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PATENTED DEC. 4, 1906.

L B & F. A. ALTAFER.
VENTILATING APPARATUS FOR CHEMICAL DESKS.
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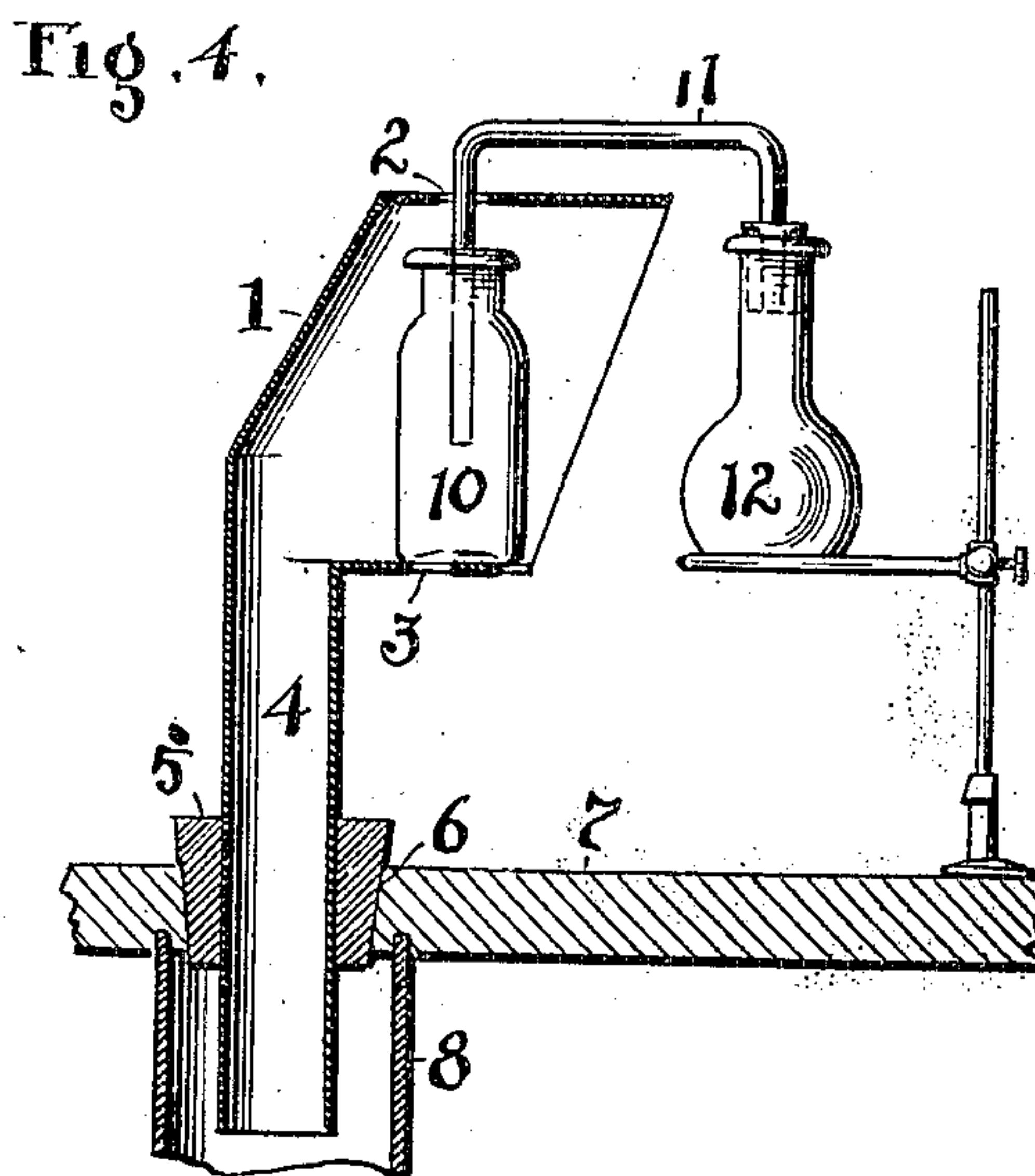
