

(No Model.)

J. S. HOOKER.
INHALER.

No. 400,769.

Patented Apr. 2, 1889.

Fig:3.

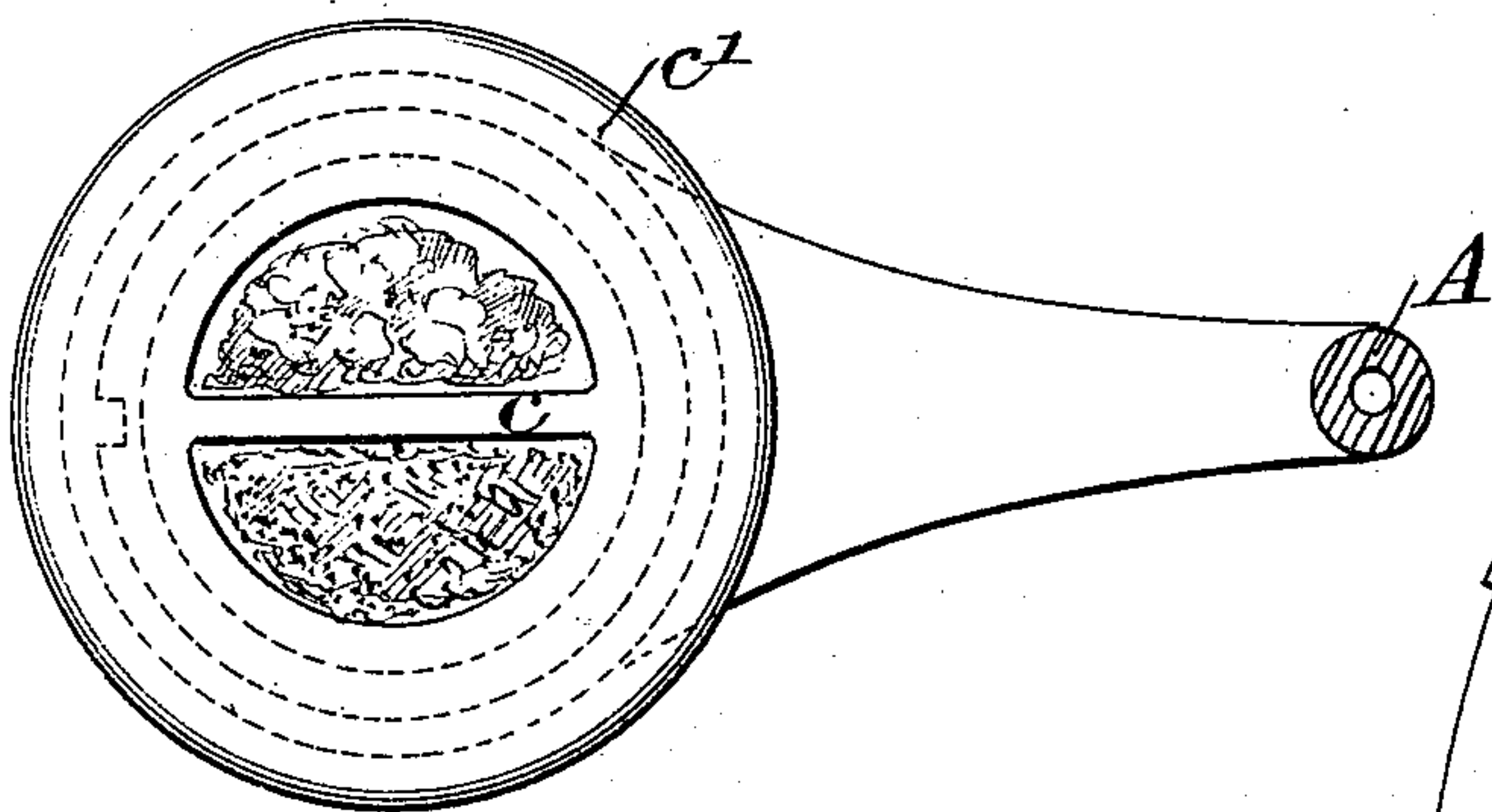


Fig:4.

