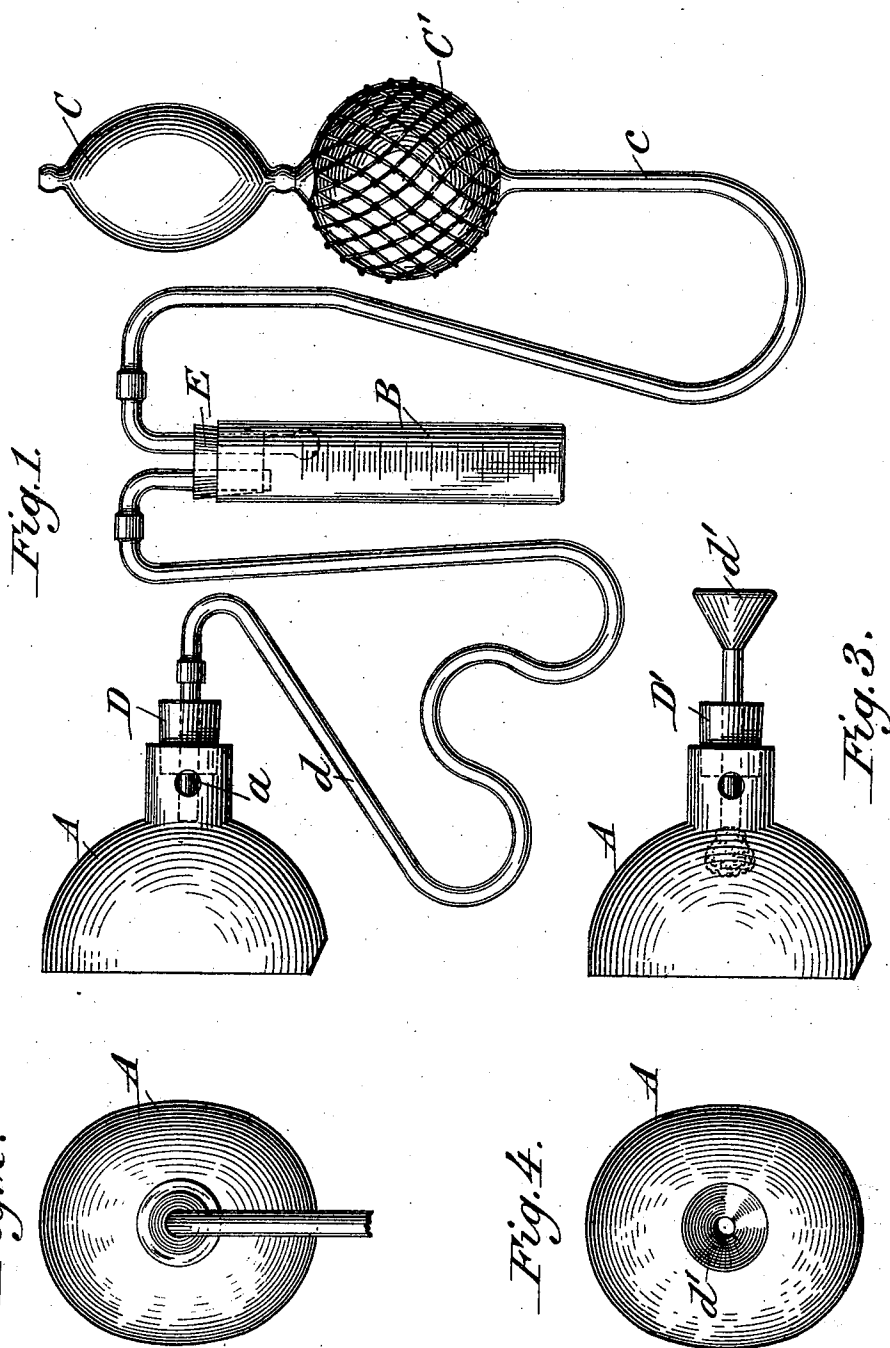


(No Model.)

W. SCHEERER.  
INHALING APPARATUS.

No. 516,841.

Patented Mar. 20, 1894.



Attest:  
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by Max Hengstler  
his attorney.

# UNITED STATES PATENT OFFICE.

WILHELM SCHEERER, OF TUTTLINGEN, GERMANY.

## INHALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 516,841, dated March 20, 1894.

Application filed May 16, 1893. Serial No. 474,466. (No model.)

*To all whom it may concern:*

Be it known that I, WILHELM SCHEERER, a subject of the King of Württemberg, residing at Tuttlingen, Württemberg, in the German Empire, have invented a new and useful Improvement in Inhaling Apparatus, of which the following is a specification.

