

W. N. BEST.  
ADJUSTABLE REGULATING COCK.  
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904,299.

Patented Nov. 17, 1908.

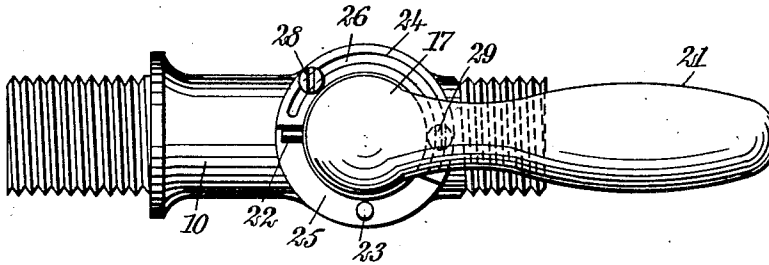


Fig. 1.

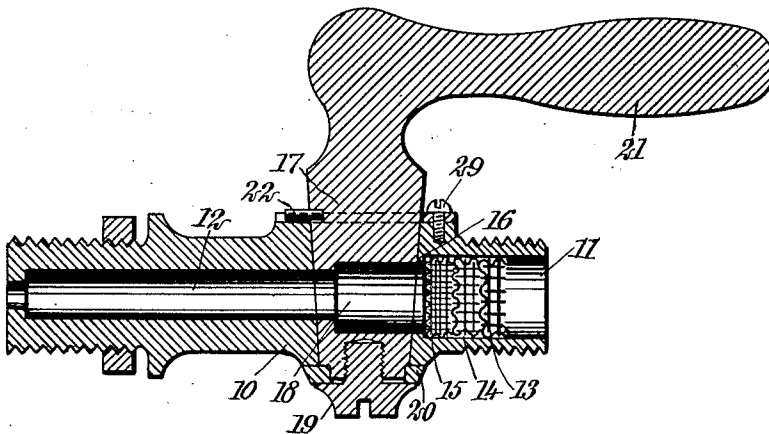


Fig. 2.

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# UNITED STATES PATENT OFFICE.

WILLIAM N. BEST, OF NEW YORK, N. Y.

## ADJUSTABLE REGULATING-COCK.

No. 904,299.

Specification of Letters Patent.

Patented Nov. 17, 1908.

Application filed December 30, 1907. Serial No. 408,671.

*To all whom it may concern:*

Be it known that I, WILLIAM N. BEST, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Adjustable Regulating-Cock, of which the following is a full, clear, and exact description.

10 This invention relates to certain improvements in cocks adapted for use with gas burners for lighting or heating purposes, and relates more particularly to certain improvements whereby the flow of gas is rendered more uniform and the extent to which the cock may be opened, limited. The fluctuation in the pressure of the gas delivered to the gas burner, particularly one used for lighting purposes, is highly objectionable, as the fluctuating of the light is injurious to the eyes. In order to eliminate this fluctuation in pressure and render the delivery of gas to the burner uniform, I form the turning plug of the gas cock with an inlet opening of greater size than the outlet opening, whereby the full gas pressure within the supply conduit exists up to the outlet from the turning plug, and I also provide the inlet conduit adjacent the plug, with a plurality of screens, preferably of wire gauze and preferably of varying mesh, the screen of finest mesh being adjacent the plug and the screen of coarsest mesh being adjacent the inlet or supply conduit.

35 In this art, it is often found that the maximum lighting or heating effect may be obtained when less than the maximum quantity of gas is delivered. For instance, in a burner having an incandescent mantle, less than the maximum supply of gas may heat the mantle to such a temperature that the maximum lighting effect is produced, and the delivery of an increased quantity of gas does not increase the illumination. The opening of the gas cock to its full width therefore results in an unnecessary waste of gas. In order that no more than the desired quantity of gas be used, I provide detachable means adapted to cooperate with the turning plug, whereby the extent to which the turning plug may be rotated is limited.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of ref-

erence indicate corresponding parts in both the figures, and in which

Figure 1 is a top plan view of a cock constructed in accordance with my invention; and Fig. 2 is a longitudinal section of the same.

