(No Model.)

C. SMITH.

ELECTRIC LIGHT ATTACHMENT FOR SPECULUMS.

No. 332,453. Patented Dec. 15, 1885.

Fig. 4.

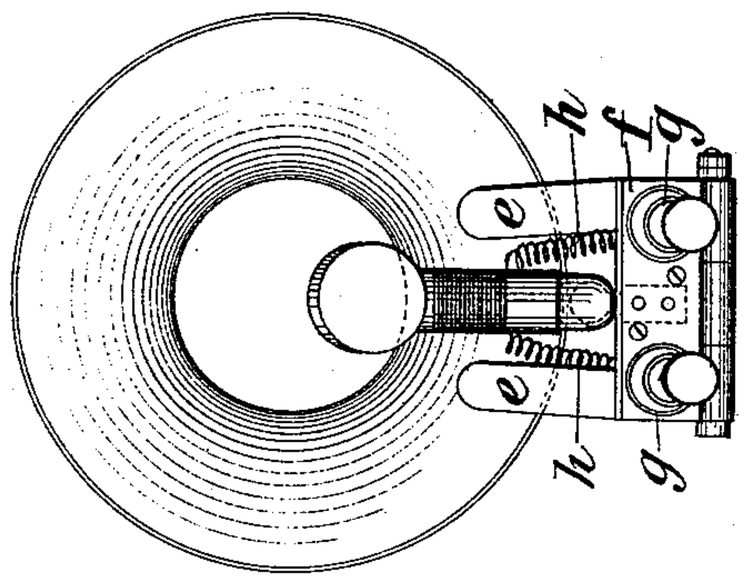


Fig. 3.

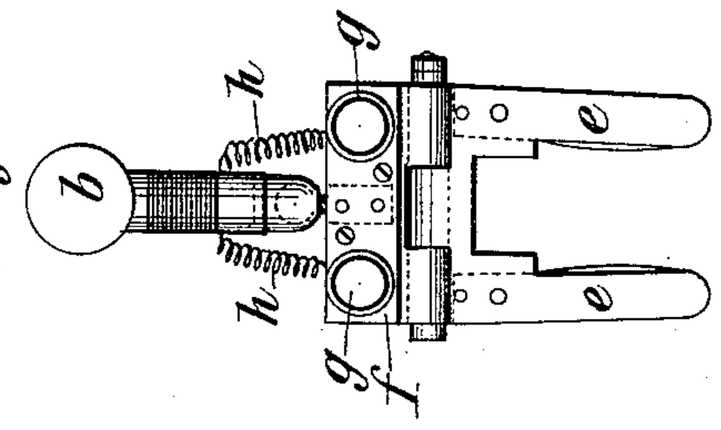


Fig. 2.

