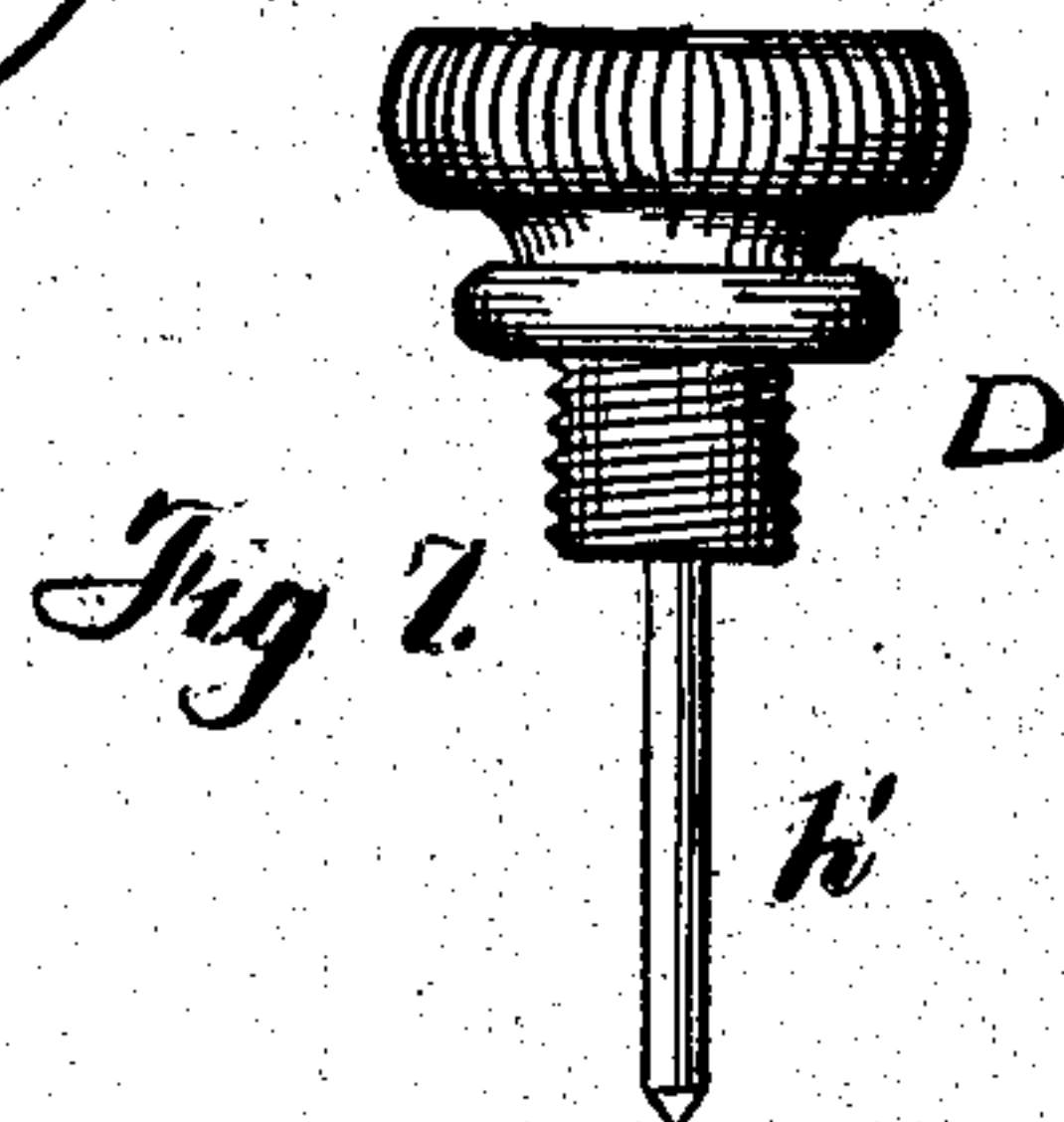
