Recently this field ambulance has had to deal with the lice-ridden clothes of occasional typhus cases, and it became essential to find some type of easily-constructed steam disinfecter suitable for a temporary camp in the field.

Lance-Corporal W. W. Ladd, R.A.M.C. (T.), of this field ambulance, therefore determined to try and see if a satisfactory dug-out disinfecter could be improvised rapidly. The first one made proved an immediate success; all lice were found dead and the eggs shrivelled and opaque, after exposure to steam of one hour.

This type of disinfecter is always constructed now whenever the main dressing station is moved to a new camp. It can easily be made in five hours, and the only essential articles of construction necessary to be carried by the limited transport of a field ambulance are the lid and the tins in which water is boiled.

The drawings and description are by Lance-Corporal W. W. Ladd:

**Site.**—Sloping ground. Pit two feet six inches square and three feet deep. Sloping dug-out to fire trench. Tunnel through to pit.

**Materials.**—Three kerosene tins (cut down as shown in sketch). Sheet tin (old biscuit tins) for chimney, and packing round flue to prevent heat from scorching clothing. Wooden lid, three feet square, packed on underside with old blankets or sacking. Tibbin banding for supports to tins. Tibbin banding, or wire, to form mesh over boilers, to prevent clothing falling in the water.

**Setting of Tins for Boilers.**—Tins are set over trench, formed with stones and pugging sides. Two inches space between tins, upper part of which are packed with pug, held in position with hooks of tibbin banding and lengths of sheet tin. Loose earth is packed between tins and sides of chamber. The bottom of chamber is pugged to complete surface.

**Chimney Flue.**—Chase side of chamber to form a flue; a tin chimney is cut and let in, and flue completed with tin and pugging surface.

**Lid.**—The ground is pugged round chamber to form sealing for lid, stones are placed on top at each corner to increase pressure.

**Boilers.**—These are filled with water to within one inch of the top, to which may be added a little formalin.

**Fuel.**—Wood, brushwood, and dry camp rubbish.

**Capacity.**—Five blankets (put in loosely) or two men’s clothing, without blankets or greatcoats.

**Time for Disinfection.**—One hour.

ROYAL ARMY MEDICAL CORPS OFFICERS' BENEVOLENT SOCIETY.

BY LIEUTENANT-COLONEL E. M. WILSON, C.B., C.M.G., D.S.O.

Royal Army Medical Corps.

On the occasion of our Benevolent Society attaining its hundredth birthday it is thought that a short account of its origin and growth may interest Officers of the Corps who subscribe, and perhaps induce others to support a charitable institution which is essentially their own.

The first meeting was held at 5, Berkeley Street, on June 8, 1820, with the Director General, Sir James McGrigor, in the chair, when it was proposed by the
Director-General and seconded by Dr. W. Franklin, "That a Benevolent Fund be established for the benefit of the orphans of Army Medical Officers."

Among the original Committee were Dr. William Franklin, a "principal inspector," afterwards knighted; Dr. William Somerville, Physician to the Royal Hospital, Chelsea, the husband of Mary Somerville, the mathematician and authoress, an explorer who is described as the first white man to visit the Orange River and a Fellow of the Royal Society; the celebrated George James Guthrie who was four times President of the Royal College of Surgeons; and Dr. Theodore Gordon who, with Dr. Gregory, drew up the first appeal and who was one of the earliest trustees. It may be noted that all the foregoing, including the Director-General, came from Aberdeen.

The principles laid down by the Committee and "unanimously approved by a very numerous meeting of Army Medical Officers held in Berkeley Street on June 15, 1820," have never been departed from. They are that, "The leading feature of this Fund is that it is benevolent. The objects of its bounty will be selected from among those who produce the strongest claims to its support. Where there is any equality of claim preference will be shown to the orphans whose parents contributed to the Fund. Orphans who have lost both father and mother will, if otherwise destitute, be considered to have a superior claim. Those whose mothers are living may, however, be admitted to its benefits provided the mother's income is inadequate to the education of the orphans. The circumstances of each case will be judged of annually, first, by a Committee, and afterwards by a General Annual Meeting who will ultimately select the cases proper, for relief and specify the amount to be afforded to each. This will be regulated by the circumstances of each case and the extent of means of which the Fund may be possessed in each year. It is understood that relief by the Fund is always to be afforded in the form of periodical donations and never in that of an annuity, even for a limited number of years."

