

Short Communication

APPARATUS FOR BRAIN CUTTING FOR COMPUTED TOMOGRAPHY

(apparatus/brain cutting/CT)

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A new apparatus for brain cutting for computed tomography was developed by us. The apparatus had the following advantages :
1) simpler apparatus and operation; 2) low cost.

During the past few years computed tomography (CT) has been increasingly used, and anatomical information gained from CT has been increasingly required in establishing diagnoses. In this short report, we introduce a new apparatus for producing an anatomical specimen for CT (Fig. 1), which was developed recently in our laboratory.

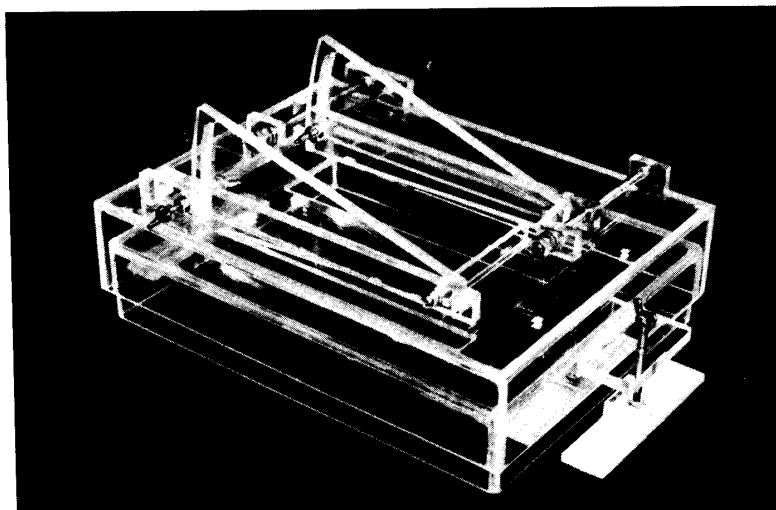


Fig.1. Photograph of the apparatus of brain cutting (upper view).

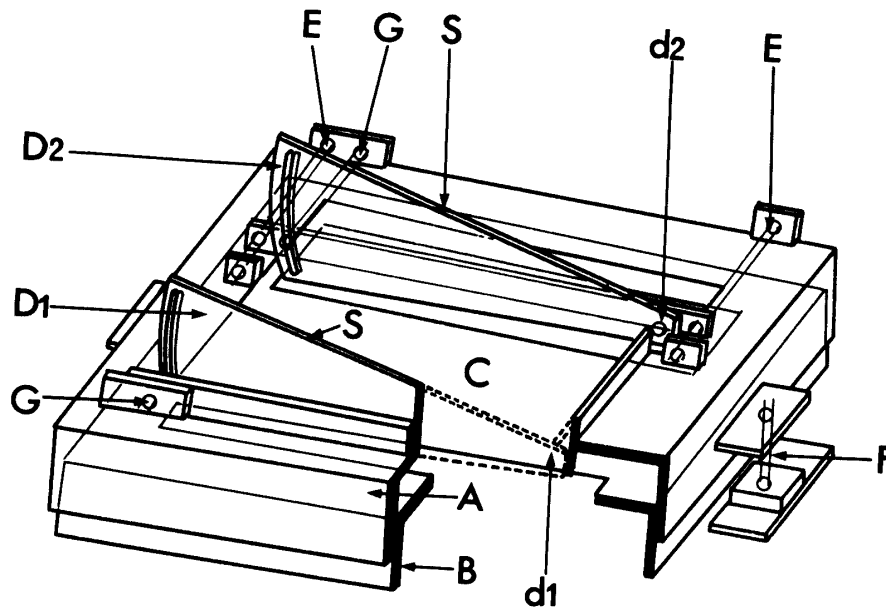


Fig.2. Schema of the apparatus of the brain cutting.
Each mark is shown in the text.

The apparatus was made with an acrylic board, following up an idea described by Guglielmotti (1). The brain is laid on the board C of the base B and fixed by the brain knife guide D1 and D2 attached to the board A (Fig. 2). Although D1 is fixed on the board A, D2 can be freely moved towards the brain by a screw E fixed to the board A. The position for brain cutting must be set before the brain knife, sliding on the surface S of the brain knife guide, starts to make the cuts. According to Matsui (2), a standard line for cutting is set by a connection of the following two points: 1) preoccipital notch; 2) a point on the upper distance of 5 mm from the lowest point of the motor cortex. It is indispensable for cutting that the standard line devised by Matsui (2) should fit in with the surface S of the brain knife guide. This position is obtained by two operations. As can be seen in the diagram, the height is controlled by the screw F which moves the board A upwards. The surface S of the brain knife guide is moved until the desired point is reached and the brain knife guide is locked by screw G in approximately the correct position for cutting. At this point, the brain knife slices the brain, sliding on the surface S of the brain knife guide. The brain knife continues to slice at a thickness of 1 cm with the board H which consists of two sticks of 1 cm thickness (Fig. 3). Brain slices for CT are obtained with the above operation.

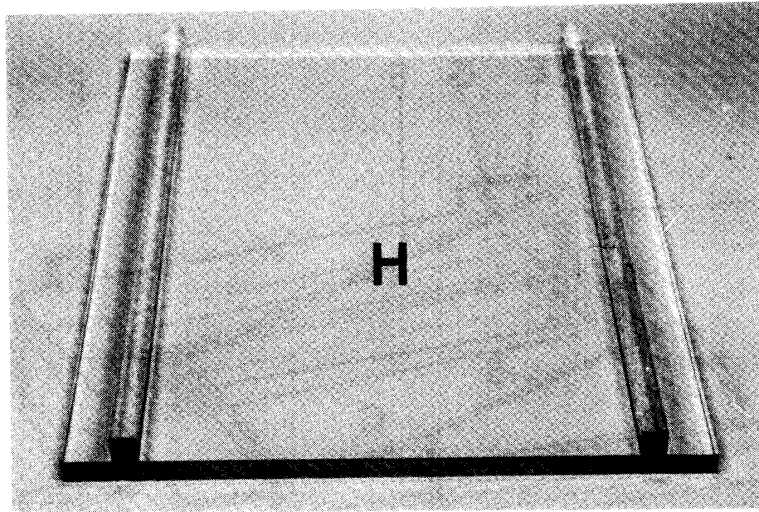


Fig.3. Photograph of board of the brain slice (upper view).

REFERENCES

- 1) Guglielmotti, G. (1976) Device for manual trimming of tissue blocks for ultramicrotomy. Stain Technol., 51, 135-138
- 2) Matsui, T. (1978) Brain cutting and its apparatus for computerized tomography. CT Kenkyu, 1, 286-287 (in Japanese)