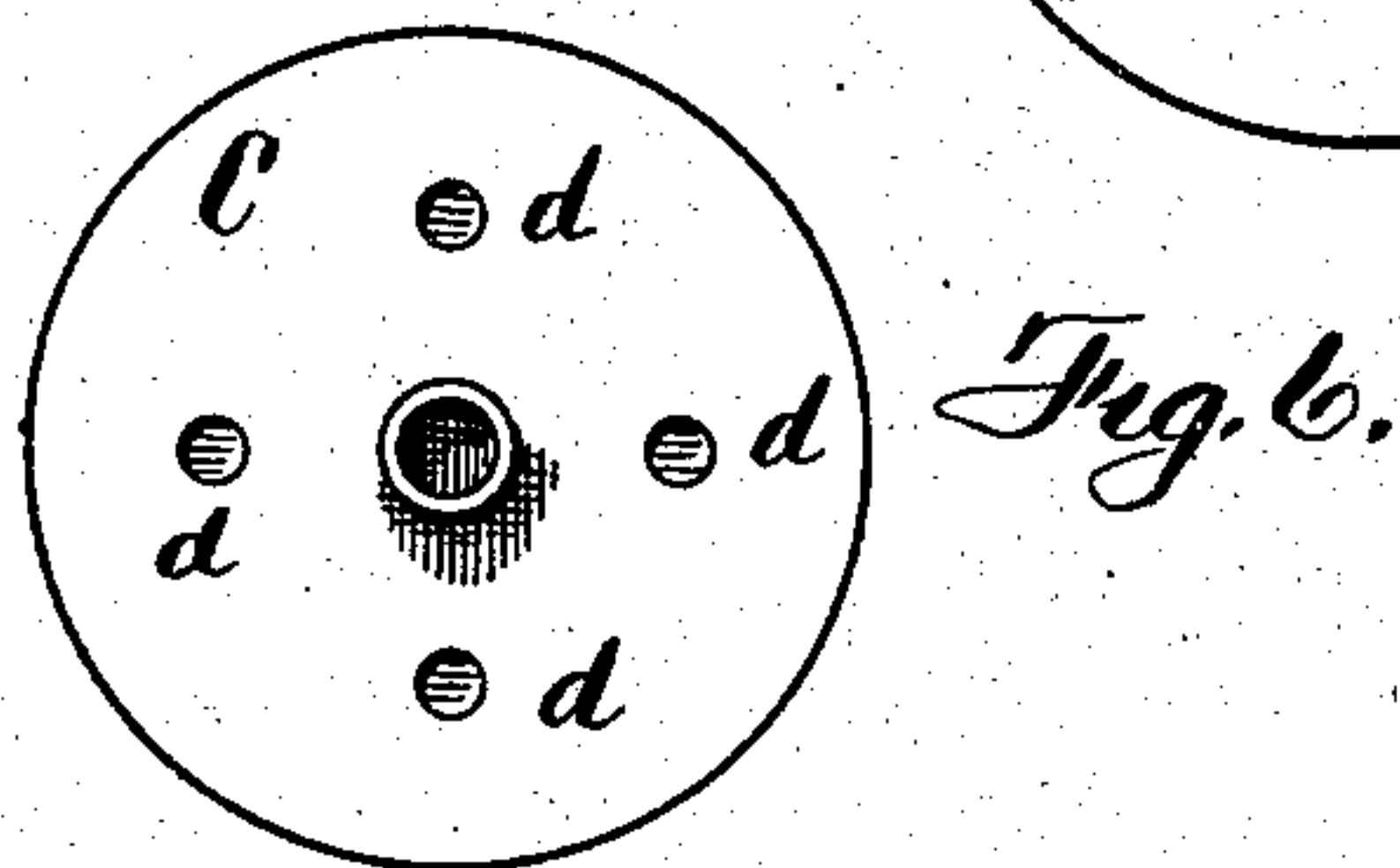