The report expressed the pious hope that "hereafter the opulent in the department will remember this Fund in their testamentary dispositions," and from time to time the Society has gratefully acknowledged the receipt of donations from this source.

At an early meeting of the Society a member, whose name is not given, raised the interesting question, "whether the regulations of the Fund could be so framed that the children of such medical officers as have families but no wife, might have a distinct claim for relief?" But the Committee would have none of it and decided that "such a proposition could not be entertained, it being incompatible with the other objects of the Fund."

The first Annual General Meeting was held at Berkeley Street on May 15, 1822, when it was announced that the donations and subscriptions received exceeded £1,000 (one thousand pounds) which had been invested in the Navy five per cents, afterwards transferred to the "New Fours."

The medical officers stationed at Sierra Leone contributed £40 (forty pounds), so apparently the staff at that health resort must have been considerably higher than at the present time, or perhaps the officers may have been in some doubt as to their return and wished to make provision for their families in good time.

It was decided that the capital should accumulate and that no grants should be made until it produced a "yearly permanent interest of £100 (one hundred pounds)."
The first distribution was made at the Annual General Meeting, Almack's Rooms, May 16, 1826, when £100 was voted for the assistance of fourteen orphans whose names, it was decided, "shall not appear in the printed report of the proceedings." This rule is in force at the present time, the recipients being described by the initials of the father.

In subsequent years, Sierra Leone again and Jamaica made very handsome contributions and received special letters of thanks from the Director-General. The officers in Canada were well to the fore, but India appears to have somewhat lagged behind and received gentle admonition in the reports.

So rapidly did the charity prosper that at the Annual Meeting at Willis's Rooms in May, 1828, £200 (two hundred pounds) were distributed among twenty-three orphans, and in 1833, £300 (three hundred pounds) among fifty-one orphans, and though the amounts allotted to each appear to be small it will be remembered that the purchasing power of money was probably four times as great as at the present day. A further indication of the relative value of money appears from the fact that the secretary, who had up to that time given his services gratuitously was granted a salary of £20 (twenty pounds) a year, and when the Rules were amended and reprinted in 1833 the cost of 1,000 copies was only £5 12s. 6d.

Reports of Committee meetings are proverbially dry reading but there is a touch of humour in the complaint of a staff surgeon in Canada that his subscription sent a year before had not been acknowledged. The reply of the Committee was that, "the letter having been forwarded with a packet of returns from Canada it unfortunately got mislaid among them upstairs and did not come into their hands until after Mr.——'s bankruptcy (on whom the bill for 11 guineas was drawn')." The Committee greatly regretted the circumstance and begged to leave it entirely to the Donor whether he would pay the amount or not. There is no further reference to the matter in the minutes, so it seems probable that the Society never got the cash. The occurrence seems to indicate that the weekly sick returns were not at that time so punctually examined and returned for amendment with that unfailing regularity which some of us remember in our early days.

In 1840 the amount distributed rose to £400 and remained with small fluctuation at or about that sum for twenty years, not reaching the £500 (five hundred pounds) level until 1860.

In 1843, Messrs. Stoddart and McGrigor (afterwards Sir C. R. McGrigor, Bt., and Co.), were appointed bankers of the Fund, and they have kindly presided over its finances ever since and given all possible assistance. Sir James McGrigor has been one of the Trustees for many years.

In this year the limit of age for which orphans are eligible for assistance was fixed at twenty-one years, "except in special cases to be decided by the Committee." This covers many sad cases where the children from mental or bodily infirmity are unable to earn their own living.

For some years the orphans of purveyors and purveyors' clerks were admitted to the benefits of the Fund, and Mr. Joseph Harrington, a purveyor, was President on more than one occasion and afterwards a Trustee.

