



Royal United Services Institution. Journal

Publication details, including instructions for
authors and subscription information:

<http://www.tandfonline.com/loi/rusi19>

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Published online: 11 Sep 2009.

To cite this article: Major W. C.F. Molyneux (1881) Notes on Hasty Defences as Practised in South Africa, Royal United Services Institution. Journal, 24:108, 806-814, DOI: [10.1080/03071848109418528](https://doi.org/10.1080/03071848109418528)

To link to this article: <http://dx.doi.org/10.1080/03071848109418528>

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NOTES ON HASTY DEFENCES AS PRACTISED IN SOUTH AFRICA.¹

By Major W. C. F. MOLYNEUX, 22nd Regiment, &c., &c.

EVERY defensive work, whether a fort (stone or earth), an intrenchment, a house, church, or buildings placed in a state of defence, or a convoy of wagons and carts drawn up in a manner to protect their beasts of draught and to be easily defensible, is called in South Africa a "laager" (Dutch for fort).

In 1838 a Dutch "commando" under Pretorius, consisting of about 500 mounted Boers with 100 wagons, started from Natal to avenge the massacre of Retief and his followers. Their mode of advance was as follows:—The wagons were kept in as compact an order of march as possible, and on the leading wagon a cannon was carried. A small escort accompanied them. The mounted men distributed themselves in parties reconnoitring some miles from the wagons in all directions. The Zulus were then only armed with assegais, and when an "impi" (*i.e.* army) was discovered by any party, it retired slowly, retarding the Zulus as much as possible, and sending off messengers at once to warn the train. The cannon was fired, laager was formed, and at the cannon signal all the other parties rallied on the laager, which was circular in form, oxen and horses inside, wagons chained together, and wagon sails over the wagons and pegged to the ground outside.

In British Kaffraria during the Gaika War of 1878 the farmers in the disturbed parts collected together for the purpose of defence, bringing their families, wagons, and cattle with them into laager.

Thus, at Frankfort, 15 miles north of King William's Town, they made the stone church the magazine and central reduit, dug a square intrenchment round it with the ditch outside, used their wagons as a cattle enclosure, as a parados for the interior space, and for sleeping in, and felled all trees and bushes that might screen an enemy, using them to form a rough abattis, and garnished the ditch plentifully with broken bottles.

At Debe Nek, 10 miles west of King William's Town, Hall's Hotel, a strongly built house with outbuildings, was quickly transformed into a strong fort by raising and loopholing the walls, and boarding up the windows three-quarters of their height. The cattle here were confined in a square kraal made of felled mimosa trees, branches (and therefore thorns) outwards, two sides of which were flanked by the main buildings, and the other overhanging the bank of a deep stream.

At Utrecht, in the Transvaal, during the Zulu War of 1879, all the inhabitants went nightly into the civilian laager, which was the old

¹ These notes were made in 1879 at the request of a friend, and are now offered at the suggestion of others.—W. C. F. M.

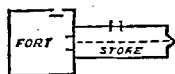
Dutch stone fort completely filled with wagons and square tents, the banquette being of boards raised on stones or barrels; the family slept in their wagon, the servants underneath it. The Burghers were entrusted to defend this laager. The military hospital and stores were in a fort adjoining, and the troops were encamped outside.

The dépôts of stores, on the borders of Zululand and along the line of advance of the columns, were fortified. The problem generally to be solved was how to defend a large amount of stores with the least possible number of men; and as the standing orders of the Army laid down that companies were never to be broken up into detachments, the least garrison in any case was one company.

With one company it was found most convenient to keep it together in a square fort, and if the stores were too great to be contained within the parapet a corrugated iron store-house was built, with one of its short sides abutting on the side of the fort, and with a species of caponnière at the far end to flank it.

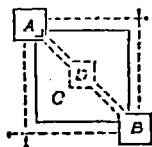
Instance: Fort at Balte Spruit.

FIG. 1.



