

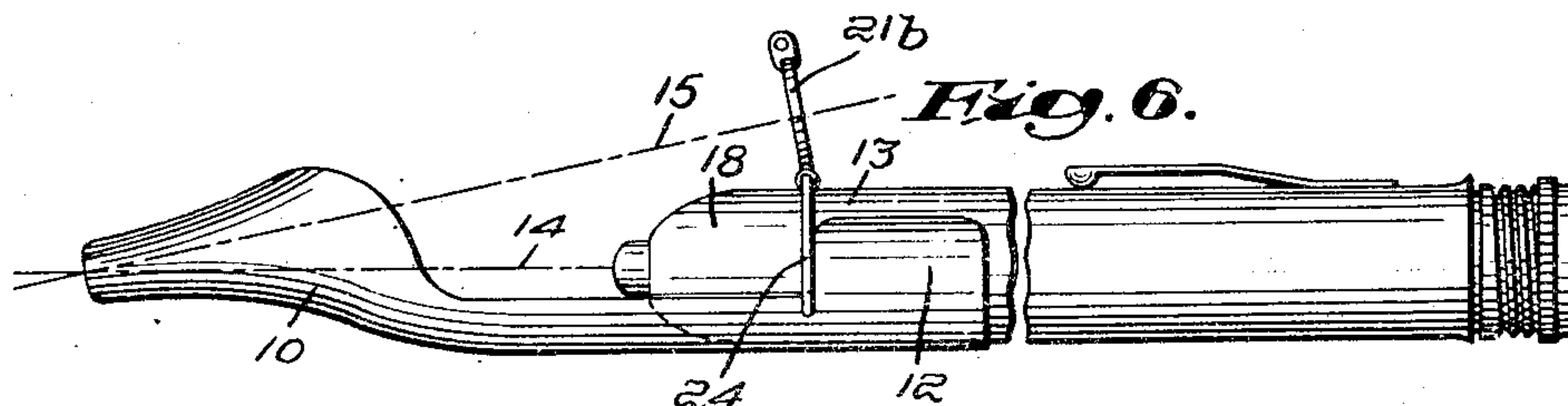
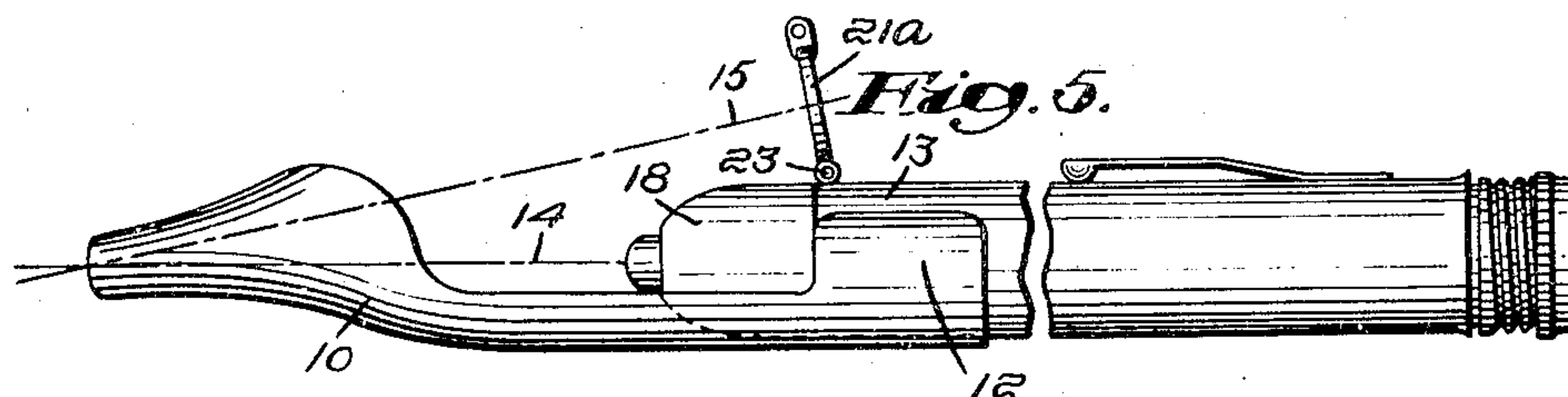
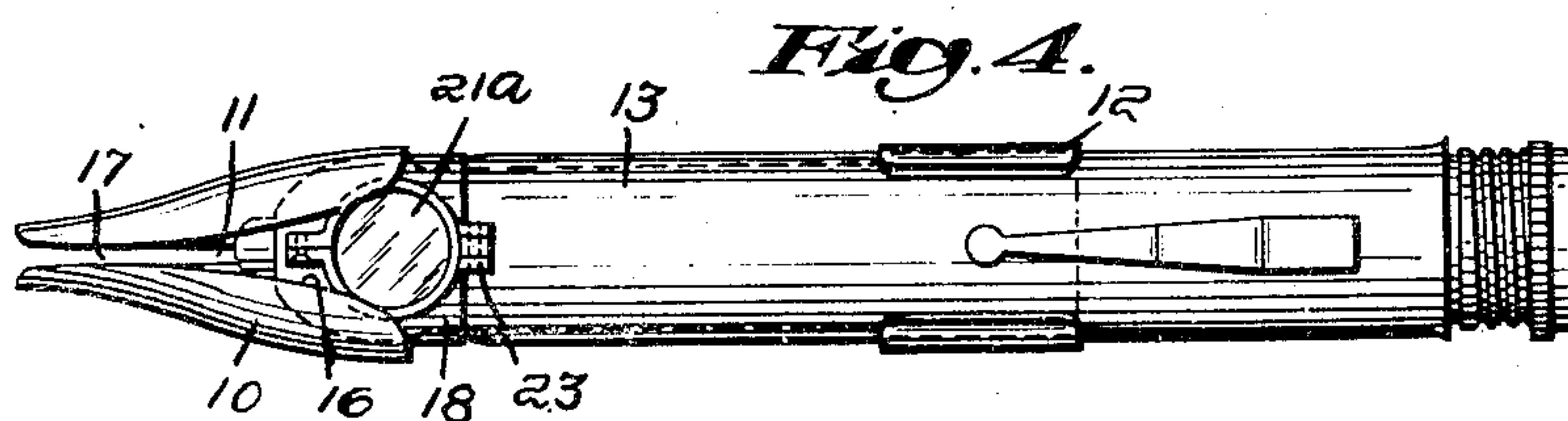
