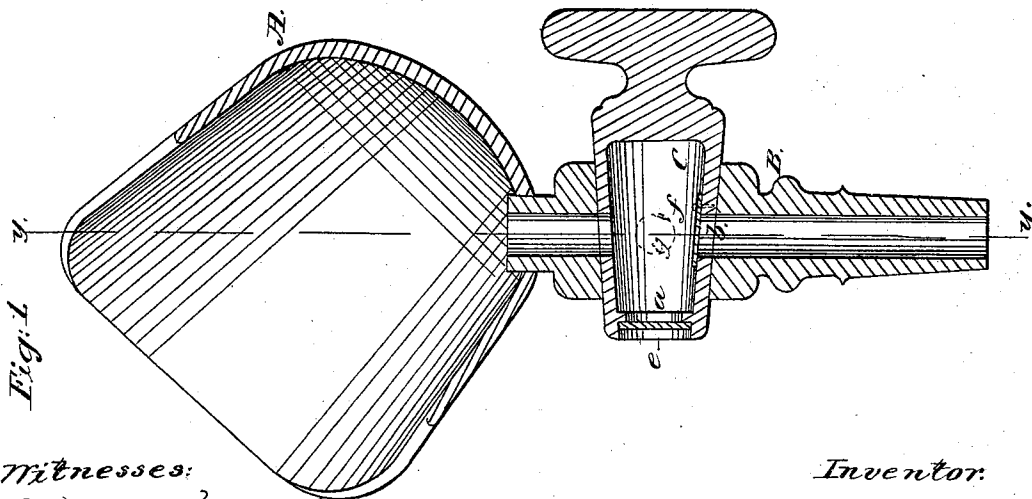
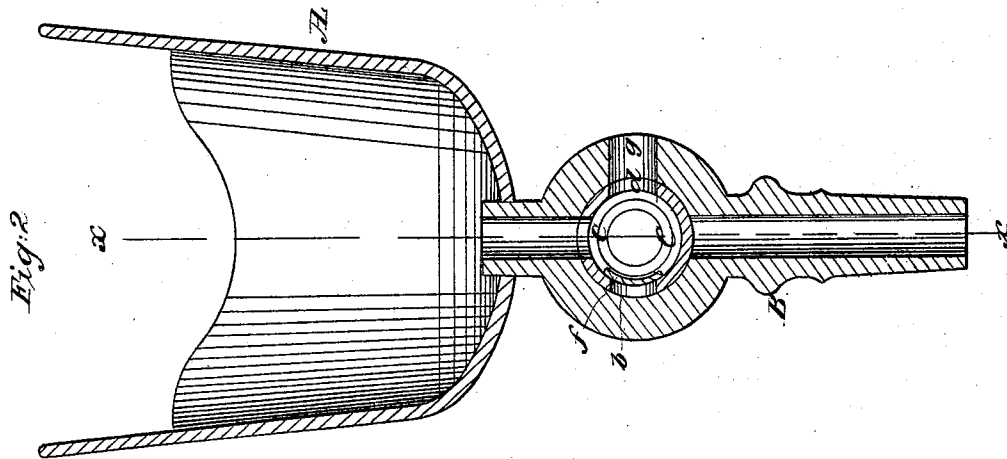


D. H. Goodwillie,

Inhaler,

No. 59,386,

Patented Nov. 6, 1866.



Witnesses:

H. F. Mc Namara.

W. Rauff

Inventor:

D. H. Goodwillie

UNITED STATES PATENT OFFICE.

D. H. GOODWILLIE, OF NEW YORK, N. Y.

IMPROVEMENT IN INHALERS.

Specification forming part of Letters Patent No. **59,386**, dated November 6, 1866.

To all whom it may concern:

Be it known that I, D. H. GOODWILLIE, of the city and county and State of New York, have invented a new and Improved Inhaler; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal section of this invention, the line *xx*, Fig. 2, indicating the plane of section. Fig. 2 is a similar section taken in the plane indicated by the line *yy*, Fig. 1.

Similar letters of reference indicate like parts.

This invention consists in the arrangement of a four-way cock provided with a valve which opens outward in its open end, and with another valve, which opens inward, on one of the passages, in combination with a suitable cup and shank, in such a manner that by means of said shank the inhaler can be conveniently secured to the reservoir or bag containing the gas, and by the cup the patient is enabled to apply said inhaler conveniently to his face; and, furthermore, by the two valves the air which is inhaled is prevented from passing into the gas-reservoir, and by turning the stop-cock the cup can be readily brought in communication with the open atmosphere.

A represents a cup, made of hard rubber, horn, or any other suitable material, and secured to the end of a tubular shank, B, which is so shaped that the same can be conveniently introduced into the reservoir containing the gas to be inhaled, and that said reservoir can be tightly fastened to the outer end of the shank.

In the shank is fitted a four-way cock, C, which is open at one end, *a*, and provided with three passages, *b c d*, as plainly shown in the drawings.

In the open end is fitted a valve, *e*, which

opens outward, and the passage *b* is also provided with a valve, *f*, which opens outward. The passages *c d* are open.

When the inhaler is to be used the cup is applied to the face of the patient, the shank having been previously inserted into the gas-reservoir, and the cock C is turned to the position shown in Fig. 1.

If the patient inhales, the valve *f* opens and the gas from the reservoir is admitted to his mouth or nostrils; and if he exhales, the valve *e* opens, and the exhaled air passes off in the atmosphere without being permitted to mingle with the gas in the reservoir.

If it is desired to stop the inhalation of the gas for a short time without removing the inhaler from the face of the patient, the cock C is turned to the position shown in Fig. 2, whereby the cup A is brought in communication with the open atmosphere through the passage *c d* and a lateral opening, *g*, in the shank, while the communication with the gas-reservoir is closed.

By this apparatus the operation of inhaling is rendered comparatively easy, and the quantity of gas inhaled or to be inhaled by a patient can be determined with the greatest ease and accuracy.

This inhaler can be used for medical agents of any description, and by the application of a flexible tube to the exhaust-valve *e* the inhaled gases can be saved, if desired.

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

1. The stop-cock C, with passages *a b* and valves *e f*, in combination with the shank B and cup A, constructed and operating substantially as and for the purpose set forth.

2. The passages *c d g*, in combination with the passages *a b*, valves *e f*, shank B, and cup A, substantially as and for the purpose set forth.

D. H. GOODWILLIE.

Witnesses:

WM. F. McNAMARA,
W. HAUFF.