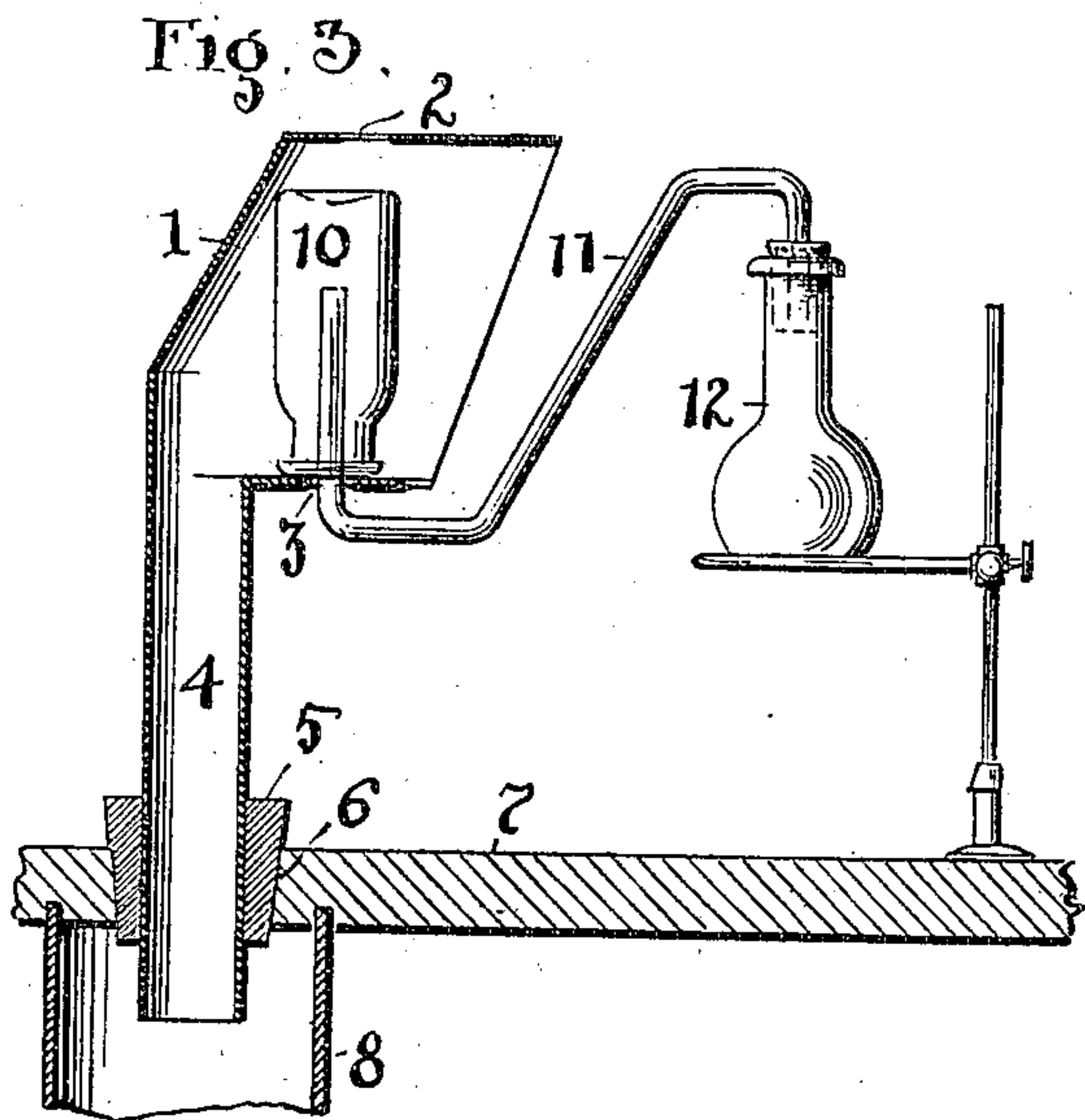
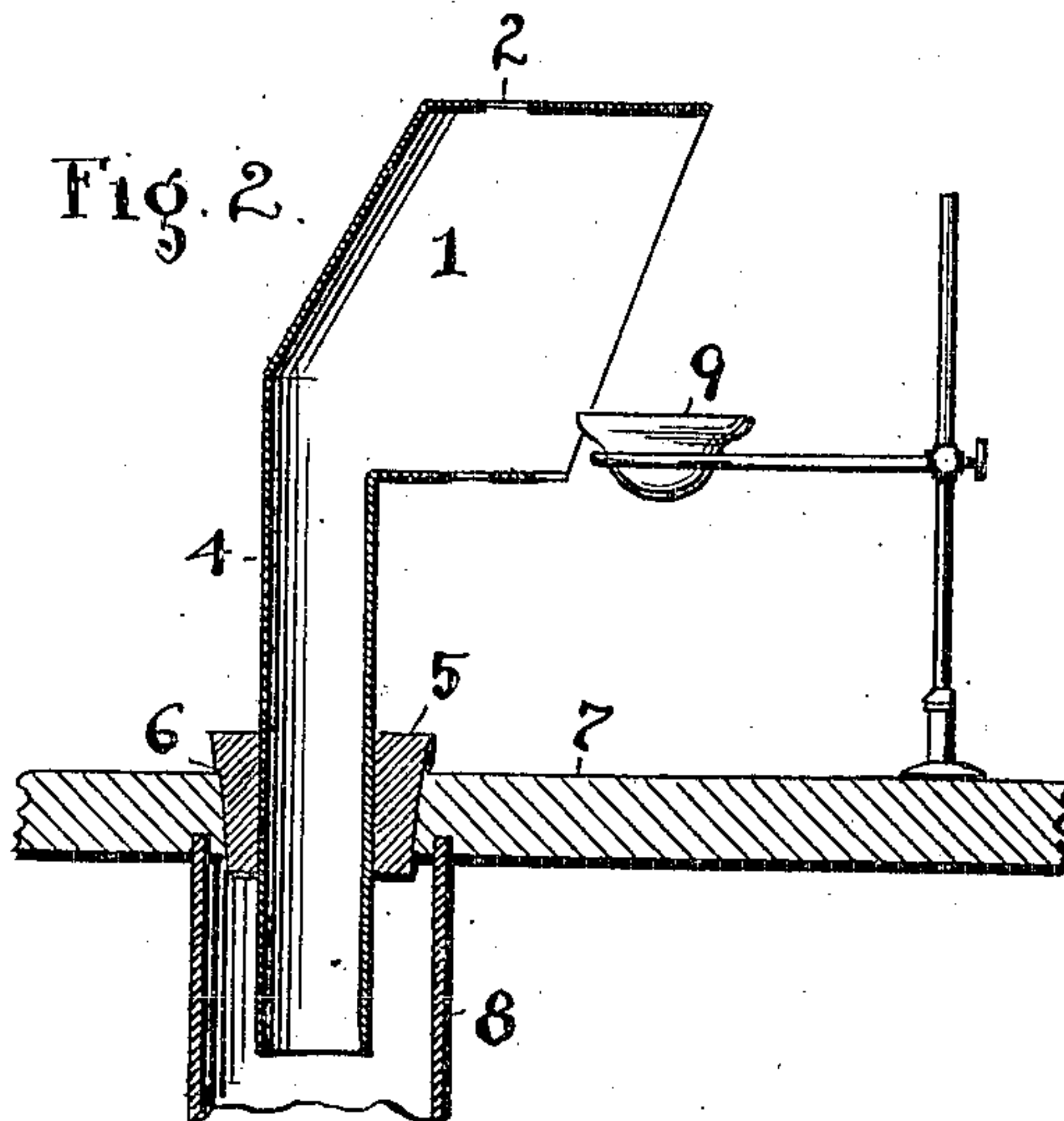
