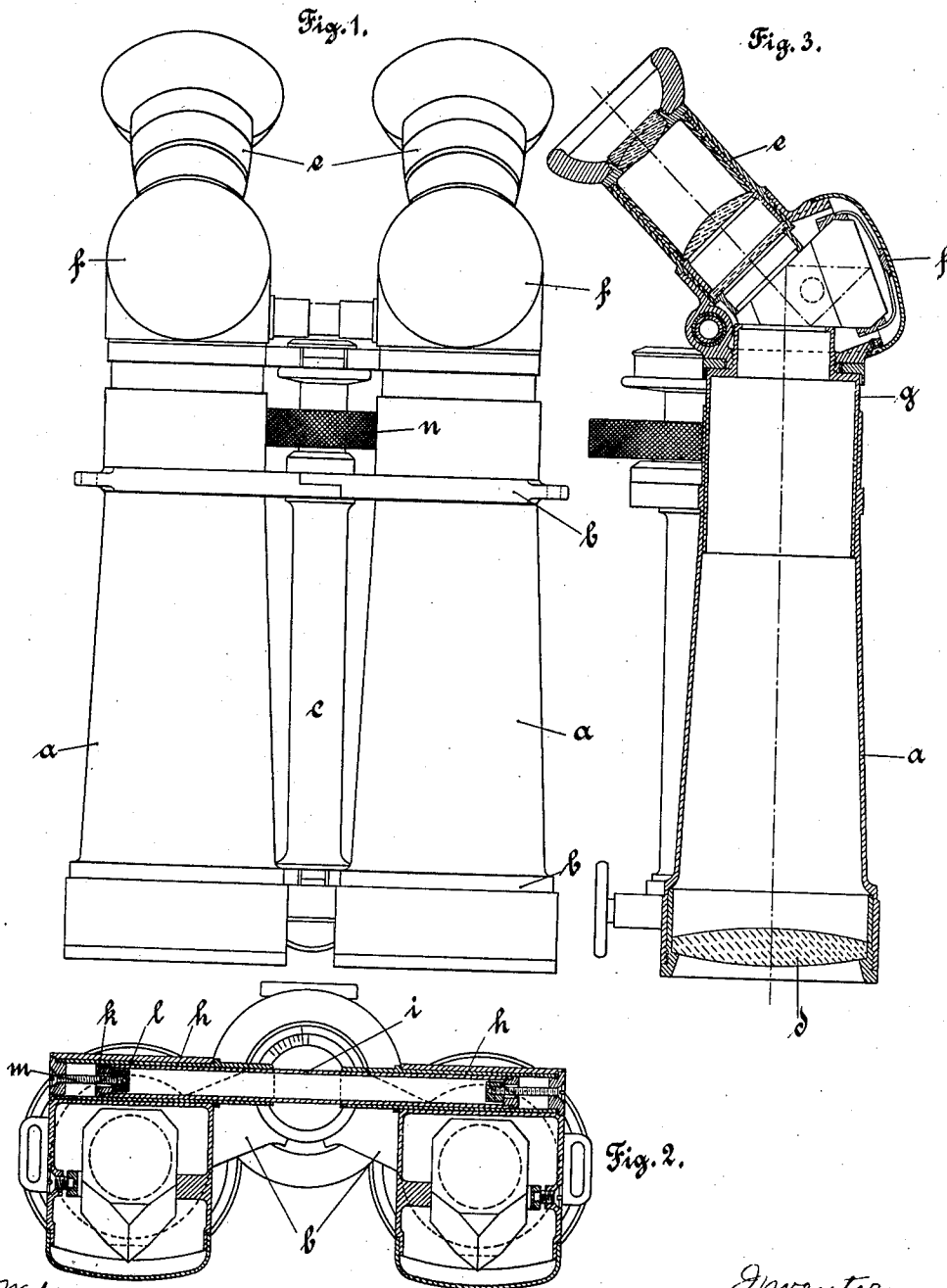


H. JACOB.
PRISMATIC DOUBLE TELESCOPE.
APPLICATION FILED JULY 16, 1907.

898,653.

Patented Sept. 15, 1908.



Witnesses:
J. H. Rimmann
A. L. O'Brien

Inventor
Heinrich Jacob
by
Bunney, Brickmaster & Ogden
Attys

UNITED STATES PATENT OFFICE.

HEINRICH JACOB, OF STEGLITZ, NEAR BERLIN, GERMANY, ASSIGNOR TO THE FIRM OF OPTISCHE ANSTALT C. P. GOERZ AKTIENGESSELLSCHAFT, OF FRIEDENAU, NEAR BERLIN, GERMANY.

PRISMATIC DOUBLE TELESCOPE.

No. 898,653.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed July 16, 1907. Serial No. 383,959.

