

No. 757,013.

PATENTED APR. 12, 1904.

G. L. BENNETT.
ANESTHETIC VAPOR INHALER.

APPLICATION FILED JULY 16, 1903.

NO MODEL.

Fig. 1.

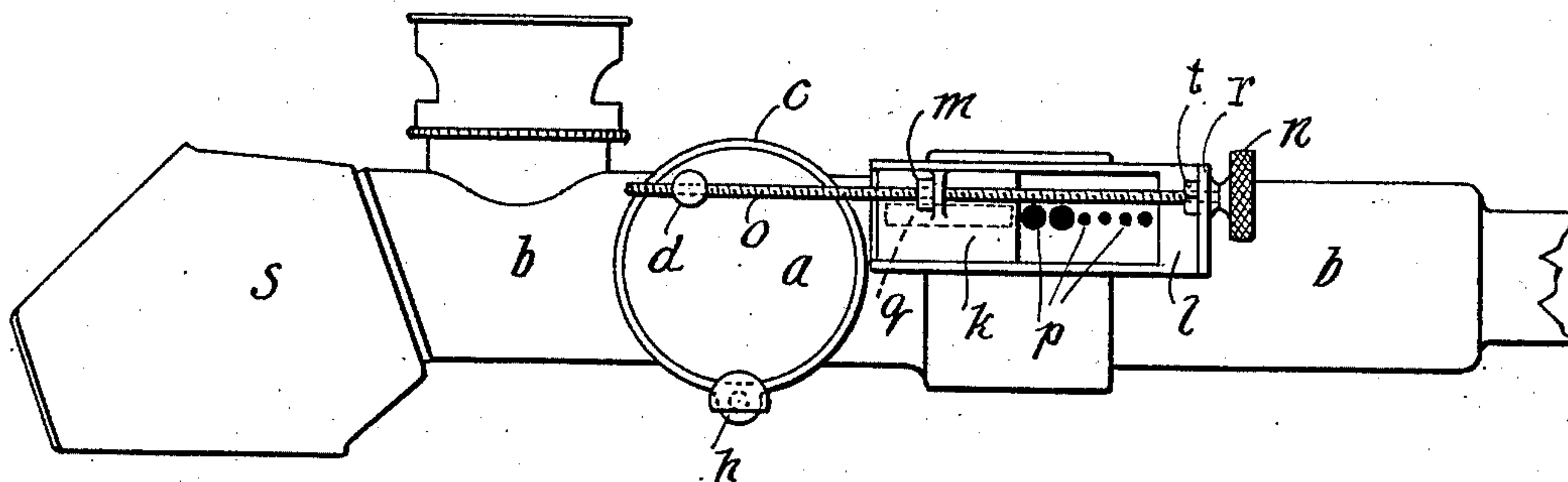


Fig. 2.

