

W10/2

memo all 22/12
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To Directors, Conservators
and Deputy Surveyors

Mechanical Development Report No. 41
Grab for use with small diameter ropes for light logging

The grab described in this report is recommended for use with portable powered winches for light logging. It is suitable for pulls up to 1500 lb. which is the maximum capacity of the powered winch described in Report No. 29.

to H.C. Richardson 13/12

Mr Mackenzie 13/55 - Should we not ask them to translate their requirements before placing order?

H.B.P.

P.A.

to [Signature] for their requirements

Deputy Director General
7.12.55

Mr Brimmer
see note.

Please note up 290y of this to L.D. Stock
& advise Mr Sandwell (He should see this report).

Headquarters Mechanical Development Committee

Report No. 41 on

A Rope Grab for use with small
diameter ropes for light logging.

Origin

In the extraction of thinnings loads are usually small so wire ropes used for this purpose need only be of small diameter. A 5/16 inch diameter rope is a very useful size since the breaking load (in Best Flough quality 6x19 construction) is 3.4 Tons and it weighs only 18 lbs. per 100 ft. compared, for example, with 43 lbs. for a similar length of 1/2 inch rope. Anyone who has to haul out a winch rope several times a day will appreciate the saving in effort that a light rope provides. It is interesting also to note that the cost per 100 yards of 5/16 inch rope is £6.9.0 compared with £9.13.6 for 1/2 inch rope. When logging with these light ropes it is necessary to have a quick method of joining lengths together or attaching shackles and hooks without the necessity for splicing. Bulldog clips though reliable for this purpose are inconvenient for quick temporary connections as they are easily lost and require a spanner for tightening. An old idea sometimes used on larger ropes has now been adapted for use on 5/16 inch diameter ropes.

Description

The grab consists of two parts:-

- (a) An outer body fabricated in mild steel with a hole to receive a hook or shackle pin and formed internally to receive a wedge.
- What is wedge made of?* (b) The wedge round which the rope is wrapped and drawn tightly into the outer body as the load is applied.

See Photograph 1.

Observations 1.

To attach the grab the rope is passed in and out of the slot in the bottom of the outer body in the form of a loop. The wedge is then put inside the loop and as soon as the load is applied the wedge and rope are held tightly in the outer body. See Photograph 2.

2. To release the grab when the load is taken off it is only necessary to tap the bottom of the wedge which will then allow the rope to be pulled free.
3. The grab has been tested to 3 Tons.
4. The weight of the grab and wedge is 2lbs. 10 ozs.
5. The price of this experimental model was £4 but if made in numbers this could be reduced.

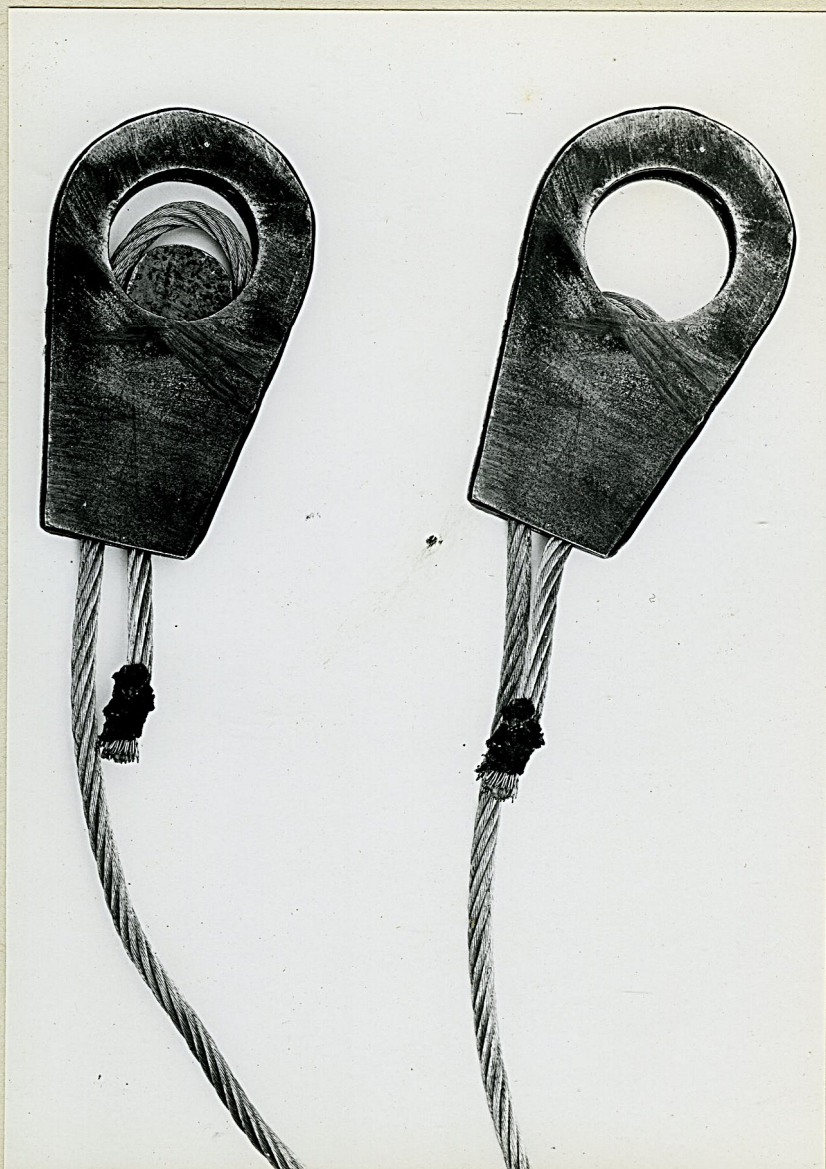
Conclusions

This rope grab is a convenient method of providing a means of attachment to light wire ropes used for logging.

R. G. SHAW
Machinery Research Officer
June, 1955.



Photograph 1.- Showing the outer body, wedge and rope.



Photograph 2 - Showing (left) - the rope loosely wrapped round the wedge inside the outer body and (right) - pulled tight and