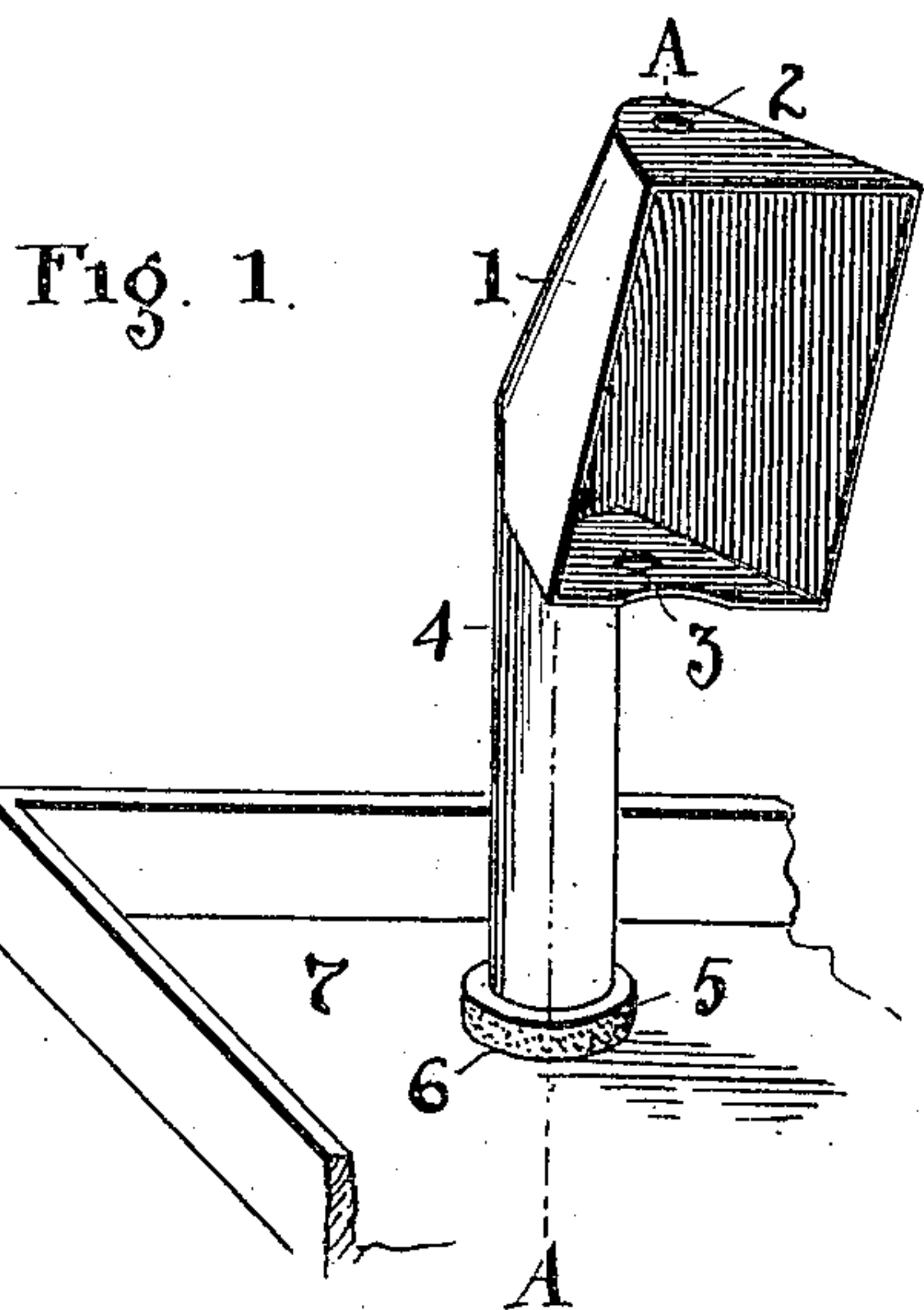
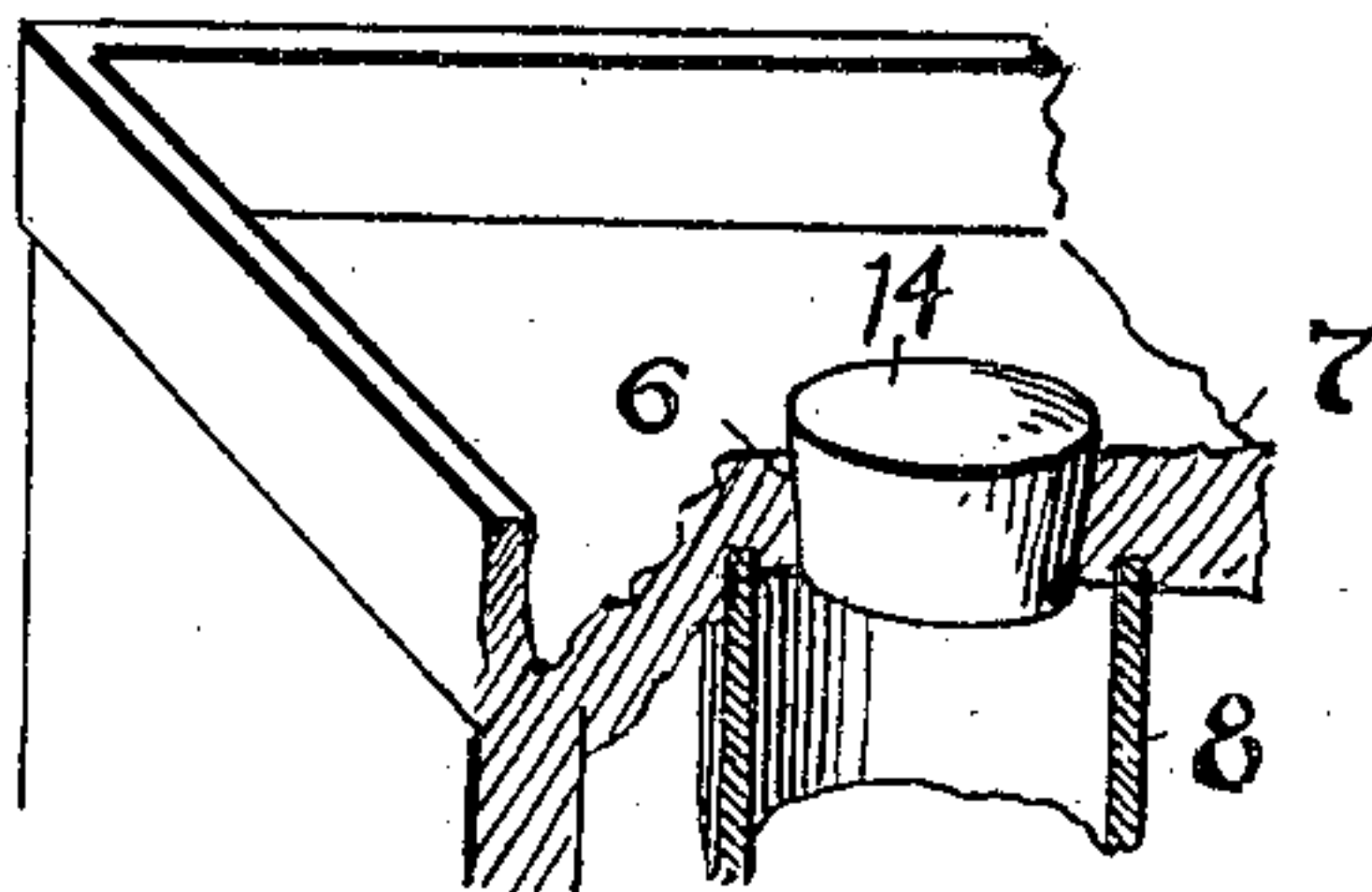