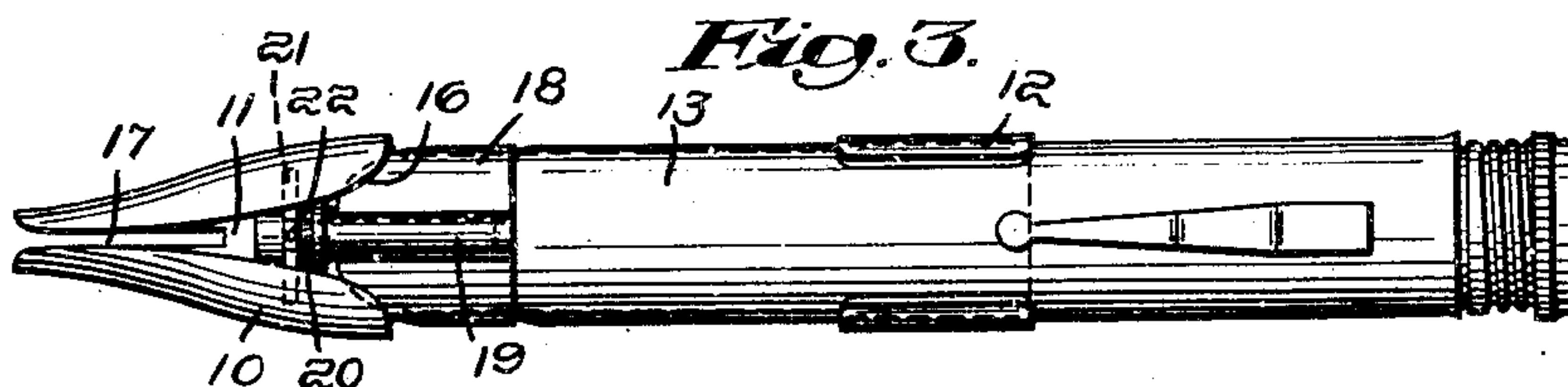
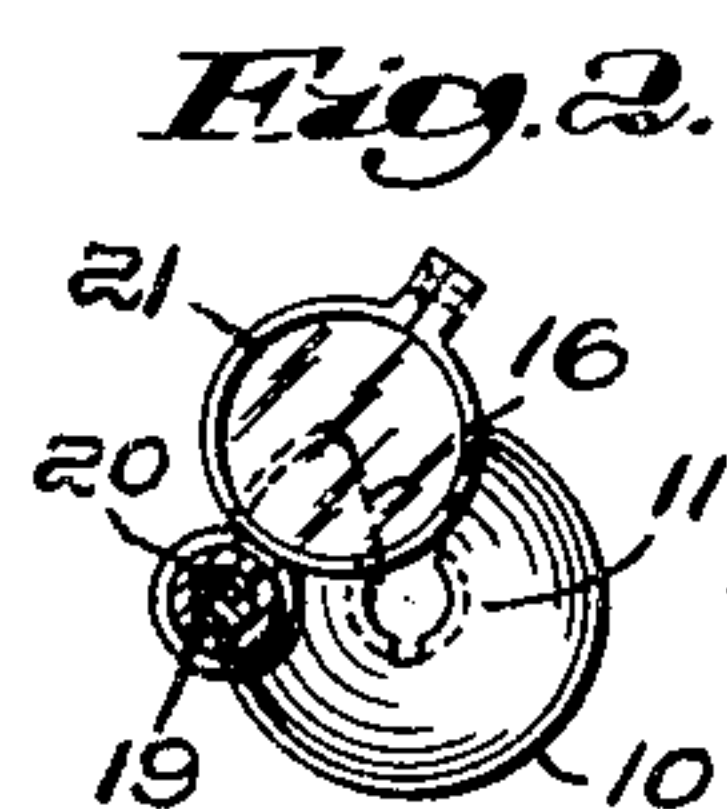