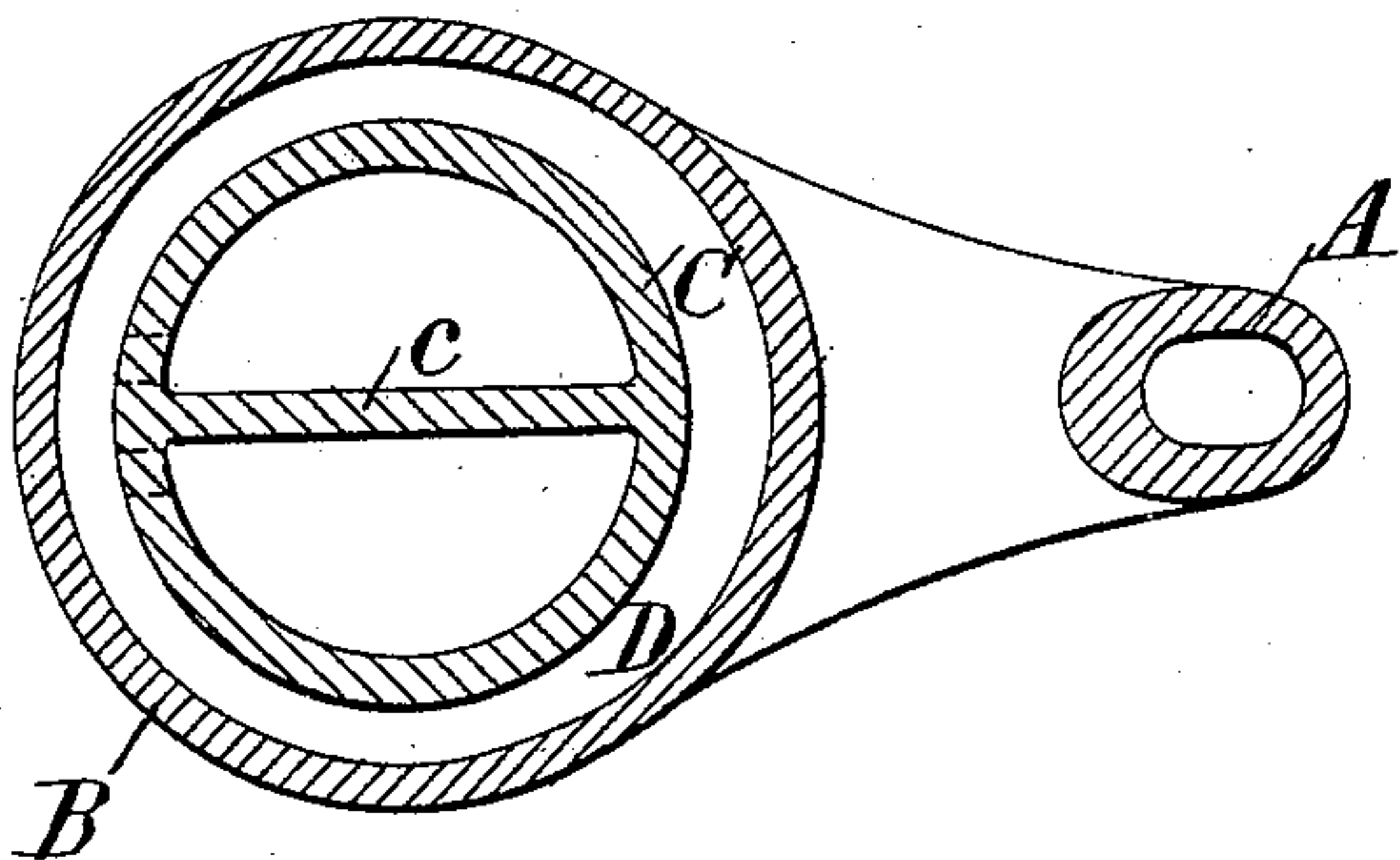


Fig:1.

