(No Model.)

J. A. DONALDSON.

APPARATUS FOR ADMINISTERING NITROUS OXIDE GAS.

No. 282,178. Patented July 31, 1883.

Fig. 1.

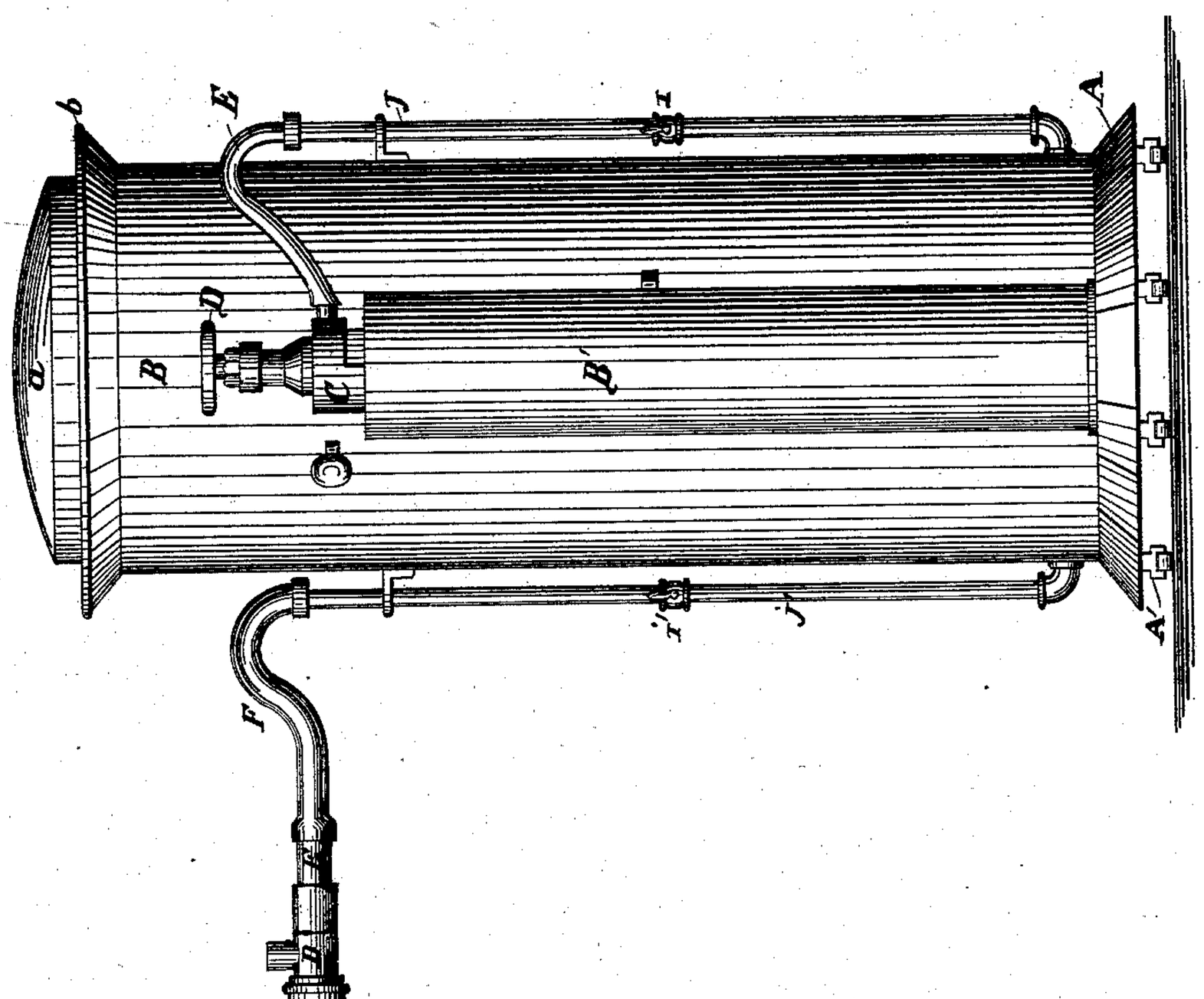
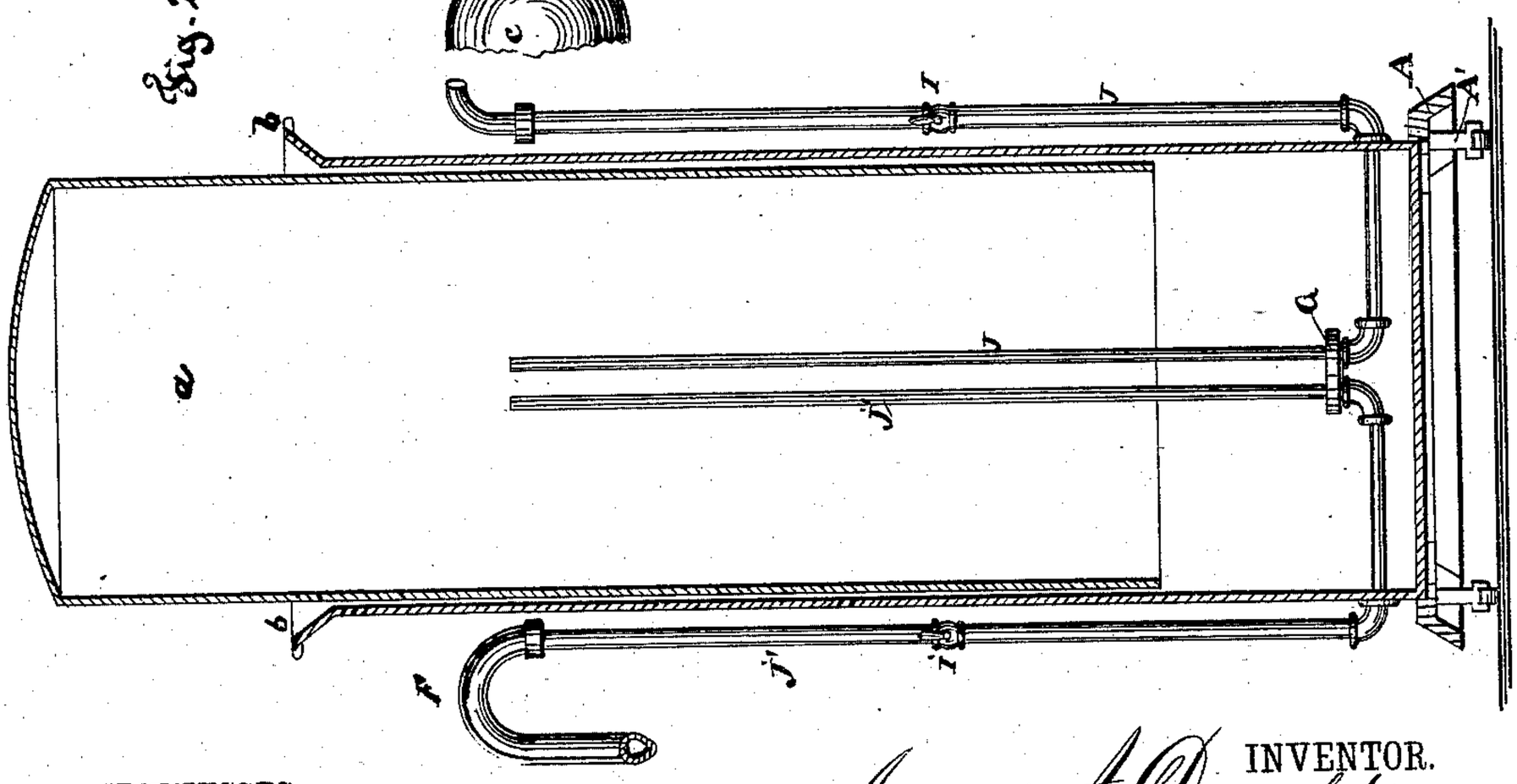


Fig. 2.



