

# A method of roping a cannon-net

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This paper describes a method for attaching ropes to, and setting, a cannon-net. The techniques have proved very successful at maximising the catching area when the net is fired.

When the first cannon-nets were made up by the Wash Wader Ringing Group, the lengths and locations of the trace-ropes, which attach the projectiles to the front edge of the net, were somewhat arbitrary. I have redesigned the cannon-net trace-rope positions so that each projectile now pulls out an equal portion of the net. This increases the possible catching area.

## How to make up a net

The rope positions for the full net (13 × 26 m) and for the half net (13 × 13 m) are shown in Figures 1 and 2 respectively.

To attach ropes to a full-sized cannon-net (13 × 25 m) the procedure is as follows:

Thread 4 mm rope along the sides (A–D and B–C) and the back (C–D). Thread 8 mm rope through the front of the net (A–B), 0.5 m from the front edge, leaving three metres spare at B (this will form an end trace rope) and 10 m at A (this leaves slack on the rope which will be used when tying in the 12 central trace-ropes, and will form the other end trace-rope).

Tie the centre trace-ropes to the front edge of the net, starting near B (leave two metres spare to form a tethering rope which will later be tied into the netting). To attach the centre trace-ropes to the front edge rope, loosely tie a clove hitch in the edge rope around a small stick. Then carefully remove the stick and tie another clove hitch with the trace rope through the clove hitch in the front rope. Gently tighten all four ends, applying more pressure as the knot tightens. When all the trace-ropes are attached there should be some slack netting along the front edge.

Cut the long end of the front edge rope at A to a length of 32 m, to form an end trace-rope. Fold the 0.5 m of loose netting under the front edge to form a flap. Thread 0.5 m of each tethering rope back through both the net and this flap. Untwist the remaining 1.5 m of each tethering rope so that one strand can go to one side and two strands to the other. Thread the strands through the netting (remember to leave slack netting) so that each meets the tethering rope from the next trace-rope. Each trace-rope has a small loop spliced on the end so that it can be attached to the projectile.

Using thread of the same denier (thickness) as the netting, sew all ropes (ropes around the edge of the net first, then tethering ropes) to the net using clove hitches or camel hitches (Ashley 1944) at regular intervals. When the roping is finished there should be no points of stress on the netting, since these will cause the net to tear when it is fired.

Ropes are attached to a half-sized net (13 m × 13 m) (Figure 2) in a similar way to a full-sized net, except that the middle eight trace-ropes on a half-size net are omitted.

## Cannon setting

The positioning of the cannons on a full-sized net is crucial if the net is to extend fully. The end cannons should be set 5 m in from the end jump rope pegs, with the cannon angled outwards, aimed at a point 12 m out from the end peg. The central pair of cannons on a full-sized net should be set to fire straight out, and so that each pulls evenly on its four trace-ropes set 5 m in from each end, i.e. 3 m apart in the middle. Again they should be angled outwards at a point 12 m out from the end-peg. This angle is especially important for a

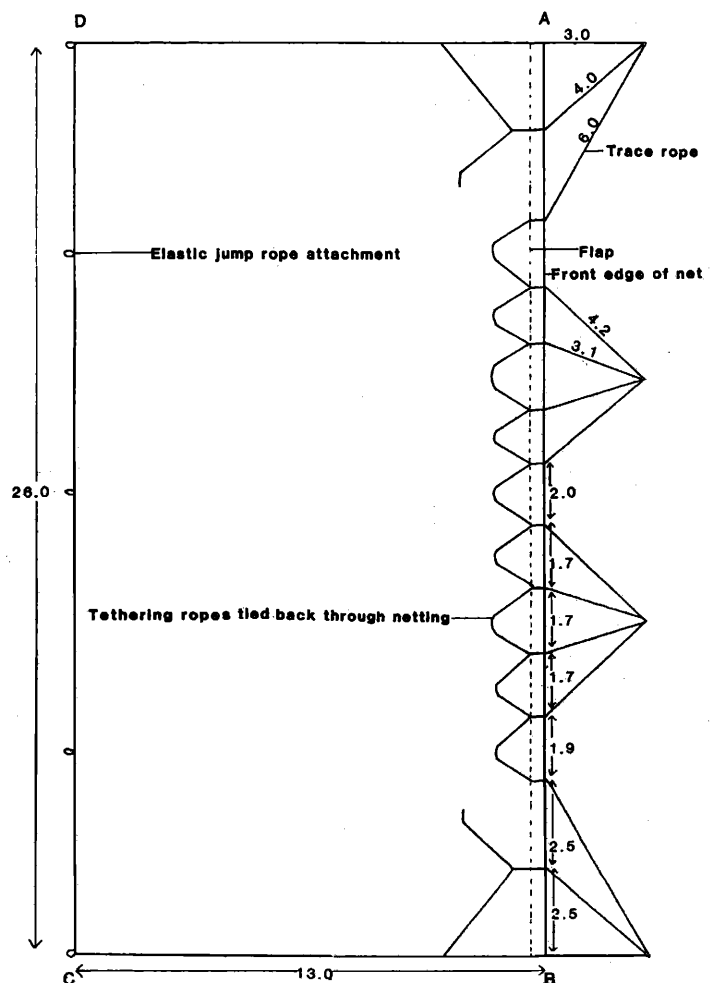


Figure 1. The design of a full-sized net. All measurements are in metres.



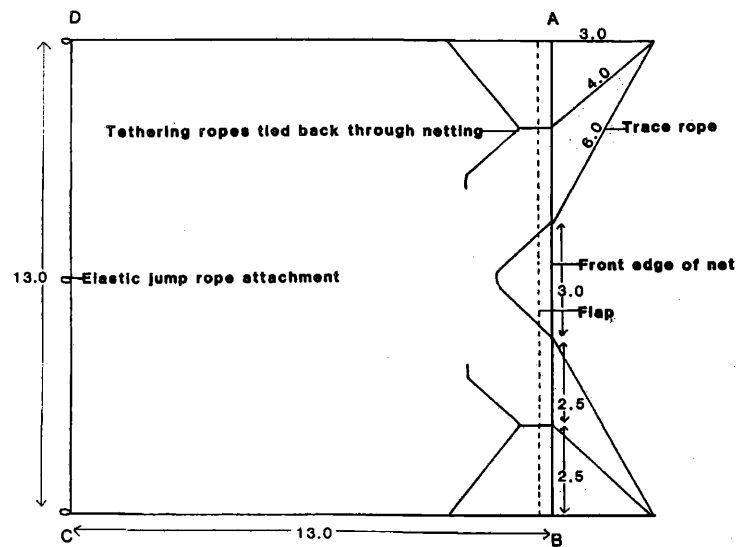


Figure 2. The design of a half-sized net. All measurements are in metres.

half net: if the cannons deviate from this position the middle of the net will not be fully extended.

I use 4 m jump-ropes (these are the ropes attached to the back of the net that are designed to stop the net going too far after it is fired) and find that the half-net always extends fully, with all jump ropes pulled taut.

As an additional improvement, I have increased the weight of the two centre projectiles for a full-sized net from 3.6 kg to 6.8 kg, to ensure that the net extends fully when it is fired.

Through these modifications in the basic design, I have increased the distance from the net that birds can readily be caught from 8 to 13 m. This has greatly increased catching success, especially on flat beaches where the position of high tide is difficult to predict.

#### Reference

Ashley, C.W. 1944. *The Ashley book of Knots*. Faber and Faber, London.

