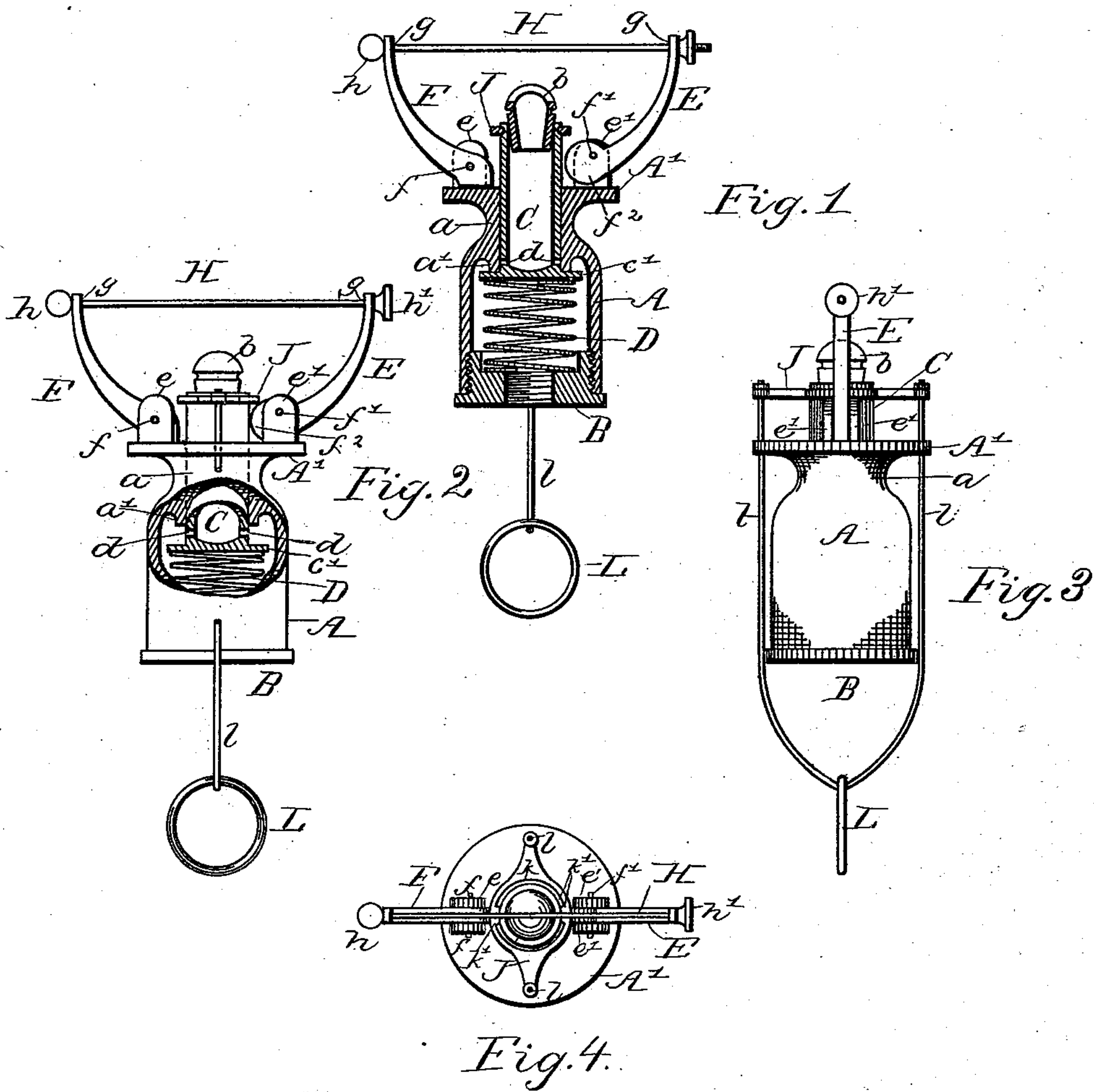


(No. Model.)

C. GREINER & J. GRUPP.  
AUTOMATIC GAS LIGHT GOVERNOR.

No. 378,050.

Patented Feb. 14, 1888.



Witnesses.  
Willie Powell.  
J. B. M. Giv.

Inventors.  
and Charles Greiner,  
Jacob Grupp.  
by Connelly Bros  
Atty.



# UNITED STATES PATENT OFFICE.

CHARLES GREINER AND JACOB GRUPP, OF PHILADELPHIA, PENNSYLVANIA.

## AUTOMATIC GAS-LIGHT GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 378,050, dated February 14, 1888.

Application filed June 27, 1887. Serial No. 242,650. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES GREINER and JACOB GRUPP, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Gas-Light Governors; and we do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

Our invention has relation to automatic gas-light governors, and has for its object the provision of means for automatically cutting off the flow of gas from a pipe to a burner if the flame should become extinguished by any means other than by the ordinary and proper method of operating a cock or valve interposed in the supply-pipe.

Owing to the poisonous character of ordinary illuminating gas and its liability to explode when mixed with air, many fatal accidents and destructive conflagrations have ensued from the accidental or careless extinguishment of gas-flames, as by a draft, by blowing it out, or even by careless manipulation of the cock or valve through which the supply of the same is governed.

Our invention is designed to obviate all danger of such accidents; and it consists in the provision of the novel means, hereinafter described and claimed, for automatically shutting off the flow of gas from a pipe to a burner immediately after the extinguishment of the flame.

