THE CARE OF THE FEET ON THE MARCH.

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It seems hardly necessary to insist on the paramount importance of the feet of the soldier, especially of the infantry soldier, and to devote time to writing specially on this subject would seem almost an impertinence (which as a matter of fact it should be) did not one know how often the care of this portion of the body is forgotten.

What the horse is to the cavalry soldier, his feet are to the infantry soldier, and as it is a point of honour with a horse-man to look after his horse before he looks after himself, so it should be a matter of obvious common-sense for the foot-man to look after his feet before he looks after his stomach.

When a man falls out of the ranks footsore, the fault lies in one of three directions, either in the condition of his feet, in the condition of their coverings, that is, the boots and socks, or in a combination of these. I propose to consider these in the above order.

Considering firstly the feet, the fault here may lie either in the formation of the foot or in the condition of the skin. As regards the formation of the foot, it is obvious that except in extreme cases of deformity, as of hammer-toe or ingrowing toenail, not much can be done directly to the foot; the remedy must be sought in the adaptation of the boots to the feet. The importance of the formation of the foot as affecting a man's efficiency in the ranks is apt, however, to be overlooked by recruiting officers; and it is worth while insisting that this point should be given almost more weight in the recruiting of an army that is not intended to be mobilised, except in actual view of hostilities, than in the case of a regular force permanently embodied. If a man should get into the regular army with a badly deformed toe, there is always the opportunity of remedying the error by operative measures long before the man is actually required in the field. But with a second-line army this is not so. A man may be able to stand the comparatively easy work of his annual camp with an amount of deformity which would speedily incapacitate him in the earlier days of mobilisation. Hospitals in the field are, it need hardly be said, not intended for the treatment of long-standing deformities, and the only thing to be done with such a man is to discharge him just at a moment when
his services are most needed. The formation of the foot, then, is a point to which the most careful attention must be given during the physical examination of recruits.

If the fault does not lie in the formation of the foot it must lie in the condition of the skin; and here the consideration which is most important is cleanliness. It may not be true, absolutely, to say that clean feet are sound feet, but it is absolutely true to say that dirty feet are unsound feet. That may be taken as an axiom, and, therefore, the first cardinal point that the medical officer in charge of an infantry unit must insist on (in this connection) is the paramount importance of cleanliness of the feet. The feet should be washed with clean water and soap every day if possible, or if this is impossible, as on Service it may sometimes be, on every possible occasion; and it need hardly be said that not less important than washing is drying after washing, and especially drying between the toes. It is important also to insist on the necessity for the complete removal of all remains of soap from between the toes before drying. The above measures—the frequent and careful washing, and careful drying after washing, of the feet—are important, and their importance must be impressed on all men, and frequent inspections to see that they are universally carried out should be instituted. In some cases this is not sufficient. It is necessary in addition to find out those men who suffer from hyperhidrosis, and these should form the particular care of the medical officer of every infantry battalion. He will probably find about two men in every company, say between fifteen and twenty men in a full battalion, whose feet sweat profusely in spite of periodical washings. These men he should see every day as well as immediately after arrival at camp or quarters at the end of a march. The washing of their feet must be carried out under his immediate supervision, preferably with some mild astringent and antiseptic, such as weak solution of permanganate of potassium, or a 0.5 per cent. solution of formaldehyde. The use of astringent ointments or powders of a mildly antiseptic and non-irritating nature is to be recommended in these cases, but far more important than any medicinal application is the close personal supervision by the medical officer of the battalion of the process of cleansing the feet. The feet of the battalion as a whole may be left to the care of the company officers, but those of the men afflicted with profuse sweating must be the care of the medical officer in person.

The following hints may be of use as regards suitable applications for the feet, to be applied more especially in the case of men
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suffering from hyperhydrosis, or for general use in hot weather. In the German army a mixture of salicylic acid and talc, three parts of the former to eighty-seven of the latter, with the addition of starch ten parts, is used. Drs. Troussaint and Schneider, of the French army, recommend the careful swabbing of the feet with cotton-wool soaked in 10 per cent. solution of chromic acid, a weak dilution being used in the case of excoriations being present. This should be repeated in a fortnight or six weeks. This proceeding is also a regulation one in the German army. Dr. Vaillard recommends the use of formalin in somewhat strong solutions, rising even to 30 per cent. in cases where it is well borne. It need hardly be said that the use of any such solutions should be restricted to cases where it is absolutely necessary, and remain under the personal supervision of the medical officer.

The question of corns may be alluded to; it is not wise to leave these entirely to the care of the battalion chiropodist, even supposing such a person to exist. Unskilful cutting may cause a serious injury, and the operations of the chiropodist should, therefore, be carried out under the supervision of the medical officer.