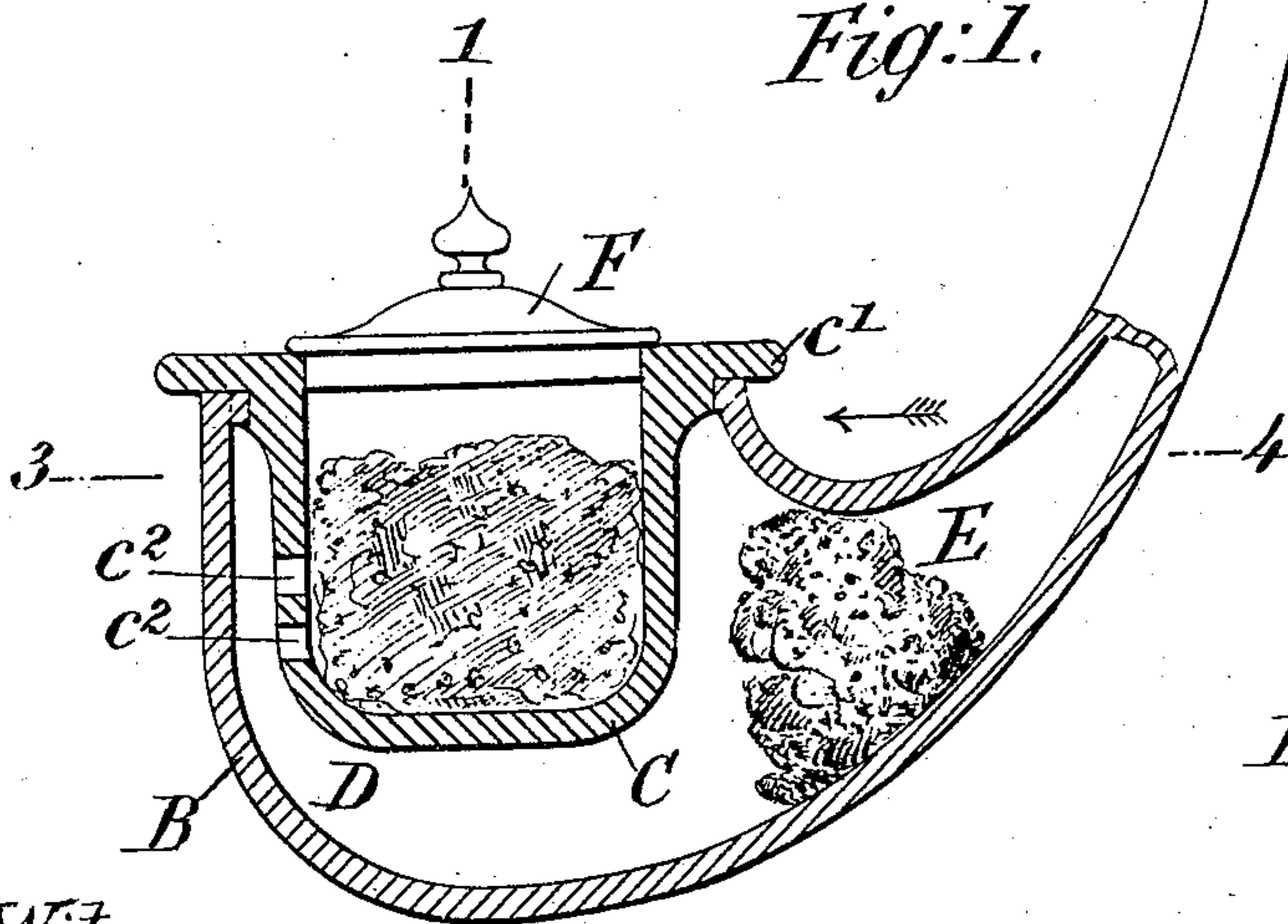
