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A stone tank (a) was arranged to receive a supply of dirty, muddy water, and in this tank was placed aluminium sulphate (10 grain to the gallon) for the purpose of rough, preliminary clarification. The roughly clarified water was run off by a tap into the clarifying box proper (b). This was a zinc box 30 inches long by 12 inches wide by 18 inches deep, containing “baffle-plates” of window-glass arranged as shown in the diagram, so that all the water passing through the box had to travel under one plate and over the next. There were nine compartments in all, of which the first three in the apparatus shown contained gelatinous precipitate; the number of compartments requiring the precipitate would vary with the turbidity of the water under treatment. The capacity of the box is about 20 gallons. The rate of flow of water through it must be slow, or the precipitate at the bottom of a compartment may be lifted with the general flow, and carried over the next “baffle-plate.” The clarified water escaped, by means of an exit-tap at the further end, and was run on to the “filter” (c), through which it percolated into the vessel (d) as practically sterile water; this “filter” is the essential part of the apparatus. It consists of a “sand-mattress,” made of stout linen or canvas, 24 by 31 inches, packed with fine sand so as to be ½ inch thick. This is sterilised by boiling, or steaming, or by pouring boiling water through it, and the upper surface is painted over with gelatinous precipitate. The water thus filtered is claimed to be practically sterile, 99.9 per cent. of organisms (Bacillus coli the organism experimented with) having been removed. The demonstrator of this apparatus states that the rate of filtration through a prepared sand-mattress of the dimensions given above, using a fairly clear water previously untreated, is 100 gallons in twenty-four hours.

This demonstration is described in the hope that the suggestion may perhaps be of very material value in Military Field Service, bearing in mind the following points in connection with the two component parts of the filter:—

The sand-mattress is extremely simple of manufacture: its cost is similarly small; it is very easily packed, equally easy of transport, and unlikely to be damaged thereby; it is also very easily rendered sterile.

The gelatinous precipitate is made from two of the most inexpensive chemicals on the market, and its preparation is childishly easy in the most inexperienced hands.

SANITATION CLASSES FOR SOLDIERS.

By Major R. J. Blackham.
Royal Army Medical Corps.

The theoretical and practical instruction of N.C.O.’s and men in sanitary duties is now an important feature of the work of Indian Station hospitals. Some officers have experienced difficulty in ascertaining
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exactly what should be taught in their classes and for their guidance, and in order to secure some degree of uniformity throughout the First Division, the following syllabus, which is similar to one devised by Major Clements for the Ninth Division, has been drawn up and approved by the General Officer Commanding. It is submitted for publication in the hope that it may be useful to officers in other parts of the world.

1ST (PESHAWAR) DIVISION.

Syllabus of Course of Instruction of Non-Commissioned Officers and men in Sanitary Duties. Vide Indian Army Order 354 of 1907. Approved by the General Officer Commanding.

1ST (PESHAWAR) DIVISION, CHERAT, AUGUST 1ST, 1909.

The N.C.O's. and men will be struck off duty for three weeks.

This period will provide fifteen working days as instruction will not be carried out on Sundays and Thursdays.

The course will consist of at least twelve lectures, and at least twelve practical demonstrations.

The lectures and instruction will be given by a selected medical officer, but all classes will be examined by the Divisional Sanitary Officer.

THEORETICAL INSTRUCTION.

FIRST LECTURE.

Introduction.

The importance of sanitation in war.
The causes of disease. The means of infection.
The more important communicable diseases of soldiers.
Mosquitoes and malaria. Flies and enteric fever.

SECOND LECTURE.

Air and Ventilation.

Simple physiological principles for need of fresh air.
Constituents of air. Sources of impurity of air. The composition of dust. The sweeper in relation to the air of bungalows.
Consumption and ventilation. Spitting and the spread of disease.
The tooth-brush in relation to personal ventilation. Animals and pollution of air. The necessity for ventilating bedding.

THIRD LECTURE.

Water and Water Supplies.

