

(No Model.)

J. A. DONALDSON.

INHALER.

No. 263,128.

Patented Aug. 22, 1882.

Fig. 2.

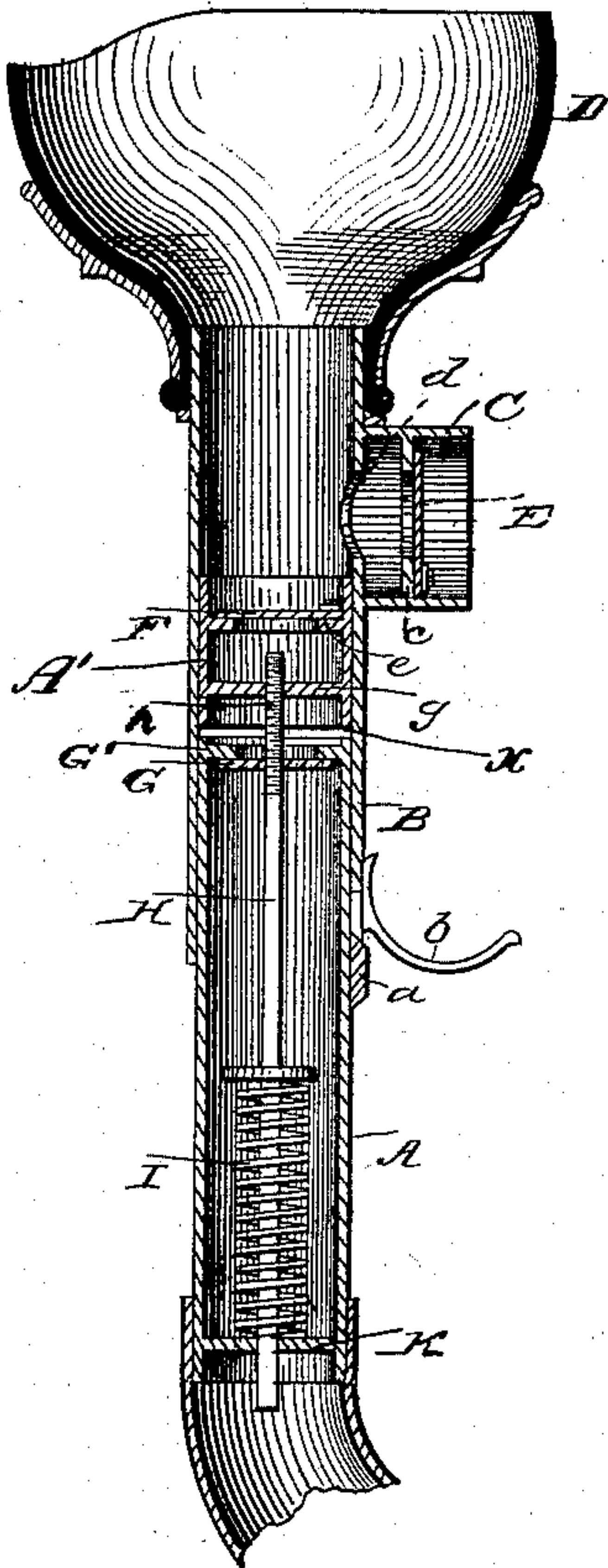
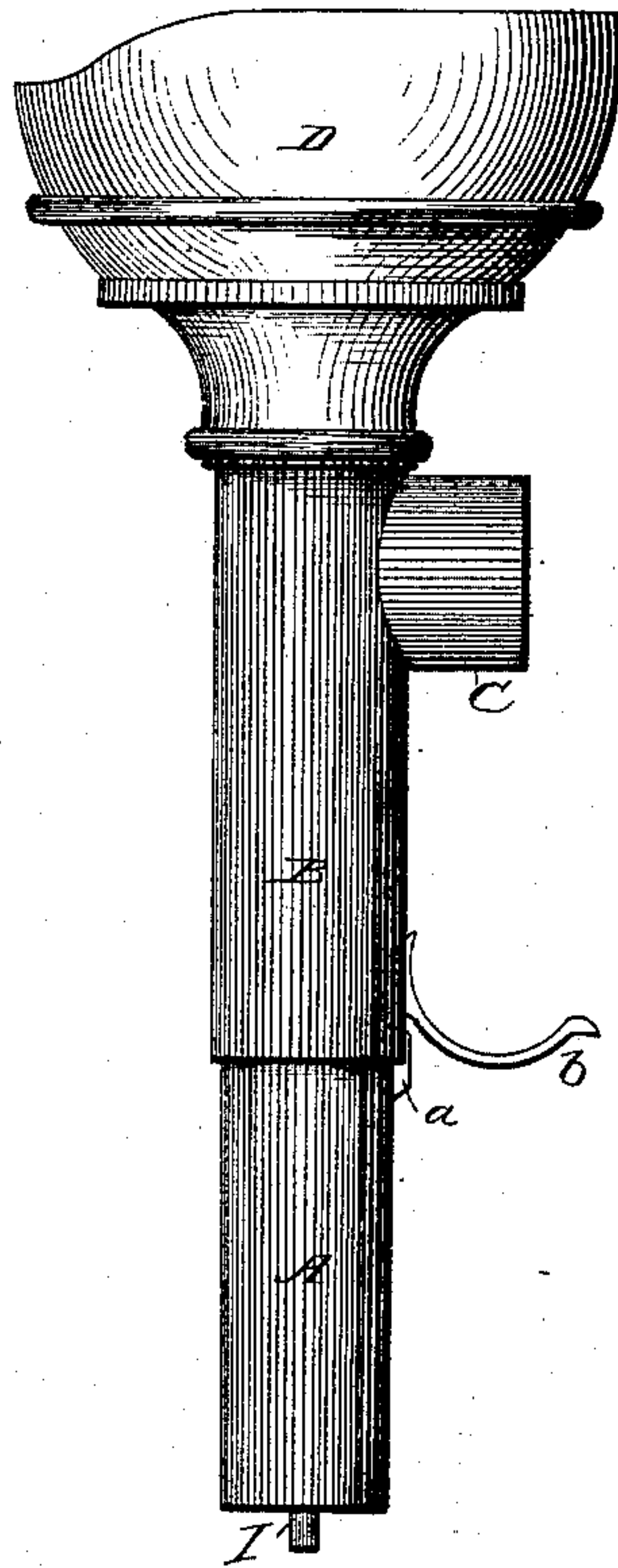