For more important dépôts, two companies might be left as garrison, and the stores were protected by two forts, thus:—

FIG. 2.



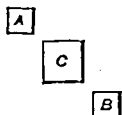
A and B, two forts, each garrisoned by a company; C, wagons of a convoy drawn up in a square under the protection of these forts, and flanked by them. Draught oxen inside the wagon square. Such a work was constructed at Conference Hill, between Utrecht and the Blood River.

At times the stores might be left at a post, the wagons returning under escort for a fresh supply. At Fort Newdigate, Nondweni River, Zululand, the Engineer Officer in charge arranged the stores, consisting of sacks of mealies (maize), biscuit boxes, boxes of preserved meat in tins, tins of preserved vegetables, boxes containing lime-juice in bottles, &c., in the manner shown by the dotted lines at D, thus forming a covered way between the two forts.

At Entonjaneni, Zululand, the 2nd Division and Flying Column left more than three parts of their wagons and carts behind, on proceeding down into the Amhlabatini Plains towards the White Umvolosi

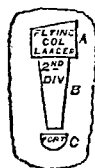
River. The wagons left were laagered as shown at A, B, C, in Fig. 3. A and B were wagon laagers for the garrison, C was the cattle laager, and held over 8,000 oxen.

FIG. 3.



On the White Umvolosi River, when the same force stripped itself of everything except ammunition and intrenching tool carts, ambulance wagons, and carts containing two days' preserved rations, before crossing the river towards Ulundi, the Flying Column wagons were formed into an irregular four-sided figure, suiting the ground as at A, Fig. 4; the 2nd Division wagons in two sides of a triangle, as at B; and a small fort was constructed on a knoll, C, where the apex of the triangle would be, which commanded the whole of the ground. The bush was felled for 100 yards all round, and formed into an abattis at that distance from the wagons.

FIG. 4.



In the campaign in Zululand, the orders throughout were, that every force should either laager or intrench at night.

It was proved by experience, that with a large force and a moderate convoy, the line to be held should be a shelter trench outside the wagon laager, while with a small force and a large convoy, the line of the wagons must be held.

For, with sufficient men to line the shelter trench two deep, no enemy without artillery can carry it, space is left between the shelter trench and wagons for the Officers and Staff to move about and circulate orders, ammunition can be easily distributed, room is left for the Native Contingent, who are then at once ready to pursue and turn a repulse into a rout, the oxen and spare horses, which invariably stampede when the firing gets hot, are safely held in the laager of wagons, and each line of wagons defilades the shelter trench in front of that face from reverse fire coming over the laager.

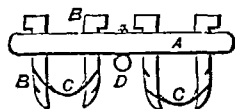
Whereas, with a small force, the less the perimeter, the heavier in proportion the fire on the assailants; and with a V-shaped trench, dug close to the outer wheels of the wagons, and the earth piled *underneath* them, an almost insurmountable obstacle is created. The

garrison fire from the tops of the wagons and from underneath them, spaces between the spokes of the outer wheels being left free of earth to serve as loopholes. The trench is dug *close* to the outside wheels, and the earth piled *under* the wagons, for were it otherwise, a ramp would be formed, up which the assailants could easily run and climb over the wagons.

Wagons in South Africa are of three kinds: tent wagons, in which the whole of the body is covered with canvas on semicircular wooden hoops; half tent, in which the after part, for about one-third of the length of the body, is similarly covered; and buck-wagons having no raised cover. Every wagon is provided with a wagon-sail of canvas, waterproofed with grease, as long as the wagon and wide enough to cover it and reach the ground on both sides. Under this the attendants sleep.

