

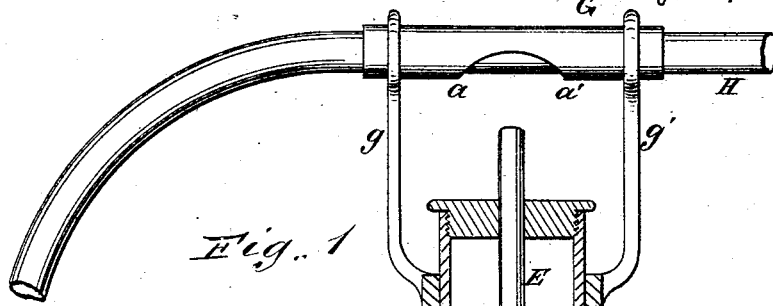
(No Model.)

J. A. STRAIGHT

GAS REGULATOR FOR VULCANIZERS, &c.

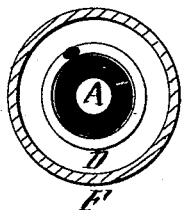
No. 261,640.

Patented July 25, 1882

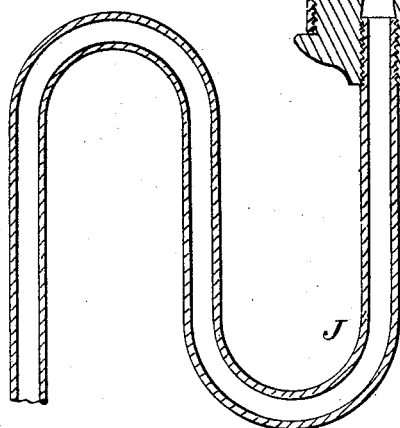


*Fig. 1*

*Fig. 2*



x — x



WITNESSES.  
Geo M. Hopkins,  
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# UNITED STATES PATENT OFFICE.

JOHN A. STRAIGHT, OF ALBION, NEW YORK.

## GAS-REGULATOR FOR VULCANIZERS, &c.

SPECIFICATION forming part of Letters Patent No. 261,640, dated July 25, 1882.

Application filed November 11, 1881. (No model.)

### *To all whom it may concern:*

Be it known that I, JOHN A. STRAIGHT, of the village of Albion, in the county of Orleans and State of New York, have invented a new and useful Regulator for the Flow of Gas for Dental Vulcanizers and other Steam-Generators, of which the following is a specification.

My invention relates to improvements in gas-regulators in which the pressure of steam is used to regulate the flow of gas; and the object of my improvement is to provide a regulator that shall be easily adjusted and not liable to get out of order. I attain this object by the mechanism illustrated by the accompanying drawings, in which—

Figure 1 is a vertical section of the device; and Fig. 2 is a transverse section taken on line *x x*, Fig. 1.

In the drawings, A is a tube, of rubber or other elastic material, attached to a ribbed nipple formed on the support C, which support is bored axially and screwed on a siphon-tube, J, communicating with the steam-room of a vulcanizer or other steam-generator, completing a continuous passage from the steam-room of the vulcanizer or generator to the upper end of the elastic tube A. The upper end of the elastic tube A is closed by a metallic plug, B, to which it is securely fastened by a wrapping of wire, or by any other known means. The portion of the plug B outside of the elastic tube A is of the same diameter as the said elastic tube, and is bored axially from the top, and is threaded internally to receive the adjusting-screw E. The elastic tube A is surrounded and inclosed by a spiral spring, D, attached to the support C and extending beyond the plug B, where it is contracted, so as to engage the upper end of said plug and oppose the tendency of the elastic tube to elongate under steam-pressure. The spiral spring D, furthermore, supports the elastic tube A against lateral pressure. A metal tube, F, screwed on the support C, incloses the elastic tube A and spiral spring D, and, extending beyond the plug B, is closed by a centrally-apertured cap, through which the adjusting-screw E projects. Surrounding the upper end of the tube F there is a collar, I, provided with one or more set-screws, and having two arms, *g g'*,

extending upward parallel with the tube F, and apertured to receive the metal tube G, the said tube being arranged at right angles to the arms *g g'* and inclosing the flexible gas-tube H. The tube G is cut away in the middle of the under side at *a a'* to expose the flexible tube H to the action of the screw E. Any kind of a gas-valve capable of being operated by pressure may be substituted for the tube H.

Although I have described the elastic tube A as being provided with a spiral spring, D, I do not confine myself to this construction, as the spiral spring may be dispensed with, when the elasticity of the rubber alone will oppose the pressure of the steam; and instead of employing the adjusting-screw E, as described, I may elongate the plug B and reduce the upper end in diameter and substitute the elongated part for the screw E, when the adjusting of the device will be effected by moving the tubes H G up or down by changing the position of the collar I on the tube F.

The regulator being connected with the vulcanizer by suitable pipes, the gas is turned on at the supply-pipe and passes through the gas-tube H to the burner under the vulcanizer. When steam forms in the chamber of the vulcanizer the pressure in the tube A causes it to elongate and carry with it the plug B and the regulating-screw E. When the pressure in the vulcanizer arrives at the prescribed limit the screw E presses against the flexible gas-tube H through the opening on the under side of the tube G, reducing the flow of gas by compressing the gas-tube H against the upper side of the cut-off tube G. If the pressure in the vulcanizer is too great, the flow of gas is reduced, and as a consequence the pressure is reduced in the vulcanizer, allowing the flexible tube A to retract and withdraw the screw E from the tube H, relieving it, so that the flow of gas is just sufficient to keep the pressure at the point required for vulcanizing properly.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a steam-operated gas-regulator, the combination of the elastic tube A, the support C, the plug B, and flexible gas-tube H, substantially as shown and specified.

2. The combination, in a steam-operated gas-

regulator, of the tube A, support C, plug B, the coil-spring D, and flexible gas-tube H, substantially as shown and described.

3. In a steam-operated gas-regulator, the  
5 spiral spring D, in combination with the elastic tube A, the said elastic tube being inclosed by the spiral spring, substantially as specified.

4. The combination, in a steam-operated gas-

regulator, of the tube A, support C, plug B, cut-off tube G, gas-tube H, arms *g g'*, and ring I, 10 all substantially as shown and described, and for the purpose specified.

JOHN A. STRAIGHT.

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