

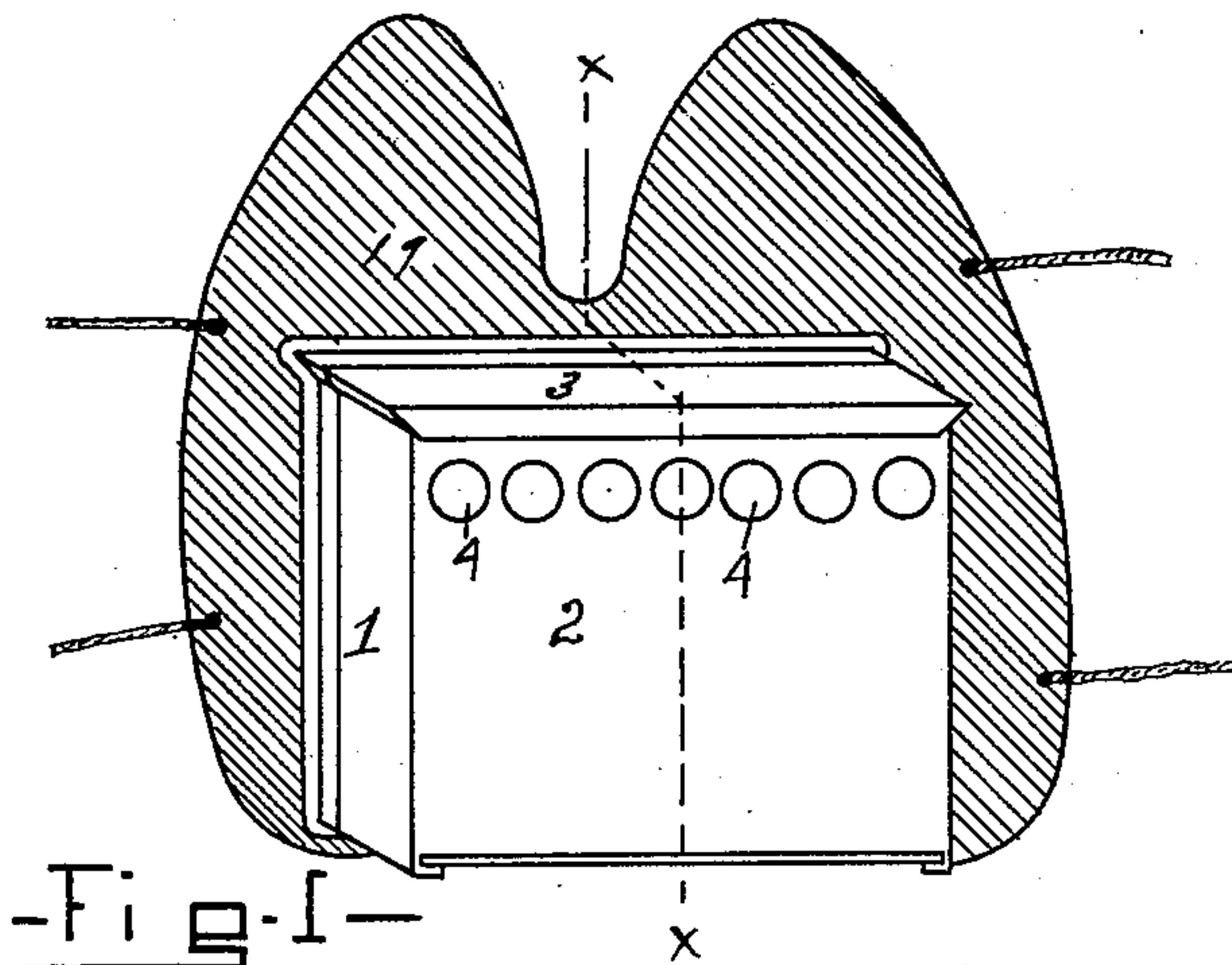
No. 706,015.

Patented Aug. 5, 1902.