The Committee meeting held on July 22, 1843, apparently produced some rather warm discussions—one of the members sharply criticising several points in the administration of the Society; but at the meeting held on September 2 (at which this
critical member was not present), it was decided that the sheet recording what were described as "desultory remarks" should be removed from the Minute Book. This was done and the secretary noted the decision on the neatly-cut fragment that remains, so we are left in doubt as to the nature of the "desultory remarks" referred to.

In 1850 there is an interesting entry of a grant of £95 (ninety-five pounds) to a widow and six children to enable her to emigrate to "South Carolina, New York, America." She travelled by steamer and the Captain of the ship received £44 (forty-four pounds) for passage money. Apparently this did not include food as the widow was granted £5 (five pounds) for provisions.

The attendances at Committee meetings were often scanty and there are several entries showing that a quorum was not obtained. Even the General Annual Meetings which were usually held at the "Thatched House Tavern, St. James' Street," failed to attract the members, but in 1852 there was a good attendance and the company adjourned to Sir James McGrigor's, Harley Street, to partake of a cold collation." Possibly there was some connexion between the two events.

Income (or property) Tax appears about the same time and steps were immediately taken, ultimately successfully, to recover it on behalf of the Society. The rate was apparently 7d. in the £. What a pity we did not live in those days?

In 1858 Sir James McGrigor died. He had been the founder of the Society and many times its President. His interest in the Society never ceased and his name occurs repeatedly as attending meetings sometimes in the subordinate capacity of vice-president or ordinary member. He made many handsome donations besides his annual subscriptions during his life, and left a legacy of 100 guineas in his will.

Sir Charles Mansfield Clarke also died in the same year and left £500 (five hundred pounds) to the Society.

In 1868 the amount distributed rose to £600 and in 1872 to £700, but it must be admitted that by far the larger portion came from the interest on capital, invested at that time in Consols, amounting to nearly £17,000 (seventeen thousand pounds) which produced £500 a year. The annual subscriptions did not exceed £150 (one hundred and fifty pounds), and appear from the statements of accounts to have gradually dwindled to a little over £100 a year.

Dr. Ligertwood, whose services in connexion with the Fund will always be remembered, first appears as a member of Committee in 1870. He never missed a meeting, and in 1875 was unanimously elected as Secretary on the retirement of Deputy Inspector-General H. Pilleau, who was compelled to resign on account of ill-health.

Dr. Ligertwood occupied the post of Secretary for over thirty years, when he was succeeded, in December, 1906, by the late Lieutenant-Colonel F. W. Davie Harris.

In 1872 the greater portion of the Consols were sold, and £14,000 invested in Railway four per cent Debenture Stocks, at that time standing at or above par. Present holders of these stocks will read this announcement with regret.

In the closing years of the last century the Society appears to have fallen on somewhat evil days. The Annual Meetings were badly attended, often only five or six members being present; and, though the interest from investments per-
Clinical and other Notes

mitted of the distribution of £500 to £700 annually, the subscriptions and donations showed a lamentable diminution.

In 1893 a note was attached to the Annual Report containing the accounts, that "the donations from officers amount to £78, i.e., about one-tenth of the total sum distributed annually, and that even of this minute sum about five-sixths is derived from officers retired from the Service, whose orphans are not likely to derive much benefit from the Fund, while the great mass of those who receive assistance are orphans of officers on the active list. Thus, while the importance of assisting in the education and first start in life of the orphans is undoubtedly, the Society does not receive that support from Medical Officers on the active list which it so urgently needs." This note was repeated in the Annual Statements for several years without producing much effect, but it seems probable that this was not due so much to the lack of charitable instincts on the part of officers serving on the active list as to the fact that the Society was not prominently brought to their notice. The Annual Reports were only issued to officers who were already subscribers, and there does not seem to have been any definite effort to reach the younger officers individually until 1902, when a special appeal was made to the whole of the members of the R.A.M.C. for subscriptions to the Fund. This produced £100 (one hundred pounds), and the number of subscribers steadily though slowly increased. The institution of the Journal and publication of the accounts and meetings in the Corps News, which commenced in 1906, also undoubtedly aided in bringing the Fund to the notice of officers.