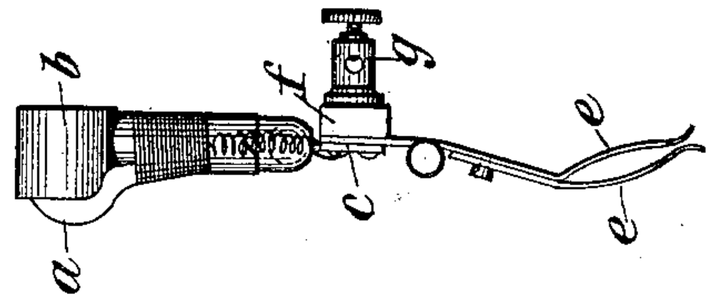


Fig. 5

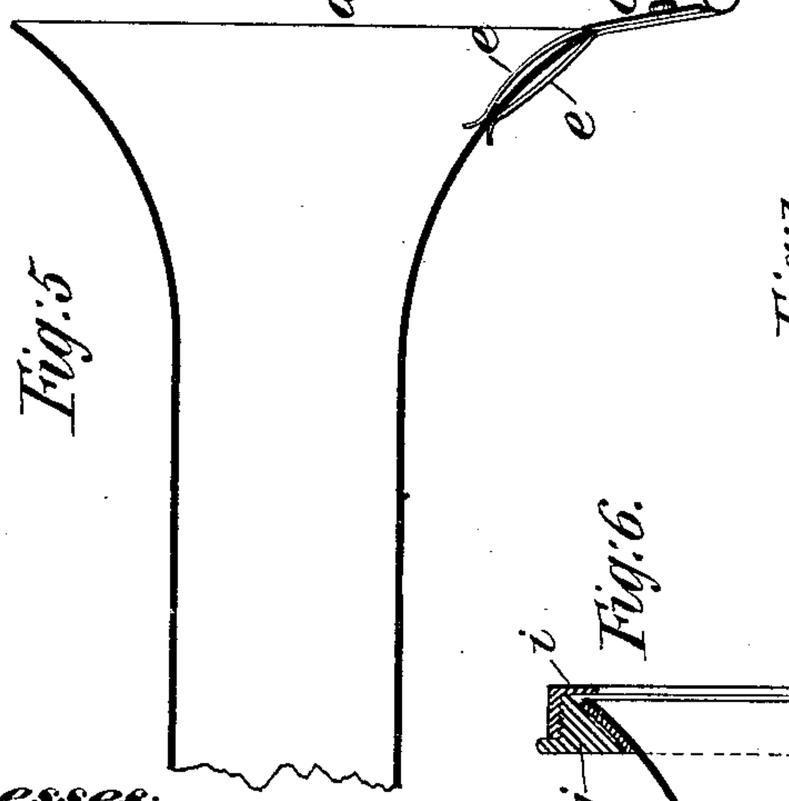


Fig. 1.

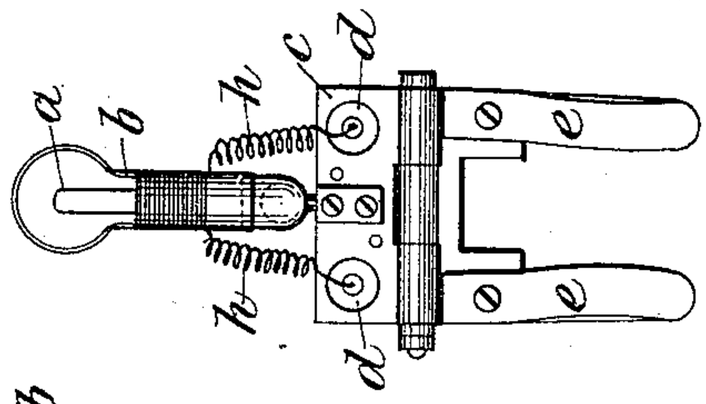
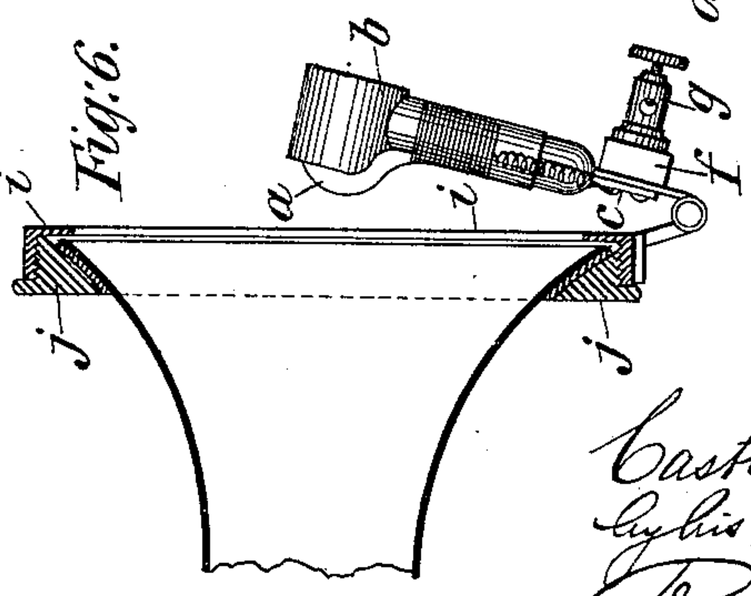


Fig. 6.



