

How to Splice Driving Ropes.



Fig. 45.

Any description of the method of splicing driving ropes, however illustrated, is at best but an imperfect substitute for actual demonstration.

With the help of half-tone reproductions we have attempted to represent the process throughout its varied stages up to the complete splicing.

These views will, we are persuaded, prove of great assistance to anyone possessing some knowledge of the handling of ropes, *e.g.*, a minder accustomed to attach mule bands, but to the totally uninitiated the study would naturally present greater difficulties.

In any case it will be wise to practice well upon such old ropes as may be at hand, repeating the operation until a degree of proficiency is attained, before attempting the more important work upon which driving efficiency and durability so much depend.

It should be observed that cotton ropes on account of their superior resilience, require slightly different treatment to hemp, particularly in the matter of simultaneously removing and replacing the strands, before the aperture has time to close.

The first process is that of ascertaining definite measurements.

We will suppose that the rope to be spliced is uncolled and pulled straight, not tight, upon the floor. The nett length is then marked off with whippings of twine to the measure of a stout

stretchless cord passed round the pulleys, which, when held comfortably tight end to end, represents the full driving circuit of a single rope. This cord is again cut down to allow for shrinkage, which varies in about the following proportions, viz:—3 per cent at 50 ft., 5 per cent at 100 ft., and 6 per cent at 200 ft., thus reducing the above figures to 48 ft. 6 ins., 95 ft. 0 ins., and 188 ft. 0 ins. respectively.

Anything of an elastic character such as cotton band should not be used for taking measurements.

To each end of the length thus defined must be added half the usual allowance for splicing, which may be roughly estimated at 82 times the diameter of the rope, or say 12 ft. for $1\frac{3}{4}$ inches. These arrangements carefully carried out, the actual splicing may be attempted.



Fig. 46.

Take out the strand, distinguished by the coloured thread running through its centre, bind the ends to prevent unrolling, and also tie the two remaining strands together as shown. Repeat the operation with the other end of the rope, but in this case remove the uncoloured strand.



Fig. 47.

Bind the two opposing strands thus treated together as close as the whippings will allow, cut through two of the four remaining strands (the second downwards from the binding in each case), open these

The half strands are wrapped round those already inserted in both directions by the aid of a marlin spike, until within two revolutions of the whipping, when they are further reduced, leaving only the same thickness as that originally peeled off. These are again worked round till they meet the remaining threads.



FIG. 51.

The use of the marlin spike, the manner of wrapping the reduced strands and of pulling them to the proper tension requires discretion, although well displayed in Figs. 50, and 51, which should be carefully studied.



FIG. 52.

Every long splice contains three minor ones as above described, and as they are all worked out upon the same principle, it is not necessary to repeat the description.

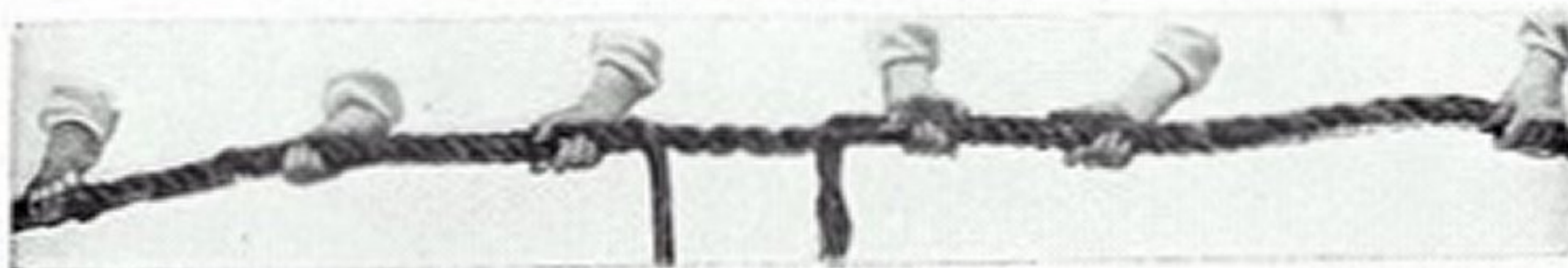


FIG. 53.

In this illustration two or three splicings are finished, the whipping which has hitherto held the two strands together is removed, and the strands wound round each other as before.

out upwards, leaving the lower portions together to preserve their shape, for if divided they will untwist and be spoilt for laying in, as shewn in next figure.



Fig. 48.

Cut off one of the outer whippings, replace the strand on that side with the uncut one from the opposite direction, which the labourer is passing round, leaving out sufficient to make up the joint, represented by six revolutions of the rope. This process is then repeated in the opposite direction for the other half of the splice.

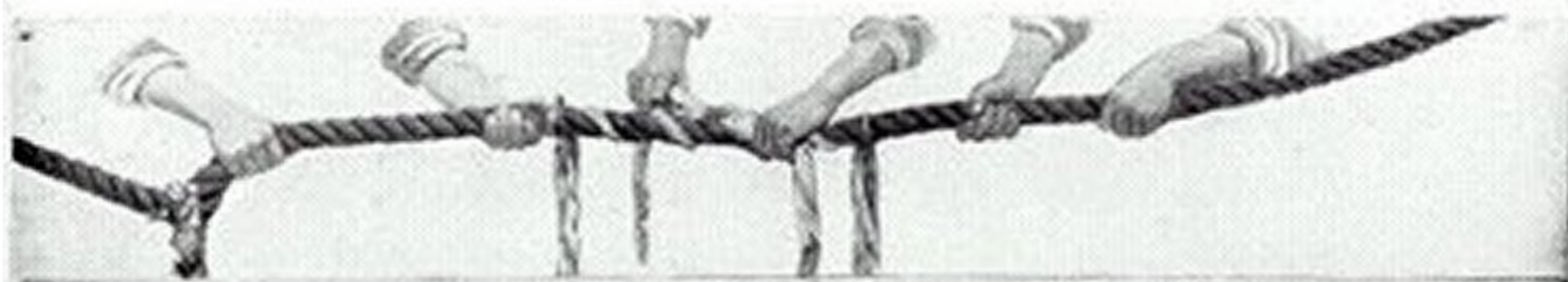


Fig. 49.

The outside layer of each strand is then peeled off as far as the whippings, and the remaining section laid in for two revolutions as shewn in white. At these points reduce the thickness again until only half remains of each strand. These half strands are brought together, tied in half knot and pulled up gently, each thread separately to secure equal tension.



Fig. 50.



Fig. 54.

Fig. 54 shews the completed splicing which is so neatly done that there is little to distinguish it from the rest of the rope.

It will be observed that the splicer requires the services of two labourers who hold the rope on each side of him, and twist or untwist to his dictation.

It might be advisable to point out that painted grooves drag at the fibres of the rope, and therefore it is always advisable to have them well greased for a start, which also applies to the side of the rim to prevent chafing as the rope is being passed into its place.