During the late war, owing to the large number of casualties among junior officers, often leaving families of young children, it was decided by the Committee to make a special appeal to the Corps, and a letter was sent to every officer on the active list who was not a subscriber, as well as to each officer on receiving a permanent commission, with the result that the number of subscribers, which had never previously reached 200, rose to 300 in the year 1918, and to over 400 last year. It is believed that this figure will be largely exceeded during the present year.

Donations were also received from individual officers and from the officers' messes of certain general and other hospitals on closing their accounts. In consequence of this generous support, the annual grants to orphans, which had previously fluctuated between £600 and £700, were raised by the General Meetings in 1917 to £755 and in 1918 to £850, and last year to £1,300.

The value of this assistance to widows in the education of their children can hardly be over-estimated, nor should the cases be forgotten of poor women, daughters of former officers of the Corps, who have been left unprovided for, and who are unable on account of permanent ill-health to earn their own livelihood.

It is earnestly to be hoped that the amounts available for distribution may never fall again to their former level, especially when the increased cost of living and diminished purchasing power of money is taken into consideration.

The Charity appeals to all officers of the (Regular) Royal Army Medical Corps, past and present, and it may be noted that it is the only Corps Fund from which assistance can be rendered, as the R.A.M.C. Fund (Officers' Branch) deals only with the band, dinner and memorials, and the General Relief Branch, which is supported mainly by donations from regimental institutions, is for dependents of warrant officers, non-commissioned officers and men.
At the Annual Meeting in 1912 it was decided by a unanimous vote that the orphans of quartermasters should be admitted to the same benefits as the children of other officers, and at the Annual Meeting last year the maximum grant issuable to any family in any one year was raised from £40 to £60.

The Secretary will be very pleased to forward books of the rules and any further information to intending subscribers.

A CLINICAL METHOD OF DETERMINING THE TYPE OF THE INFECTING MENINGOCOCCUS IN CASES OF CEREBROSPINAL MENINGITIS.

By Major A. S. Gordon Bell.
Royal Army Medical Corps.
Of the Central Cerebrospinal Fever Laboratory.

If the standard method of agglutination at 55° C. be employed seventy-two hours generally elapse between the lumbar puncture and the type being determined.

With the rapid method herein described, twenty to twenty-four hours only are needed to type; homologous curative serum can then be given. The advantage is obvious.

TECHNIQUE.

Use a pipette made from glass tubing, drawn to a very fine point and fitted with a teat. On a glass plate drop one drop of each of the four type sera; alongside each of these drop an equal volume of the emulsion of theoccus under examination; this should be 40,000 millions to 50,000 millions per cubic centimetre. Mix and examine the four pools with a watchmaker's glass. Type is indicated by the pool in which agglutination first appears.

(a) After five minutes if a negative result obtain, arrange the serum on the plate thus:

<table>
<thead>
<tr>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 drops</td>
<td>2 drops</td>
<td>2 drops</td>
<td>2 drops</td>
</tr>
<tr>
<td>3 &quot;</td>
<td>3 &quot;</td>
<td>3 &quot;</td>
<td>3 &quot;</td>
</tr>
<tr>
<td>4 &quot;</td>
<td>4 &quot;</td>
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<td>4 &quot;</td>
</tr>
</tbody>
</table>

To each of these pools of serum add a drop of emulsion, mix and examine as before.

(b) If the result is not specific, i.e. agglutination appears in two pools within two minutes of each other, vary the emulsion thus:

<table>
<thead>
<tr>
<th>3 drops</th>
<th>3 drops</th>
<th>3 drops</th>
<th>3 drops</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 &quot;</td>
<td>6 &quot;</td>
<td>6 &quot;</td>
<td>6 &quot;</td>
</tr>
<tr>
<td>12 &quot;</td>
<td>12 &quot;</td>
<td>12 &quot;</td>
<td>12 &quot;</td>
</tr>
</tbody>
</table>

To each of these add one drop of Type I serum in the first vertical row, one drop of Type II in the second row and so on. Mix and examine as before. Agglutination will no longer appear with the heterologous serum. If there is agglutination with both I and III and a specific reading cannot be obtained, the type may be called provisionally I, as the Type I serum, so far as I know, is specific.

(c) If there is not sufficient growth to allow of a 40,000 million emulsion, take