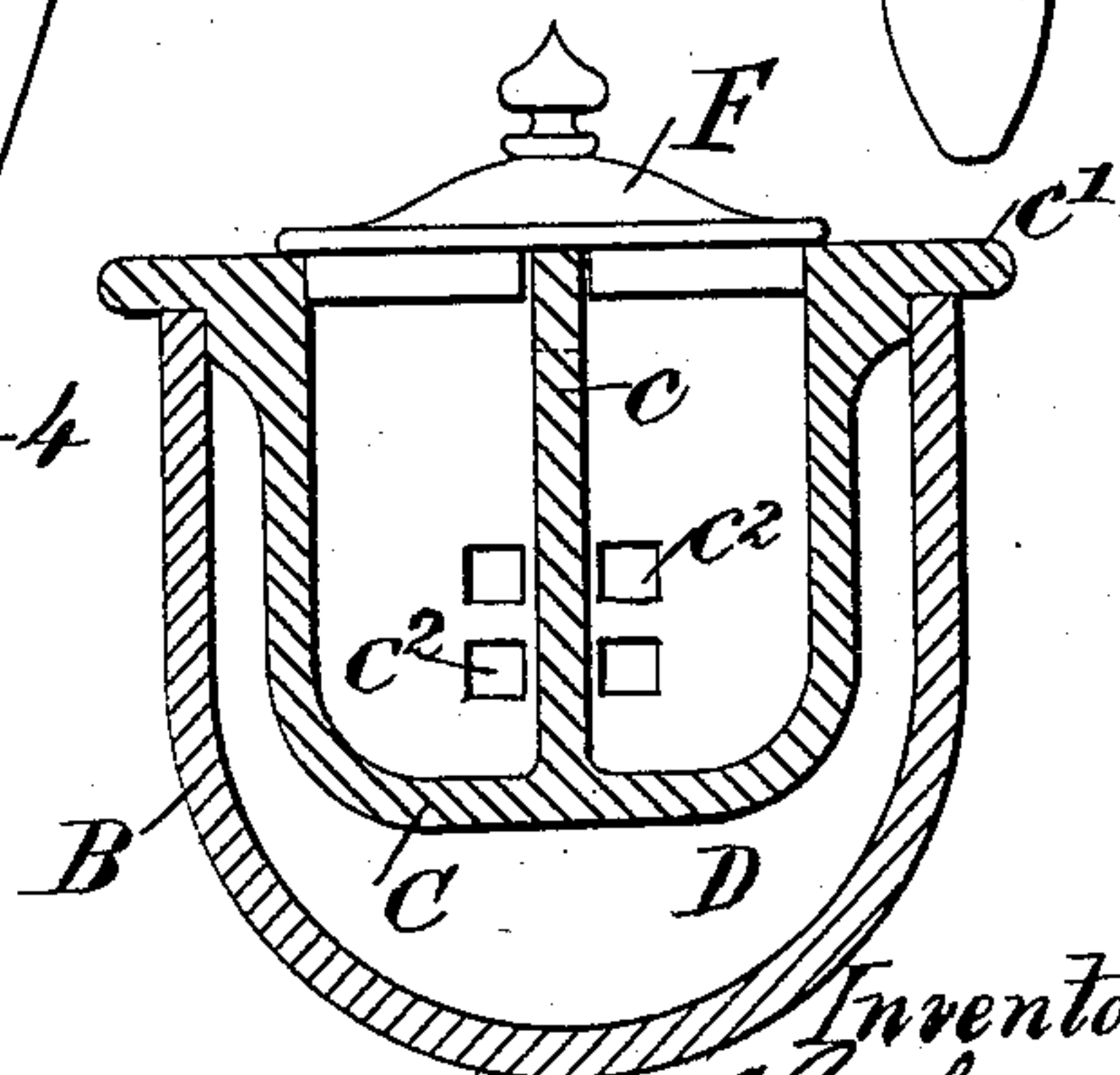