The fore and hind axles are connected by a baulk of timber called the "long-wagon," and connected rigidly to them, but jointed about two feet behind the fore axle. The pole or "disselboom" is rigidly connected to the fore axle. The body of the wagon is placed on baulks of wood above the axles, and is kept in its place by uprights of iron from the extremities of these baulks, outside it, and by iron cleats underneath it, in front of, and behind, the hind axle. The body is thus allowed much play, and is retained in its place by its own weight. Two pieces of soft wood, connected by a baulk in rear of the hind wheels, can be pressed against them by means of an iron lever and screw working on an iron rod hooked to the hind axle and passing through the centre of the baulk. This is the general South African break, but chains are also carried under the wagon, connected in front to the fore axle, by which the hind wheels may be locked; drag shoes are unknown.

FIG. 5.



The wagon is drawn by from fourteen to eighteen oxen yoked two and two. The yoke consists of:—A the "yoke," a round piece of wood. B the yoke "skeys," passing through holes in the centre of the yoke, with notches to receive the ends of the throat lash or "strop" C, which is of raw hide twisted, with loops at the ends. D is an iron ring connected to the yoke by an iron screw passing through the centre to a nut on the top. The ring D of the yoke of the "after oxen" is tied to a ring at the top of the end of the "disselboom." The "trek tow" (of chain, wire rope, or raw hide rope) is tied to another ring in front of the extremity of the "dissel-boom," and the ring D of the yokes of the "leading" and "middle" oxen are tied to the "trek tow" at suitable intervals; the lashings used are in all cases raw hide "riems."

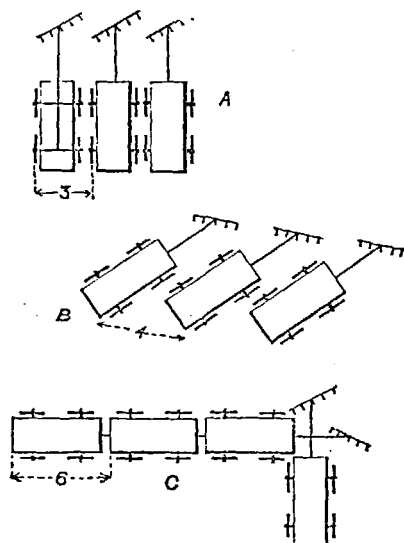
The attendants are: the "driver," who applies the whip and attends to the break, and the "forelooper" (Dutch voorlooper) who walks in front of the leading oxen, conducting them by means of a hide "riem" fastened round the base of their horns.

A wagon and team on the line of march occupies about 40 yards. The wagon weighs about $1\frac{1}{2}$ ton, and can carry about $3\frac{1}{2}$ tons on a good road.

For the purposes of laager making, the Cape wagon may be called 6 yards long, exclusive of the "disselboom," by 3 yards wide. They may be formed into laager, end on (A); slanting diagonally outwards (B); or straight, with the disselboom under the preceding wagon (C). (Fig. 6.)

C makes the neatest and strongest laager and gives most interior space, a matter of consequence when the number of wagons is small,

FIG. 6.



as will be proved hereafter; but labour as well as time is required to make it, as the oxen must be out-spanned 30 yards off, and the wagon run in by hand, and on breaking up the laager, only one wagon on each face can be inspanned and moved off at a time.

A is the simplest certainly for the front and flank faces; but it only gives 3 yards of face for each wagon; in forming the rear face the wagons have to wheel completely to the right about (for the "disselbooms" are usually pointed outwards to simplify the process of inspanning and drawing out in the morning), and when from bad driving or other causes gaps are left, great labour is required to shift the wagons close together.

B was the method usually adopted in Zululand; the leading wagon

draws up diagonally to, and on the line marked by flags, at an angle of about 30° . The next wagon draws up on the same line, and on the outer side of the preceding wagon, the "after" oxen being goaded well inwards at last, till the nave of the front wheel jams against the nave of the hind wheel of the wagon in front, when the break is applied and the oxen outspanned. This gives about 4 yards of side for every wagon. The slanting "disselbooms" make no mean entanglement outside, and all the oxen can be inspanned together in the morning.