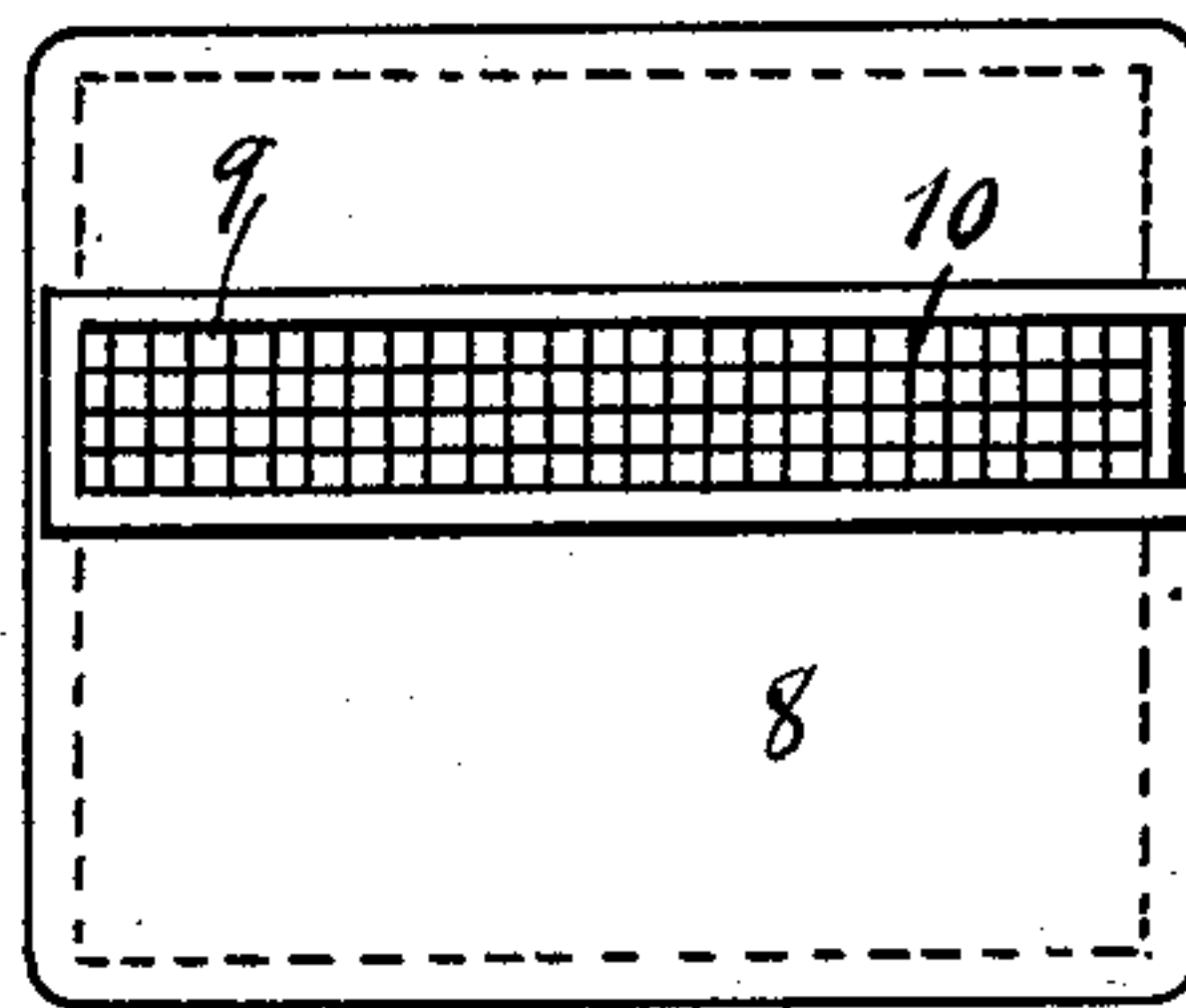
J. F. BREEN.
INHALER.

(Application filed May 12, 1902.)