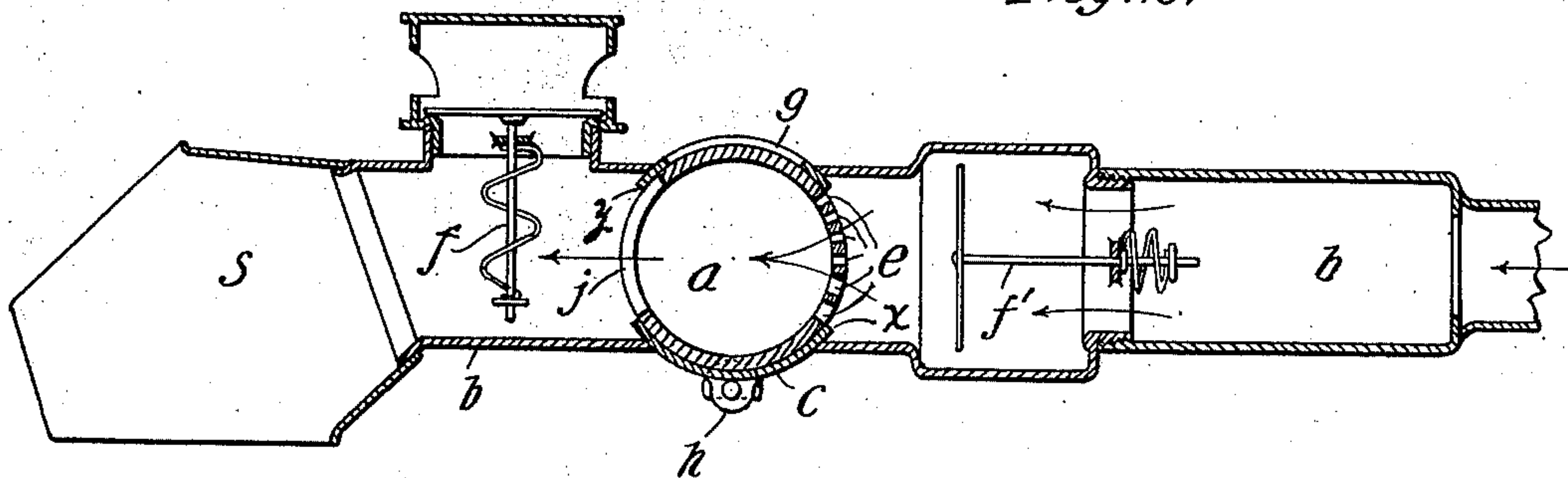


Fig. 3.

