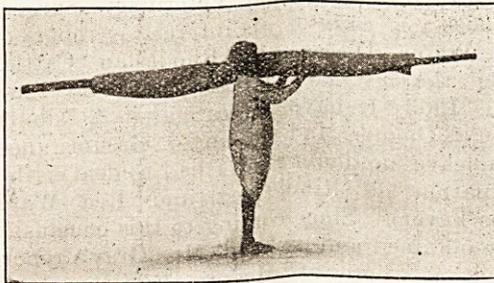


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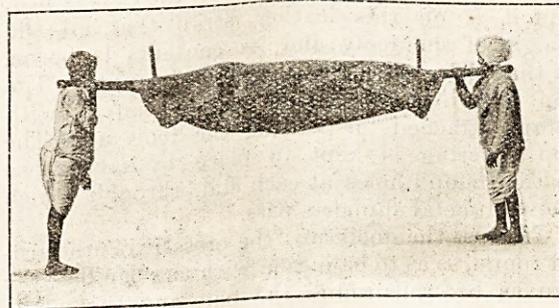
A NEW FIELD-SERVICE DOOLY.

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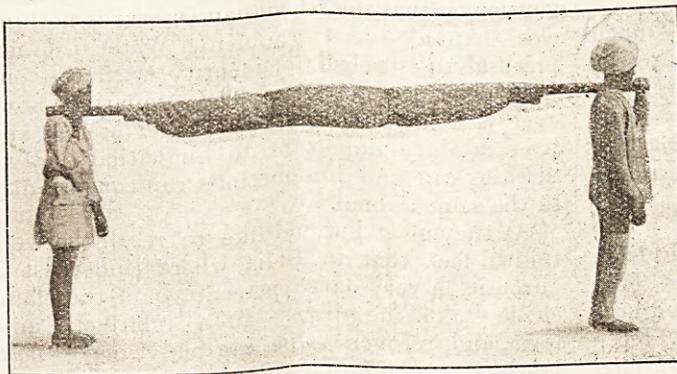
THE dooly is specially designed for the purpose of quickly removing wounded from the firing line and bringing them to the field hospital or camp, when troops are engaged in broken uneven ground, such as is so frequently met with on the North-West Frontier, Tirah, or in Afghanistan; or for carrying wounded or sick on the march over broken ground without roads,



Showing the lightness of dooly.



Dooly with man in it, ready to be carried over broken ground.



Dooly packed up ready for transport.

such as was experienced in the march down the Bara Valley in the late Tirah Campaign. The dooly is not intended to take the place of the present dooly for work over level roads on the lines of communication, but in my opinion has many advantages for work at the front over uneven ground, broken up by deep nullahs and without roads.

The following are the points in favour of my dooly:—

(a) Its lightness as compared with the present dooly—its weight is 49lbs. as compared with 75lbs., the weight of the present dooly. When the cross bars are made of aluminium, and certain slight structural alterations suggested by

Sir George Pretyman, K.C.M.G., and other officers who have inspected the dooly, given effect to, the weight will be considerably reduced. As it is, the dooly can be easily carried packed up on the shoulder of one man, as can be seen from the accompanying photographs.

(b) Its portability: when packed up it can easily be carried on the shoulder of one man; one pony or mule can easily carry five doolies as a load.

(c) Its comfort: the position of the sick or wounded man can be frequently altered, and the extreme irksomeness of being carried in a dooly thereby much relieved, and by the arrangement of straps a wounded or fractured limb can be placed in the most comfortable and suitable position.

(d) A wounded or sick man can be comfortably carried by two bearers instead of six required by the present dooly.

(e) Owing to the wounded man being carried high up, it is possible to get over the most broken ground, or over obstacles which would be impassible to the present dooly, with the least possible discomfort or delay.

(f) By the arrangement of the straps the floor of the dooly can be raised or lowered in a few moments, so that when going over level ground, it has all the advantages of the present dooly and none of the disad-

vantages.

(g) It can be used in camp to form an extremely comfortable and healthy cot, protected as well from cold and wet as from the heat of the sun.

(h) Its cheapness: the dooly can be made for between 25 to 30 Government rupees.

Three photographs of the dooly are attached, one showing how it can be carried on the shoulder of one man, a second when it is ready for work at the front, and a third when it is raised for carriage over broken ground and containing a patient.

The dooly consists of a strong canvas bed supported at each end from a metal bar passing

through the bamboo pole, and by four straps swinging from metal cross-bars, fixed on to the bamboo pole by strong iron pins, which pass through the bamboo and are fastened by a nut on the lower surface.

