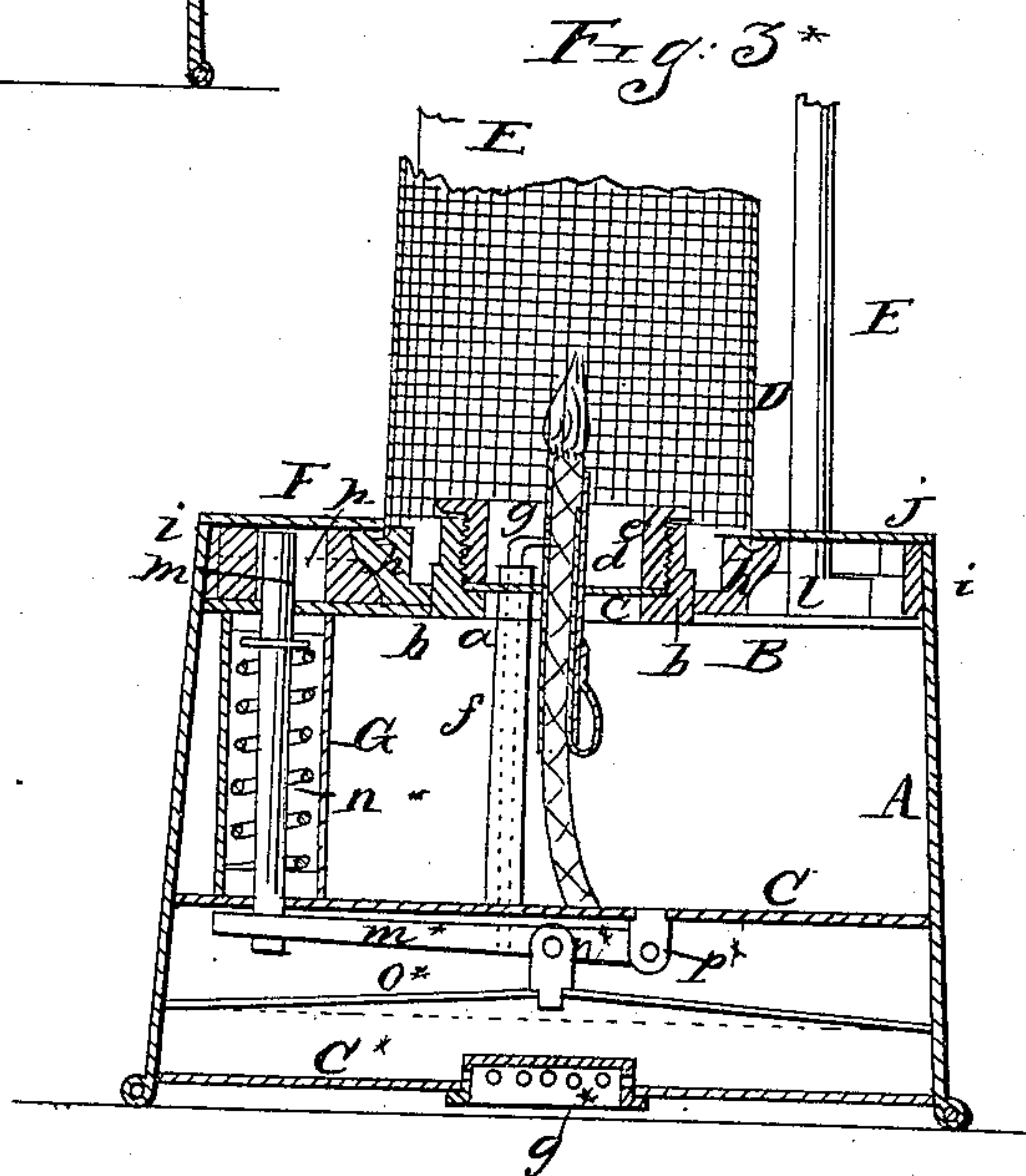
