A NOTE ON A CHEAP SUBSTITUTE FOR A SHADOWLESS LAMP FOR OPERATION THEATRES

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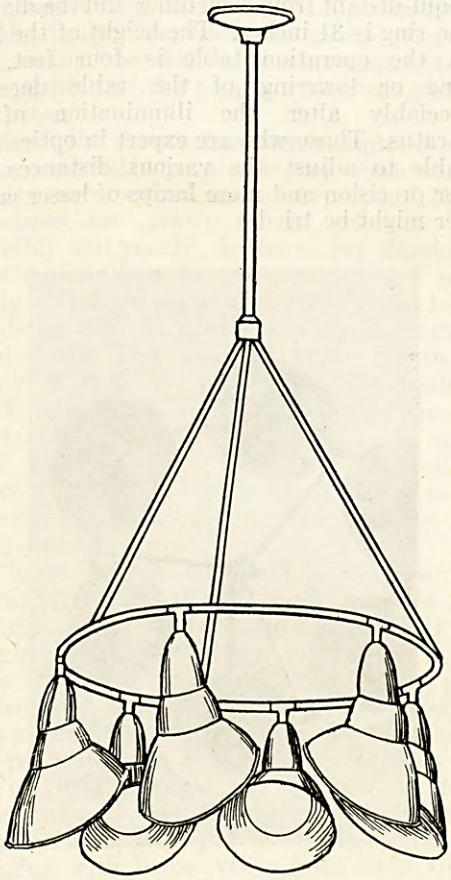
WHENEVER electric supply is available it is the ambition of the executive staff of a hospital to secure for its operation theatre one of the modern shadowless lamps. Frequently the funds of a district hospital are not sufficient to meet the ordinary demands made upon it by the upkeep of the hospital quite apart from buying one of these expensive lamps. Thus most of the district hospitals have to carry on operative work at night under the grave disadvantages of one overhead hanging lamp helped perhaps by a hand lamp. The discomforts arising from a powerful electric light close to the back of one's neck for a period of half an hour or longer, entailed by an emergency operation, have to be felt to be realized.

When I visited Dr. Seagrave's Hospital at Namkham in March 1935 I became interested in an overhead cluster of lamps with parabolic lamp shades which he had fitted for the use in the operation theatre. Dr. Seagrave gave me some details of the device. On my return to Bhamo I tried to get a similar model made but was unsuccessful as the firm which sold the shades had stopped selling them. After my transfer to Toungoo I took the opportunity of communicating my ideas to the representative of Messrs. Stewart Raeburn and Company, Limited, Rangoon, who had come to supervise the renewal of the whole electric installation of Toungoo Civil Hospital. After some experiments with reference to the number of lamps, candle-power of each, and the distance of the lamps from each other and the operation table, the model, as shown in the photograph, was accepted as being very satisfactory from the standpoint of being practically shadowless and brilliant.



It was estimated that the expenditure of current in keeping the lamps lit for one hour does not amount to more than half a unit. The cost of the apparatus is approximately Rs. 89. Thus every district hospital should be able to buy one. All the parts are practically indestructible. The bulbs are of frosted glass and are easily replaceable. We have used the apparatus now for over four months and have found it very satisfactory.

A description of the apparatus is given below. The sketch and photograph will easily make the points clear.

There are six electric bulbs of frosted glass of 50 candle-power each attached to metal parabolic

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used. The iron rod (R) $\frac{1}{8}$ inch by 1 inch by 6 inches was bent at right angles. One arm of it was fixed to the douche-can (D) and the other to the top of the spirit drum (S). This rod may be readily detached for cleaning and sterilizing the can. A hole was made in the drum (S) to permit the nozzle of the douche-can to protrude. A rubber tube was used to connect the ends of the nozzle and the bulb (B), and a pinch-cock fitted to regulate the flow of the oil. The bulb was fitted as in figure 1. A hole was cut in the top (T) where a cork was fitted with a thermometer, which goes far into the oil. This cork, when removed, provides a hole through which a funnel may be passed to introduce fresh oil. The bulb was secured in place by screwing two thin bars (P) to the drum. Three or four holes near the top were made for ventilation.