60 My improved regulating cock embodies in the preferred form of its construction, a body 10, having inlet and outlet passages 11 and 12, with suitable connections whereby it may be secured to suitable inlet and outlet conduits. The inlet passage 11 is preferably of considerably greater size than the outlet passage 12, and within the inlet passage are a plurality of screens 13, 14 and 15. These screens are preferably formed of wire gauze, the screen 13 adjacent the connection to the supply pipe being of the coarsest mesh and the screen 15 toward the discharge of outlet passage being of the finest mesh. The gas in passing through the screens and the small chambers formed between adjacent screens, is partially obstructed, and the fluctuations in the pressure almost, if not entirely, eliminated. The screens may be of any form desired and held in place in any suitable manner, but preferably the inlet passage is provided with a shoulder 16. Each of the screens is substantially cup-shaped and frictionally engages with the walls of the passage. The finest screen 15 is pressed inwardly against the shoulder 16, and each of the other screens is pressed inwardly in succession until it engages with the shoulder or flange of the previously inserted screen.

90 The device includes a turning plug 17, preferably tapered or conical in form and having a passage 18 therethrough. The inlet end of this passage is of substantially the same size as the supply passage 11, and the outlet end of the passage 18 is of substantially the same size as the outlet passage 12. Upon opening the cock, the larger end of the passage 18 communicates with the passage 11 before the smaller end communicates with the passage 12, so that the full gas pressure of the main may exhaust within the interior of the turning plug before it is permitted to escape through the outlet passage 12.

105 The turning plug is held in place in any suitable manner, as, for instance, by a nut 19 and a washer 20, and is rotated in any suitable manner, as, for instance, by a handle 21.

For controlling the extent to which the plug may be rotated, said plug carries a radially-disposed pin 22, which may engage with a stop 23 on the body when the cock is in its closed position, and may engage with an adjustable regulating guard plate 24 when the cock is in its open position. The plate 24 partially encircles the turning plug and engages with the flat surface 25 of the body. The plate is very narrow and is so formed that the pin 22 may engage with the end thereof to limit the movement of the plug. The plate is provided with a curved slot 26, concentric with the wall of the turning plug, said plate being held in place by two adjusting screws 28 and 29, extending through said slot into the upper surface 25 of the body. The distance between the two regulating screws 28 and 29 is less than the total length of the slot, whereby by unloosening the screws, the plate may be moved circumferentially to vary the position of the end thereof which is engaged by the pin 22. With the plate rigidly secured in the position shown in Fig. 1, the cock may be opened to the maximum extent, but by loosening the screws 28 and 29 and moving the plate a short distance contra-clockwise and tightening the screws, the plug can only be rotated to open the passageway to a limited extent. In applying the cock, the user determines by experience the extent to which it is necessary to open the cock to obtain the maximum efficiency, and then places the plate 24 with one end thereof in engagement with the pin 22 and rigidly secures said plate in position by tightening the screws 28 and 29. Thereafter, it is no longer necessary to use particular care in opening the cock, as it may be opened to the limiting extent, and the user will know that he is then gaining the maximum efficiency without unnecessary waste of gas.

The device is also useful in positions where only a limited quantity of heat or light is

desired, as the plate may be readily adjusted to such a position that it is possible to use only a very small quantity of gas.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A cock, including a body and a turning plug, the body having a bore of one diameter leading to the plug and a bore of different diameter leading from the plug, the bore of larger diameter presenting an inwardly-directed shoulder adjacent the plug, and a plurality of screens within said last-mentioned bore and adjacent said shoulder, each of said screens having a transverse portion and an annular cylindrical portion contacting with the inner surface of the bore to hold the screen in place and also serving to space said screens apart, said screens being of varying mesh and the screen of finest mesh being adjacent the shoulder.

2. An adjustable regulating cock, including a casing and a turning plug, said casing having a flat surface adjacent the plug and encircling the same, a curved plate secured to said surface and partially encircling the plug, said plate having a slot therein concentric with the plate and having one end thereof constituting a stop, adjusting screws extending through said slot into said surface for holding said plate in position and permitting the position of said stop to be varied, a second stop extending upwardly from said surface independently of said plate, and a radially-disposed pin carried by said turning plug and adapted to engage with either of said stops to limit the rotation of the plug.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM N. BEST.

Witnesses:

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CLAIR W. FAIRBANK.