

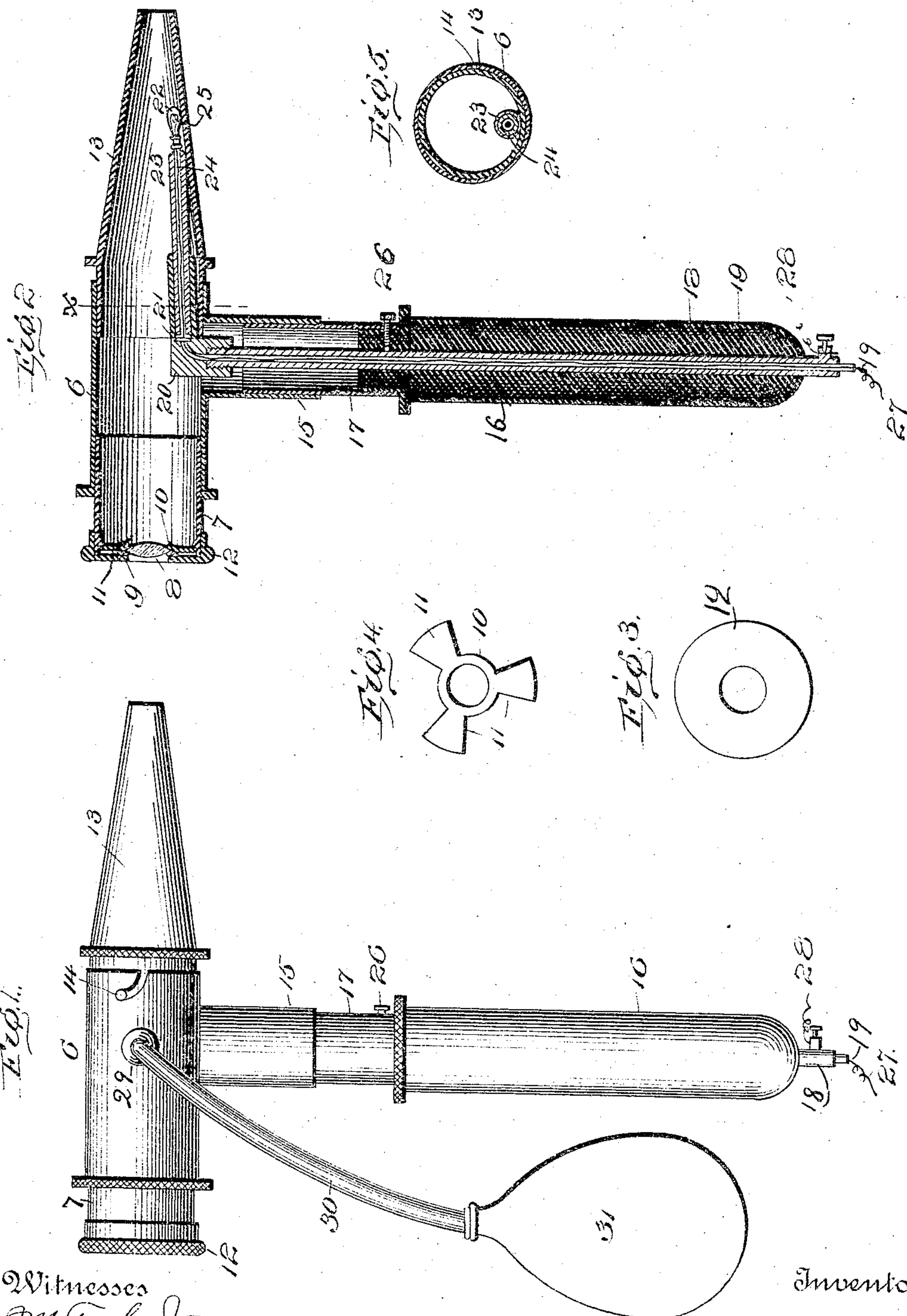
No. 765,887.

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P. T. GEYERMAN.
OTOSCOPE.

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NO MODEL.



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OTOSCOPE.

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To all whom it may concern:

Be it known that I, PETER T. GEYERMAN, a citizen of the United States, residing at Brewster, in the county of Nobles and State of Minnesota, have invented a new and useful Improvement in Oscopes; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to that class of surgical instruments which are used in the diagnosis and treatment of interior surfaces; and its object is, first, to provide means for lighting up interiors, so that they may be examined; second, to provide means for giving massage and other treatment of such interiors while lighted, and, third, to provide means for examining such interiors before, during, and after treatment. It will be herein described in the form adapted to treatment of the ear.

To this end my invention consists in the construction and combination of parts forming an otoscope, hereinafter more fully described, and particularly defined in the claims, reference being had to the accompanying drawings, in which—

Figure I represents an otoscope according to my invention in side elevation. Fig. II is a longitudinal vertical section of the same. Fig. III is an end view of the microscope with its collar on. Fig. IV is an end view of the microscope with its collar removed. Fig. V is a transverse vertical section at the line *x*, Fig. I.

Numeral 6 represents the body of the otoscope, which is a cylindrical tube into which a focusing-tube 7 telescopes, carrying a magnifying-lens 8 and forming a portion of the body.

9 and 10 are supporting-plates for the lens 8. These plates are mere rings at the edge of the lens provided with segments 11, which extend radially to the tube 7 and are seated therein.

12 is a collar covering the whole end of the focusing-tube excepting the surface of the lens 8.

13 is a speculum fitted into the forward end of the body 6 and provided with lugs 14 to

engage slots in the body 6 to keep the speculum in proper line.

15 is a tubular portion of the body projecting downward to receive the handle 16. The handle is made of insulating material, such as hard rubber, and is provided with a metallic tubular portion 17, which telescopes into the body portion 15.

18 is a tubular metallic rod secured within the handle 16 to carry an insulated copper wire 19.

20 is a tip, of hard rubber, secured upon the end of rod 18 to insulate the wire 19 around its contact-point 21.

22 is an incandescent lamp supported upon the metallic rod 23, which carries within it an insulated copper wire 24. This wire is brought in contact at 21 with the wire 19 when the speculum is properly inserted into the body 6, it being guided by the lugs 14. One end of the filament 25 is in contact with the wire 24, and the other end is in contact with the metallic tube 23.

26 is a screw passing through the tube 17 of the casing to the rod 18 for the double purpose of binding the latter firmly in the handle and of completing the circuit between the two rods 19 and 23 through the tubing 17, 15, and 13. Wires 27 and 28 connect the wire 19 and the rod 18 with a battery. (Not shown.)

At 29 the body 6 has an opening surrounded by a flange or nipple upon which the rubber hose 30 of an air-pump 31 may be attached. The lamp being located in the forward end of the speculum is inserted directly into the ear-cavity and lights up the whole interior, and it being out of line of the lens 8 it leaves an unobstructed line of vision through which the operator may look directly upon the surface to be examined. By means of the air-pump 31 air may be forced in and out through the speculum, thus applying a massage movement to the parts under consideration, first to aid in the diagnosis of the case and afterward for therapeutic purposes, if thought advisable. Now if the collar 12 be removed the nozzle of a syringe or the body of a small surgical instrument may be