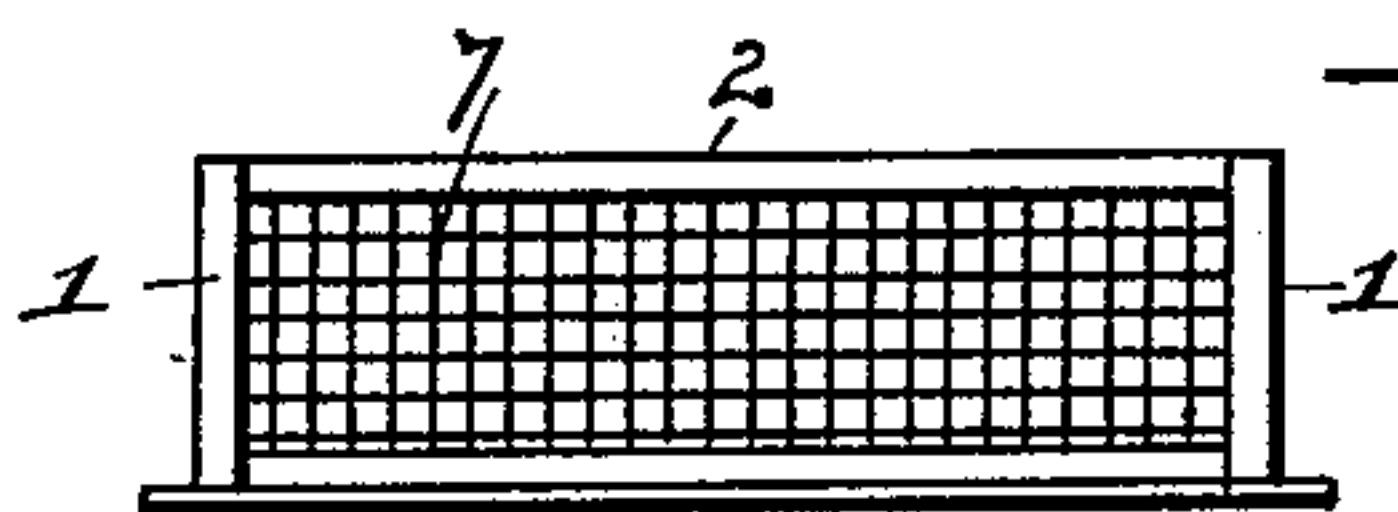
(No Model.)



