Adjustment of the eyepiece tubes according to the distance between the observer's eyes is carried out by extending housings *8* until the fields of view of the left- and right-hand tubes merge into one.

In order to determine the total magnification of the microscope, it is necessary to multiply the objective magnification by the eyepiece magnification and the product should be multiplied by the proper magnification factor of the attachment (1.5×).

6. MAINTENANCE. STORAGE. TRANSPORTATION

The binocular attachment should be kept in a packing box in dry, clean and warm premises. It must be kept clean and prevented from damages.

Never touch the surfaces of the optical parts with the fingers.

In case there is dust accumulated on the attachment and eyepieces, remove it with an artist's brush thoroughly washed in ether, then wipe them with a clean linen or cambric cloth slightly soaked in pure benzine or xylene.

For moving to another premises, the attachment and its eyepieces should be put into stowage case so that not to displace at jolting.

All kinds of closed transport possible.

Зак. № 5918, изд. на англ. яз.

BINOCULAR ATTACHMENT АУ-12

TECHNICAL DESCRIPTION AND OPERATION INSTRUCTIONS

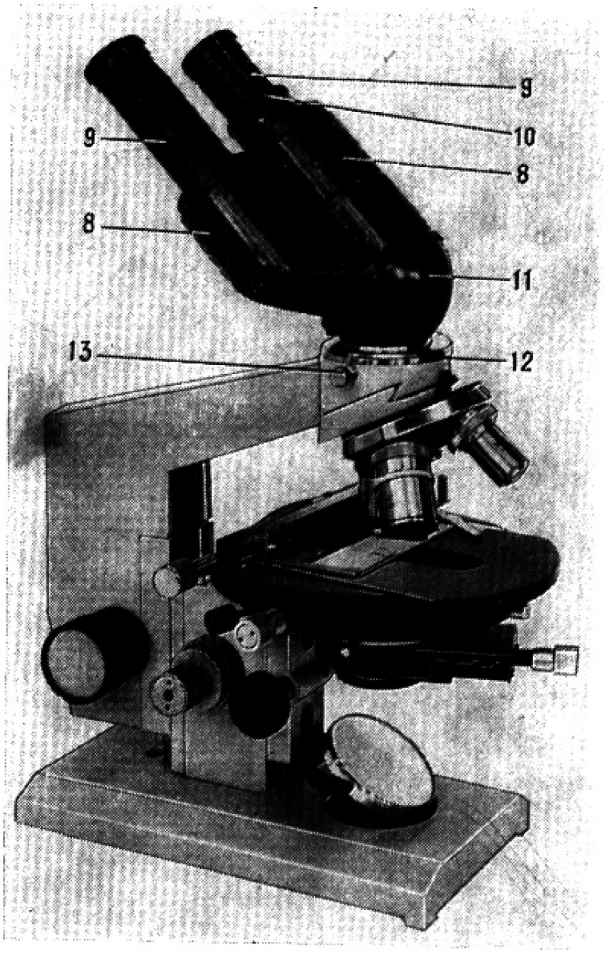

Fig. 2

1. APPLICATION

THE TYPE АУ-12 binocular attachment is intended for observation of the objects under the microscope with the both eyes simultaneously.

It is set into the draw tube head holder of the microscopes «Биолам» and other biological microscopes.

Attachments АУ-12 are produced in two climate versions: for work in macroclimate regions with temperate and cold climate in laboratory premises and for short terms outdoors, at air temperature from +10 up to +40° C.

2. SPECIFICATION

Magnification, ×	1.5
Extension range between the eyepieces tube axles, mm	55—75
Dioptric adjustment range for the left-hand eyepiece, diopters	±5
Overall dimensions, mm	170×117×70
Mass, kg	0.7

3. DESIGN AND OPERATION

Light beams passing through the microscope objective lens fall onto attachment lens *1* (Fig. 1) which together with the objective lens produces an object image in the focal planes of the eyepieces.