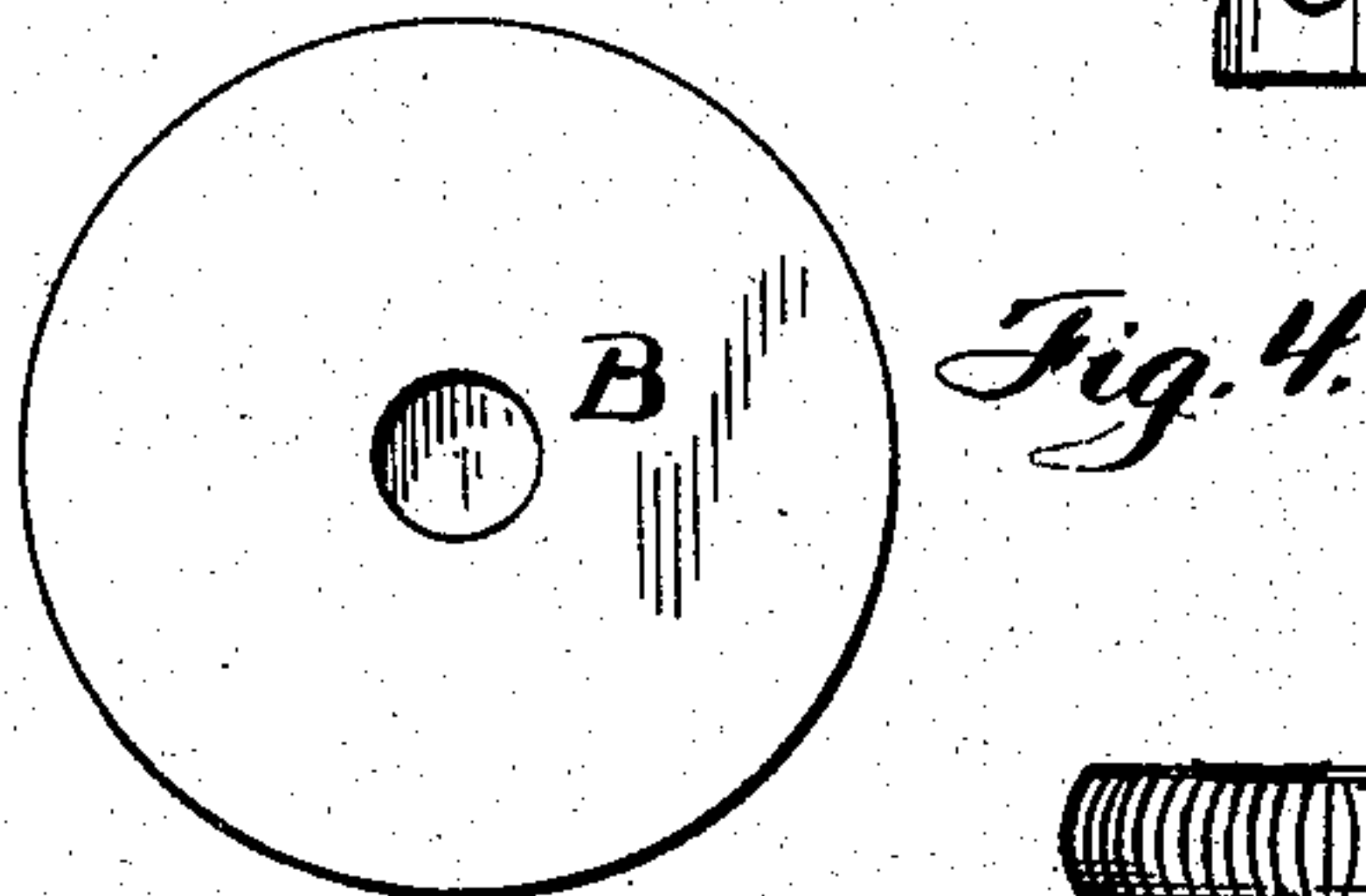
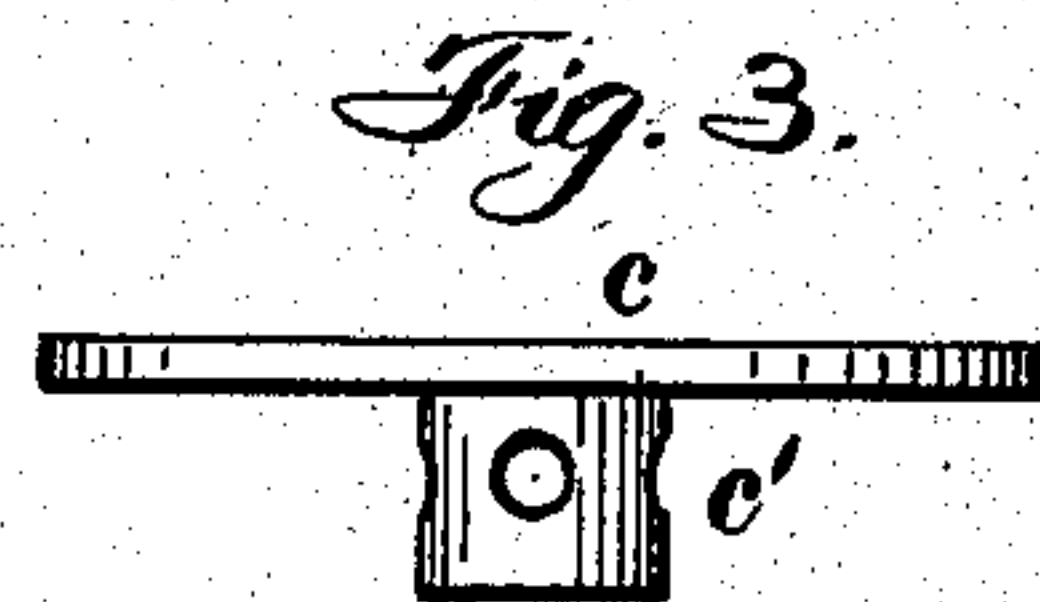