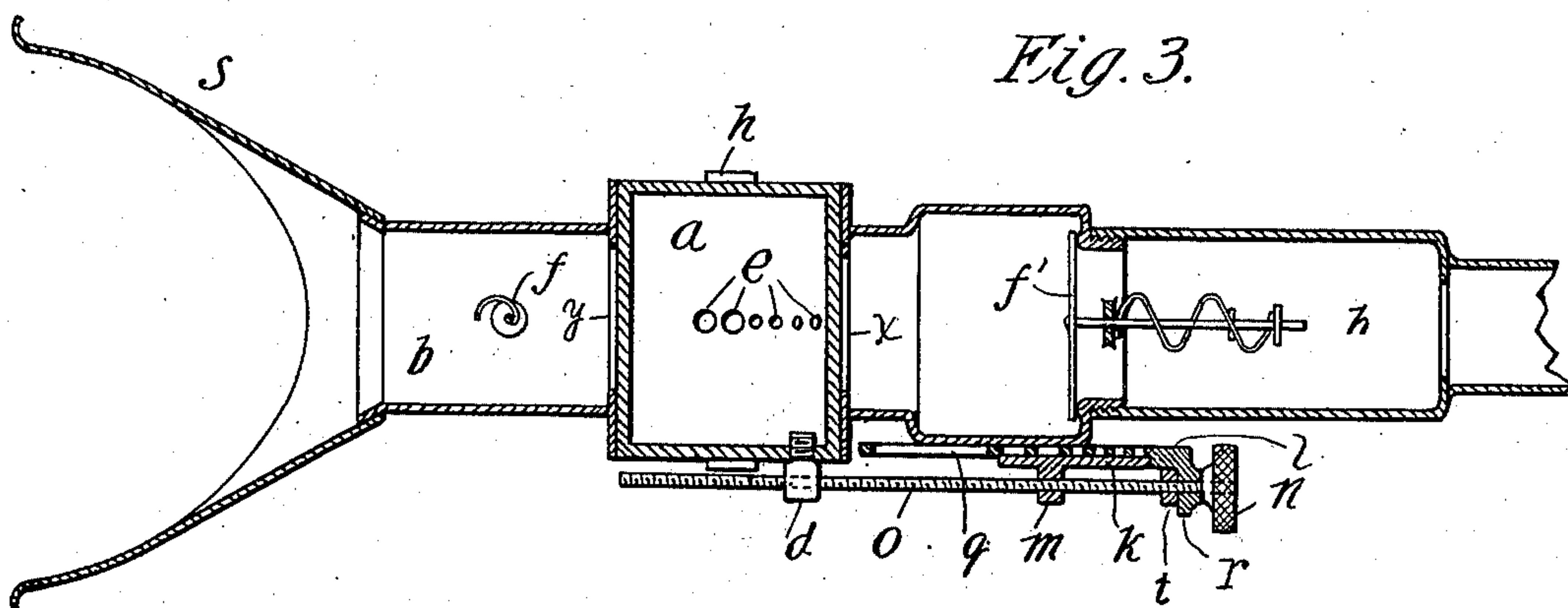
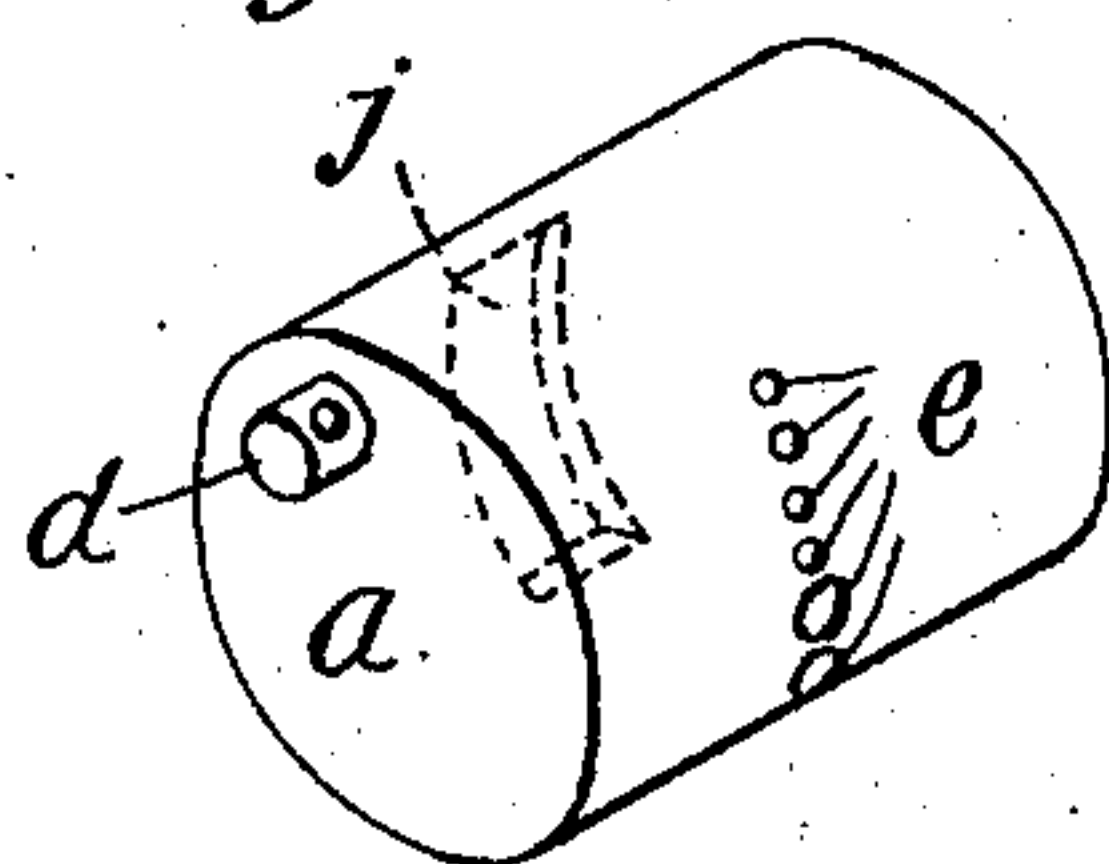


Fig. 4.



Witnesses
W. H. Schaefer
M. J. Lagan

Inventor
George L. Bennett
By *Orris A. Bishop*, Atty.

UNITED STATES PATENT OFFICE.

GEORGE L. BENNETT, OF CHICAGO, ILLINOIS.

ANESTHETIC-VAPOR INHALER.

SPECIFICATION forming part of Letters Patent No. 757,013, dated April 12, 1904.

Application filed July 16, 1903. Serial No. 165,860. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. BENNETT, a citizen of the United States, residing at Chicago, Cook county, State of Illinois, have invented a new and useful Improvement in Anesthetic-Vapor Inhalers, of which the following is a specification.