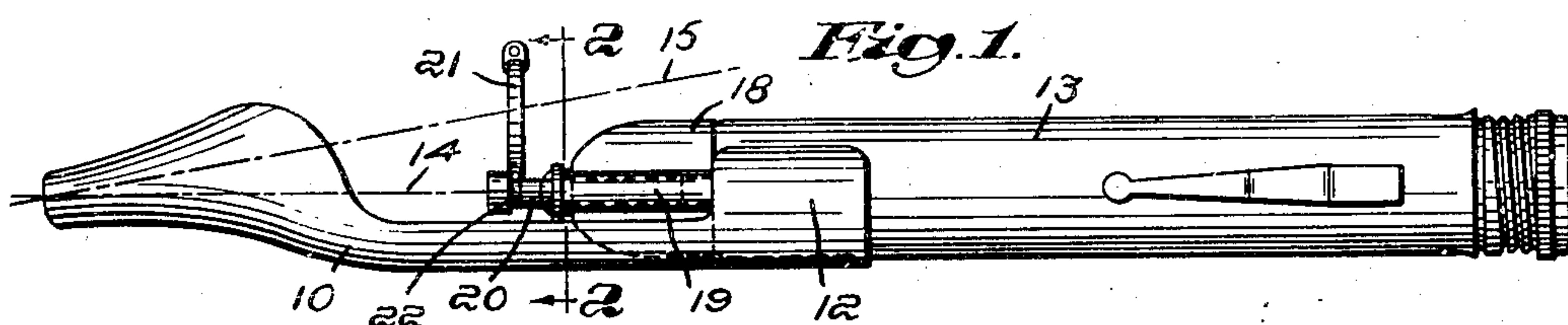
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A. H. PARCHER