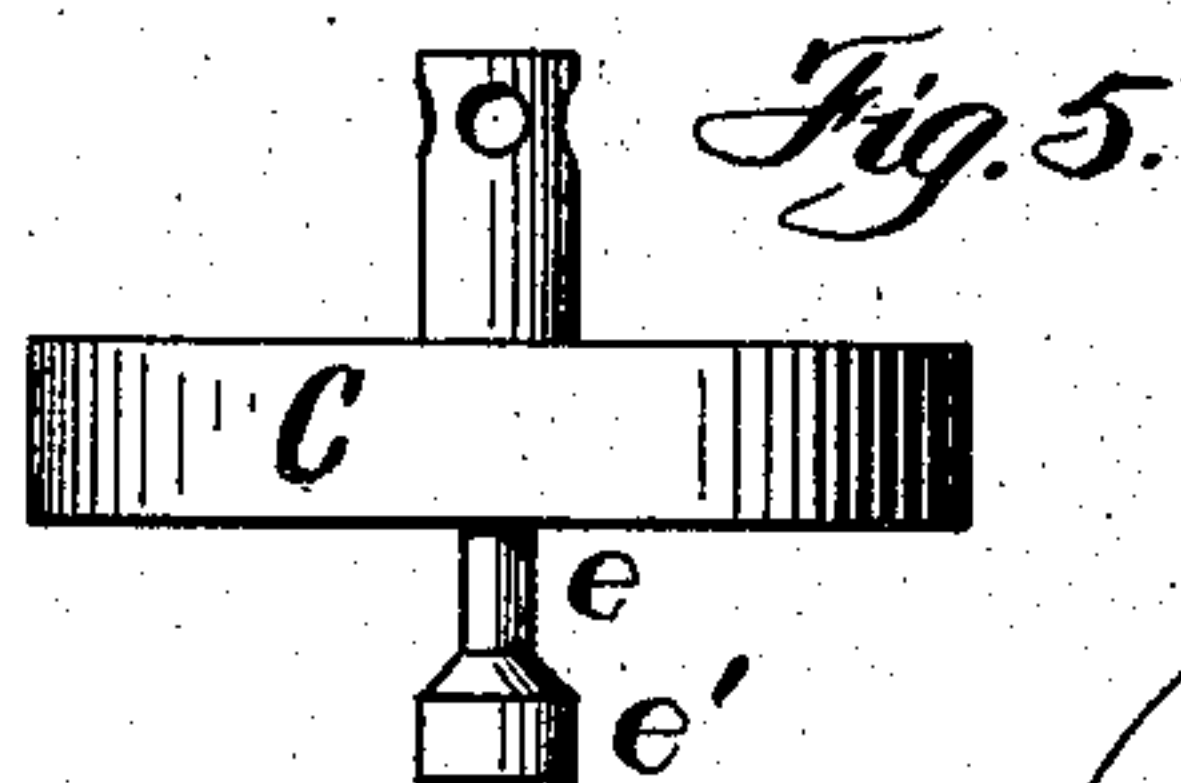
