A SET OF COLLETS FOR MANIPULATING THE SPECIMEN HOLDER OF THE SIEMENS ELECTRON MICROSCOPE

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The modification of the Siemens electron microscope grid-holder suggested by Elbers (1) among its other advantages reduces contamination by reducing the handling of the specimen holder either with the fingers or using paper tissue or other fabrics. By using the set of collets described here such handling is entirely eliminated although the operations involved in changing the specimen may still be made easily.

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Figs. 1 to 10 on the facing page show the sequence of operations on extracting the holder from the microscope and dismantling for a specimen change. The specimen holder shown is the type which receives 3 mm. diameter grids. Both the collet tools are made from phosphor-bronze and terminate at each end as split collets, except for the threaded portion *A* (Fig. 11) which is a standard item supplied with the microscope. Use of the threaded tool as described above still allows

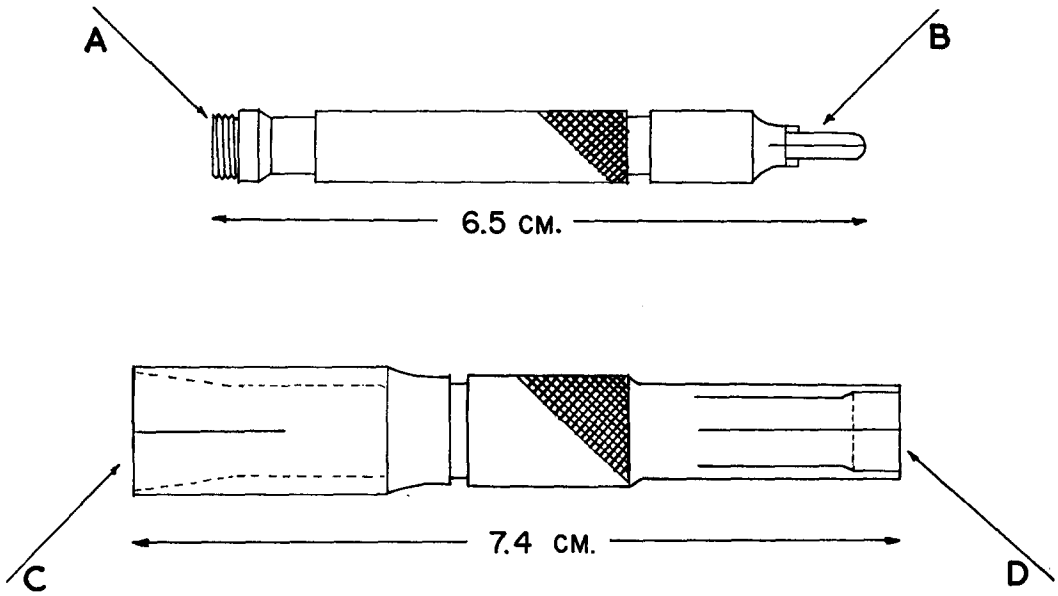

FIGURE 11

The top diagram shows in greater detail the construction of operating ends *A* and *B* (see text). The bottom diagram similarly shows ends *C* and *D*.

it to be used for the purpose for which it was originally intended.

A clearer picture of the constructional details of the two components comprising the collet set may be obtained from Fig. 11. The threaded portion (*A*), previously mentioned, is of metric pitch which can be screwed into a threaded collar internal to the specimen holder. The plug (*B*) has a key across its diameter which is received by a diametrical slot in the threaded clamp (see Fig. 10) which secures the grid within the nose cone of the specimen holder. The lower component in Fig. 11 shows the tapered opening (*C*) which receives the main body of the specimen holder. The nose cone is held at its largest diameter in (*D*) which is slotted in a similar manner to (*C*). The nose cone remains in the collet (*D*) during the change of specimen. Reassembly of the holder follows the reverse order of that described above (Figs. 1 to 10). A small modification to the end *D* (Fig. 11) would allow the collets to be used in conjunction with the nose cone described by Elbers.

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REFERENCE

1. ELBERS, P. F., *J. Biophysic. and Biochem. Cytol.*, 1959, **6**, 114.