Prism *2* deflects the beams of light by 45° from the vertical line and direct them onto cemented prism *3* containing a rhombic prism and rectangular three-edges prism provided with a translucent coating in the plane of cementation. At prism *3* surface of cementation the incident beam is split in two parts: one of them (containing approximately 50% of rays) goes through the surface of cementation, rhombic prism *4* and produces the image in the focal plane of eyepiece *5*; the other one is reflected from the surface of cementation, falls on the opposite edge of the prism, then being reflected from the latter, goes through compensator *6* and produces the object image in the focal plane of eyepiece *7*.

Fig. 2 shows the binocular attachment AY-12 mounted on the microscope.

The attachment comprises the following parts:

Two housings *8* (left-hand and right-hand) with eyepiece tubes *9* in which interchangeable eyepieces 7× or 10× are inserted. Housings *8* can be extended for setting the tubes depending on the distance between the observer's eyes. Prisms *3*, *4* (Fig. 1) and compensator *6* are set inside the housings.

Dioptric mechanism with a scale graduated for ±5 diopters is on the left-hand eyepiece tube. Setting the eyepiece by the observer's eye is made with the help of ring *10* (Fig. 2).

Prism *2* (Fig. 1) is mounted inside the

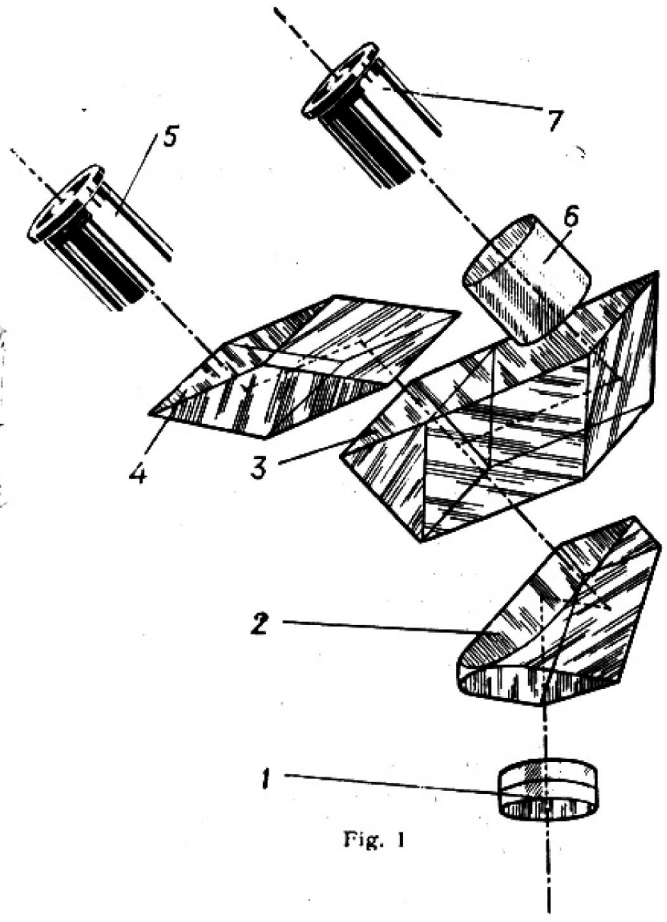

Fig. 1

spherical body *11* with a hollow axle, and lens *1* (Fig. 1) — in setting flange *12* (Fig. 2)

4. MARKING

Firm plate of the binocular attachment bears the following inscriptions: attachment symbol, Manufacturer's trade mark and item number the two first digits thereof standing for the last two digits of attachment output year.

5. INSTALLATION AND PREPARING FOR OPERATION

The binocular attachment is set in the microscope draw tube holder recess with the help of the flange *12* (Fig. 2) and fastened by means of a screw *13*.

The 7× or 10× twin eyepieces taken from the complete set supplied are mounted into the eyepiece tubes of the attachment. To use eyepieces of different magnifications or those taken from different complete sets is prohibited.

On having mounted the binocular head on the microscope and while looking through the right-hand eyepiece tube with the right eye, focus the microscope on the preparation by means of the coarse and fine adjustments. Then if necessary adjust the image sharpness by the observer's eye through the left-hand tube using the dioptric mechanism.