My invention is related to surgical appliances for administering anesthetic gas from a reservoir wherein the fluid has been previously evaporated, and especially the anesthetic vaporizer recently patented by me; and the objects of my improvement are to provide a safer method for administering all kinds of gas, enabling the operator to see and know the exact quantity and ratio of gas and air passed together through the inhaler to the patient, the controlling-valve being close to the patient's face and in the hand of the operator. I attain these objects by a mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation showing an old-fashioned inhaler with my improvement attached. Fig. 2 is a vertical section showing the valve-ports and cylindrical valve-core. Fig. 3 is a horizontal and longitudinal section showing all parts of the device. Fig. 4 is a perspective view of the rotating valve *a*, showing the exhaust-port *j* in broken lines, and the crank-pin *d* and the circular intake-ports *c*.

Similar letters refer to similar parts throughout the several views.

My invention consists in providing a cylindrical tube *b b*, having a mouthpiece *S* and an inwardly-closing valve *f* and outwardly-closing valve *f'*, which is not a part of my invention, with a cylindrical rotating valve-core *a*, having six or more circular apertures *e*, graduating in size from one thirty-second to one-eighth of an inch in diameter on one side, more fully explained below, and an oblong exhaust-port *j* on the opposite side. Both ends of valve-core are closed.

The valve seat or shell *c* is provided with an oblong port on top *g* and circular ports *x y* on the sides, one-half inch in diameter. The crank-pin *d* is drilled and threaded and set eccentric in the end of the valve-cylinder, so as

to give the valve-core an oscillating motion through an arc of ninety degrees.

The index-frame 1 is fixed to the side of the tube *b* and is provided with a corresponding number of circular apertures *p* as there is in the valve-core, and an oblong port *q* to correspond with the port *g* in the shell. A slide *k*, having a boss *m* fixed on its surface, is adapted to move in dovetailed grooves in the frame *l*. The frame has a lug *r* bent at a right angle with the plane of the frame and a circular hole is bored through the lug. The screw *o*, having a thumb-nut *n*, fixed to it, is inserted through the hole in the lug *r*, with a collar *t* on the inside to prevent the screw from slipping back. The screw is turned through the boss on the slide and inserted in crank-pin, and the slide is adjusted to cover the oblong opening *q* in the frame, leaving the several circular apertures *c* all open, as shown in Fig. 1, broken lines *q*. This device is an index showing the position of valve-ports when the slide is in the position shown in Fig. 1. The small apertures are all open, and the port *j* opposite is wide open also, and the port *g* on top is closed. The slide and valve move in unison. When in this position, the anesthetic gas can only pass through, as indicated by the arrows in Fig. 2. The half-head screw *h* is designated to retain the valve in the shell.

In operating a hose is connected with the inhaler and the gas-reservoir. By turning the screw *o* the valve will rotate till one of the small ports *c* is closed, and the large port *g* will be open proportionately. This may be continued until all the small ports *c* are closed and the large one wide open and the gas shut off. The slide, moving in unison with the valve, will show the situation of the valve. The gas in the reservoir being a fifty-per-cent. saturation it is too strong to be inhaled without reducing with air. Hence the small apertures. If the valve should be turned until only the smallest aperture is open, the large valve will be nearly wide open, and when in this position the ratio of gas to air is one-eighth of one per cent., and it increases in the same ratio up to the two larger apertures, where the ratio doubles.

In administering chloroform a danger-point is fixed at the four small apertures. When ether or nitrous-oxid gas is given, they may all be open if in the judgment of the operator
5 they are required.

The screw-adjustment precludes the possibility of the patient changing the situation of the valve by an accidental struggle.

Having described my invention and its operation,
10 I do not claim the inhaler, broadly, since a large part of it is not new; but what I do claim, and wish to secure by Letters Patent, is—

1. The combination in an inhaler of the rotating valve-core provided with a large port
15 and a plurality of small ports varying in di-

ameter, said valve-core adapted to rotate in a cylindrical shell having corresponding inlet and outlet ports, substantially as described.

2. The combination in an inhaler of the indicator provided with a plurality of small apertures in one end and an oblong aperture in the opposite end, said apertures corresponding with the apertures in said rotating valve-core, a slidable cover actuated by a screw,
25 said screw connected to the rotating valve-core, and arranged to move both valve-core and slide in unison substantially as set forth.

GEORGE L. BENNETT.

Witnesses:

HERBERT E. BENNETT,
W. H. BISHOP.