Pure water the prime necessity of military life. Its proportion in the body and in most articles of common consumption. Quantity of water required. Appearance and palatability as a guide to suitability for drinking purposes. Diseases caused by water. Sources of water. The storage of water. The pollution of water.
The purification of water. The water-bottle. Water discipline.
Clinical and other Notes

FOURTH LECTURE.
Food and Alcohol.
Varieties of food required. The quantity of food needed.
The methods of cooking and their effects on food. The different systems of messing. Food on active service. The value of sugar as a food. Tinned foods and their examination. Alcohol in peace. The danger of “tots” of rum on cold nights. Spirits in war.

FIFTH LECTURE.
Clothing.

SIXTH LECTURE.
The Care of Barracks.

SEVENTH LECTURE.
Disposal of Refuse and Excreta in Barracks.
Various methods. Points to receive special attention. Flies and dangers from them.

EIGHTH LECTURE.
The Camp and the March.

NINTH LECTURE.
Disinfection and Disinfectants.

TENTH LECTURE.
Venereal Disease.

ELEVENTH LECTURE.
Sanitary Organisation in Peace and War.
Water duties in peace and war. Sanitary squads. Sanitary sections.
Clinical and other Notes

Twelfth Lecture.
Personal Hygiene.

The necessity of washing the hands before meals. The dangers of handling food supplies with unwashed hands. Baths and bathing. The care of the feet.

Practical Training.

1. Barrack Rooms and Dining Halls.

Visit and demonstration on:
(1) Cubic space and ventilation. (2) Water storage, especially in hot weather. (3) Food storage. (4) Washing-up after meals. (5) Sweeping.
(6) Night urinals. (7) Pets and their dangers.

2. Cookhouses and Ablution Rooms.

Visit and instruction on:

3. Latrines and Urinals.

Visit and instruction on:
(1) Sites. (2) Construction. (3) The "wet" and "dry" systems of sewage disposal. (4) Treatment of latrine pans. (5) Supervision of sweepers.

4. Disposal of Excreta.

(1) Visit to incinerators. (2) Visit to trenching ground. (3) Demonstration on the care of Crowley carts.

5. The Practical Construction of Camp Latrines, Urinals, and Crematories.


(1) Visit to station supply and wells. (2) Demonstration of methods of filtration by mule filters, &c.


8. Dairies.

Visit to Government or other Dairy and practical demonstration of:


Visit and demonstration on:
(1) Inspection of animals. (2) Inspection of meal. (3) Disposal of offal.
H. A. L. Howell

10. REGIMENTAL OR CANTONMENT BAZAAR.
   (1) Visit and note methods of sewage and refuse disposal. (2) Inspection of native mineral water factory. (3) Inspection of all places where food and drink are sold.

11. BAKERIES.
   Visit and inspect methods of making bread:
   Demonstration of dangers from careless storage of materials, dirty hands, &c.

12. MOSQUITO BRIGADES AND THEIR DUTIES.
   Practical demonstration at Station Hospital of methods of disinfection in actual use at the Station.
   Demonstration on the inspection of ordinary articles of food.

Echoes from the Past.


By Major H. A. L. Howell.
Royal Army Medical Corps.

When Charles II. was restored to the throne of his ancestors in 1660, he received the whole of the Parliamentary Army into his service. England, however, at that time had no need of so large a standing army, nor could the finances of the country bear the strain of its support. The Army was therefore disbanded, gratuities and other advantages being granted to the discharged soldiers, and, on the same day, some of them were re-embodied to form the foundation of the regular Army, which, from that day to this, has gallantly sustained the honour of our country in all quarters of the globe.

The newly-formed Army consisted of the Earl of Oxford's cavalry regiment, which became the Royal Horse Guards, and Monk's regiment of foot, now the Coldstream Guards, and to these were added the Life Guards and the Foot Guards which had been with Charles in France. The Scots Guards was also raised the same year in Scotland. In 1661, the Royal Scots was transferred from the French service to our own. This regiment, the oldest in the Army, had existed as a regiment from 1613, when it served under Gustavus Adolphus, had later passed into the service of