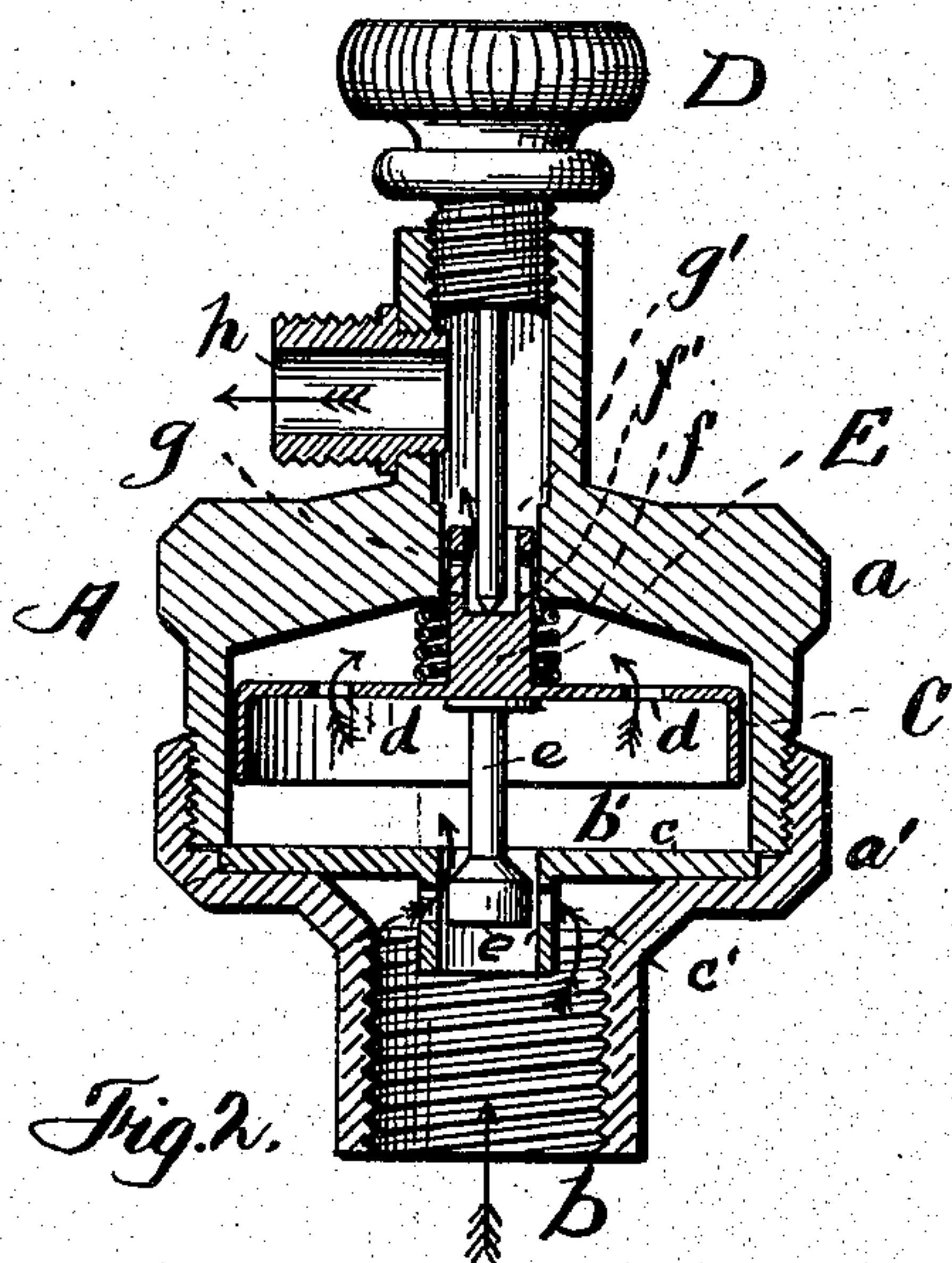