The present invention relates to devices for facilitating the inhalation of anæsthetics, &c., and its object is to provide an inhaling apparatus which, while fully answering all the requirements of modern medicinal science and being specially adapted for use in the two present methods of administering anæsthetics, can still be produced much more cheaply than the apparatus hitherto employed for one or the other method. The inhaling apparatus is thus brought within the reach of every practicing physician.

The two methods at present in use for inducing general anæsthesia consist either in pouring the anæsthetic directly upon the mask or in supplying the patient with air previously saturated with the anæsthetic.

There is thus far no mask and apparatus in existence which admits of carrying out both of the above described methods. It would involve great hardship for the practical physician to provide himself with separate apparatus for carrying out each method, especially inasmuch as the air-mixing apparatus now used are very expensive and it is probably due to this fact that the Kappler-Junker method, which has the advantage of greater safety, has not been introduced into general use.

The object of the present invention is to obviate all the above objections and for this purpose my invention consists in the features, means and combinations of parts now to be described and pointed out in the claim.

In the drawings accompanying this specification—Figure 1 represents an inhaling apparatus embodying my invention, in side elevation, the same being arranged to carry out one method; Fig. 2 a front elevation of the mask under this arrangement; Fig. 3 a side elevation of the apparatus arranged for carrying out the other method; Fig. 4 a front elevation of the mask under this arrangement.

The mask, A, is made entirely of glass and is hence transparent and may be cleaned

with a disinfecting liquid. As shown, the apparatus is so constructed that by a simple change of stoppers, D for D', in the neck of mask, A, either the air-mixing or the saturation-method may be employed, the apparatus being so arranged that the mask does not need to be removed from the face of the patient when pouring in the anæsthetic.

For the air-mixing method the complete inhaling apparatus consists of a double bulb or bellows, C, C', a chloroform receptacle, B, which differs from the old form of apparatus in being graduated to indicate cubic centimeters, and an inhaling-mask made of thick glass which may be applied air-tight to ordinary faces without any additional devices. The chloroform receptacle, B, is closed at the top with a cork, E, through which are passed two bent glass-tubes, one of which receives the air from the double bellows or blower, C, C', by means of a rubber tube, c, and is provided at its end with a number of fine outlets or openings (three for example) the other glass-tube serving to conduct the air saturated with chloroform to the mask, A, through the rubber tube, d. The blower or its rubber bulb, C, has a capacity of ninety cubic centimeters and under ordinary circumstances the same is compressed twenty-five times a minute.

The various numbers usually applied to other chloroform receptacles have been omitted, inasmuch as they possess a scientific rather than a practical value, it being sufficient for the operator to know that for adults the receptacle should be filled to not exceeding fifty-five cubic centimeters and for children to not exceeding forty cubic centimeters, whereupon the pumping is continued at the given rate until the desired narcosis takes place. For patients who are opposed to this method of treatment or for physicians who do not apply the same my invention is embodied in the form represented in Figs. 3 and 4. In this form of inhaler, the stopper, D, is replaced by a stopper, D', through which is passed a glass tube, d', provided at its outer end with a funnel, and at the inner end with an absorbent medium. In this form also the mask may be readily cleaned and disinfected and has the advantage of transparency and

cheapness. The neck of the mask is, moreover, provided with an air-aperture, *a*.

If the formation of the patient's face be such as to preclude an air-tight fit of the mask, the same may be easily supplemented by an interposed cushion of antiseptic cotton, lint or gauze. An absolute air-tight fit is, however, unnecessary in many cases and any lateral openings or crevices occurring in such cases would only slightly aid the air-aperture, *a*, in the neck of the mask. Only in cases where the mask is employed in inhaling-apparatus employing compressed air, it is necessary to provide for an air-tight fit, in which cases an annular rubber cushion is placed beneath the mask.

To prevent the mask from being coated by the exhaled air, it is sufficient to mop the same with cotton wadding moistened with glycerine.

My improved mask may be employed in all inhaling apparatus, *e. g.*, those for adminis-

tering ether, but in this case the dimensions must be correspondingly increased.

What I claim, and desire to secure by Letters Patent, is—

The combination, with a mask provided with a neck, and a receptacle for anæsthetics connected with a bellows and means for connecting the same with the mask of a tube provided at one end with a funnel-shaped opening and at the other end with an absorbent for anæsthetics, the receptacle and the glass tube provided with the funnel being adapted to be interchangeably connected with the mask, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILHELM SCHEERER.

Witnesses:

AUGUST B. DRAUTZ,  
BERNHARD HOFMANN.