To all whom it may concern:

Be it known that I, HEINRICH JACOB, a citizen of the German Empire, and resident of Steglitz, near Berlin, Germany, engineer, have invented certain new and useful Improvements in Prismatic Double Telescopes, of which the following is a specification.

This invention relates to prismatic double telescopes or field-glasses, the members or barrels of which are hinged to, each other, so that they can be adjusted to suit the distance between the user's eyes and the purpose of the invention is to provide an instrument of this type which can be used while the user is holding his head in a convenient, somewhat inclined position. To allow of using the instrument in this manner, that is to say with the head downwardly inclined, or with the eyes directed downwards, the lines of sight of the telescope members must be other than straight. For this purpose the ocular-tubes are inclined with regard to the axes of the objective lenses. In order that the lines of sight of the two telescopes remain parallel with all adjustments of the distance between the telescopes the present invention provides that the ocular tubes, which are inclined with regard to the objective axes, are capable of rotation relatively to the barrels of the telescopes and are connected to guides by which they are kept parallel during the movement of the barrels about the pivotal axes of the hinge-joint.

A construction embodying the invention is shown in the annexed drawing, in which

Figure 1 is an elevation of the instrument, Fig. 2 a cross-section thereof, and Fig. 3 a longitudinal section of one of the telescopes, taken perpendicular to the plane containing the axes of both objectives.

The barrels *a* of the two telescopes are fixed to hinge-pieces or arms *b* rotatable on a spindle *c*, and contain the object-glasses *d*. The ocular tubes *e* are fixed to the prism-holders or prism-chambers *f* and are inclined to the axes of the barrels *a* and object-glasses. The prism-holders *f* are carried by tubular members *g* rotatable in the barrels *a*. Each ocular tube is provided with a guide-member *h*, which is tubular in the construction illustrated, and a tubular member *i* is inserted into the guide-members *h*. Screws *m* are screwed into the outer ends of the members *h* and carry nuts *l* which co-act with abutments *k* screwed into the ends of the member

i to limit the relative movement of the barrels *a*. A milled-headed screw *n* serves in the known manner for adjusting the tubes *g* in the barrels *a* for the purpose of obtaining focus.

The optical elements shown in Figs. 2 and 3 and not specifically referred to in this description of the instrument do not form part of the subject-matter of the present invention, and need not, therefore, be described in detail.

The adjustment of the distance between the telescopes to correspond with the distance between the user's eyes is effected in the known manner by rotating the hinged arms *b* about the spindle *c*. During this rotation of the said arms the barrels *a* are rotated relatively to the tubular parts *g*, since the parts *h* and *i*, which allow relative lateral movement of the parts *g*, do not allow rotation thereof. The distance between the eye-pieces can be increased until the nuts *l* meet the abutments *k*, this being the position shown in Fig. 2.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. In a prismatic double telescope comprising two telescope barrels provided with object glasses, said telescope barrels connected to each other by a hinge-joint, ocular tubes capable of rotation relative to the telescope-barrels and inclined with regard to the axes of the object-glasses and the pivotal axis of the hinge-joint, and means of preserving parallelism of the axes of said ocular tubes when the telescope barrels are adjusted relatively to each other by rotation about said pivotal axis.

2. In a prismatic double telescope comprising two telescope barrels provided with object-glasses, said telescope barrels connected to each other by a hinge-joint, ocular tubes capable of rotation relative to the telescope barrels and inclined with regard to the axes of object-glasses and the pivotal axis of the hinge-joint, rectilinear guide members, each ocular tube firmly connected with one of said guide members, guiding means co-operating with said ocular tube guide members and adapted to keep same permanently in alinement with each other.

3. In a prismatic double telescope comprising two telescope barrels provided with

object-glasses, said telescope barrels connect-
ed to each other by a hinge-joint, ocular
tube members each comprising two parts ar-
ranged at an angle with relation to each
5 other, the part remote from the eye-piece ro-
tatably mounted on the corresponding tele-
scope barrel, rectilinear guide members, each
ocular tube member firmly connected with
one of said guide members, guiding means
10 coöperating with said ocular tube guide
members and adapted to keep same perma-
nently in alinement with each other.

4. In a prismatic double telescope com-
prising two telescope barrels provided with
15 object-glasses, said telescope barrels connect-
ed to each other by a hinge-joint, ocular
members each comprising two tubular parts

arranged at an angle with relation to each
other and an intermediate prism chamber,
the tubular part remote from the eye-piece 20
being rotatably mounted on the correspond-
ing telescope barrel, rectilinear guide mem-
bers, each ocular member firmly connected
with one of said guide members, guiding
means coöperating with said ocular tube 25
guide members and adapted to keep same
permanently in alinement with each other.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

HEINRICH JACOB.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.