WITNESSES:

Fred. L. Dieterich.

D. P. Coul

INVENTOR.

James A. Donaldson

by Louis Bagger & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES A. DONALDSON, OF GREENVILLE, PENNSYLVANIA.

APPARATUS FOR ADMINISTERING NITROUS-OXIDE GAS.

SPECIFICATION forming part of Letters Patent No. 282,178, dated July 31, 1883.

Application filed June 20, 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 useful Improvements in Apparatus for Administering Nitrous-Oxide 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 drawings, which form a part of this specification, and in which—

Figure 1 is side elevation of my improved apparatus for administering nitrous-oxide gas, and Fig. 2 is a vertical sectional view of the same.

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

My invention has relation to gasometers or gas-receivers for administering nitrous-oxide gas or other anæsthetics in a gaseous form; and it consists in an improved construction and arrangement within the receiver of an entrance and an exit pipe connected by a clamp, in combination with other parts, as will be hereinafter more fully set forth.

In the accompanying drawings, the letter A represents the base, which has feet A′, provided with casters or rollers, so that the whole apparatus may readily be changed from one place or position to another.

B represents the outer casing of the gasometer, which is cylindrical in shape, and has a flaring rim, *b*.

a is the inside gas-container, which has a closed top and open bottom, and is inserted into the outer casing, B.

Suitably attached to one side of the casing B is another smaller cylindrical casing, B′, which is adapted to contain the gas-can C, in which the gas is served from the manufacturers or dealers. The valve D of this can, which projects up above the holder B′, is connected by a flexible tube, E, with a pipe, J, which runs down alongside of casing B, entering it near its bottom, from which point it passes to near the middle of the casing, and is then bent at right angles, and passes in an upward direction till it is about even or in a line with the outside part or branch of the pipe. Another pipe, J′, is arranged inside the casing B, parallel to J, and coupled thereto at its lower end by a clamp, G, from which it passes along the bottom to the outside, as clearly shown in the drawings, it being coupled at its upper end to a flexible piece of tubing, F, which connects it with the inhaling device. Both the pipes J and J′ have stop-cocks, as shown, respectively, at I and I′.

The operation of this apparatus is as follows: The gas-can C is placed in position in its holder B′, as shown. The outer casing, B, of the gasometer is filled with water till within about five inches from the top, care being taken to have caps or stoppers placed over the inside tubes during the operation of filling. When the cylinder is full, remove the caps, put in the follower or gas-holder *a*, bottom upward, and open the stop-cocks I and I′, (the flexible tubes E and F having first been slipped off their respective fixed pipes,) which permits the air to escape at the upper outside ends of pipes J and J′. Next replace the flexible tubing E and F, close the stop-cocks I and I′, and open the valve D of the gas-can. By now slowly opening the stop-cock I gas will enter the gas-holder *a*, which will rise slowly, and when it is about two feet, or thereabout, above the rim of the outer casing, B, shut off the valves D and I, and the apparatus is charged and ready for use. After the hood or face-plate of the inhaler has been placed in position upon the patient, the stop-cock I′ of the escape-pipe J′ is opened, and the gas is administered in the usual way, as required.

I prefer to use in connection with this apparatus an improved automatic inhaling device which I have invented, and also an improved dental brace, which form the subject of two separate applications for Letters Patent.

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

1. The combination of the cylindrical casing B, the inverted gas-holder *a*, the can-holder B′, and can C with the inlet and outlet pipes J J′

having stop-cocks I I′, and suitable flexible connecting-tubes, as described, and for the purpose set forth.

2. The combination of the cylindrical casing B, having pipes J J′, the inverted gas-holder *a*, the can-holder B′, adapted to hold can C, the latter provided with valve D, and flexible pipe E, the said pipes J J′ being clamped together and provided with controlling-valves, as described.

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

Witnesses: JAMES ALLISON DONALDSON.

CALVIN R. BEATTY,

JAMES A. HOGE.