We now come to the coverings of the feet, and firstly, then, as regards the socks. In reference to the number of socks a man should possess, no man is an efficient foot soldier who does not start at least with two pairs of well-fitting undarned socks. Two at least he must have, since one of the most important points in the care of the feet consists in putting on a cool, dry pair of socks after the former have been washed. Quite apart from the effect on the feet of putting on hot, damp and dirty socks after washing, which this change avoids, the general refreshing effect of clean, dry socks is very considerable. The socks also should be undarned to start with, since while the foot is still unhardened by the march, it is liable to suffer abrasions from the roughness of the mended surface, while in its hardened condition a few weeks later the same effect would not be produced. The socks after removal should be dried and then carefully cleansed of all dust, &c., by shaking and rubbing, and any hardened patch carefully kneaded between the fingers until the substance of the sock is soft and pliable again. Washing of socks is a matter that has to be performed with the greatest care and certainly should not be performed very often. Careful drying and cleaning as above described is sufficient for several days at least. The material of which the socks are made should not be too thin, and too thick a material is equally an error. Well-made, knitted, woollen socks
of medium thickness are undoubtedly the best. Cheap woollen socks are rarely well made or finished, and invariably shrink in the wash, and it is probable that in ordinary weather stout merino socks are preferable to these. For those who can afford it there is nothing more comfortable than two pairs of thin socks worn one over the other, but of course this entails four pairs in all. Every foot soldier should be able to darn his own socks, and be provided with materials for this purpose, and at the periodical foot inspections, socks should also be examined to see that holes are not allowed to go beyond repair. In the absence of socks, it is worth remembering that an excellent substitute can be made of linen or cotton cloth, or fairly thin flannel. A piece about the size of an ordinary triangular bandage should be taken. The foot is placed on this with the heel in the centre of one of the sides at a distance of about four inches from the edge. The edge is then brought up the back of the foot to a little higher than the top of the boot, and the free ends of the bandage folded round the foot. The size of the material should be such that when the edge is on a level with the top of the boot the point should still remain long enough to come over the toes to a spot in front of the ankle level with the edge behind. The use of these foot cloths is not uncommon on the Continent, and I can testify from personal experience over about 600 miles of rough walking that if well applied they are quite efficient substitutes for socks. The necessity for a spare pair of foot-cloths, to be put on on arrival in camp, is as imperative as in the case of socks. They should be cleaned in the same way. Soaping the inside of the socks is a useful precaution, especially when these are old or rough with darns.

We come now to the consideration of the boots. The question of the supply of boots to men of the Territorial Army is still, I understand, sub judice, but in any case every man should be prepared to turn out with one sound pair of walking boots, sufficiently worn for the feet of the owner to be accustomed to them, and in good repair. To start marching with soft feet, in a new pair of boots, is suicidal. The new boots served out on mobilisation should be worn for ordinary drills till the feet become accustomed to them, but for serious marching in the early days of mobilisation the boots worn should be those to which the feet are accustomed. Every Territorial soldier who wishes to keep himself efficient and in readiness to turn out at short notice should, if he can afford it, keep always one pair of good boots in good repair, and in regular use, for this purpose. The best boots are those
which approach as nearly as possible to what is called the rational shape. That is to say, they should conform in plan as nearly as possible to the outline of the sole of the foot, taken by tracing round the foot when planted firmly on a piece of paper. The toes should be bluntly rounded, not pointed, and when laced up there should be room in the boot for the foot to freely alter its shape in the course of the ordinary movements of walking, but without any actual movement in the boot. The heel should be broad and not, it need hardly be said, high. Civilised man has become habituated to having the heel of his foot raised slightly above the forepart, and it is impossible for him to return to the natural condition of the heelless savage. The height of the heel should be limited, however, and not more than twice the thickness of the sole. The addition of a metal plate saves wear, and has undoubted advantages in this direction, but it must be remembered that such an addition adds markedly to the shock felt when the heel is brought to the ground, especially in a laden man, not habituated to the carrying of weights. The sole should not be too thick, since this means weight and lack of pliancy. All boots should be sewn, not pegged. The sole may be furnished with nails, but these should not be hob-nails, since these are apt to fall out and leave holes which permit of the entry of water.

Coming now to the upper leathers, these should be stout and pliable, and preferably cut as in the ordinary shooting boot with a fixed tongue. They should not be blacked, but dressed with some oil or dubbin. This is most important, since it prevents the leather becoming sodden and hard. It is better on the whole not to have hooks to facilitate lacing. These are doubtless very convenient, but if putties are worn the pressure of the putties on the hooks is apt to cause injury to the ankle. It is, above all things, necessary to keep the boots as light as possible consistently with strength. Viry is responsible for the statement that every additional ounce carried on the boot is equivalent, as regards its effect on the wearer, to a hundred times that weight carried on his back, and though this may savour of exaggeration, it must be remembered that this additional weight has not only to be carried but lifted a height of 340 feet in every mile.

Writing for professional men, it is hardly necessary to speak of the treatment of injuries to the feet, blisters, abrasions, and so on, but it is important to impress the fact that men should be warned not to treat themselves. Self-treatment of a blistered heel, which usually consists in pricking it with a septic needle,
is very likely to result in admission to hospital for a tedious ulcer. A small blister or excoriation of the heel may seem to the enthusiastic surgeon, anxious to show his skill in the treatment of gunshot wounds, or the keen sanitarian looking forward to dealing with the large problems of disease prevention, matter too trivial for him to expend much time or trouble on, but it cannot be too strongly emphasised that no injury to the foot of a foot soldier can be looked on as trivial. What the total loss to an army from these causes may amount to is rarely realised, but the following facts are, however, worth remembering. The German army in the earlier fighting of the Franco-German War lost from killed and wounded rather over 60,000 men. In the same period 30,000 men were incapacitated from duty by injuries to the feet—rather more than half as many again as were lost in the most sanguinary engagement of the war, the battle of Gravelotte.

NOTE.—This paper has been written chiefly with the view of bringing to the notice of medical officers of the Territorial Forces the great importance of looking after the feet of their men. This importance is, of course, known to all officers of the Royal Army Medical Corps, but I may perhaps be forgiven for saying that, though it is known, it is not always remembered. The duty of looking after the feet of the infantry soldier is too often left to the regimental chiropodist—an excellent person, no doubt, but not one who can safely be entrusted with the sole care of the most important limb of the most important man in the army, the private man in the ranks of the infantry.