The advantages of the modification are:—

1. The temperature of the oil is constantly regulated and thus the injection of over-heated oil can be avoided.
2. The whole apparatus can be assembled and taken down very easily, and easily moved from place to place.
3. It avoids the waste of oil by permitting the withdrawal of the exact quantity desired for injection.

REFERENCE

Gupta, K. K. (1934). An Easy Method of keeping Hydnocarpus Oil constantly hot during Injection. *Leprosy in India.* Vol. VI, p. 136.

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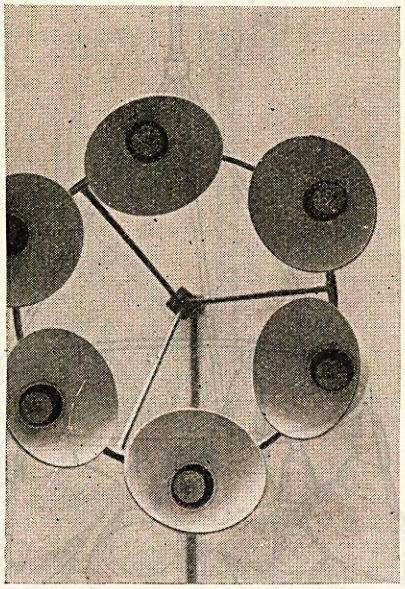
shades thickly enamelled in white both outside and inside. These are fixed to a ring of aluminium tubing inside which the electric wires run. This ring is suspended by a long tube from the ceiling by means of a frame. The lamps are equi-distant from each other and the diameter of the ring is 31 inches. The height of the lamps from the operation table is four feet. The raising or lowering of the table does not appreciably alter the illumination of the apparatus. Those who are expert in optics might be able to adjust the various distances to a better precision and more lamps of lesser candle-power might be tried.



In Burma most district towns have independent electric supply and advantage might be taken to install the lamp described in each hospital.

The lamp could also be installed in smaller hospitals in India and also in military hospitals.

Messrs. Stewart Raeburn and Company, Limited, Rangoon, were responsible for the setting up of the lamp described in this article, but any firm which specializes in electric installation would be able to fit up the lamp.

Summary

A practical method of providing a cheap form of shadowless lamp is described.

Its adoption in smaller hospitals is recommended.

A NOTE ON HEALTH UNIT WORK

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Introduction

HEALTH unit work is gradually spreading in India. There are now five organizations in operation in various parts of the country and this number is being added to each year. As this type of work represents the most satisfactory approach to rural health work yet suggested, the fundamentals should be of interest to those who are responsible for rural health.

There are more than five hundred health unit organizations in operation in various parts of the world. Chellappah (1926 and 1928) and Jacocks (1933) described the underlying principles of health unit work as carried out in Ceylon. In this short note some of the original points are again stressed and emphasis is placed on some recent developments which have been gained by experience.

Object

In simple terms health unit work is an attempt by the public health department to introduce recognized health procedures into rural and semi-rural areas by adjusting the number of workers to the populations concerned. This is a common-sense procedure which is practised in any satisfactorily conducted business. The objects are:—

(*a*) To carry out sound health work of all types in a selected area.

(*b*) To demonstrate modern methods of practical approach to health problems which might be applied generally.

(*c*) To develop a field training centre for all grades of public health personnel in the department.

(*d*) To set up a model organization which could be closely studied by officials and technical visitors.

It is not the intention to advocate the establishment of health units throughout the entire area of any province or state. This procedure has not been carried out in any part of the world and is impracticable for many reasons. The plan which provincial and state authorities in India might have in mind in the beginning is the establishment of *one* organization which could be used as a demonstration of methods and in which the provincial public health workers of all grades would have an opportunity to receive practical training in field procedures. It could be decided later whether or not more than one unit would be desirable in large and populous provinces.

First unit

A successful public health organization is found whenever the co-operation of the people concerned is freely and fully given. For this and other reasons the first unit should be started in an area in which the people will give the assistance which is needed to carry out successful health work.

The first unit is to be the demonstration area; it should be located near the central government in order that it would be easily accessible to busy administrators and that its development