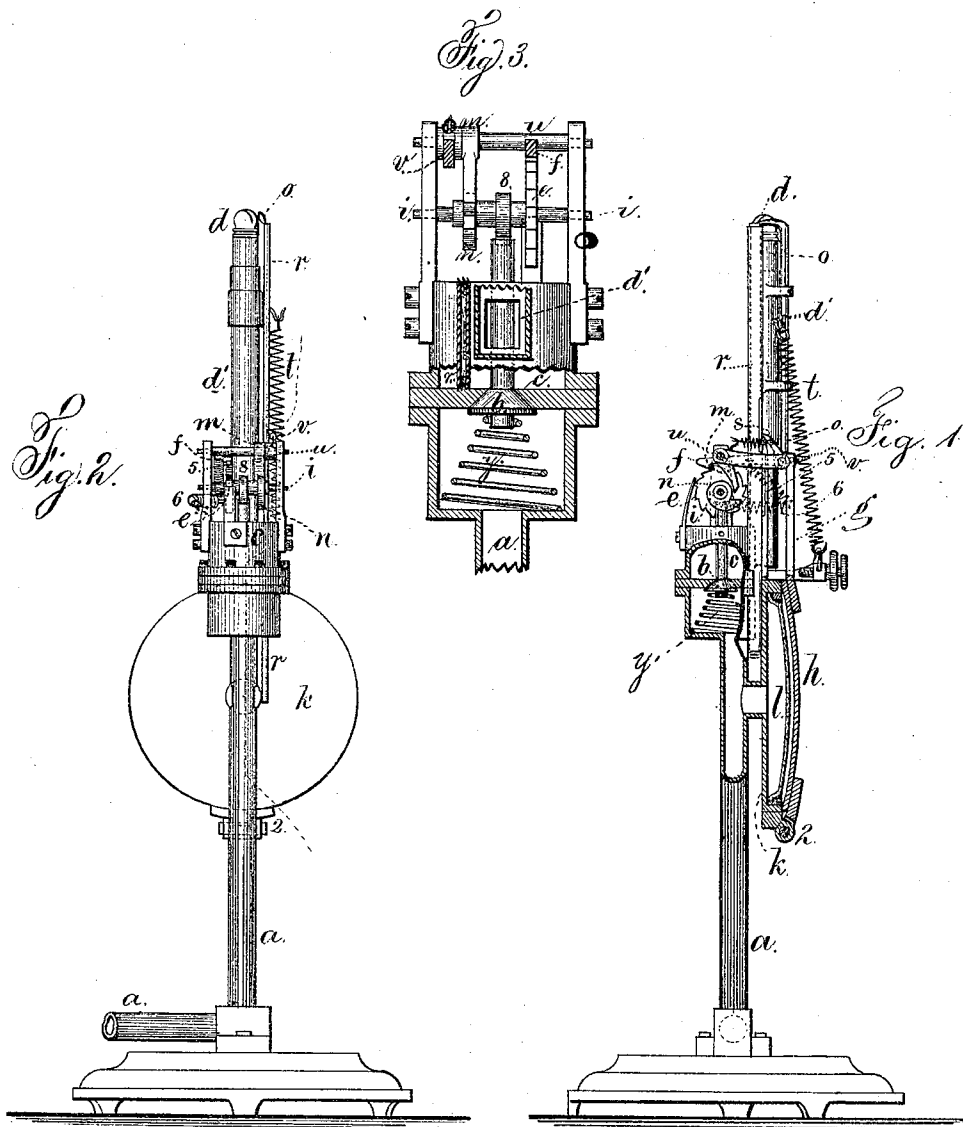


C. D. HASKINS.  
Gas-Lighting Apparatus.

No. 151,588.

Patented June 2, 1874.



Witnesses

Chas. H. Smith  
Geo. T. Pinckney

Inventor

Charles D. Haskins  
per Lemuel W. Perrell  
att'y

# UNITED STATES PATENT OFFICE.

CHARLES D. HASKINS, OF NEW YORK, N. Y.

## IMPROVEMENT IN GAS-LIGHTING APPARATUS.

Specification forming part of Letters Patent No. **151,588**, dated June 2, 1874; application filed February 3, 1874.

*To all whom it may concern:*

Be it known that I, CHARLES D. HASKINS, of the city and State of New York, have invented an Improvement in Gas-Lighting Apparatus, of which the following is a specification:

This invention is for the purpose of moving a frictional lighting-strip out of a case contiguous to the burner end; also, moving a scratcher or frictional igniter, that is liberated and scratches the frictional lighting-strip, and sets the same on fire. The gas-supply is opened before the igniter is fired, and the motive power for giving these movements is derived from a diaphragm and its cover, that are moved by increasing and lessening the pressure of the gas itself.

In the drawing, Figure 1 is a vertical section of the apparatus. Fig. 2 is an elevation of the same. Fig. 3 is an elevation and partial section of the operative parts in larger size.

The gas is supplied by the pipe *a*, and *b* is a valve in the chamber *c*, that admits the gas to the burner *d*, or shuts the same off, according to the position of said valve *b*, the tube *d'* to the burner *d* opening at its lower end into the chamber *c*. Above the chamber *c* is a small shaft, *i*, with a ratchet-wheel, *e*, that is moved around step by step by the pawl *f*, lever-arm *g* from the diaphragm-cover *h*, that is hinged at 2 to the case *k*, and in this case *k* is the elastic diaphragm *l*; and by increasing and lessening the pressure of the illuminating-gas itself, the diaphragm and its cover will be moved and the shaft *i* turned around progressively by the ratchet and pawl. The springs 5 to the pawl *f* and the spring 6 to the arm *g* draw the pawl, to which they are connected, back to a normal position. The cam 8 on the shaft *i* operates upon the stem

of the valve to open the same, and also allows the valve to be closed by a spring, *y*, when the shaft *i* is turned for cutting off the supply to the burner. A scroll-cam, *n*, upon the shaft *i* acts upon the arm *m*, to move that progressively, and the shaft *u*, with which it turns, and in so doing the arm *v* is moved, and also the scratcher-rod *o*, that is above the end of the arm *v*. The rod *o* slides in guide-loops contiguous to a small case, *v*, containing a tape or strip of frictional igniting material. This tape is carried up at the same time by the pawls upon the arm *v*, that catches into the side thereof. When the cam *n* turns past the end of the lever-arm *m*, the spring *t* draws the scratcher *o* down suddenly against the surface of the phosphorus or other frictional igniting material, and sets the same on fire, and this communicates with the gas-jet. The tape will not be consumed below the upper end of the case; hence, when again elevated, the material can be ignited as before.

When the gas is to be extinguished it is done by turning the shaft *i* by one or two pulsations of pressure upon the diaphragm, so as to relieve the valve *b* from the pressure of its cam 8, and allow the spring to close the valve.

I claim as my invention—

The diaphragm *l*, cover *h*, and lever *g*, in combination with the shaft *i*, cam 8, for opening the valve, and the cam *n*, for moving the frictional igniting-tape and scratcher or igniter contiguous to the gas-burner, substantially as set forth.

Signed by me this 27th day of January, A. D. 1874.

CHAS. D. HASKINS.

Witnesses:

GEO. T. PINCKNEY,  
CHAS. H. SMITH.