

(No Model.)

R. R. BEARD.
GAS REGULATOR OR GOVERNOR.

No. 502,064.

Patented July 25, 1893.

Fig. 1.

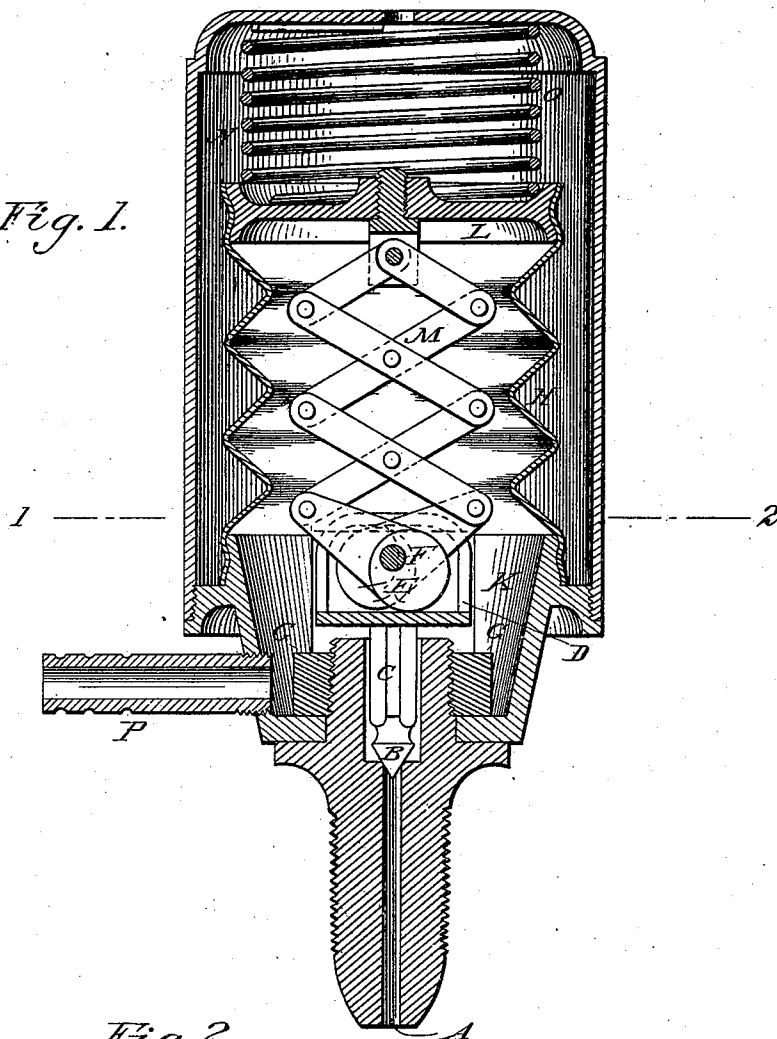
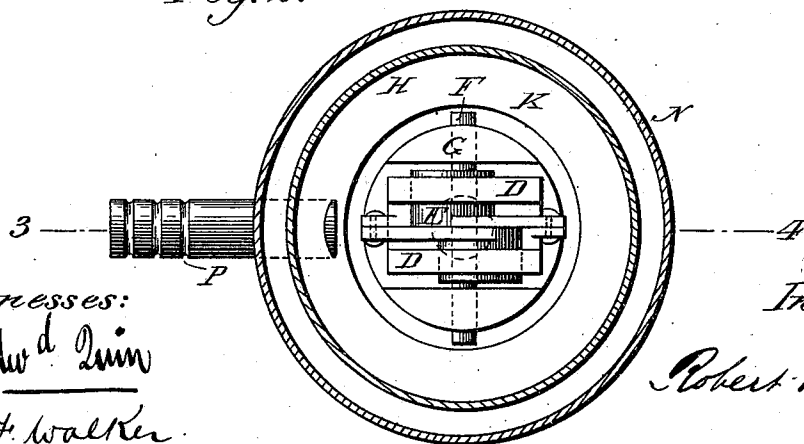


Fig. 2.



Witnesses:

Edward Quinn

Chas. F. Walker

Inventor:

Robert R. Beard.

UNITED STATES PATENT OFFICE.

ROBERT ROYON BEARD, OF LONDON, ENGLAND.

GAS REGULATOR OR GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 502,064, dated July 25, 1893.

Application filed January 31, 1890. Renewed October 28, 1892. Serial No. 450,194. (No model.) Patented in England September 12, 1888, No. 13,181.

To all whom it may concern:

Be it known that I, ROBERT ROYON BEARD, engineer, a subject of the Queen of Great Britain, residing at 62 Alscot Road, late of 57 Fort Road, Bermondsey, London, in the county of Surrey, England, have invented certain Improvements in Gas Regulators or Governors, (for which I have obtained Letters Patent in the United Kingdom of Great Britain and Ireland, numbered 13,181, and bearing date September 12, 1888,) of which the following is a specification.

My invention has for its object improvements in gas regulators or governors and is particularly applicable when the gas is supplied at a high pressure and is required to be used at a low pressure such for instance as oxygen or hydrogen gas issuing from high pressure tubes for limelight arrangements.

The drawings hereunto annexed illustrate the method which I prefer to use in carrying my invention into effect.

Figure 1 is a central vertical section of the regulator. Fig. 2 is a section taken on the line 1—2 of Fig. 1.

The gas at high pressure is introduced through the tube A and is required to issue through P at a low regular pressure.

B is a metal valve operating upon a seat at the top of A and capable of completely closing the aperture.

C is a rod to which the valve B is attached and works in the tube conveying the gas after it has passed by the valve B.

D is a frame to the under part of which the rod C is fastened and which as it rises or falls opens or closes the valve B.

E represents two eccentrics working on a common center spindle F which is permanently fixed in the framework G. The rotation of the eccentrics causes the frame D to rise or fall and so operate on the valve B.

H. H is a tube of india rubber or other elastic material having a bellows motion as

shown in Fig. 1. H. H is fastened to the casing K and to the metal cap L which allow of expansion or retraction according to the pressure of gas admitted through the valve B.

M. M are levers arranged in the form of lazy-tongs which are fastened as shown into the cap L and which acting upon the eccentrics E cause when the cap L is raised the frame D to fall and thus to close the valve B.

It will be seen from the above arrangement that the greater the pressure of gas admitted through B into the regulator the tighter B will be closed and that if the pressure is reduced the cap L will fall and more gas will be introduced through A.

The entire regulator is fastened into an outside cover N substantially as shown in Fig. 1.

O is a spring working upon the cap L and within the cover N the strength of which spring should be regulated according to the pressure at which it is desired to use the gas. It is obvious that the stronger the spring O is the greater will be the pressure at which the gas will be emitted at the exit P.

Having thus explained and described the nature of my invention and the manner in which the same should be performed, I wish it to be understood that what I claim is—

A gas regulator consisting of the combination with the cover N casing K and tube A of the cap L flexible tube H secured at one end to the cap and at the other end to the casing, spring O within the cover and bearing upon the cap, frame D carrying a valve which is located within the tube and the levers M secured at one end to the cap and at the other end provided with eccentrics operating within the frame D all substantially as described.

ROBERT ROYON BEARD.

Witnesses:

A. F. WALKER,
EDMUND S. SNEWIN.