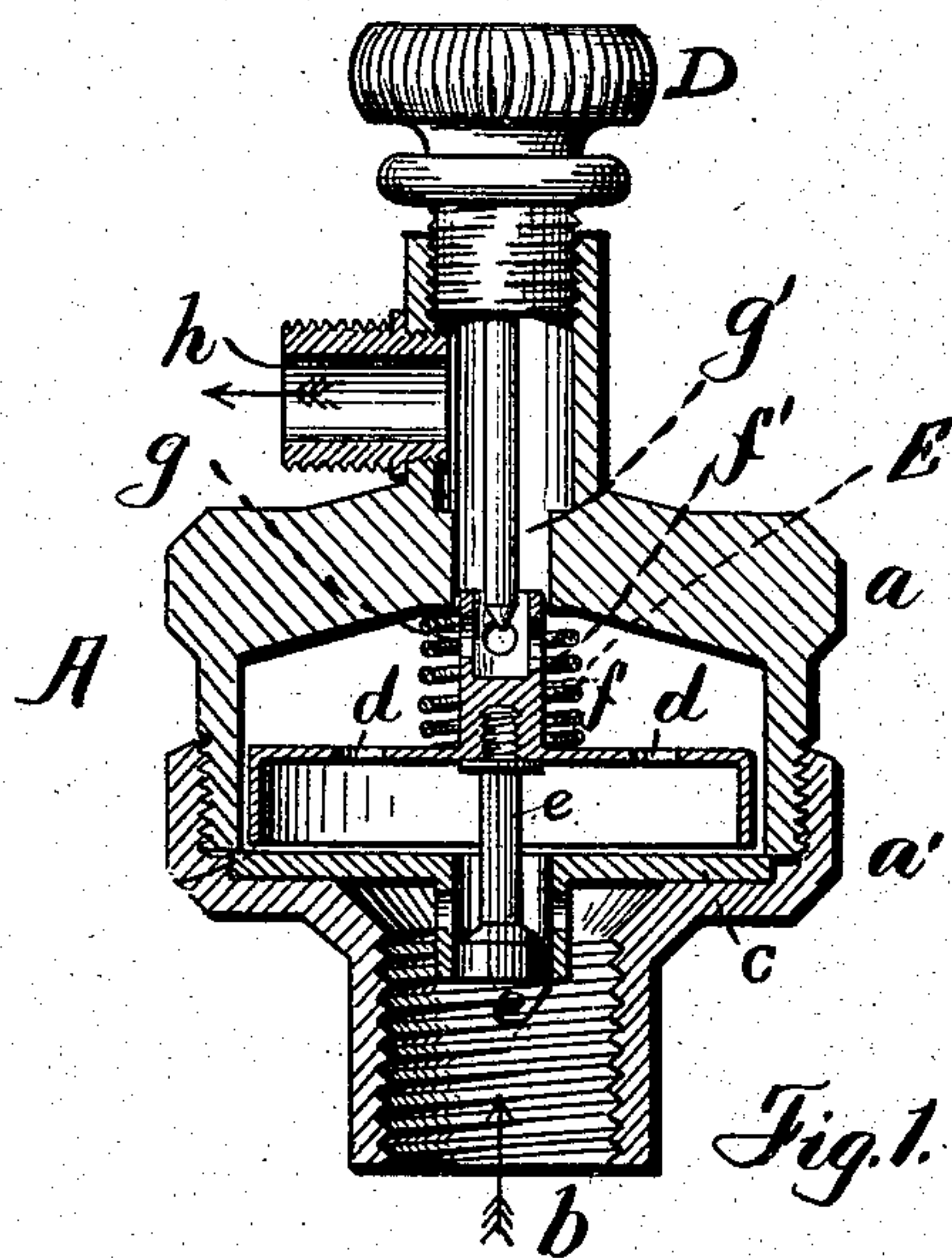