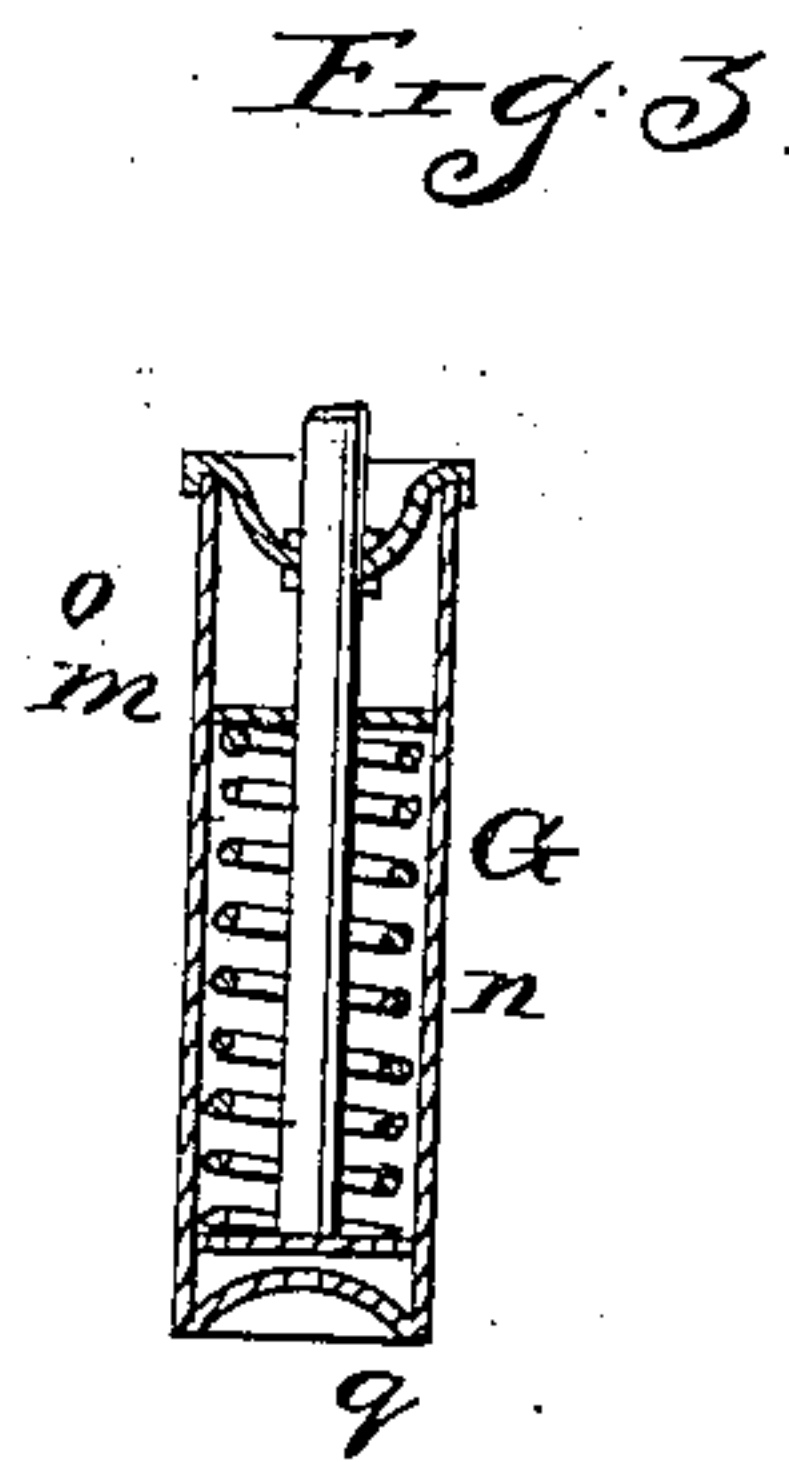