The bamboo pole is $3\frac{1}{2}$ inches in diameter and 12 feet 3 inches in length. The metal supports at each end can be raised or lowered by pushing them up through an opening in the bamboo, which is bound with a strong iron ring where the metal rod passes through, and is supported in any position by passing an iron pin through the holes in the rod above the bamboo. The body of the canvas bed is supported by leather straps, which pass from one side of the cross-bar underneath the canvas, and each strap can be raised or lowered simply by hooking the straps in a higher hole. A strong leather band passes right round the lower surface of the canvas bed, and it is on this leather strap that all the weight of the dooly and its contents is borne, so that there can be no tearing of canvas. The top covering consists of strong canvas with straps attached for packing the dooly up. The top covering is kept in place by having two leather-bound holes at each end, through which the end metal supports pass.

To pack the dooly up, the cross-bars are turned round, so as to be in line with the bamboo, the canvas bed rolls round the pole, and the whole is firmly strapped together in the top canvas covering, which acts as a *salceta*, as can be seen from the accompanying photographs.

During the late Tirah Expedition I was much impressed by the unsuitability of the present pattern dooly for work over broken and uneven ground, and the possibility of designing a more suitable vehicle for the conveyance of sick and wounded on the march, over difficult and broken ground occurred to me shortly after our arrival at Bara Fort.

The sad experiences of the 2nd Division during the memorable march from Bagh to Fort Bara in December 1897, conclusively proved how unsuitable, in every respect, the present dooly was for carrying wounded or sick over broken ground; it was found to be quite impossible to carry the dooly over deep nullahs and down steep inclines, owing to the lowness of the floor of the dooly, which kept constantly humping against the ground. When the dooly had to be taken over a nullah the usual procedure was for the front Kahars to turn round and go slowly backwards down the side of the nullah, raising the pole of the dooly as high as they could to prevent the bottom scraping along the ground. This manœuvre had to be constantly repeated and consumed a lot of time, when time was valuable, and caused great delay.

As will be seen from the accompanying photographs, the principle underlying the design of my dooly is to keep the wounded man as high up close to the pole of the dooly as possible,

and by arrangement of the straps, to prevent his falling out even when the dooly be inclined at an angle of 45° . I have proved by experiment that a heavy European can be carried in my dooly with ease by two bearers over the rampart of the Secunderabad Mud Fort. To accomplish this the pole of the dooly had to be inclined at an angle of 45° . I am strongly of opinion that this dooly, if given a trial at the front, will be found to have many advantages over the present pattern dooly, for operations over uneven rough country.

RED WATER AND RINDERPEST IN CATTLE.

BY STEWART STOCKMAN, C. V. D., INDIA.

In September of 1902 I received from my friend Mr. Gray, Principal Veterinary Surgeon in Rhodesia, a copy of his interesting report on "Red Water Disease in Rhodesian Cattle." During the last two months, February and March, 1903, I have investigated a similar disease at Ongole, Madras, under circumstances which leave no doubt that I had to deal with a combination of Rinderpest and Red Water (Texas Fever). Since coming to this conclusion I have obtained and re-read Mr. Gray's report, as well as those of Messrs. Robertson and Watkins-Pitchford.

In view of the conclusions come to by these gentlemen that the Rhodesian Disease is nothing else than a severe form of Red Water, I do not presume to establish its identity with the one I am about to describe. The similarity, however, is so striking as to be of great interest, and it is certainly important to know that the two diseases can and do sometimes run concurrently in the same animal.

At the outset I would like to recall the well-known fact that in India, where rinderpest is enzootic, a very large percentage of the plains cattle take the disease in a relatively mild form, and recover. One can only make *post-mortem* examinations on those which have had an acute attack ending in death, and it is on the lesions found in the latter cases that the general idea of the *post-mortem* appearances of rinderpest are based. It is only reasonable, however, to assume that the lesions of the stomachs and bowels, so serious of themselves in the virulent forms, are neither so well marked nor so typical in the milder and non-fatal cases. That has been my experience in a very few mild cases, in which accident has enabled me to hold a *post-mortem* examination.

On the 15th February, at Berhampur (Ganjam), blood was withdrawn from an animal, No. 18, then suffering from a severe but non-fatal attack of experimentally produced rinderpest. No. 18 was one of a lot of 40 cattle which I had had under my personal supervision for two months.