(No Model)

J. H. LOWE.
GAS PRESSURE REGULATOR.

No. 543,448.

Patented July 23, 1895.



WITNESSES:
Charles W. Marvin.
Jessie O. Murray.

INVENTOR
Joseph Henry Lowe.

BY
Smith & Brown
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH HENRY LOWE, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE DAVIS
& STEVENS MANUFACTURING COMPANY, OF SENECA FALLS, NEW YORK.

GAS-PRESSURE REGULATOR.

SPECIFICATION forming part of Letters Patent No. 543,448, dated July 23, 1895.

Application filed April 1, 1895. Serial No. 543,994. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HENRY LOWE, of Baltimore, in the State of Maryland, have invented new and useful Improvements in Gas-Pressure Regulators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to gas-pressure regulators.

My object is to produce a regulator for gases which have an irregular pressure and is adapted more particularly for use in connection with gas-stoves; and to that end my invention consists in the several new and novel features and combination of parts hereinafter described, and which are more specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical sectional elevation of the regulator, showing the position of the parts when the pressure of gas is low. Fig. 2 is a similar view showing the position of the parts with a much larger pressure. Fig. 3 is an edge view of a diaphragm and its perforated collar detached adapted to be mounted in the pathway of the inflowing gas. Fig. 4 is a top plan view thereof. Fig. 5 is a balanced valve detached. Fig. 6 is a top plan view thereof. Fig. 7 is an elevation of a thumb-screw for increasing the flow of gas under high pressure when desired.

Similar letters of reference indicate corresponding parts.

A is a casing in which the parts forming the regulator are inclosed, and comprises two parts *a* and *a'*, adapted to be secured together in any ordinary and well-known manner, preferably by a screw and thread, as shown, the lower part *a'* being open at its lower end, as shown at *b*, and threaded, by which the regulator is secured to the gas-pipe in the ordinary way. Mounted within the recess *b'* of the part *b* and over the pathway of the inflowing gas is a centrally-perforated diaphragm *c*, having a tubular valve-seat *c'* mounted around the central opening B in the diaphragm *c*.

C is a piston, perforated as shown at *d* and mounted loosely within the casing above the diaphragm *c* and is provided with a downwardly-extending pin *e*, having a balanced valve *e'*, adapted to fit loosely within the tubular valve-seat *c'*. The upper side of the valve is provided centrally with a post *f*, the upper end being centrally recessed, as shown at *f'*, and provided with transverse openings *g* opening into the interior of the casing A. The upper end of the post *f* enters the upper exit *g'* of the casing, *h* being the exit-pipe connecting therewith.

D is a thumb-screw engaging with the upper end of the aperture in the casing and having a downwardly-extending shank *h'* adapted to engage with the post *f* to force it downward when the regulator is under high pressure for the purpose of affording a greater flow of gas when desired.

The operation of the regulator is as follows: The gas passes up through the aperture *b*, and thence through the aperture *c'* in the collar *c*, and thence through the diaphragm into the interior of the regulator, thence, when the pressure is low, up through the apertures *d*, and thence cut through the ports *f'* up into the exits *g'h*. When the pressure is heavy the balanced valve C is forced upward, as shown in Fig. 2, which causes the enlarged end *e'* of the pin *e* to be drawn up opposite to the apertures *c'*, and thus retard the inflow of gas. At the same time the apertures *f'* in the post *f* are forced up into the lower end of the upwardly-extending pipe *g'* and thus further assist in retarding the flow of gas through the exit.

When the pressure forces the balanced valve up, as shown in Fig. 2, in case I desire to allow a greater pressure I force the shank *h'* against the post *f*, forcing the end *e'* out of engagement with the inlet-ports *c'*, which will permit of a greater pressure.

E is a spiral spring mounted upon the post *f*, having its lower end resting upon the balanced valve and its upper end adapted to engage with the top of the inner wall of the casing A for the purpose of producing an even pressure where the supply or natural pressure is spasmodic.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. A gas regulator comprising a valve casing having a suitable inlet and an upper exit, a perforated diaphragm having a transversely perforated valve seat mounted within the lower portion of the casing, a perforated piston mounted above said diaphragm and having a downwardly extending pin or valve adapted to pass into the valve seat on the diaphragm and a post extending up into the upper exit, perforated transversely, as set forth.

2. A gas regulator comprising a valve casing, having a suitable inlet and an upper exit, a perforated diaphragm having a transversely perforated valve seat mounted within the lower portion of the casing, a perforated piston mounted over said diaphragm having a downwardly extending pin enlarged at its lower end and adapted, when the pressure is high, to occupy a position opposite of the perforations in the valve seat, and a post extend-

ing up into the upper exit recessed and perforated transversely and a thumb screw —D— as set forth.

3. A gas regulator comprising a valve casing, having a suitable inlet and an upper exit, a perforated diaphragm located within the lower portion of the casing and provided with a valve seat as described, a perforated piston mounted above said diaphragm and having a downwardly extending pin enlarged to form a valve, and a post extending up into the upper exit, recessed at its upper end and perforated transversely, and a spiral spring mounted upon said post, engaging the upper face of the piston and the upper wall of the casing and a thumb screw —D—, as set forth.

In witness whereof I have hereunto set my hand on this 11th day of March, 1895.

JOSEPH HENRY LOWE.

In presence of—

W. E. MORGAN,

HOWARD P. DENISON.