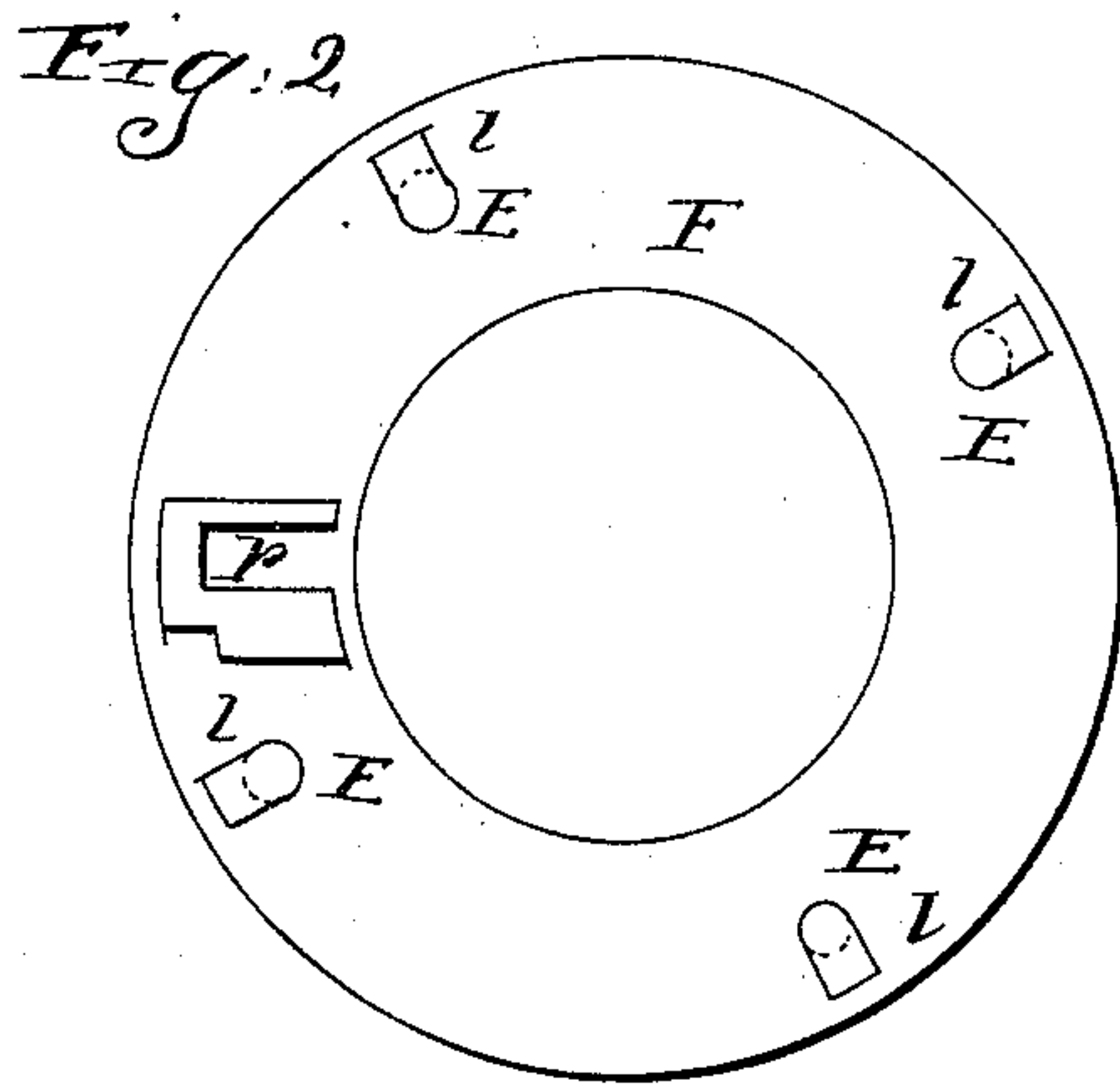