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CASTLE SMITH, OF QUEEN VICTORIA STREET, LONDON, ENGLAND.

ELECTRIC-LIGHT ATTACHMENT FOR SPECULUMS.

SPECIFICATION forming part of Letters Patent No. 332,453, dated December 15, 1885.

Application filed December 26, 1884. Serial No. 151,143. (No model.)

To all whom it may concern:

Be it known that I, CASTLE SMITH, of Queen Victoria Street, London, England, have invented certain new and useful Improvements in Means for Applying the Electric Light to Speculums and other Scientific Instruments, of which the following is a specification.

The object of this invention is to so apply the electric light to speculums and other scientific instruments as to provide for its being easily adjusted and thrown into its operative position or out of position; and to this end it consists in an electric-lamp attachment for speculums and other scientific instruments, consisting of the combination of a lamp-holder, a plate to which said lamp-holder is pivoted, and which is furnished with insulated terminals, and a fastening to which the said plate is hinged, and by which it may be attached to the instrument.

In the accompanying drawings, Figure 1 is a plan view of the apparatus. Fig. 2 is a side view, and Fig. 3 is an under side plan, of the same. Fig. 4 is an end view of a speculum with the lamp applied thereto, and Fig. 5 is a longitudinal section of an ordinary speculum, showing the lamp in position.

a is an incandescent lamp, which is secured by binding with thread or in any other convenient manner in a hollow metal holder or casing, *b*, so that the lamp shall be inclosed on its two sides and at back and exposed only in front. This holder or casing *b* is connected by a ball-and-socket joint, or is otherwise adjustably secured to a metal plate, *c*, which is formed with two large holes, *d d*, and is hinged to a pair of spring-clips, *e*, whereby the apparatus may be attached to the speculum. To this metal plate *c* is secured in any convenient manner a plate of vulcanite or other insulating material, *f*, to which the terminals *g* are attached. The terminals *g* are connected with the lamp by the coiled insulated wires *h h*, the holes *d* in the plate *c* being of sufficient size to allow for proper insulation. The wires *h h* will allow of the movement of the holder *b* in any direction within reasonable limits, while the double hinges will permit of the lamp being fixed in the position most suitable for the operator, and will also permit of the lamp being brought parallel to the mouth of the speculum, whatever may be the distance the lamp projects over the mouth.

The holder or casing *b* will form a shade to the lamp, and may be lined with some reflecting material, which will increase the light.

It will be seen from Fig. 4 that the lamp will take up but a small portion of the available sight-space, even when placed in the position to obtain a direct light down the speculum; but by withdrawing the lamp to one side, so as to obtain a reflected light, the whole of the sight-space may be made available.

If desired, the holder *b* may be made telescopic, by which means it may be brought quite to the center of the speculum.

In place of the spring-clip, I may hinge the metal plate *c* to an internally-threaded flanged ring, which fits over the mouth of the speculum, and is secured at the back by a second ring, which screws into the first ring, the mouth of the speculum being gripped between the two rings. This modification is shown at Fig. 6, *i i* being the outside ring, to which the plate *c* is hinged; and *j*, the inside or gripping ring. I may also use a clamping-screw to secure the light-holder to the speculum; but inasmuch as ordinary speculums are made of glass the clamping-screw would have to be used with care. It will, however, be evident that the means for securing the light-holder to the speculum may be varied to a considerable extent; but the spring-clip is the simplest and most quickly applied, and therefore preferable.

In applying the holder to other scientific instruments the use of which requires a light—as, for instance, the stage of a microscope—I may use a clamping-screw or a spring-clip to secure the light-holder to the instrument.

Having now described my invention, I claim—

An electric-lamp attachment for speculums and other scientific instruments, consisting of the combination of a lamp-holder, a supporting-plate which is furnished with insulated terminals, an adjustable connection between said holder and supporting-plate, a fastening for attaching said plate to the instrument, and a hinge between said plate and fastening, substantially as herein described.

CASTLE SMITH.

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