In the accompanying drawings, illustrating our invention, Figure 1 is a vertical sectional view of our improved gas-light governor, showing the valve closed. Fig. 2 is a vertical sectional view of the same, showing the valve opened. Fig. 3 is an elevation, and Fig. 4 a top view, of our improved governor.

A designates the main shell or casing of the device, which contains a valve by means of which the flow of gas is cut off and supports the several working parts of the apparatus, as will be presently described. Said shell is hollow and cylindrical, and into its lower end is screwed a plug, B, which has a central screw-threaded hole, *b*, into which is screwed the nipple or end of the gas-supply pipe. (Not shown.) The upper end of the casing A is

contracted to form a throat, *a*, and at the bottom of said throat is formed a valve-seat, *a'*. Within this throat *a* fits and slides a short cylindrical tubular section, C, the upper end of which receives a "tip," *b*, having the ordinary slit or orifice for the passage of the gas. Upon the lower end of the section C is formed an annular flange, *c'*, that constitutes the valve of the apparatus and rests in one position of said section upon the seat *a'*. A short distance above the flange *c'* the walls of the section C are perforated at *d d* to provide for the passage of the gas to within the same, and as the section C fits smoothly in the neck of casing A the said holes are cut off from receiving gas, when the device is in the position shown in Fig. 1, independently of the valve and valve-seat *c' a'*.

Within the casing A, and bearing at one end upon the plug B and at the other upon the bottom of the cylindrical section C, is a spiral spring, D, that presses the cylindrical section upwardly, so that under any condition, except when the gas is burning, the flow of the same is cut off. Around the upper edge of the casing A is formed a flange, A', and upon the top of the said flange are lugs *e e e'*, which serve to receive pins *f f'*, passing through the ends of arms E and F. The arm F is stationary; but the arm E is movable upon its pivot *f'*, and its lower end is eccentrically formed, as at *f''*, and the position of the pivot *f'* is such that as the arm falls outwardly the inside edge of the eccentric or cam portion *f''* will bear against the cylindrical portion C.

The edge of the cam portion *f''* may be provided with teeth, or may be furnished with any sort of friction-coating desired, so as to make it catch and bind readily against the cylindrical section C.

Holes *g g* are formed in the upper ends of the arms E and F, and through the holes is passed a rod, H, which has at one end a head, *h*, the other being screw-threaded and fitted with a nut, *h'*, by means of which the distance apart of the arms E F may be determined and regulated. The rod H, through its expansion and contraction, causes the arm E to move upon its pivot, thereby binding or loosening the section C, and said rod should therefore be of some substance susceptible of ready expansion and contraction under variations of



temperature, such as platina, copper, or other suitable refractory metal or other suitable substance.

A groove is formed upon the outside of and near the top of the cylindrical section C, and a yoke, J, having a central hole, *k*, and teeth or lugs *k' k'*, is passed over the top of the section and secured thereto by pressing the lugs down into the groove. To the ends of the yoke J are secured wires *ll*, which pass through holes in the flange A', and to the wires is secured a ring, L.

Chains or cords may be substituted for the wires *ll*, and their length will be dependent upon the height of the gas-fixture from the floor.

The operation is as follows: The described device being applied to a gas pipe or fixture in place of the ordinary gas-burner, and the gas being turned on at the cock or valve, the ring L is pulled down, thereby pulling down the section C and permitting the gas to flow through the holes *d d* and to the tip *b*, where it is ignited. The ring L is held down until by the heat of the flame the rod H is expanded to such extent that the arm E, falling outwardly by its own weight, or being urged outwardly by an attached weight or spring, binds at its lower end against the section C, thereby holding the same in the position shown in Fig. 2. The parts remain in this position until the gas is extinguished, whereupon the rod H contracting draws up the arm E into the position shown in Fig. 1, thereby releasing its end from contact with the section C, which latter is then forced upwardly by the spring D, and the flow of gas is thereby cut off immediately and effectually, and can only be resumed by drawing down the ring L, as before, and again igniting the gas.

Having described our invention, what we claim is as follows:

1. In an automatic gas-light governor or cut-off, the combination, with a casing, A, adapted to be secured to a gas-pipe, a sliding tubular section, C, fitted in an orifice in said casing, the lower end of which forms a cut-off-valve seating on the inside of the casing, and a spring, D, adapted to close said valve, of a fixed arm, F, a metallic rod, H, and a movable arm, E, said movable arm being pivoted to the casing A, and having an eccentric or cam end, *f'*, which bears against section C when the rod H is expanded, substantially as described.

2. In an automatic gas-light governor or cut-off, the combination, with the tubular casing A, having an internal valve-seat, *a'*, the hollow cylindrical section C, sliding in said casing A, and provided with a valve, *c'*, at its lower end and openings *d d* in its walls, the yoke J, secured to said section C, and the wires *ll* and spring D, of the fixed arm F and movable arm E, the latter being pivoted to said casing and having a cam-like end, *f'*, adapted to bear against the section C, and an expansible rod, H, through which the movement of said arm is governed, all being constructed, arranged, and operating substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands this 22d day of June, 1887.

CHARLES GREINER.  
JACOB GRUPP.

Witnesses:

JOS. B. CONNOLLY,  
R. DALE SPARHAWK.