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DANNERT CONCERTINA WIRE OBSTACLES

(PROVISIONAL)

MILITARY TRAINING PAMPHLET

No. 21

1939

Prepared under the direction of The Chief of the Imperial General Staff.

(Reprinted in Canada (July 1939), by permission of the Controller, His Majesty's Stationery Office.)

10M—4-41 (18)
H.Q. 70-40-9

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DANNERT CONCERTINA WIRE OBSTACLES

Various types of obstacles, including road blocks, can be made from Dannert concertina wire. The standard infantry obstacle will be the "triple concertina fence."

1. DESCRIPTION OF THE TRIPLE CONCERTINA FENCE

1. The "triple concertina fence" consists of:—

i. Three concertinas in the form of a pyramid ∴.

ii. Long screw pickets at 5 paces (4 yards) intervals through the two bottom concertinas.

iii. A longitudinal strand of ordinary barbed wire along the top of each bottom concertina. This strand to be fixed to the second eye from the top of each picket, and to be windlassed to the bottom concertina at intervals.

iv. The top concertina to be fixed by the top eye of the long screw pickets on the home side of the fence. The horizontal strand on the home side of the fence to be windlassed to this concertina.

NOTE.—When the tactical situation does not preclude working on the enemy side of the fence, and time permits, the fence will be further strengthened by fixing the top concertina to the top eyes of the pickets on the enemy side of the fence as well as on the home side, and by windlassing it to the horizontal strand of barbed wire on the enemy side also.

2. The reasons for adopting this type of fence are:—

i. The addition of the third (top) concertina makes the fence much more difficult to cross, while giving it a more formidable appearance and thereby increasing its moral effect.

ii. The screw pickets are required to:—
(*a*) Anchor the fence effectively.
(*b*) Carry the horizontal wires.

iii. The horizontal wires make it difficult to press down the concertinas by treading or by throwing trench-boards across them.

2. WIRING PROCEDURE—GENERAL

1. Sequence of instruction

Men must first learn:—

i. The proper way to screw in the pickets.

ii. How to fasten the wire to the pickets.

iii. The sequence of operations in making the fence.

2. Size of parties and length of task

When extended to 50 feet a Dannert concertina has a diameter of approximately 3 feet. Further extension will result in a reduction of this diameter, which is undesirable. Fifty feet has therefore been adopted as the standard length.

The length of three concertinas (50 yards) is a convenient length for a normal task, and the procedure for the construction of the fence is based on a 50-yard task.

The best party for erecting a 50-yard length of "triple concertina fence" is a commander and 7 men and it is for this party that the drill has been designed.

As, however, it is not possible in war for wiring parties always to be the same size, and allowance must be made for possible casualties, the procedure must not depend on an exact number in the party. The basis of the procedure is that the men must learn and follow the correct sequence of work; there are no special jobs for special numbers.

On Dannert wire the barbs are longer and are more unevenly spaced than on normal barbed wire. For this reason it is desirable that as many as possible of the party erecting the fence should wear gloves.

3. USE OF SCREW PICKETS

1. Laying out pickets

Pickets are always laid out with their screw points pointing towards the front, or direction of the enemy, and at the exact place on the ground where they are to be put in.

2. Putting in screw pickets

The windlassing stick used for screwing in the pickets should be placed in the bottom eye. This reduces the "whip" in the picket and prevents it from being distorted by the twisting.

Fastening the wires to the pickets is simplified if all the pickets are screwed in so that the eyes are parallel to the length of the fence, and so that the cut end of the loop forming the top eye faces or points towards the **LEFT** hand end of the fence. The tops of some pickets are in the form of a hoop, while those of others end in a straight point. In the latter case to apply the above rule, it must be imagined that the point is bent over in continuation of the twist.

3. Fixing the wires to the pickets

i. The two bottom concertinas are lifted and placed on to the pickets so that the pickets pass through the mesh of the concertina.

The ends of the adjacent concertinas are fixed to a single picket in the following manner:—

Only the bottom portion of the end coil of the first concertina is placed over the picket (*see* Fig. A). Both the top and bottom of the end coil of the second concertina are then placed over the picket (*see* Fig. B). The top portion of the first concertina is finally placed over the picket above all the others (*see* Fig. C).

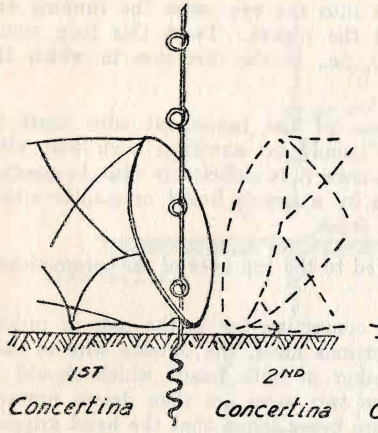


FIG. A.

