



2018-05

Seamanship ~ Cordage

Understanding the ropes used on a ship including their maintenance and repair is a requirement for any seaman, especially during the age of sail. Manila ropes, made of hemp, were the most commonly used ropes on ships. Some terms are important.

A *yarn* is several fibres of hemp twisted together.

Twine, or *small card*, is two twisted yarns.

Marline is three twisted yarns.

A *hawser* is a rope formed of three strands, containing from fifteen to twenty-five yarns in each strand.

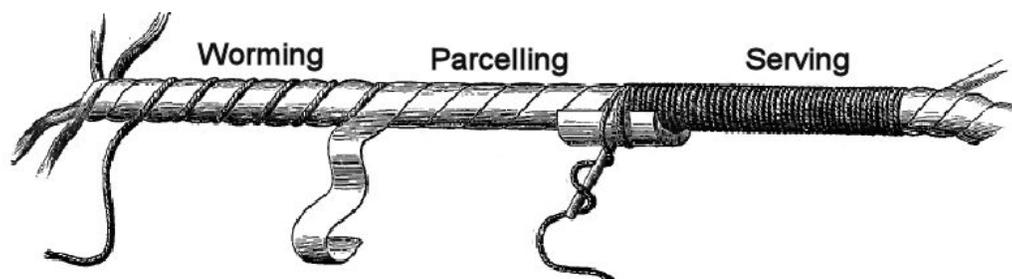
A *cable* is a large hand-twisted rope, made from three or four smaller ropes twisted round a common axis.

Laying a rope is the twisting of the strands in a hawser-laid or shroud-laid rope, and of the component ropes in a cable.

Serving a rope is to cover it with smaller cord or spun yarn, to preserve it from rolling and from friction. To facilitate the operation the yarn is passed two or three times round the rope. To ensure tightness, a sailor uses a serving mallet which has a concave groove on the opposite side of the handle.

Parcelling a rope means wrapping narrow strips of well-tarred canvas around the rope. This reduces the possibility of injury to the rope by rain water lodging between parts of the service when worn. The parcelling is put on with the lay of the rope with the edges overlapping. Today we would use a form of adhesive tape.

Worming a rope means filling up the divisions between the strands. After the worming is complete, you should complete the job by serving or parcelling the rope.

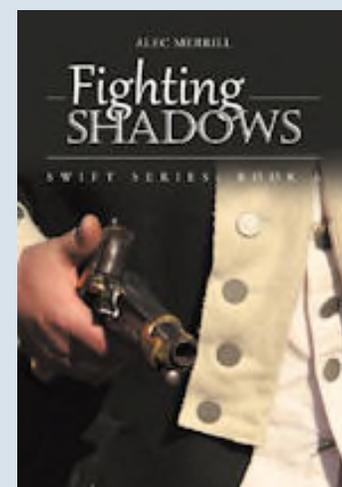


To calculate the strength of a hemp rope: Multiply the circumference of the rope in inches by itself then divide by five. For example a rope 3 inches in diameter $(3 \times 3) / 5 = 1.8$ tons (the number of tons the rope will sustain)

To determine the weight of a hawser: Multiply the circumference of the rope in inches by itself then multiply by the length of the rope in fathoms (if using feet divide by 6) and then divide by 420 to give the approximate amount in hundredweight (quintal or cwt). A 6 inch hawser that is 720 feet (120 fathoms) in length would weight $(6 \times 6) (720 / 6) / 420 = 10.28$ cwt.



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