Fig:2.



Witnesses:
John Bieker
J. Dergengrony 2

Inventor:
Joseph Benson Hooker
by attorneys
Brown & Griswold

UNITED STATES PATENT OFFICE.

JOSEPH STENSON HOOKER, OF HASTINGS, COUNTY OF SUSSEX, ENGLAND.

INHALER.

SPECIFICATION forming part of Letters Patent No. 400,769, dated April 2, 1889.

Application filed February 13, 1889. Serial No. 299,734. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH STENSON HOOKER, of 7 Geneva Terrace, Clive Vale, Hastings, in the county of Sussex, England, have invented certain new and useful Improvements in Inhalers, of which the following is a specification.

This invention relates to a novel construction of inhaler, the chief advantages of which are its portability, lightness, and general convenience for invalids in every stage of weakness.

In the accompanying drawings, Figure 1 shows in side elevation, partly in section, my new form of inhaler. Fig. 2 is a section on the line 1 2 of Fig. 1, looking in the direction of the arrow, or away from the mouth-piece. Fig. 3 is a partial plan view of the inhaler, and Fig. 4 is a sectional plan taken in the line 3 4 of Fig. 1.

The inhaler takes somewhat the form of a tobacco-pipe, having a flexible extension to carry the mouth-piece attached to the stem A.

B is the bowl, shown as formed in one with the stem A; but it may, if desired, be made separate therefrom. The proportions of this bowl are somewhat in excess of the ordinary tobacco-pipe, it being intended to receive within it a bowl, C, which, when in place, leaves ample room for a mixing-chamber, D. This bowl C is divided into two compartments by a vertical partition, *c*, and it is formed with a flange, *c'*, which rests upon the lip of the bowl B and closes in a space constituting the mixing-chamber D. An annular shoulder below this flange fits the mouth of the bowl B, and a nick is made in it to fit a projection from the inner periphery of the mouth of the bowl B. This interlocking of the parts serves to insure the proper fitting of the bowl C in its place and of maintaining the partition *c* centrally with respect to the pipe. In the sides of the bowl C, at opposite sides of the partition *c* and at points farthest from the stem of the pipe, small openings *c*² are made, for the purpose to be presently explained.

One division of the bowl C, I fill with sponge for the absorption of ammonia, and the other with pumice-stone or equivalent absorbent material charged with hydrochloric acid. In the pipe, at or about the junction of the bowl with the stem, a piece of sponge is fitted, as

at E, which is to be moistened from time to time with pure water.

When the inhaler is thus charged, it is ready for use. On the patient applying suction to the mouth-piece of the pipe the ammonia-sponge and the absorbent of the hydrochloric acid will discharge their respective vapors through the openings *c*² of the compartments into the chamber D, which surrounds the bowl C. Here the vapors will commingle, and, passing together through the moistened sponge at E, where they will neutralize each other, will be drawn up into the mouth of the patient. A cap or cover may be provided, as at F, Figs. 1 and 2, to protect the pipe from dust when not in use, and to check the escape of the vapors from the sponges when the charged pipe is packed away in its case. A similar contrivance may be applied to the mouth-piece.

The inhaler may be made of glass, porcelain, celluloid, or other material that will withstand the action of the acid employed.

I would remark that in charging the inhaler care must be taken not to supply an undue quantity of either the ammonia or the acid to the absorbent materials. If more of the liquid ammonia or of the hydrochloric acid is accidentally applied than the absorbent material will hold, then the surplus quantity should be carefully removed. The like remark applies to the moistening of the sponge at E.

Having now described my invention, I claim—

The inhaler above described, consisting of a pipe in the bowl of which is fitted a smaller-flanged bowl divided vertically into two compartments for the reception of the chemical substances to be inhaled, such compartments being pierced with holes for the discharge of the vaporous chemical substances into a mixing-chamber contained within the outer bowl, and closed against the stem of the pipe by a plug of moistened sponge, as and for the purpose above set forth.

JOSEPH STENSON HOOKER.

Witnesses:

HERBERT YOUNG,
Solicitor, Bank Buildings, Hastings.

HENRY BURSON,
Solicitor's Clerk, 1 Bank Buildings, Hastings.