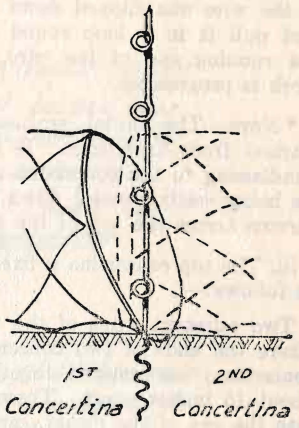


FIG. B.

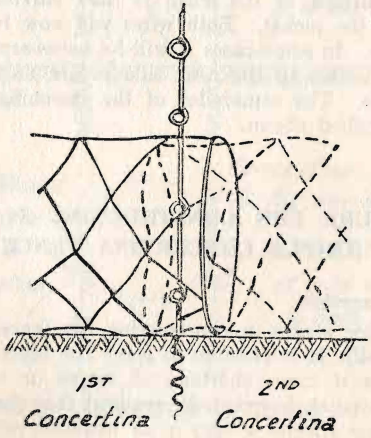


FIG. C.

ii. The horizontal strands of ordinary barbed wire are fixed to the second eye from the top of each picket as follows:—

Press down the concertina with the foot, pull the horizontal strand of wire taut* from the direction of the previous picket.

Slip the wire up or down into the eye from the near side of the picket. Pass the hand which is towards the beginning of the task behind the picket, **ABOVE** the standing part if the wire was slipped up into the eye, or **BELOW** the standing part if the wire was slipped down into the eye, seize the running end and pull it in a loop round the picket. Twist this loop round the running end of the wire, *i.e.*, in the direction in which the work is progressing.

* NOTE.—The initial tautness of the horizontal wire must be learned from experience. It should be stretched such that after windlassing to the concertina coils it is sufficiently taut to prevent its being easily pressed down by a trench board or similar article thrown across the top of the fence.

iii. The top concertina is fixed to the top eyes of the screw pickets as follows:—

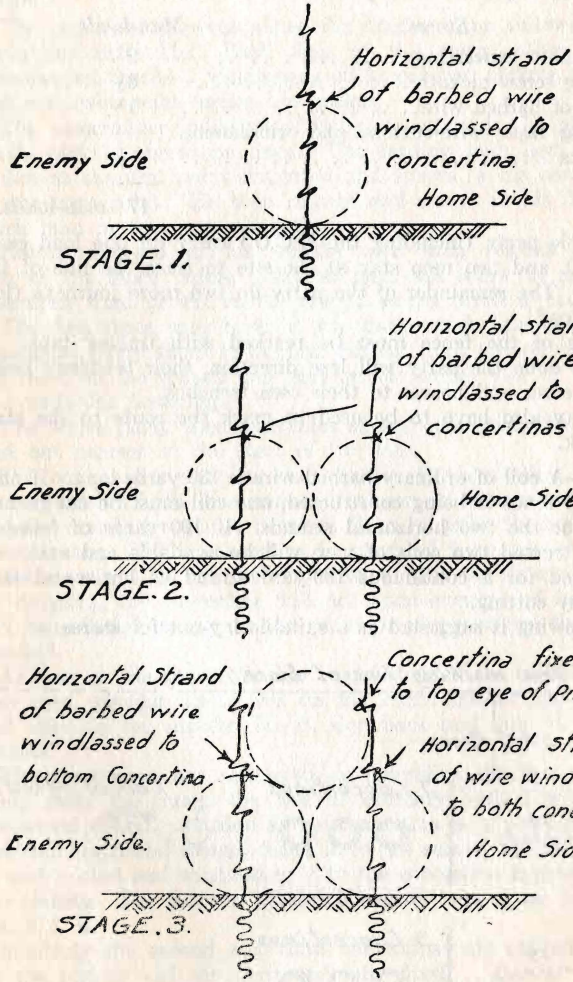
Two adjacent wires of the concertina (or in the case of pickets where the ends of two concertinas meet, the outside wire of each concertina) are grasped together in both hands which should be about 15 inches apart. These two wires are then drawn upwards into the eye of the picket, care being taken that the hand gripping the lower part of the wires is on the same side of the picket as the double portion of the eye.

The lower portion of the wires is then **carried up and over** the cut end of the picket. Both wires will now be found to pass through the eye. In some cases it will be necessary to pull the two wires over the picket to the near side before they can be passed up into the eye. The remainder of the fastening must be made in the way described above.