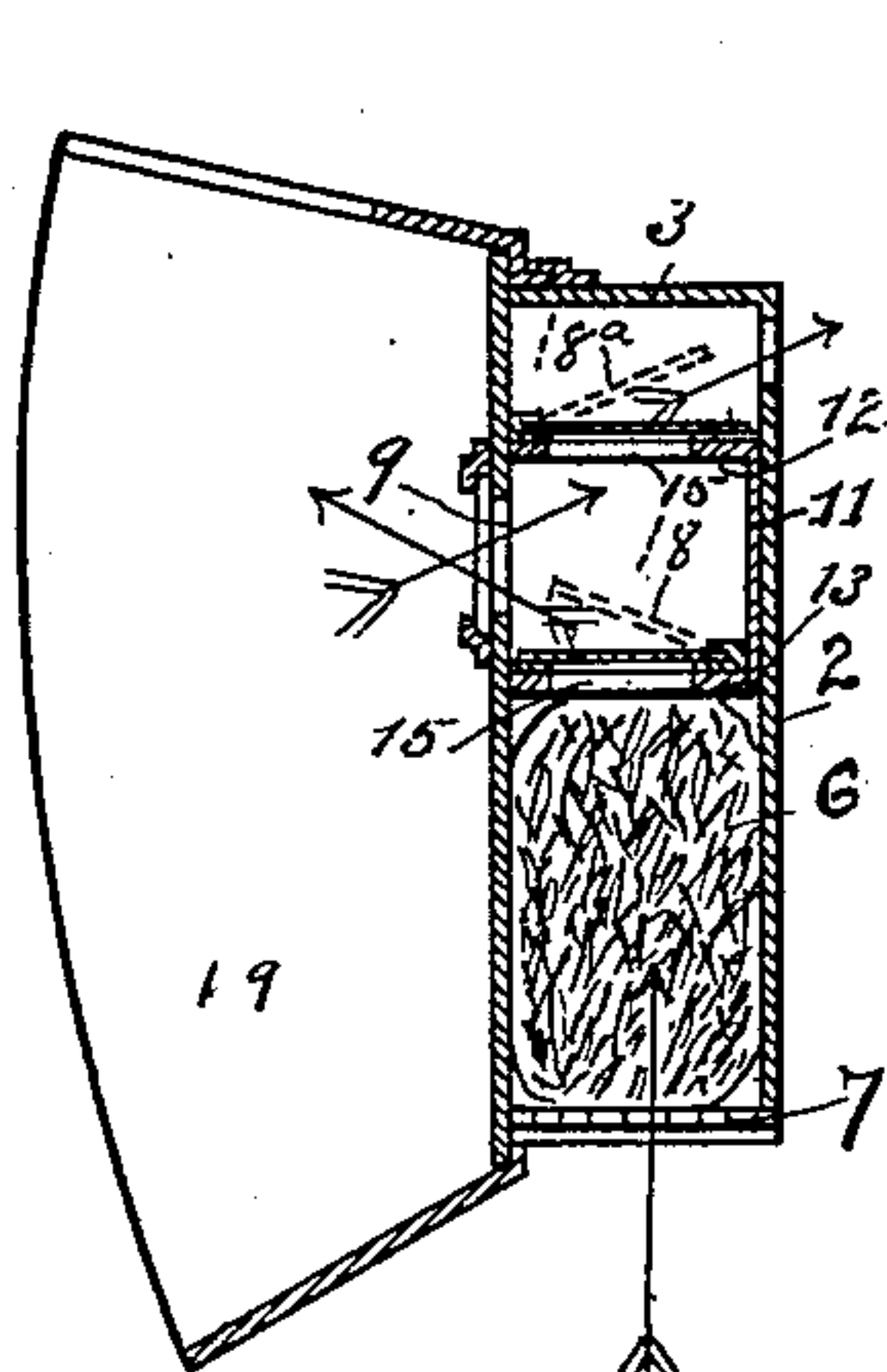
-Fig-1-



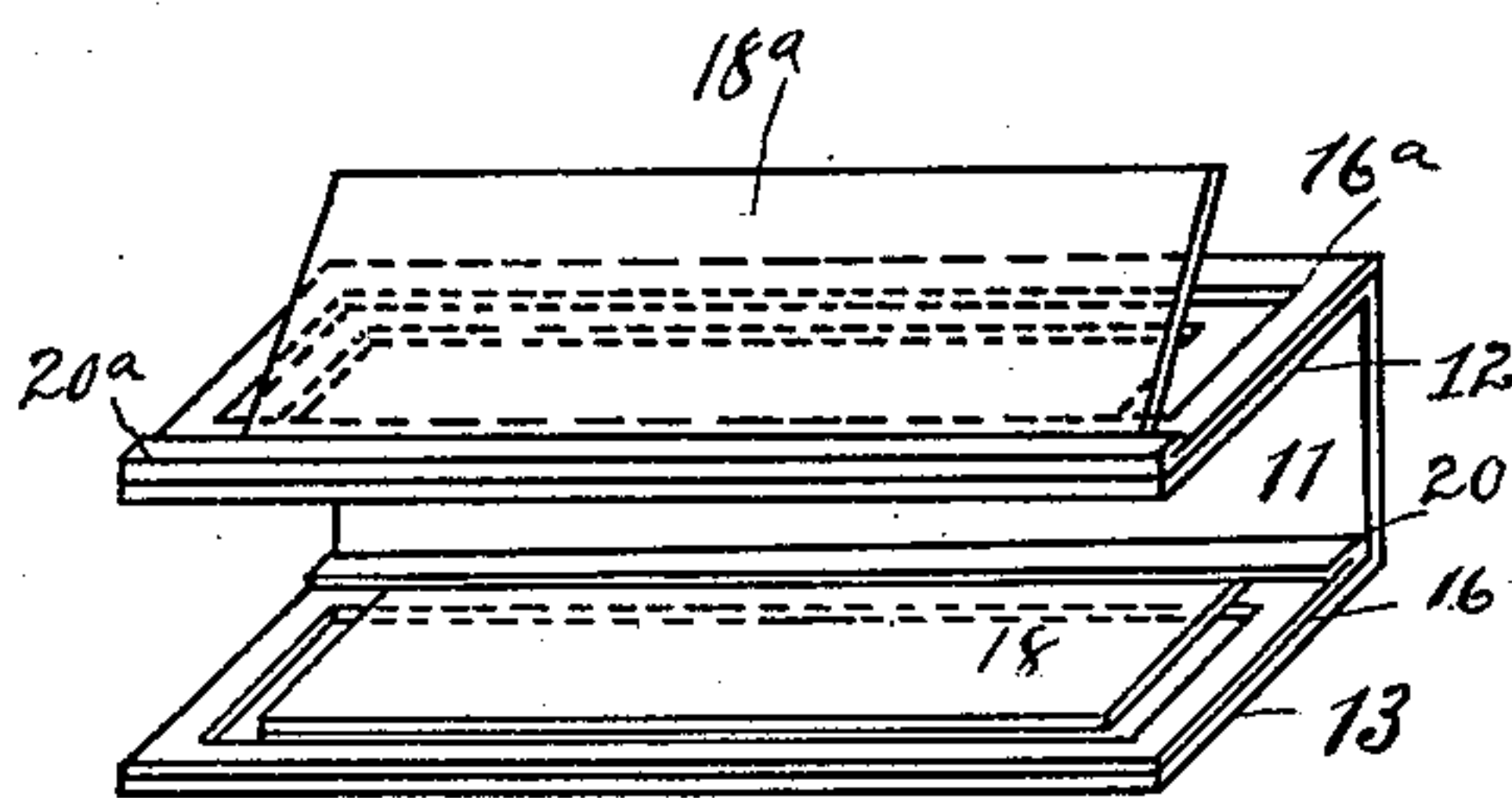
-Fig-2-



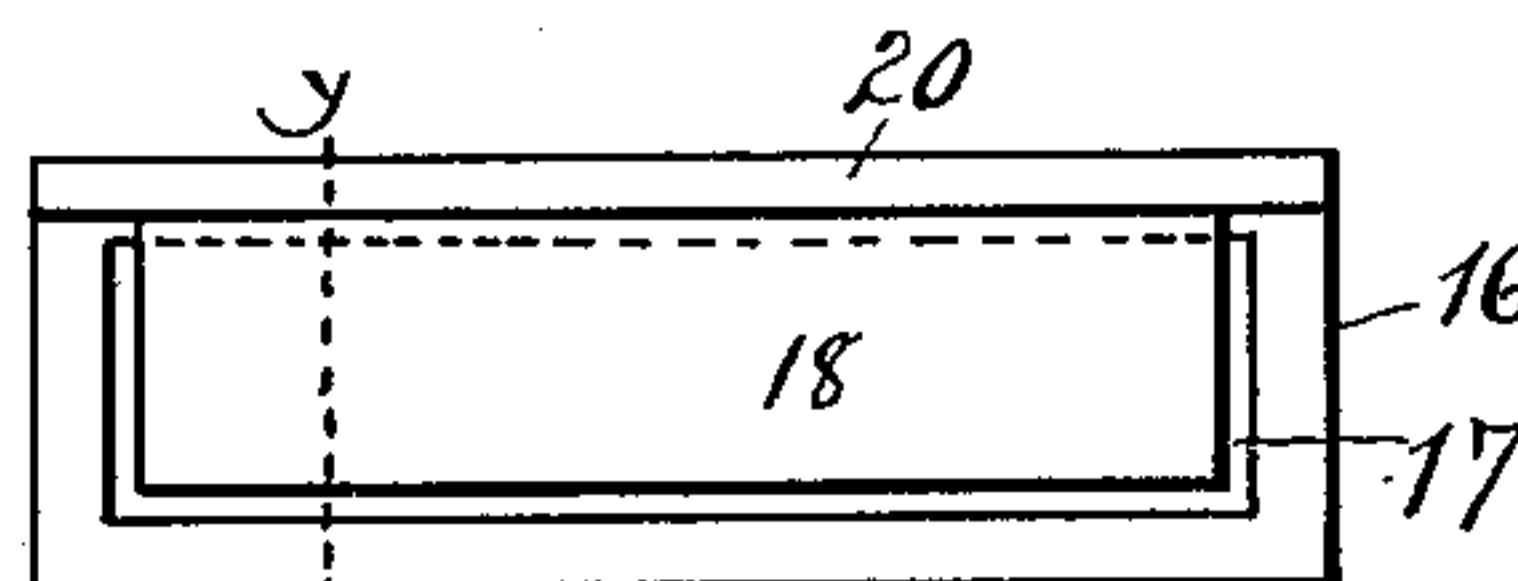
-Fig-3-



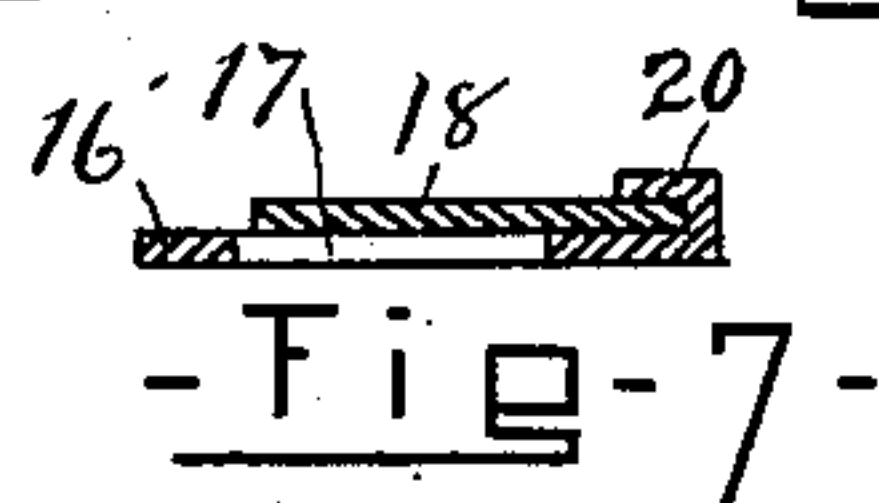
-Fig-4-



-Fig-5-



-Fig-6-



-Fig-7-

WITNESSES.
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UNITED STATES PATENT OFFICE.

JAMES F. BREEN, OF DAYTON, OHIO.

INHALER.

SPECIFICATION forming part of Letters Patent No. 706,015, dated August 5, 1902.

Application filed May 12, 1902. Serial No. 106,971. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. BREEN, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Inhalers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in inhalers to be used by persons for the purpose of breathing disinfected or medicated air.

The novel features of the invention will be hereinafter described in the specification and set forth in the annexed claims.

Preceding a detail description of the invention reference is made to the accompanying drawings, of which—

Figure 1 is a view showing my improved inhaler ready for attachment. Fig. 2 is a rear view of the inhaler-casing, the rubber cloth being removed. Fig. 3 is a view of the lower side of the inclosing case. Fig. 4 is a section on the line *x x* of Fig. 1. Fig. 5 is a detached perspective view of the valve-support. Fig. 6 is a detached plan view of one of the valves. Fig. 7 is a sectional view on the line *y y* of Fig. 6.

In a detail description of the invention similar reference characters indicate corresponding parts.

The inclosing case consists of three upright walls 1 1 2 and a rear wall 8, which are joined at the top by a horizontal wall 3. Across the upper portion of the wall 2 there is a series of openings 4, through which the vitiated air or the air that has been breathed passes out of the inhaler-casing. The lower portion of the inhaler-casing is provided with a compartment 5, in which is placed an absorbent body or sponge 6, said sponge being saturated with any suitable antiseptic material. This sponge or absorbent body is supported by a network or screen 7, which extends across the bottom of the casing and through which air is admitted to the sponge or absorbent body, as indicated by the arrow in Fig. 4.

