

## A METHOD OF COLLECTING TOTAL EXCRETA IN INFANTS

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It has recently been stated (Sheldon, 1949) that none of the methods described for conducting 'balance' experiments on incontinent children have as yet proved satisfactory. We are prompted, therefore, to describe the method which we have employed for some time in this hospital.

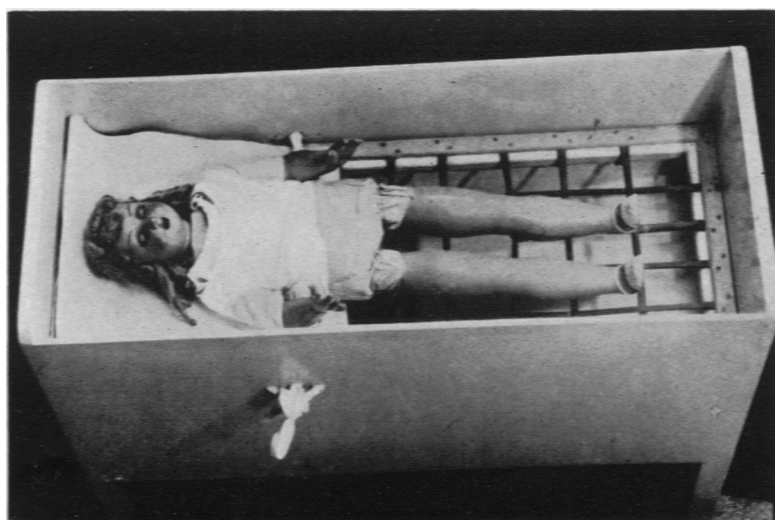
A special type of bed is used, designed on the principle of the metabolic cage for animal experiments. It consists of a wooden cot with solid sides and ends, with a removable grid-mattress constructed of interlaced rubber tubing stretched in a wooden frame. Below the mattress is a funnel-shaped zinc collecting chamber, the outlet pipe of which can be inserted into a collecting vessel. The bed was made in the hospital workshop (Figs. 1, 2, and 3).

The bed is used in a side room where the temperature is kept at 90° F., and the child is unclothed except for a short vest. The head pillow is

mackintosh-covered (in case of vomiting) and lies directly on the rubber grid. On this, and under the child, is a mackintosh sheet which stops at the child's mid-lumbar region. If required, a harness can be worn, the ties being passed through holes in the sides of the bed and fixed to brackets on the outside. Practically all the excreta automatically pass into the bottle underneath the bed, and any that adhere to the grid or collecting chamber can be easily washed into the receiving bottle with distilled water, without much disturbing the child.

Separate urine specimens were collected by indwelling catheterization in the female and in the male by connecting a rubber tube to the penis by a finger stall. These methods were found more satisfactory for the age group which we studied than the method described by Thomson (1944). The separation of specimens in the female was limited to periods of 24 hours.

FIG. 1.—Photograph showing position of patient in metabolic bed.



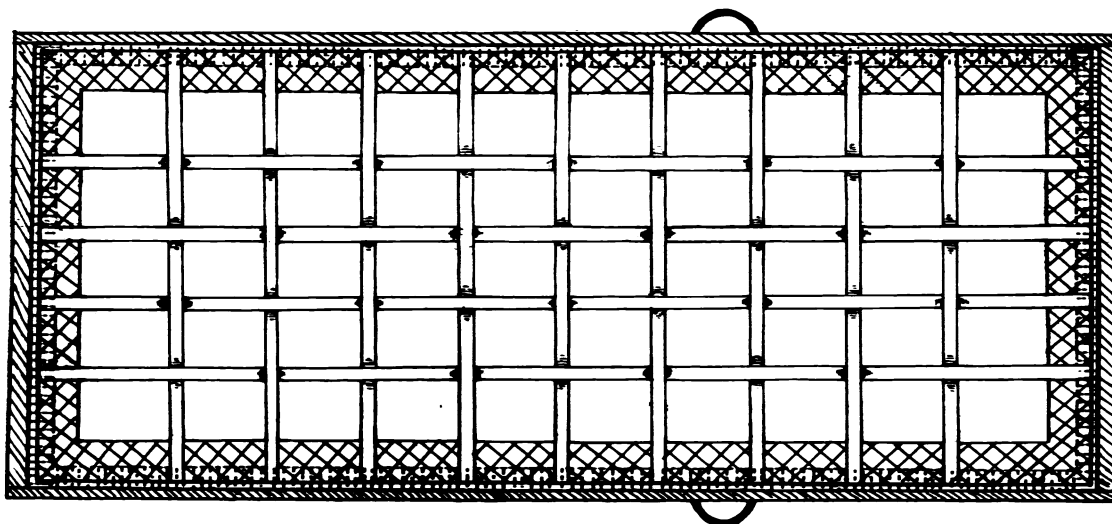


Fig. 2. Diagram showing grid-mattress.

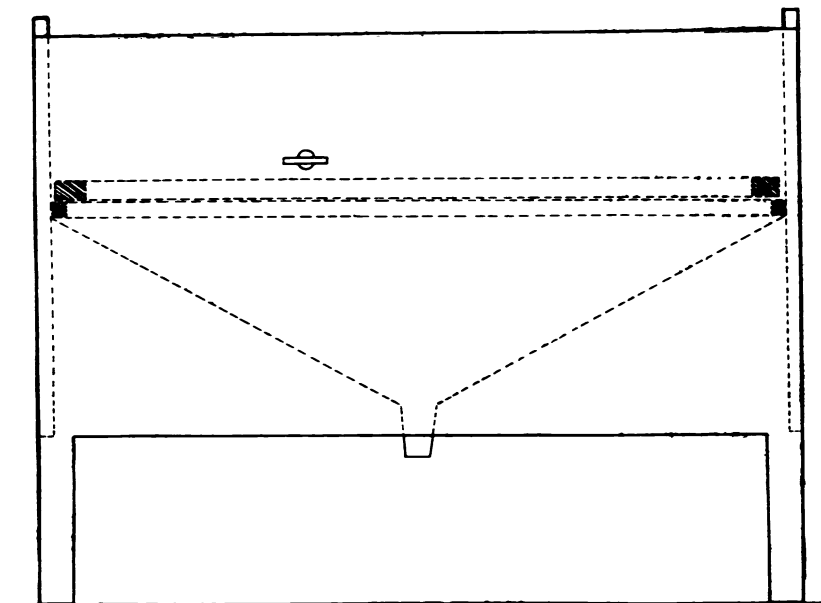


Fig. 3. Side view of the cradle.

There have been no nursing difficulties. The child becomes accustomed to the bed within 24 to 48 hours, and gains in weight in a normal way while in it. It might appear that there would be a danger of the legs becoming entangled in the mesh of the mattress, and this may happen within the first 24 hours, but the child soon acquires the habit of lying with his legs drawn up or of hooking his toes round one of the pieces of rubber tubing. He remains remarkably contented and sleeps normally. The child does not often soil himself, and when he is old enough to sit up no difficulties have been encountered.

We have used the bed with children between the ages of three months and a year. They have remained in it for periods up to seven days without any suggestion of bedsores, and rather surprisingly, there were no unpleasant odours provided the receiving vessel was changed daily.

We have pleasure in thanking Dr. James Thomson for clinical facilities and Professor Lendrum for help with the presentation.

#### REFERENCES

- Sheldon, W. (1949). *Arch. Dis. Childh.*, **24**, 81.  
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