4. PROCEDURE FOR CONSTRUCTING 50 YARDS OF "TRIPLE CONCERTINA FENCE"

1. Stages of erection

There are three stages in constructing the fence. Each stage is complete in itself. It is possible to leave the fence at either of the first two stages if time, shortage of stores or tactical situation necessitates. It must, however, be realized that the Stage 1 (single concertina) fence affords a very poor obstacle, while the Stage 2 (double concertina) fence affords a less efficient obstacle than double apron fence.



2. Stores

All the stores must first be carried to the site, and laid out near the start of the task in some suitable manner which must be known and understood by all the members of the party.

The stores required for 50 yards of fence are:—

Stores	*Man-loads*
9 Dannert concertinas	9
26 long screw pickets	6½
1 coil of barbed wire	1*
Tracing tape, wire-cutters, and windlassing sticks	½
	17 man-loads.

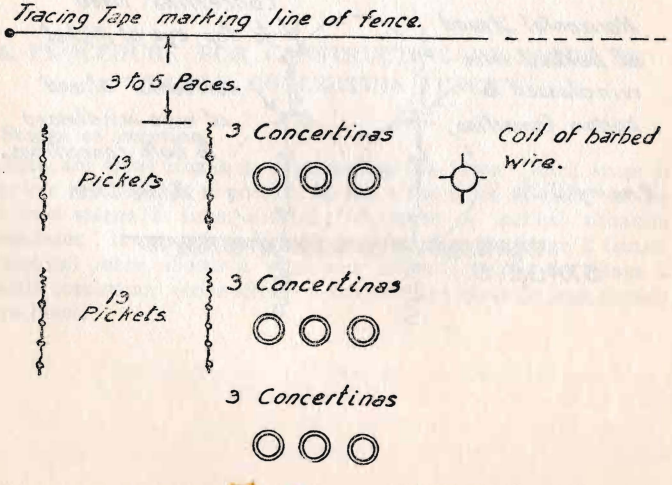
The whole party (including the N.C.O.) carry up one load each. The N.C.O. and two men stay at the site to trace the line of the fence, etc. The remainder of the party do two more journeys (less one man load).

The line of the fence must be marked with tracing tape. If this is not done the party will lose direction, their tendency being to come nearer and nearer to their own trenches.

Tape may also have to be used to mark the route to the start of the task.

* NOTE.—A coil of ordinary barbed wire is 130 yards long. If only 50 yards of fence is being constructed, one coil must be cut in half to allow for the two horizontal strands. If 100 yards of fence is being constructed two coils of wire will be available and each coil will be used for a continuous 100-yard strand of horizontal wire without any cutting.

The following is suggested as a suitable lay-out for stores:—



3. Procedure for constructing a fence

This procedure is for the erection of a fence starting from the left and working towards the right.

Stage 1

The commander paces along the tracing tape followed by the party in single file. Each man of the party, other than the commander, carries a windlassing stick and two pickets, except the last man who only carries one picket.

The commander indicates at five-pace intervals the positions at which pickets are to be fixed. The leading man lays down one picket at the first point indicated and screws in his second picket at the next point. He then returns and screws in his first picket. Each man in turn acts similarly.

Having screwed in his pickets each man returns along the line of the fence; while doing so men will screw in any pickets insecurely fixed or left on the ground as the result of casualties.

The first three men back at the dump each take one Dannert concertina, carry them to the 3rd, 7th and 11th pickets respectively, lay them on the ground one pace on the enemy side of the picket, and undo the fastenings.

The whole party then assembles at the concertina that has been laid out nearest to the start of the task.

The commander and four men extend the concertina by pulling it outwards in both directions. One man is required at each end and the remainder spaced between them to assist the concertina to open evenly. If the concertina is extended from one end only or if there are not enough men to assist so that the extension is done by dragging, the concertina will not open evenly and its diameter will be reduced unduly at the place or places where the strain is greatest.

As soon as the concertina has been extended the commander and four men, placing themselves on the home side of the concertina and close to the pickets, lift it, step back and drop it on to the pickets.

The three men not employed on extending the first concertina, bring from the dump the coil of ordinary barbed wire for the horizontal strand. As soon as the concertina is in position they run out this horizontal strand, fixing it to the second eye from the top of each picket and windlassing it to the concertina midway between the pickets. For tautness of this horizontal strand *see* Note under Sec. 3, 3, ii.

