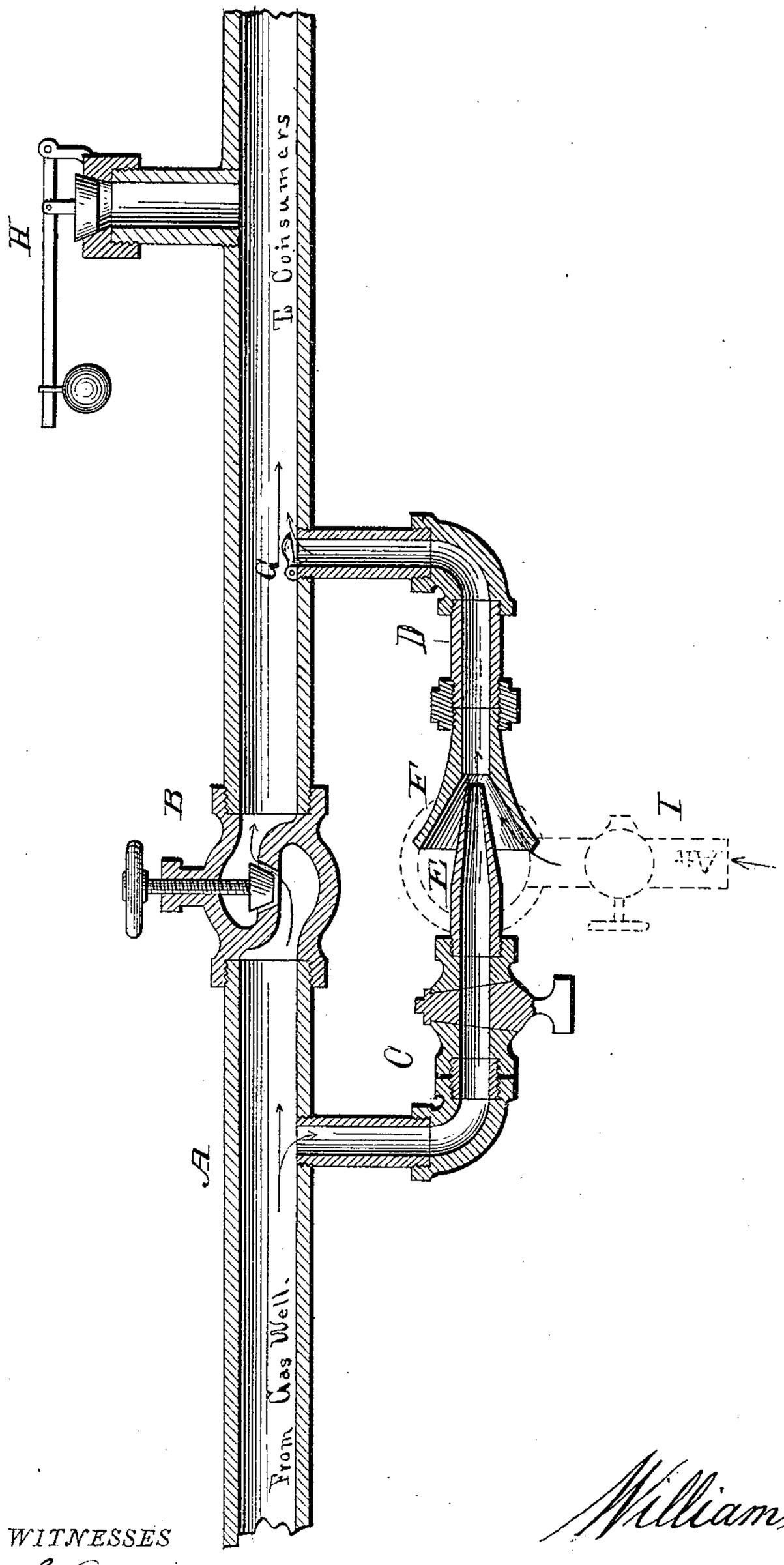
(No Model.)

W. SNEE.

APPARATUS FOR MIXING ATMOSPHERIC AIR WITH NATURAL GAS.

No. 350,849. Patented Oct. 12, 1886.



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APPARATUS FOR MIXING ATMOSPHERIC AIR WITH NATURAL GAS.

SPECIFICATION forming part of Letters Patent No. 350,849, dated October 12, 1886.

Application filed March 20, 1886. Serial No. 195,920. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SNEE, a citizen of the United States, and a resident of West Elizabeth, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Mixing Atmospheric Air with Natural Gas; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, which forms a part of this specification, and which shows a longitudinal vertical sectional view of a gas-main embodying my invention.

This invention relates to devices for mixing atmospheric air with natural gas while it is being conveyed from the gas-well to the consumers; and it consists in the improved combination of parts, as will be more fully described, and pointed out in the claims.

As natural gas comes from the wells it is supercharged with carbon and other impurities, which escape into the room where the gas is being used unless they are consumed. To effect their consumption I introduce a certain quantity of atmospheric air into the main and thoroughly mingle it with the gas before it reaches the burner, so that when it is ignited this air assists the surrounding atmosphere in burning up all the impurities and extra carbon, and thus gives a greater amount of heat, as well as leaving the air in the room pure and healthy. A similar result is seen in a clearer, stronger light when the gas is used for illumination.

Referring to the accompanying drawings, A represents a section of a gas-main supplied with a valve, B, for regulating the passage of the gas. Connected to the main upon each side of the valve B are two short pipes, C and D, one of which, C, is provided at its end with an injector or nozzle, E, which projects slightly into a funnel-shaped mouth, F, upon the end of the other pipe, D. Secured upon the other end of the pipe D within the pipe A is a check-valve, G. If desired, the pipe C may be provided with a regulating-valve, and the main can be provided with suitable escape-valves, H, for permitting the gas to escape when it exceeds a certain pressure, so as to prevent the main from bursting. A pipe, I, may also be connected with the mouth F, and provided with a valve for regulating the amount of air admitted into the main.

Upon one side of the valve B in the pipe A the pressure is always greater than upon the other side, so that the gas which passes through the injector has force enough to raise the check-valve G and pass back into the main pipe again, carrying with it the desired amount of air. If the amount of air is too great, the valve B can be opened wider, so as to permit more gas to pass through it; or the amount of air entering the mouth F can be increased by means of its valve. In case of accident to the injector, or if it is desired to pass the gas through the main without going through the injector at all, the check-valve G prevents it from escaping through the pipe D.

As the device acts automatically, it is only necessary to set the different valves to permit the correct amount of air to be admitted, when it will take care of itself.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of a gas-main provided with a regulating-valve, a pipe leading from said main upon each side of said valve, with means, substantially as described, for automatically mixing air with the gas which passes through them, as shown and described.

2. The combination of a gas-main provided with a regulating-valve, a pipe leading from said main upon each side of said valve, the end of one of said pipes being provided with a funnel-shaped mouth, and the end of the other pipe with a nozzle or injector which projects slightly into said mouth, and a check-valve secured upon the end of one of said pipes within said main, as shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM SNEE.

Witnesses:

EMMA M. GILLETT,

W. S. BOYD.