2,485,766

OTOSCOPE OR THE LIKE

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UNITED STATES PATENT OFFICE

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OTOSCOPE OR THE LIKE

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1 Claim. (Cl. 128—9)

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My present invention relates to improvements in otoscopes or the like.

In order that ears, for example, may be accurately examined, it is essential that proper illumination and magnification of the suspected area be provided. At the same time, it is desirable that otoscopes be inexpensive to manufacture and sufficiently compact to afford the physician with an instrument that is convenient to carry and adaptable to varied conditions and uses.

In accordance with my invention, I provide otoscopes in which the sight axis of the speculum is at an angle to the light source and a lens is adjustably supported by the otoscope for movement into and out of a position in which it is substantially in alinement with the sight axis of the speculum and in a position to give the desired sharp focus. Preferably, the "sight" axis clears the end of the light source where the light source is in a position of use relative to the speculum. The light and sight axis intersect each other adjacent the front end of the speculum and the speculum itself is made to illumination of the area to be examined.

In the accompanying drawings, I have shown embodiments of otoscopes from which the several novel features and advantages of my invention will be readily apparent.

In the drawings:

Fig. 1 is a side view of an otoscope in accordance with my invention in a position of use.

Fig. 2 is a section along the line 2—2 of Fig. 1.

Fig. 3 shows in plan view the otoscope of Fig. 1 in its closed position.

Fig. 4 is a view of a modified form of otoscope in its closed position.

Fig. 5 shows the otoscope of Fig. 4 in its open position, and

Fig. 6 shows in a view similar to Fig. 5 an otoscope with a different lens mount in accordance with my invention.

In the drawings I have shown a speculum 10 having a channel portion 11 terminating in clip establishing ends 12 to detachably and slidably support a light source 13, of any conventional construction such as a pen light, in such a position that the light axis 14, while registering with the small end of the speculum, is at an angle to the "sight" axis 15 of the speculum. Preferably, the axes 14 and 15 intersect each other adjacent the front end of the speculum 10. To make the speculum more easily adjustable and to facilitate the illumination of the object being examined, I preferably form the speculum with

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a slit 16 extending from end to end of the top of the speculum and a slit 17 along its bottom extending rearwardly a substantial distance from its small end.

In order that the illuminated area may be most thoroughly examined, I provide my otoscopes with lenses.

As shown in Figs. 1—3, I may accomplish this result by mounting on the cap 18 of the light source 13 a tubular support 19 either end of which frictionally receives the pintle 20. The diameter of the lens 21 is less than the diameter of the large end of the speculum and may be pivotally connected to the pintle 20 by a pivot 22. Preferably, the lens 21 is mounted as shown in Figs. 1 and 2 so that it may be positioned ahead of the light source and housed within the large end of the speculum when its support 19 is in alinement with the rear end of the slit 16 to permit the otoscope to be compact when in its closed position.

By this construction, the lens 21 may be swung relative to the axis of the support 19 and adjusted axially relative thereto. Since the light source 13 is merely frictionally held in the clip 12, the otoscope has a wide range of operating positions, as well as compactness in storage. Furthermore, the lens 21 and light source 13 may be readily removed from the clip for other uses, as for example, in the examination of the eyes.

In Fig. 4, I have shown a lens 21^a mounted on a hinge 23 attached in any desired manner to the light source 13. In order that the light source may be removed from the speculum, I space the clip ends 12 sufficiently apart to permit the passage therebetween of the hinge 23. The hinge 23 permits the lens 21^a to be swung into a position intersecting the axis 15 of the speculum or to be folded against the light source 13 and to be partially housed by the speculum when the otoscope is in closed position.

As shown in Fig. 4 I may attach the lens 21^b to the otoscope by means of a spring clip 24 slidable on the clip portion 12 or on the light source so that they both may be removed from the clip for other uses.

In accordance with my invention, I thus provide otoscopes combining compactness in construction and simplicity of manufacture with adjustability to render them well adapted to a wide range of conditions.

What I therefore claim and desire to secure by Letters Patent is:

A device of the class described comprising a speculum including a clip portion extending rear-

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wardly at an angle to the sight axis of said speculum, a light source slidably and rotatably supported by said clip portion so that the light axis is at an angle to the sight axis and intersects said sight axis adjacent the front end of the speculum, a lens, and means carried by said light source slidably and pivotally supporting said lens so that it may be pivoted from a position intermediate the rear end of said speculum and the front end of said light source into a position intersecting the axis of said speculum and slid independently of said light source into desired relation to said speculum, the diameter of said lens being less than the rear part of said speculum and the rear part of said speculum having a slot

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to receive said means to permit said lens to be housed in said speculum when said slot and said means are in alinement.

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