N. E. HOWARD.

PRESSURE REGULATOR.

APPLICATION FILED JAN. 17, 1916.

1,201,964. Patented Oct. 17, 1916.

Fig. 2

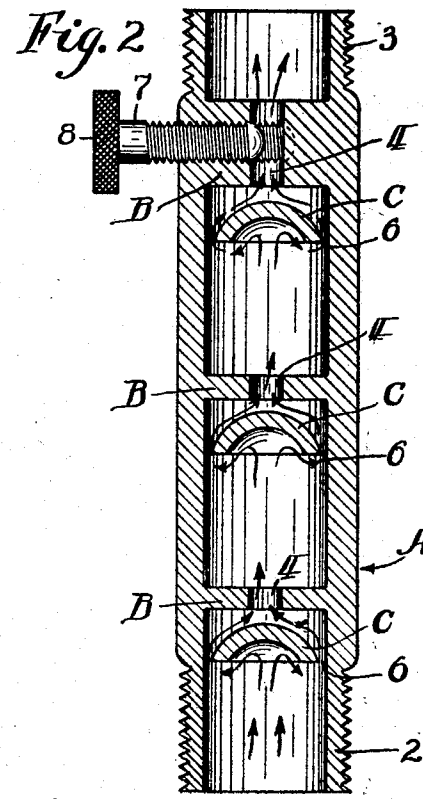


Fig. 4

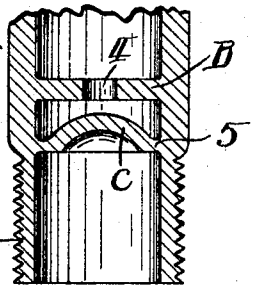


Fig. 1

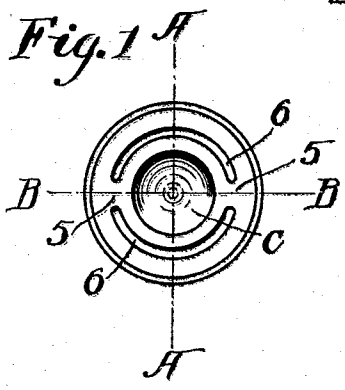
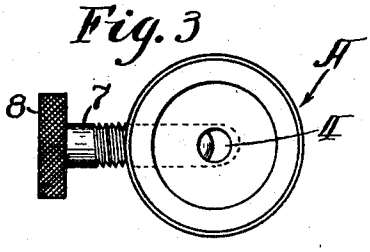


Fig. 3



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NORMAN E. HOWARD, OF ST. PAUL, MINNESOTA, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO WALTER STEVENS AND ONE-HALF TO LAWRENCE F. VITT.

PRESSURE-REGULATOR.

1,201,964. Specification of Letters Patent. Patented Oct. 17, 1916.

Application filed January 17, 1916. Serial No. 72,385.

To all whom it may concern:

Be it known that I, NORMAN E. HOWARD, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Pressure-Regulators, of which the following is a specification.

My invention relates to means for regulating the pressure of gas at the point of consumption and the primary object is to provide a simple device which cannot get out of order and which can be set by the ordinary unskilled person so as to give a variable pressure of gas through the pipe leading from the meters to the burners.

The invention consists of the features of construction, combination and arrangement of parts illustrated in the accompanying drawing which forms part of this specification.

In the drawing, Figure 1 is a lower end view of my gas regulator. Fig. 2 is a side elevation, taken on the line A—A of Fig. 1. Fig. 3 is an upper end view of Fig. 2, looking down on my device. Fig. 4 is a section of Fig. 1, taken on the line B—B, the upper part of which is broken away.

My regulator comprises a pipe A, having threaded ends 2 and 3. The end 2 being adapted to be connected with the meter and the end 3 to the pipe leading to the points of consumption or gas burners. Horizontally disposed in the pipe or tube A are a series of interrupters B having a small hole 4 centrally located therein. A second series of concave horizontal interrupters C are positioned just below the interrupters B and are adapted to not only interrupt the flow of gas through the pipe A but they also tend to direct the gas backward against its own pressure. The concave interrupters C are smaller in diameter than the inside diameter of the pipe A and are held in a position of axial alinement with the axis of the pipe A by webs 5. Thus small circular openings or passage-ways 6 are formed about the edge of the interrupters C to allow the gas to flow in the direction of the arrows in Fig. 2.

It will be noted that as the gas strikes the concave interrupters C a pressure is created in a downward direction against the inrushing gas causing the gas to flow at an even pressure through the passage-ways 6 and then through the opening 4. This operation is repeated through the pipe A. The upper interrupter B is increased in width to receive a threaded shut-off 7 having an operating head 8. By turning the shut-off the size of the opening 4 in the interrupter B may be reduced or completely closed thus giving any desired pressure at the burner.

While I have illustrated one form of construction in describing my invention I desire to have it understood that I do not confine myself to this particular construction but wish to protect my device within the scope of the following claims.

I claim:

1. In a pressure regulator, comprising a gas pipe a series of interrupters horizontally disposed in said pipe, a series of concave interrupters having circumferential openings and positioned directly under said horizontal nterrupters and a passage-way centrally disposed in said horizontal interrupters to allow gas to pass through said pipe, substantially as described.

2. In a pressure regulator, comprising, a tube having threaded ends, a threaded shut off in said tube, a series of horizontal interrupters formed in said tube having a centrally disposed opening, a series of concave interrupters secured to the wall of said tube by webs and having passage-ways about their circumference, said openings and passage-ways together with said shut-off being adapted to regulate the gas pressure passing through said tube.

NORMAN E. HOWARD.

Witnesses:
WALTER C. BRANDT,
H. L. FISCHER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."