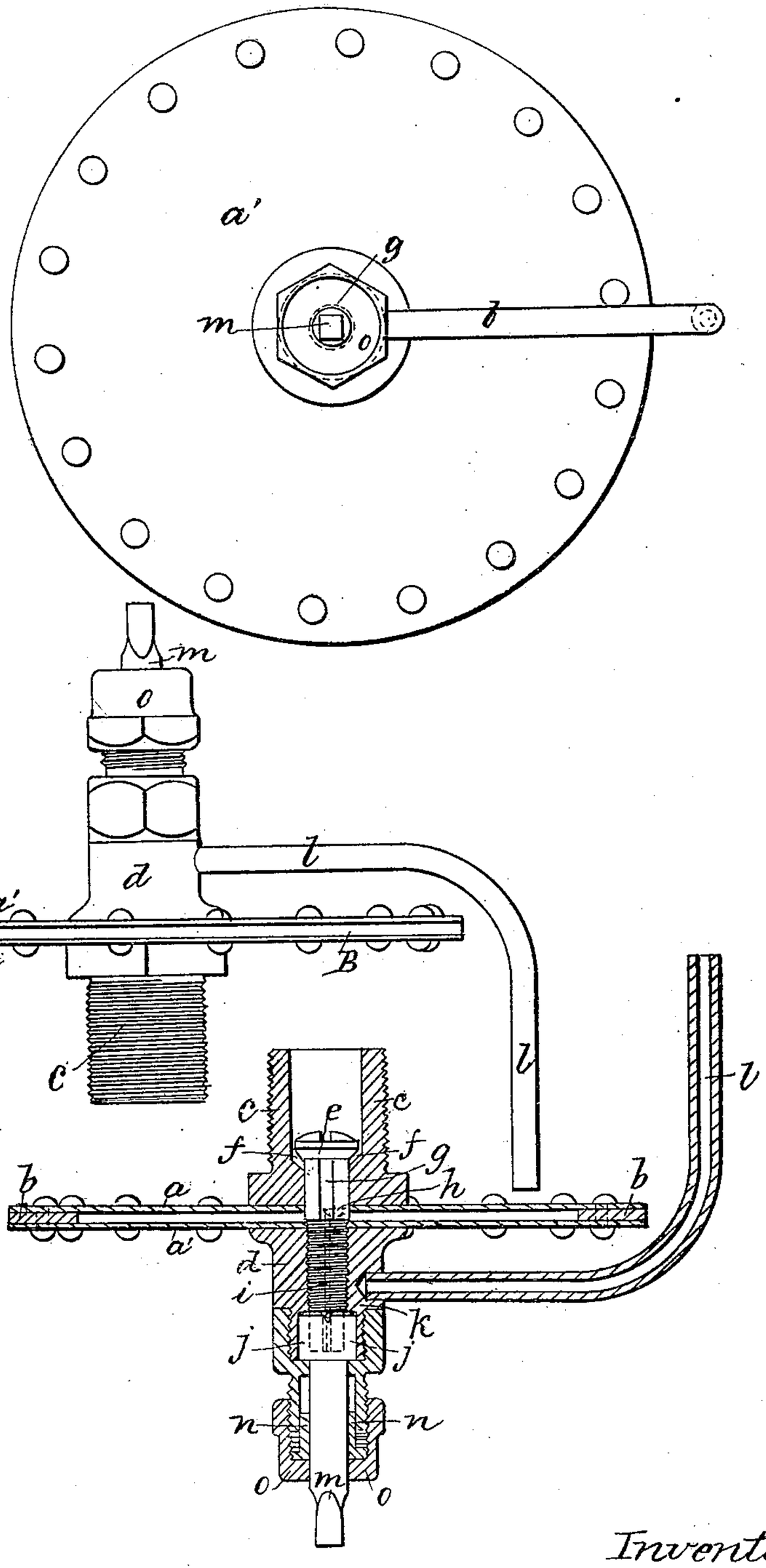
A. H. PHILLIPPI.

Gas Regulator.

No. 29,401. Patented July 31, 1860.



Witnesses.

H. Bentolet.

H. L. Lowe

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ABRAHAM H. PHILLIPPI, OF READING, PENNSYLVANIA.

GAS-REGULATOR FOR RAILROAD-CARS.

Specification of Letters Patent No. 29,401, dated July 31, 1860.

To all whom it may concern:

Be it known that I, A. H. PHILLIPPI, of Reading, in the county of Berks and the State of Pennsylvania, have invented an improved gas-regulator to be applied to the gas-cylinders used on passenger-cars or to any other reservoir wherein gas is confined under a high pressure; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, forming part of this specification.

Figure 1 represents a side elevation. Fig. 2 represents a plan. Fig. 3 represents a transverse section.

My invention consists in having two plain steel or metallic disks or plates *a a'*, riveted together with a metallic ring *b*, between them.

c is a brass nipple secured to the plates or disk *a*, and having a thread on the outside for the purpose of attaching the pipe leading from the cylinder to the regulator.

d is a nipple attached to the disk *a'* containing a wrench for adjusting the valve *e*, which may also be used to shut off all communication between the cylinders and the burners. This valve is conical and has a leather washer *f* on its face to prevent the face and seat of the valve from being injured by any gritty substance that may happen to be carried along with the gas as it passes through the regulator.

g represents a flat place on the valve stem as shown on section and plan for the purpose of admitting the gas into the space between the disks *a a'*.

h represents a hole drilled to the center of the stem of the valve, to meet another hole *i* which admits the gas into chamber *j*, from whence it passes through the hole *k*, into the pipe *l*, to the burners.

m is a wrench for adjusting the valve to supply the required number of burners.

n is a small gland for the purpose of packing the stem of the wrench *m*, to prevent the gas from leaking through. The gland *n* is screwed down by means of the nut O as in any ordinary stuffing box.

The operation of this regulator is simple the pipe conveying the gas to it is attached to a socket or nipple *c*, and the pipe conveying the gas from the regulator to the burners is attached to the nipple *d*. When the gas is turned on it passes through the flat opening G into the space between the disks *a a'*, the pressure causing them to expand or diverge and thus close the valve *e*, which is adjusted by means of a thread on the stem by the wrench *m*, so that it will just allow the proper quantity of gas to pass through the opening G to supply the burners. As the pressure in the cylinder decreases by the gas being burned out the valve *e* gradually opens allowing the gas a free passage through the opening G thus giving burners a regular supply so they will not blow but burn with the same intensity whether there is five hundred lbs. pressure per square inch in the cylinder or only twenty-five lbs. per square inch.

The object of this regulator is more especially for railroad cars, or elsewhere where the gas is forced into the receiver, under a pressure of several hundred pounds or so that a small receiver will contain a very large quantity of gas.

What I claim as my invention is—

In combination with the plane-disk spring-plates *a a'*, and their inclosed space, the valve *e*, with its washer *f*, flat space *g*, and openings *h*, *i*, for the purpose of regulating the flow of gas from the receiver, to the burners, whatever may be the pressure upon the gas, substantially as herein described and represented.

A. H. PHILLIPPI.

Witnesses:

A. B. STOUGHTON,

E. COHEN.