

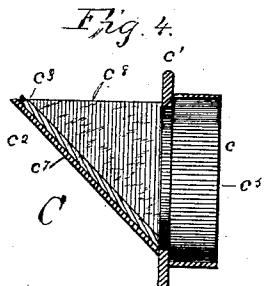
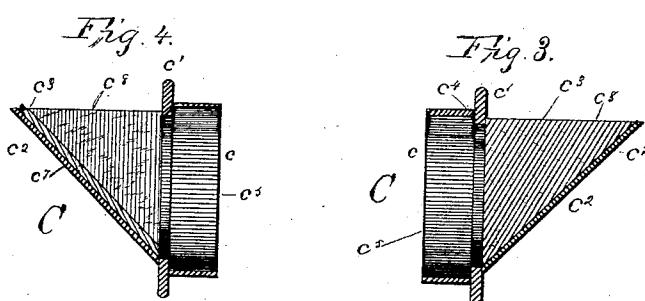
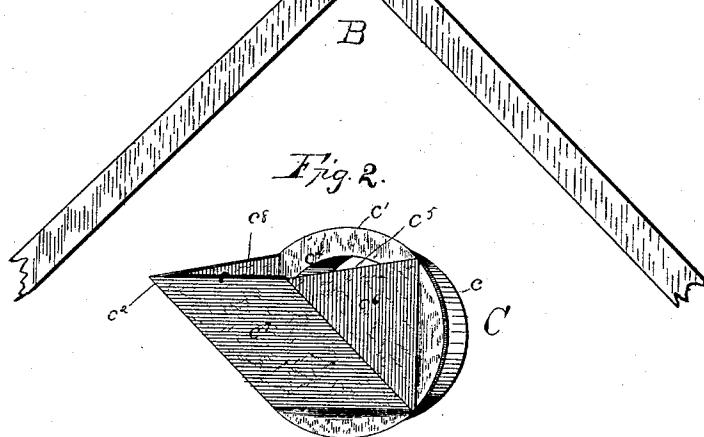
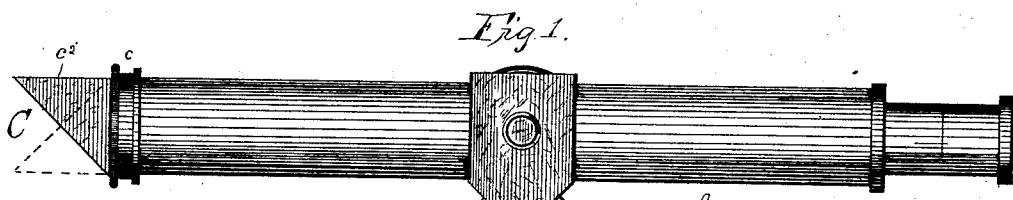
(No Model.)

G. N. SAEGMULLER.

ATTACHMENT FOR ENGINEERS' TRANSITS FOR VERTICAL SIGHTING.

No. 327,320.

Patented Sept. 29, 1885.



Witnesses:

J. F. Holden.

Daniel Scott.

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Inventor
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UNITED STATES PATENT OFFICE.

GEORGE N. SAEGMULLER, OF WASHINGTON, DISTRICT OF COLUMBIA.

ATTACHMENT FOR ENGINEERS' TRANSITS FOR VERTICAL SIGHTING.

SPECIFICATION forming part of Letters Patent No. 327,320, dated September 29, 1885.

Application filed March 28, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE N. SAEGMULLER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Attachments for Engineers' Transits for Vertical Sighting; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

All transit-instruments as now constructed are more or less defective, in that no simple means are provided for vertical or lateral sighting. This is particularly the case with the instruments used by mining engineers, who, owing to the peculiar conditions under which they work, find it almost impossible to correctly line their work, especially in vertical sighting. Various devices have been employed to remedy this defect, but are more or less cumbersome and expensive.

The object of my invention is to provide an attachment for engineers' or other transits for vertical sighting, which will overcome all defects of this nature, and at the same time be comparatively inexpensive and attachable to any of the instruments now in use.

The nature of my invention, therefore, consists of constructions and combinations, all as will hereinafter be described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a telescope having my improvement attached thereto; Fig. 2, a perspective of my device; Fig. 3, a longitudinal section showing a right-angle prism; Fig. 4, a similar section showing a mirror substituted for the prism.

As I do not limit the use of my invention to any form of transit-instrument, a description of the general construction of the latter will be unnecessary. I shall therefore designate the telescope as A, the standards as B, and

my attachment as C. This attachment consists of a sleeve, c, an annulus, c', a box, c², and a reflector, c³, which may be either a right-angle prism, Fig. 3, or a mirror, Fig. 4. The sleeve c fits the objective end of the telescope in the same manner as the sleeve of the protecting-cap usually employed when the instrument is not in use, and is joined to the annulus c' at such a point that the part c⁴ of the latter will form a stop when the device is slipped on the end of the telescope. The opening c⁵ in the annulus is of the same size as the opening at the objective end of the telescope, so that there will be no interference with the full power of the latter. The box c² is attached to the annulus and consists of sides c⁶ and back c⁷. The inner face of the back is inclined at an angle of forty-five degrees, and supports the right-angle prism or mirror in such a position that the light entering the opening c⁸ will be deflected at right angles into the telescope. By turning the opening c⁸ upwardly the line of sight is reflected upwardly; by turning the opening downward the line of sight is reflected downward, and by turning the opening ninety degrees from either of the above-noted positions the line of sight is reflected either to the right or left.

It is obvious that any of the intermediate angles may be used, if desired.

What I claim as new is—

As a new article of manufacture, an attachment for the object end of an engineer's transit, consisting of an annulus, a collar or stop, a box having an opening, and a reflecting medium placed at an angle of forty-five degrees in said opening, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE N. SAEGMULLER.

Witnesses:

M. F. HALLECK,
T. F. HOLDERN.