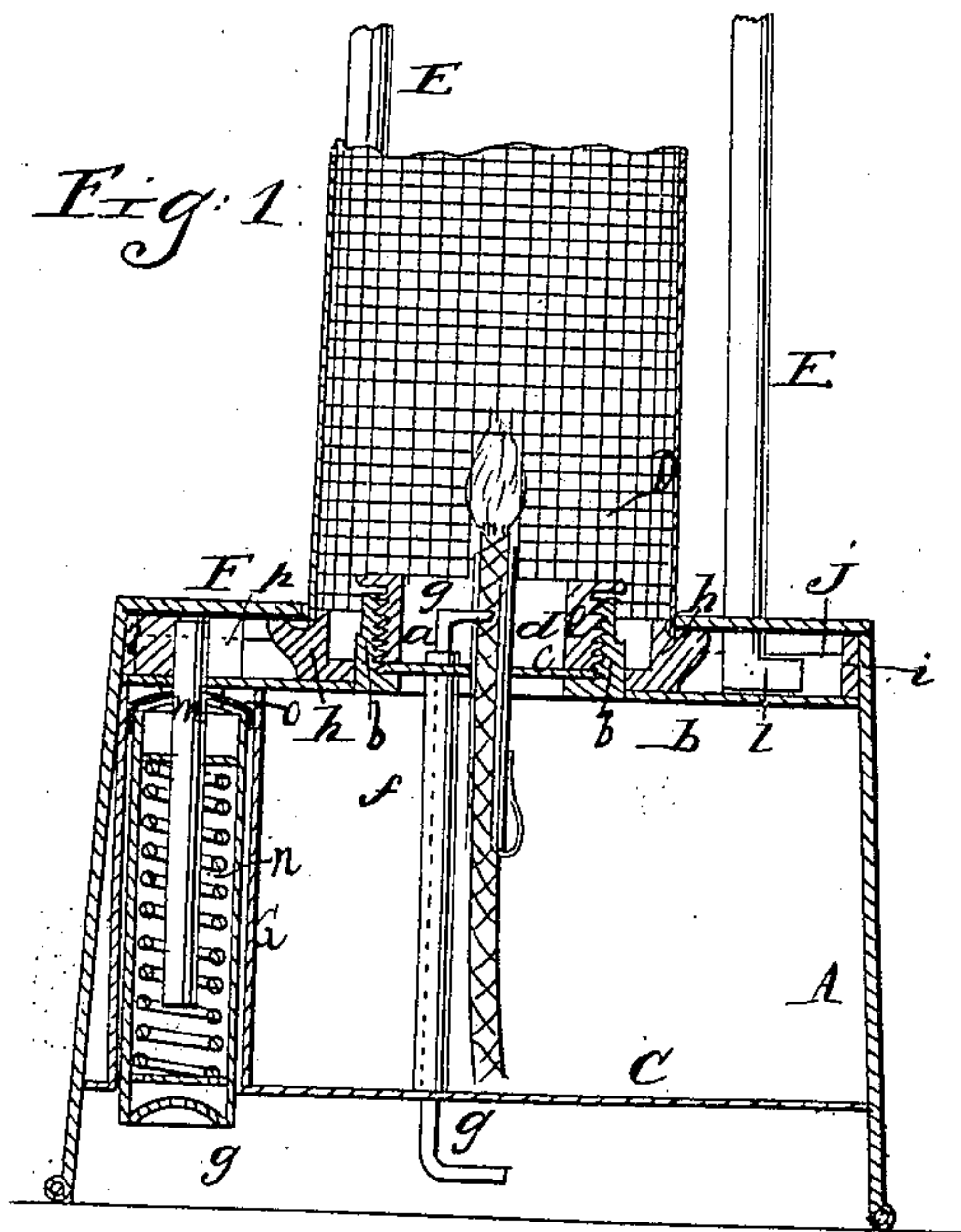