As regards the oxen, if the march is to be resumed early in the morning, they should be tied by their "riems" to the yokes over night, to save the time taken in picking out the spans in the morning; the "trek tows," with yokes attached, being laid on the ground in lines inside the laager; this is advantageous in that the spans being together the beasts lie down quietly and make no noise. In a standing camp they may be allowed to graze till the last moment and driven in *en masse*, but then they will bellow all night.

In tracing the lines for a wagon laager, it must be taken into consideration whether it can be leisurely made or must be formed in a hurry. If time is available, and for permanent posts with small garrisons, intricate figures (such as Fig. 3) may be traced; but simple figures, such as the square or oblong, are recommended when moving forward day after day, for the following reasons:—

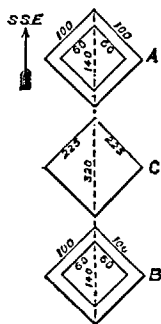
Wagons are in sections of ten, under a "conductor;" these are not military men, but collected from a class known in South Africa as "transport riders," and even the most intelligent of them are liable to be confused, even in daytime, by many flags dotted about the ground; the laagers are often made at dusk, this obscures the points of formation and increases the confusion, for the Staff Officer who has put out the points cannot be at two or more laagers at once. Not one driver or foreloper in a hundred knows English; with a great demand for transport, any Kafir is passed off as a skilled driver; and the wagon and span, which take 40 yards on the march, require an enormous lateral space to turn in if it once goes wrong. Consequently, the simpler the figure, the less chance of confusion and delay. Thus, for instance, the ground at Itelezi, Zululand, where the 2nd Division encamped on the 1st June, 1879, gave ample space, and the laager was laid out as follows:—

The wagons were to be formed as in B, Fig. 6, slanting diagonally outwards; and, as bad driving was anticipated at this first attempt, 5 yards was estimated for each wagon. Each brigade had 50 wagons, and there were 180 wagons of Commissariat stores.

A and B, Fig. 7, were the laagers to be held by the 1st and 2nd Brigades respectively. Squares of 60 yards side were laid out for the 50 wagons of each brigade, and shelter trenches were dug 20 yards outside, making the shelter trench squares 100 yards by 100 yards.

The 1st Brigade to hold laager A consisted of 2 | 21st and 58th Regiments; there were, in addition, 2nd Division head-quarters, 1st Brigade 2nd Division head-quarters, N | 5 Royal Artillery, and Ammunition Column.

FIG. 7.



The 2nd Brigade to hold laager B consisted of 1 | 24th and 94th Regiments; there were, in addition, Army head-quarters, 2nd Brigade 2nd Division head-quarters, K | 6 Royal Artillery, and the Field Hospital.

C was the laager to hold the oxen of the whole column and the 17th Lancer horses; 180 wagons of the Commissariat, at 5 yards each, would give a square of 225 yards side, which was large enough to contain them. The Native Contingent were placed in the cattle laager.

An interval of 50 yards was left between the trenches round A and B and the nearest angles of the laager C, which had no trench.

The 1st Brigade pitched their tents outside the trench round A, the 2nd Brigade outside B, and the cavalry outside C.

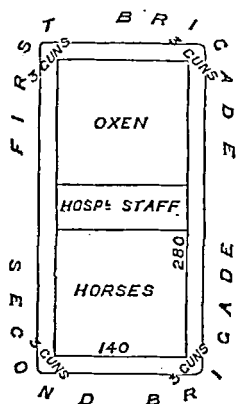
On an alarm, the companies were to fall in in front of their tents; the last man out of each to pull away the tent pole, letting the tent fall flat on the ground, and only to line the shelter trenches in rear on receiving orders, the cavalry were similarly to lower their tents and "saddle up" their horses inside the laager C.

It will be observed that twelve flags or mounted points, at least, are required to lay out such a trace, and the total length of the diagonal is 700 yards. The Itelezi laager was not a complete success; it appeared that not every camping ground would afford such space; and from that time it was decided that the trace should be altered to the following one:—

Wagons to be formed in an oblong, length double the breadth, with two partitions. At 4 yards a wagon, the short side in yards was at once known by dividing the number of wagons by two; laying out the four points for the angles was soon accomplished; the total space required was not 300 yards in length, and the formation was so simple as not to confuse the conductors and drivers.