The upper rear side 8 of the casing is provided with a transverse opening 9, which is closed by a screen or network 10. The mouth and nostrils of the wearer are adjacent to this opening 9 when the inhaler-casing is in position on the face. Within the upper portion of said inhaler-casing there is placed a valve frame or support consisting of a back plate 11, with parallel portions 12 and 13, having rectangular openings 15 therein. The valves which close these openings 15 are illustrated in Figs. 6 and 7 and consist of thin metallic frames 16 and 16^a, with rectangular openings 17 and flap-valves 18 18^a, consisting of a sheet of rubber or other suitably light flexible material. One of the longitudinal edges of these strips or sheets 18 18^a is inclosed beneath the overlapping edge of the metallic frames 16 16^a, leaving the remaining portion of said sheets free to be raised by the incoming and outgoing air, as shown in dotted lines in Fig. 4. The air passing upwardly through the absorbent body or sponge 6 is sufficient to raise the sheet or valve 18 to admit air through the opening 9 into the mouth and nostrils of the wearer.

It will be observed from Fig. 4 that the lower valve 18 opens in the direction that admits a ready passage of the air through the opening 9 in the rear wall of the casing. The upper valve 18^a is of a similar construction and opens in the opposite direction, as indicated by the dotted lines. The sheet 18^a, comprising the upper valve, is mounted in a metallic frame 16^a, similar to the lower valve, as illustrated in Fig. 6. The metallic inhaler-casing is suitably attached at its rear to a rubber cloth 19, which incloses the face of the wearer and is secured by suitable tape 20, which passes around the back of the head. The valve frame or support, as shown in Fig. 5, is placed within the casing with the parallel portions 12 and 13 lying horizontally, the ends of said frame being suitably connected to the sides 1 of the casing. The valves, as shown in Fig. 6, are laid or placed upon these frames in the positions shown without attachment, so that the valves may be readily taken out and cleaned. One feature of advantage in my inhaler lies in this arrangement and construction of the valves. Said valves being practically free from hinges are very sensitive and

susceptible of ready movement by the pressure of the incoming and outgoing air and while the wearer of the inhaler is in any position, sitting up or lying down.

5 While I have described my invention under the term of "inhaler," I do not wish to be limited in its use to such purpose, as it is as equally useful as a dust-protector to exclude dust from entering the nostrils and lungs of
10 the wearer.

Having described my invention, I claim—

1. In an inhaler, the combination with a casing having openings therein for the admission of air from without, a compartment in
15 said casing containing suitable absorbent material through which the said air first passes, of a valve-frame comprising two parallel portions having openings therein, said valve-frame being mounted in said casing, inlet and
20 outlet valves supported on the parallel parts of said valve-frame, said valves consisting of rectangular frames having each an opening therein, and said openings being closed by flaps consisting of any suitable flexible material, one of the longitudinal edges of said
25 flaps being secured to one of the longitudinal edges of said frames, substantially as shown and described.

2. In an inhaler, the combination with a casing having a compartment therein for con- 30
taining a suitable absorbent body, an opening in the rearward wall of said casing above said compartment, and an opening in said casing below said compartment and through which air is admitted to the absorbent body 35
within said compartment, of a valve-frame comprising two parallel portions 12 and 13 each having an opening, said frame being placed within the casing with the said parallel portions occupying positions above and 40
below the opening in the rear side of said casing, inlet and outlet valves supported on said parallel portions 12 and 13, said inlet and outlet valves each consisting of a metallic frame which rests upon said parallel portions of the 45
frame, and a sheet of flexible material secured to each of said valve-frames and being adapted to be raised by the pressure of the incoming and outgoing air, substantially as specified. 50

In testimony whereof I affix my signature in presence of two witnesses.

JAMES F. BREEN.

Witnesses:

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