Fig. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES A. DONALDSON, OF GREENVILLE, PENNSYLVANIA.

INHALER.

SPECIFICATION forming part of Letters Patent No. 263,128, dated August 22, 1882.

Application filed June 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. DONALDSON, of Greenville, in the county of Mercer and State of Pennsylvania, have invented certain new and
5 useful Improvements in Inhalers; 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 drawings,
10 which form a part of this specification, and in which—

Figure 1 is a side view of a device or apparatus embodying my invention, and Fig. 2 is
15 a longitudinal central section of the same.

Similar letters of reference indicate corresponding parts in both the figures.

My invention has relation to devices or apparatus for inhaling nitrous-oxide gas, ether,
20 and other like anæsthetics which are administered to a patient for the purpose of performing dental and surgical operations without pain by inducing insensibility in the patient; and it consists in the construction of a device
25 of that class, as hereinafter described and claimed.

The letter A represents a section of tube, of brass or other suitable material, which has an offset, *a*, on one side. The upper end of tube
30 A is inserted into another tube, B, which has a finger-piece, *b*, at its lower end and a branch pipe, C, near its upper end, into which it opens through an aperture, *d*.

To the top of pipe B is affixed a flexible hood or mouth-piece, D, which is adapted to embrace both the mouth and the nose, so as to prevent the possibility of inhaling atmospheric air with the gas through either of these
35 organs.

The branch C constitutes the exhaling-tube, and has a valve-seat, *e*, and flexible valve E, adapted to open outwardly. Within pipe B, just below its branch C, is a valve-seat, *e*, upon
40 which plays the valve F, made of rubber or other suitable material.

G is another valve, consisting of a circular disk or button secured adjustably upon the screw-threaded upper end, *h*, of a valve-stem, H, which is actuated by a spring, I.

50 G' is the annular seat for valve G, and *g* and

K are cross-pieces within pipe A, through which the valve-stem H is inserted and guided, its threaded upper end being fixed in cross-bar *g*. It will thus be seen that valve G, with its seat G', appertains to tube A, the lower end
55 of which is inserted into a flexible rubber tube connecting it with the gasometer or receiver from which the gas is to be administered.

The inside pipe or tube, A, has a detached top part, A', which contains the valve F and
60 cross-bar *g*. The upper end of the valve-rod H being fixed in said cross-bar *g*, it follows that spring I will operate to force tube-sections A and A' apart or from each other within tube B, leaving a narrow slit or space between
65 them, as shown at *x* in Fig. 2. The tube-section A' is secured to or made in one piece with the outside tube, B, so that when the latter is drawn down upon A by its finger-piece *b* tube-section A' will move with it until it strikes
70 the upper rim of A and closes the annular aperture *x*. The valve-rod H, upon which valve G is secured, being fastened in cross-bar *g*, it will move with A' and B, and thus open valve G by depressing it from its seat G'; but the
75 moment the operator lets go of the finger-piece spring I will force the valve-rod and valve up into its closed position against seat G', thus stopping instantly the flow of gas through the
80 tube.

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

In an inhaler of the described class, the combination of tube A, having the valve-seat G' 85 and valve G, provided with the stem H and its actuating-spring I, tube-section A', having cross-bar *g*, valve-seat *e*, and valve F, and outside tube, B, having finger-piece *b* and branch pipe C, provided with the seat *e* and valve E, 90 all constructed and arranged to operate substantially in the manner and for the purpose herein shown and set forth.

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

JAMES ALLISON DONALDSON.

Witnesses:

CALVIN R. BEATTY,
JAMES A. HOGE.