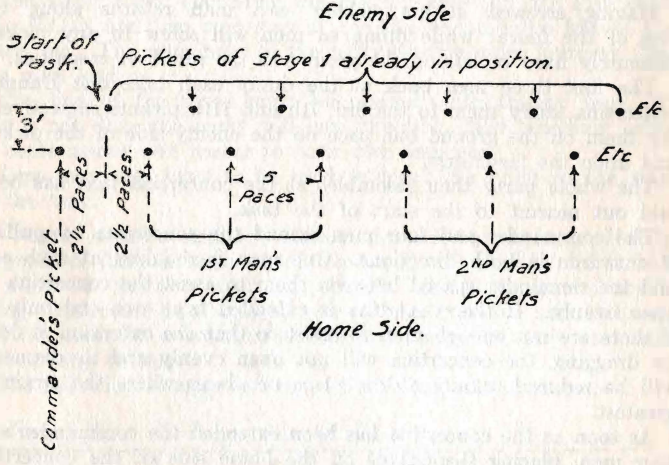
Similarly the second and third concertinas are extended, placed on the pickets and the horizontal wire fixed.

If only 50 yards of fence is being constructed the horizontal wire, after fixing to the last picket, will be cut and the coil brought back to the start of the task ready for use on Stage 2. If 100 yards of fence is being constructed the coil will be left ready to continue this horizontal strand over the second 50 yards; the coil of

ordinary barbed wire required for Stage 2 being picked up from the dump of stores for the second 50 yards of fence and taken back to the beginning of the first 50 yard task.

Stage 2

Stage 2 will start before the three men fixing the horizontal strand have finished. Hence the commander and four men only will be available at first. The commander and these four men return to the dump; each man takes **three** pickets while the commander takes one. The pickets are then laid out and screwed in on a line parallel to the pickets of Stage 1 and at a distance of 3 feet from it on the home side. The spacing of pickets is shown on the diagram.



Distance between two rows of pickets, 3 feet. Each picket of Stage 2 placed opposite centre of interval between pickets of Stage 1. The left-hand picket of Stage 2 must overlap 2½ paces to the left of the left-hand end of the original task of Stage 1 as in diagram. It is important that the distance between the two rows of pickets should not exceed 3 feet or the top concertina when finally placed will sag into the resulting gap between the two bottom concertinas and the efficiency of the fence will be reduced.

Having screwed in the pickets, the first three men available carry out the next three concertinas to the 3rd, 7th and 11th pickets respectively and remove the fastenings. The commander and all four men then extend the left-hand concertina, lift it forward and drop it on to the pickets. They repeat this with each of the two remaining concertinas.

As soon as the concertinas are placed, the three men who hav been fixing the horizontal strand of barbed wire of Stage 1 commence fixing a similar strand in the same manner along the to of the second row of concertinas.

Stage 3

When the commander and four men have finished placing th concertina of Stage 2, they return to the dump, collect the las three concertinas, extend them on the home side of the fence an lift them over the home line of pickets on to the top of the tw lower concertinas. As soon as it is placed in position each concertin is fixed to the top eyes of the home line of pickets (*see* Sec. 3, 3, iii)

While this is being done the remaining three men continu running out and fixing the horizontal strand of Stage 2. On completion of which, they return and windlass this horizontal strand to the top concertina also.

NOTE.—If the tactical situation permits of men working on the enemy side of the fence, the fixing of the top concertina to the top eyes of the row of pickets on the enemy side of the fence, and the windlassing to it of the Stage 1 horizontal strand, can now be carried out by any men available.

5. TIME FOR CONSTRUCTION

An average party of an N.C.O. and 7 men, with stores ready dumped at the beginning of the task, should be able to construct 50 yards of triple concertina fence in 15 minutes on normal ground by day.

ROAD BLOCKS

6. GENERAL CONSIDERATIONS

Dannert concertinas may be used to provide quickly erected road blocks against wheeled armoured fighting vehicles.

They should be placed similarly to French wire concertinas used for this purpose, that is to say that concertinas should be bent in the form of a "U" with two ends close together and facing the direction in which the enemy's approach is expected.

The object is to ensure that the wheels of the vehicle enter the open ends of the concertinas.

Sufficient concertinas should be used to block the whole width of the roadway and verges, and a second row should be placed about ten yards behind the first row.

If the concertina is placed with one end about a yard in advance of the other end there is a tendency for the vehicle to be slewed sideways across, or clear of, the roadway.

The outside concertinas of each block should be firmly fixed to the hedge or road verge. The end of each of the inner concertinas should be lightly fixed to its neighbouring coil, either with binding wire or by use of the couplers provided on the concertinas when closed.

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