Fig. 5.



ATTEST.

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UNITED STATES PATENT OFFICE.

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VENTILATING APPARATUS FOR CHEMICAL-DESKS.

No. 837,448.

Specification of Letters Patent.

Patented Dec. 4, 1906.

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To all whom it may concern:

Be it known that we, L B ALTAFFER and FLORENCE A. ALTAFFER, citizens of the United States, and residents of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Ventilating Apparatus for Chemical-Desks, of which the following is a specification.

Our invention relates to improvements in ventilating apparatus for chemical-desks, and is adapted to carry off all fumes and odors, the object being to provide devices of this kind that shall be small, cheap, and simple in construction, strong and durable, which may be attached to any chemical-desk and as many as may be required to supply each person, which may be adjusted in any desired position or removed entirely and instantly from the desk, a suitable "plug" being furnished to stop up the vent-hole in the desk when the apparatus is not in use, and which may be operated by each person at his own desk without having to go to the one common cupboard-hood of the ordinary chemical-laboratory.

With these objects in view the invention consists in the improved construction and combination of parts hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of our invention. Fig. 2 is a sectional view on line A A, Fig. 1, of the apparatus in position to carry off fumes from the evaporation of solutions in beakers, evaporating-dishes, &c. Fig. 3 is a sectional view of the apparatus in position for collecting gases lighter than air by upward displacement, while Fig. 4 represents a similar view with the parts in position for collecting gases heavier than air by downward displacement. Fig. 5 is a perspective view of a portion of the desk with the ventilating apparatus removed and the vent stopped up by a plug designed for this purpose.

In the accompanying drawings, in which like figures of reference indicate corresponding parts in all the drawings, 1 is a hood of any convenient form (that in the drawings being most available and serviceable) having the holes 2 and 3 at the top and bottom, respectively, through which the delivery-tube 11 from the generating-flask 12 is introduced into the receiving-bottle 10, as shown in Figs. 3 and 4. The hood 1 is attached to the tube 4, and over the latter is slipped the

taper ring 5, which serves to adapt the tube 4 to the hole 6 of the desk-top 7, making a perfectly air-tight joint and at the same time allowing the apparatus to be raised, lowered, or revolved to any desired position at the will of the operator. A pipe or tube 8 connects the desk-top 7 from beneath with the interfloor-ducts, (not shown,) the latter converging into a single duct having a fan or any other means of exhaust. A plug or stopper 14 (shown in Fig. 5) is used to close up the vent-hole 6 when the apparatus is removed from the desk.

The operation is as follows: When it is desired to evaporate a solution that gives off noxious fumes, the apparatus is arranged as in Fig. 2. The evaporating-dish 9 is supported in front of the opening of the hood 1, so that the fumes are drawn into the hood, thence through the tubes 4 and 8 into the interfloor-duct, and from there discharged, leaving the air of the laboratory perfectly pure and wholesome. To collect a gas lighter than air by upward displacement for experimental purposes, the apparatus is arranged as in Fig. 3, in which 12 is the generating-flask, 11 the delivery-tube, and 10 the receiving-bottle inverted over the hole 3 of the hood 1. When the bottle 10 is full of gas, the delivery-tube 11 is drawn down so that the bottle 10 can be removed from over the tube 11, (the latter not being withdrawn from the hole 3,) a glass plate is slipped over the mouth of the bottle 10, and the latter removed from the hood. Another bottle is now inverted over the hole 3 of the hood 1, the delivery-tube 11 raised to its position, and the operation repeated as often as desired, the excess of gas in every case being carried off by the apparatus. To collect a gas heavier than air, the apparatus is arranged as in Fig. 4, the manipulation being virtually the same as in the preceding case. When a sufficient number of bottles of gas has been collected, the extremity of the delivery-tube in either case is left in the hood, so that the balance of the gas may be carried away until the reaction in the flask 12 ceases, while at the same time the experimenting can be carried on, as in Fig. 5, (the delivery-tube 11 of Figs. 3 and 4 not showing,) without the least hindrance and without any of the fumes escaping into the room. The foregoing are but a few of the many uses of our invention, but sufficient to show its impor-

tance, no other apparatus of the kind being known where each individual can carry on these operations at his own desk.

Therefore what we claim as new, and desire to secure by Letters Patent, is—

1. A ventilating apparatus for chemical-desks comprising a hood having an outlet-tube at its bottom, in combination with a desk and a vent-pipe engaged from the bottom in said desk and adapted to connect with said outlet-tube.

2. A ventilating apparatus for chemical-desks of the character described, having a hood opening outward, with the holes 2 and 3 at top and bottom respectively, for the purposes shown.

3. A ventilating apparatus of the character described, having the outwardly-opening hood 1, with the holes 2 and 3, and connected with the tube 4 as shown.

4. A ventilating apparatus of the charac-

ter described, having the hood 1 with the holes 2 and 3 and the tube 4, together with the taper ring 5 for the purposes heretofore described.

5. A ventilating apparatus of the character described, having the hood 1 and the holes 2 and 3, the tube 4, the taper ring 5 to adapt the tube 4 to the hole 6 of the desk-top 7.

6. The combination of a chemical-desk having an opening through the top thereof, a vent-pipe arranged over said opening from beneath, and an open hood having an outlet-tube removably and adjustably connected with said vent-pipe through said opening.

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Witnesses:

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