opposite direction to shut off the gas at the burner, the arm 9<sup>x</sup> will turn on the joint 12 and pass the electrode-carrying arm, without moving it, and the arm 4 will be left standing on the proper side of the arm 9<sup>x</sup> and in position ready to strike and move the electrode-carrying arm as soon as the valve is opened again to put the burner in service. A coiled spring 14 attached to the arm 4 at a point beyond the pivot 5 and to a fixed point 10 in the stove-body, returns the arm 4 to its position clear of the burner on the instant that the end of the jointed member 9<sup>x</sup> passes by the end of the electrode-carrying arm.

Under the tension of the spring 14 the arm 4 is returned to position with a quick throw, thereby bringing the electrode 2 a second time in contact with the electrode 1, and producing a spark in the return throw as well as in the initial throw of the arm 4 in every opening movement of the inlet-valve. A light spring 15 on the arm 9 serves to maintain the jointed member in working relation and to return it to position after every movement in which it is caused to break the joint. This manner of placing and actuating the movable electrode has the advantage of keeping the electrode out of the region of greatest heat in immediate proximity to the burner when not in action, thereby rendering it more durable than it otherwise would be. Platinum, or other metal not affected by the heat or flame is used for the contact points, and the post which carries the stationary electrode is insulated from the surrounding metal by a casing of asbestos or like material. In making the necessary connections with the poles of the battery, one of the electrodes may be connected through the stove-body; in which case a binding-screw or post

g is provided on the body for attaching a conductor k from the battery. The other electrode being insulated from the parts of the stove is connected to the remaining pole by a conductor h.

From the foregoing description of what I consider the best manner of constructing and applying my invention to one of the top-burners in a gas-stove or range, it will be possible for a person familiar with the construction of gas-stoves and ranges to apply the invention to the burners in other parts of a range, as for example, the burners in the oven, without further explanation.

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

1. In an electric igniter for a gas stove, the combination with the burner and inlet valve, of a stationary electrode, a movable electrode, an arm fixed to said inlet valve and movable therewith and a pivoted arm carried by the said fixed arm, arranged to engage with and operate the movable electrode when the inlet valve is turned in one direction, but to swing on its pivot when moved in the opposite direction, and means for holding the pivoted arm in normal position relative to the fixed arm, substantially as set forth.

2. In an electric igniter for a gas burner, the combination with a burner and an inlet valve, of a stationary electrode, a movable electrode, an arm movable with the inlet valve, an arm pivoted to the movable arm, a stop to limit the movement of the pivoted arm in one direction only, whereby it will engage with and operate the movable electrode when the inlet valve is turned in one direction, but will swing on its pivot when moved in the opposite direction, and a spring for holding the pivoted arm in normal position, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED M. TURKINGTON.

Witnesses:

EDWARD E. OSBORN,  
M. REGNER.