On the return march of the 2nd Division, from Ulundi to Landman's Drift, the intricate figure (Fig. 7) was again tried and spoken well of; but the wagons then, being nearly empty, could keep their places better on the march, more leisure could be given to the details of

FIG. 8.



laager making, the conductors and drivers had become more accustomed to their work, and there were no reports of "impis" in the neighbourhood and their consequent "laager at once."

A circular laager, as used by the Dutch formerly, gives the greatest interior space for a given number of wagons, and all conductors know how to draw up the wagons to form it, but it is very difficult to trace with a large number of wagons, the fire from it is diverging, and it is not easy to distribute the defenders in a hurry or in the dark.

Circular laagers were used by regiments moving singly on the borders of Zululand with a few wagons; the oxen were tied to their yokes laid down outside, the "trek tows" being pegged down. In case of an attack the garrison would have fired from the tops of the wagons over the oxen.

With a fair sized force, a few wagons to convoy is not a source of strength but rather of weakness; for if it be granted that each wagon will form 4 yards of the side of a laager, that it has sixteen oxen, and that each ox requires 4 square yards of superficial space inside the laager, it is easily proved mathematically that 64 is the least number of wagons that can be formed into a square large enough to contain its oxen, and that 51 is the least number if the figure be a perfect circle.

As a final example of laager building in detail, we may take the laager at Gingihlovo, which was attacked by the Zulus on the 2nd April, 1879.

The Ekowe relief column started from the Lower Tugela about 3,000 white men strong with about 130 wagons and carts. These were drawn by about 2,000 oxen and mules.

On the evening of the 1st April a square of 130 yards side was laid out, and the carriages, arranged as at B (Fig. 6), just completed it; the ammunition carts were outside.

The interior space was nearly 17,000 square yards, 2,000 oxen and mules required 8,000 square yards only, there was consequently room inside for the mounted Officers' horses and those of the mounted infantry, as well as for the Field Hospital.

A shelter trench was dug 15 yards outside the wagons; each face of the shelter trench was, therefore, 160 yards long, and its total perimeter 640 yards. With the men two deep, shoulder to shoulder, this required 1,920 (say 2,000) men; there were, consequently, 1,000 left for outlying pickets, mounted men, reserve, and casualties. The guns, rocket tubes, and Gatlings were at the angles. The men bivouacked between the trench and wagons; all cooking was done outside the trench.

On the alarm the men *advanced* to the trench, the outlying pickets on falling back joined the reserve, which with the Native Contingents lay down in rear of the trench, the mounted men saddled their horses, and men were placed ready to run out wagons to open a road for them if required to pursue.

After the repulse and pursuit of the Zulus, the 45 carts to be taken through the 12 miles defile to Ekowe the next day were separated; the trench was levelled; two sides of the square were moved in, reducing it to 100 yards square; a V-shaped ditch was dug *close* to the outer wheels, and earth piled *under* the wagons, and entanglements were made between the projecting parts of the wagons with the chains belonging to them. 1,000 infantry were left to defend the line of wagons, 400 yards long; and bastions of earth were raised at the angles for the guns, Gatlings, and rocket tubes. The whole of the arrangements were superintended by Lord Chelmsford, in person.

In South Africa, during the dry season and with strong winds, grass fires are greatly to be feared. Hostile natives at times not only attempt to burn a laager, but have been known to make an attack under cover of the smoke. Consequently in dry weather, after laager is formed, it is usual to burn the grass within 100 yards of the wagons.

This is accomplished by lighting it at the leeward edges of the strips requiring removal, and letting it burn slowly to windward, in which manner the fire is easily controlled, can be extinguished at will, and the pasturage for the oxen of the train not interfered with.