Exsiccator unter öfterem Lüften ½ Stunde lang abgesaugt. 3–5 Keilstreifen werden dann auf einen Glasbügel gezogen und in einer flachen Schale* mit Butanol–Eisessig–Wasser (4:1:1) als Laufmittel in 2 × 17 Stunden papierchromatographisch entwickelt. Soll eine grössere Anzahl von Keilstreifen gleichzeitig entwickelt werden, so werden mehrere Bügel in ein Glasaquarium gehängt; auf diese Weise können zur gleichen Zeit bis zu 100 Keilstreifen chromatographiert werden. Nach dem Trocknen der Streifen werden die neutralen Aminosäuren auf dem Keilstreifen (Fig. 3c), die sauren bzw. basischen auf den abgeschnittenen Streifen durch Ansprühen mit Ninhydrinreagens in üblicher Weise nachgewiesen.

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[1] W. MATTHIAS, *Naturwissenschaften*, 41 (1954) 17; *Der Züchter*, 24 (1954) 313.

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* Die Glasgeräte zur Keilstreifen-Papierchromatographie werden hergestellt von VEB Glaswerke Ilmenau, Ilmenau/Thüringen.

An apparatus suitable for applying fairly large quantities of solutions on paper chromatograms

For the quantitative determination of dilute solutions of steroids by paper chromatography, we were faced with the problem of applying exact 0.5 ml quantities of such solutions on paper in a small spot within a reasonable period of time.

Of the several devices described in the literature, that of VAN GULIK[1] seemed to us the most promising. However, the time required to complete the operation under our conditions was found to be too long.

In order to circumvent this drawback, a modification of the VAN GULIK apparatus was constructed, enabling us to dry the solution during application by passing a centripetal current of warm air underneath the paper, around the spot of application (Fig. 1). The air-flow is measured with a rotameter A (for quantities of 10–100 l/min), then passes through a copper tube B, provided with a 220 V–500 W heating coil (from a hair-drier). The warm air then passes a thermometer C and is led to the copper "blow-cup" D, details of which are given in Fig. 2. The air passes through inlet E, the outer tube F and (after passing the paper) the inner tube G (screwed into F) and leaves the apparatus at H (see arrows). The space in the inner and outer tube is divided into four channels by small copper vanes in order to prevent whirling of the air. The various parts are mounted on a "philitex" table (25 × 35 cm).

The paper strip is firmly held down by a cover K. This cover is provided with a heavy metal ring, in the centre of which can be placed a capillary pipette, held in a vertical position by support L, and touching the paper.

The construction of the "blow-cup" (dimensions given in Fig. 2 in mm are quite essential) permits the passage of a strong air-current. For instance, at 60 l/min with

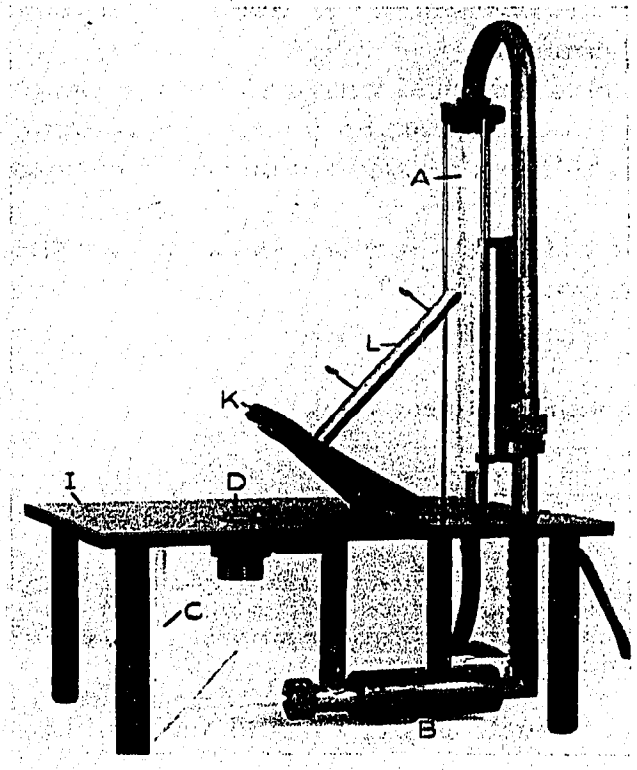

Fig. 1. Apparatus suitable for applying fairly large quantities of solutions on paper chromatograms.

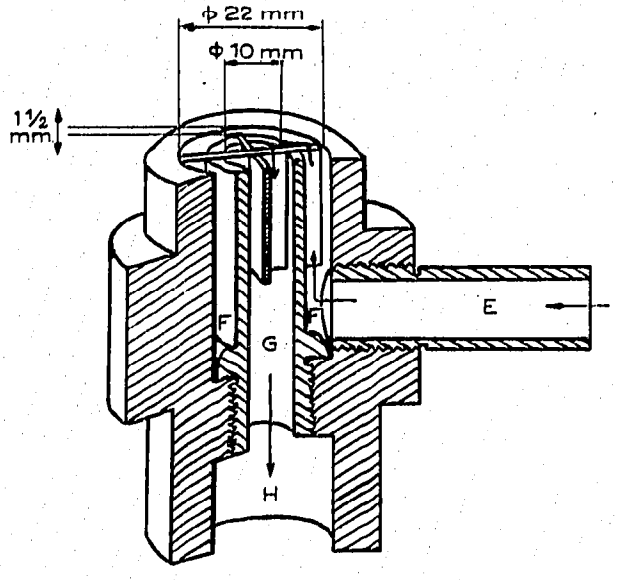

Fig. 2. "Blow-cup" of apparatus.

air at 110°, a quantity of 0.5 ml of a steroid solution in 4-methyl-2-pentanone can be applied in a spot of 1 cm diameter, within a period of 2 min. Our pipettes are constructed to deliver such a volume in the given time when touching the paper. Of course, the amount of fluid, as well as the temperature and the velocity of the air-current may be varied to suit individual needs.

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