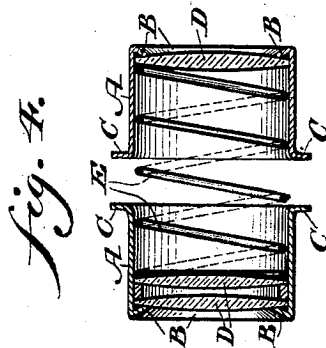
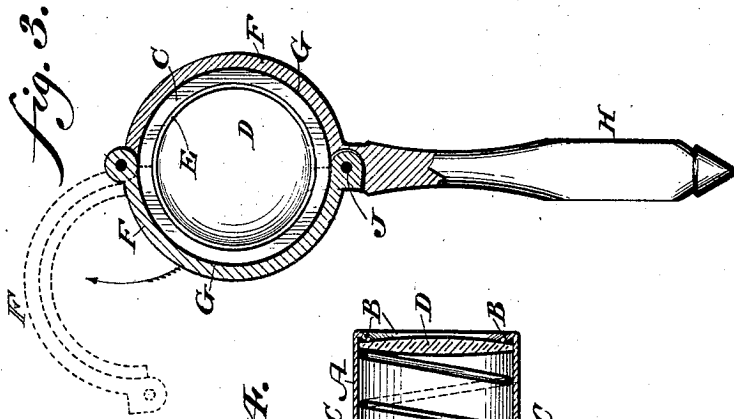
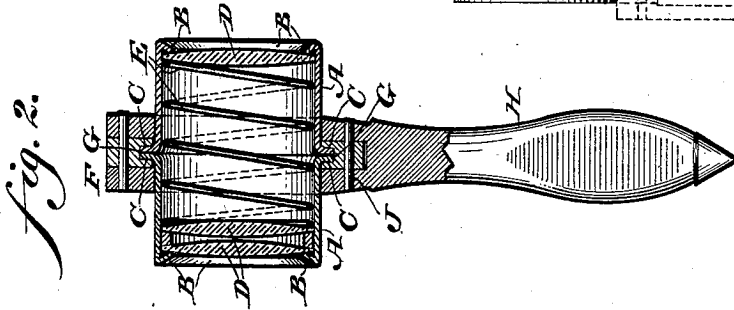
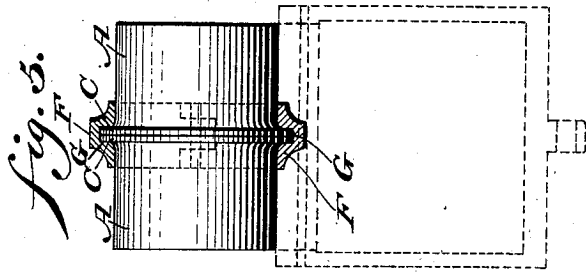
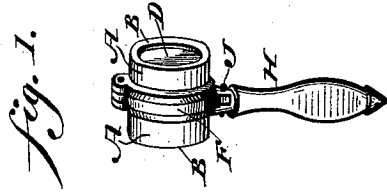


(No Model.)

A. WAGNER.  
MAGNIFYING GLASS.

No. 590,798.

Patented Sept. 28, 1897.



WITNESSES:

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P. F. Angle.

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# UNITED STATES PATENT OFFICE.

ANTON WAGNER, OF PHILADELPHIA, PENNSYLVANIA.

## MAGNIFYING-GLASS.

SPECIFICATION forming part of Letters Patent No. 590,798, dated September 28, 1897.

Application filed November 25, 1896. Serial No. 613,366. (No model.)

### *To all whom it may concern:*

Be it known that I, ANTON WAGNER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Magnifying-Glasses, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a magnifying-glass or microscope which has its lenses confined in a sectional tube or holder by means of a spring or springs, thus avoiding the use of other fastenings for such purpose, and the sections of the holder being provided with means for coupling the same, thus simplifying and cheapening the construction of the device.

It also consists of details of construction, as will be hereinafter set forth.

Figure 1 represents a perspective view of a magnifying-glass embodying my invention. Figs. 2 and 3 represent sections at a right angle to each other. Fig. 4 represents a section of the head of the device, the parts thereof being separated. Fig. 5 represents a transverse section of another form, showing also a casing in dotted lines into which the glass may be folded.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates two cylinders having at their outer ends the inturned flanges B and at their inner ends the outturned flanges C.

D designates the lenses, which are placed within the cylinders and prevented from outward displacement by the flanges B thereof.

Within the cylinders is the coiled spring E, which bears against the inner faces of the lenses and forces the latter into contact with the flanges B, thus gently but firmly retaining them in place, it being noticed that the cylinders are brought together, as in Fig. 2, whereby the spring is contracted, and so exerts its pressure on the lenses from within.

In order to prevent separation of the cylinders, I employ the collar F, which embraces the cylinders and has a groove G to receive the flanges C, whereby the separation of the cylinders is prevented. The collar may be connected with the handle H for convenience of focal adjustment or it may be pivoted to a casing, (shown in dotted lines, Fig. 5,) so as to be folded within the same.

In order to provide for the removal of the collar when so desired, I form the same of sections pivoted together and connected by the rivet or pin J opposite to the hinge, one of said sections being connected with the handle or casing, it being evident that by withdrawing the pin the sections may be separated and the cylinders displaced, access then being had to the spring and lenses. An additional coiled spring may be employed when it is desired to increase the pressure on the lenses.

The coiled spring or springs within the cylinders do not interfere with the vision, as their places of contact with the lenses are about the peripheries thereof.

The feature of a pair of double convex lenses at the end of a cell forms the subject-matter of an application for patent filed since the date of the present one under Serial No. 633,227, dated April 22, 1897.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A magnifying-glass consisting of a head formed of two cylinders detachably connected at their inner ends, lenses in the outer ends of said cylinders, and a spring holding said lenses in place.

2. A head formed of tubes or cylinders, and a spring within said cylinders, and a collar adapted to embrace the latter, and hold them against the separating action of said spring.

3. A head formed of separate tubes or cylinders, a spring within said cylinders for retaining lenses therein, and a collar engaging said cylinders and retaining the same against separation.

4. A magnifying-glass having a head formed of separate cylinders, means for retaining said cylinders together, lenses in said cylinders and a spring for holding said lenses in place.

5. A magnifying-glass having a head formed of cylinders provided with flanges, lenses in the outer ends of said cylinders, a spring for holding said lenses in place and a sectional collar embracing said flanges.

ANTON WAGNER.

Witnesses:

JOHN A. WIEDERSHEIM,  
WM. C. WIEDERSHEIM.