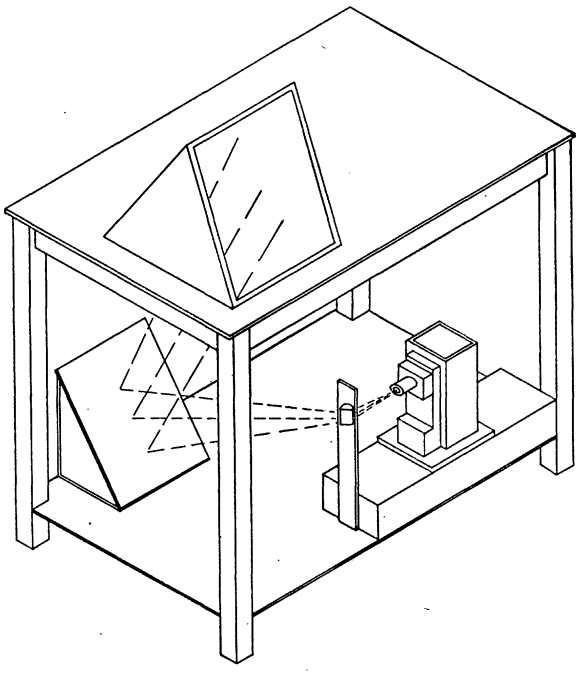

FIG. 1

parences or examining x-ray films. The device has given satisfactory service, and the image is bright enough ordinarily to be read in a lighted room.

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## A METHOD OF DETERMINING ASCORBIC ACID IN SKIN[1]

SKIN is unsuitable for treatment by the customary procedures for the extraction of vitamin C from tissues.[2] A method has been devised based upon the ability of collagen to soften and swell when heated in acid solutions. The samples of skin are weighed, minced with scissors and placed in large test-tubes with 10 cc of a solution containing 8 per cent. acetic[3] and 2 per cent. metaphosphoric acid. The tubes are drawn out with a blast lamp and sealed after evacuation of the air. They are then placed in boiling water for twenty minutes, opened immediately upon removal, and the contents transferred to a second tube for centrifugalization. After the supernatant fluid has been decanted, the sediment, consisting of softened pieces of skin, is broken up in the tube with a glass rod and washed with 2 cc of 8 per cent. trichloroacetic- and 2 per cent. metaphosphoric-acid mixture and again centrifugalized. This procedure is twice repeated. The pooled supernatant fluids are then titrated with 0.05 per cent. 2,6-dichlorophenolindophenol solution according to the method of Bessey and King. The tables illustrate the agreement between samples and the recovery of added vitamin C.

TABLE I

GUINEA-PIG SKIN MINCED AND SAMPLED IN TRIPLICATE FOR DETERMINATION OF VITAMIN C

| Sample of skin | Ascorbic acid |
|---|---|
| 1.0 gm | mg/gm |
| 1 | 0.0397 |
| 2 | 0.0404 |
| 3 | 0.0404 |
| 1* | 0.0007 |
| 2* | 0.0007 |
| 3* | 0.0000 |

* 4th washing.

TABLE II

GUINEA-PIG SKIN MINCED AND SAMPLED IN QUADRUPLICATE FOR THE DETERMINATION OF VITAMIN C IN THE PRESENCE OF ADDED ASCORBIC ACID

| Sample of skin | Ascorbic acid added | Ascorbic acid determined | Added ascorbic acid recovered |
|---|---|---|---|
| 0.5 gm | mg | mg | mg |
| 1 | 0 | 0.0235 | 0 |
| 2 | 0 | 0.0235 | 0 |
| 3 | 0.100 | 0.1134 | 0.0899 |
| 4 | 0.100 | 0.1098 | 0.0863 |
| – | 0.100 | 0.0915 | 0.0915 |

The method has been in constant use for the past year and has given consistent and reproducible results.

CALVIN C. TORRANCE

[1] From the Division of Laboratories and Research, New York State Department of Health, Albany.

[2] O. A. Bessey and C. G. King, *Jour. Biol. Chem.*, 103: 687–698, 1933.

[3] Trichloroacetic acid is broken up on heating and can not be used at this step. The digested skin is later washed with trichloroacetic acid to precipitate the proteins.

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