J. DEFOSSEZ.
SAFETY LAMP.

No. 36,341.

Patented Sept. 2, 1862.



Witnesses:

Geo Coombs
G. W. Reed

Inventor

Joseph Defossez
per Munn & Co
attorneys

UNITED STATES PATENT OFFICE.

JOSEPH DEFOSSEZ, OF PARIS, FRANCE.

SAFETY-LAMP.

Specification of Letters Patent No. 36,341, dated September 2, 1862.

To all whom it may concern:

Be it known that I, JOSEPH DEFOSSEZ, of Paris, in the Empire of France, have invented a new and Improved Safety-Lamp; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 represents a vertical central section of my invention, Fig. 2 is an inverted plan of the cover of the lamp, Fig. 3 is a detached vertical section of the pneumatic locking device, Fig. 3* is a modification of the lamp.

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

This invention relates to certain improvements in that class of lamps known as Davy's safety lamps, and it consists in the application to the cover of the lamp of a pneumatic locking device in such a manner that neither the cover nor the wire gauze protector can be removed until by the application of an air pump or by other suitable means the bolt of the locking device is withdrawn.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation with reference to the drawing.

My lamp is constructed in the ordinary form or shape of those lamps known as Davy's safety lamps generally used by miners. It is provided with an oil reservoir A which is closed above by a stationary top B, and below by a rigid bottom C. The top B is provided with a central aperture *a* furnished with a screw socket *b* which also forms a seat to receive a plate *c* to which the wick tube *d* is attached. This plate is retained by a thimble *e* screwing into the socket *b*, and it (the plate) is provided with a notch fitting over the upper end of the tube *f* which forms the guide for the feeder *g*; said feeder consists simply of a hook which catches in the wick through an aperture in the side of the wick-tube, and another hook which extends through the bottom C and forms the handle. The outside of the screw socket *b* forms the guide for a ring *h*, to which the wire gauze protector or chimney D is rigidly attached.

The sides of the oil reservoir A extend up

beyond the top B and down beyond the bottom C as clearly shown in Fig. 1 of the drawing, a flanged ring *i* is firmly attached to the upper edge of the reservoir A. This ring is provided with notches *j* to receive the hooked ends *l* of the rods E, which are firmly secured to a plate F below, and to a similar plate above, and to this upper plate a hook or other suitable device is hinged that forms the handle of the lamp.

In order to fasten the plate F, and the rods E to the oil reservoir, the hooks *l* at the lower ends of the rods E are made to pass through the notches *j*, and by turning said plate in one direction or in the other the hooks catch under the flange of the ring, and retain the plate with the rods E and the handle. At the same time the plate F bears on the upper edge of the ring *h* which retains the wire gauze chimney and holds the same firmly in its place.

In order to lock the plate F, and firmly secure the several parts of the lamp together, a tube G is rigidly attached to the bottom C, and this tube forms the guide for a pin or bolt *m* which is forced upward through the top B by a spring *n*. The upper end of the tube G is closed by a flexible diaphragm *o* which embraces the bolt *m* so as to produce an air tight joint, and the lower end of the tube G projects beyond the bottom C so that an air pump can be attached to it. The force of the spring *n* is so regulated that on sucking the air out through the open end of the tube by means of an air pump, the pressure of the atmosphere on the outside of the diaphragm *o* will overcome said spring, and force the pin or bolt *m* down to a position shown in Fig. 3 of the drawing.

The plate F is provided with a recess P and if the hooks *l* projecting from the lower surface of said plate are entered through the notches *j*, and the plate is now turned in the proper direction the bolt *m* drops into the recess *p* and at the same time the hooks *l* catch under the flange of the ring *i* and the plate is locked. The pin or bolt *m* prevents the same being turned back, and it is impossible to remove it until by the application of an air-pump the bolt is withdrawn. It will be noticed that the lower end of the tube G is closed by a concave bottom *q* with a small opening, so that the bolt *m* can not

possibly be reached and drawn back by any instrument which might be introduced from the bottom.

Instead of applying the air pump directly to the lower end of the tube G, the oil reservoir A might be provided with a double bottom G* (see Fig. 3*), perforated in the center with small openings q*, and in this case a flexible diaphragm c* will have to be arranged between the two bottoms C, G*, which connects by a lug n* with a lever m* which is fulcrated on a pivot p* in a suitable lug projecting from the bottom C, and which connects with the bolt m. By applying the air pump to the openings q*,

the diaphragm c* is sucked down, and the bolt is withdrawn from the recess in the top plate F.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is,— 20

The pneumatic locking device m, n, o, in combination with the oil reservoir A, top plate F and chimney D, all constructed and operating, substantially in the manner and 25 for the purpose herein shown and described.

JOSEPH DEFOSSEZ.

Witnesses:

J. F. BUCKLEY,

W. HANFF.