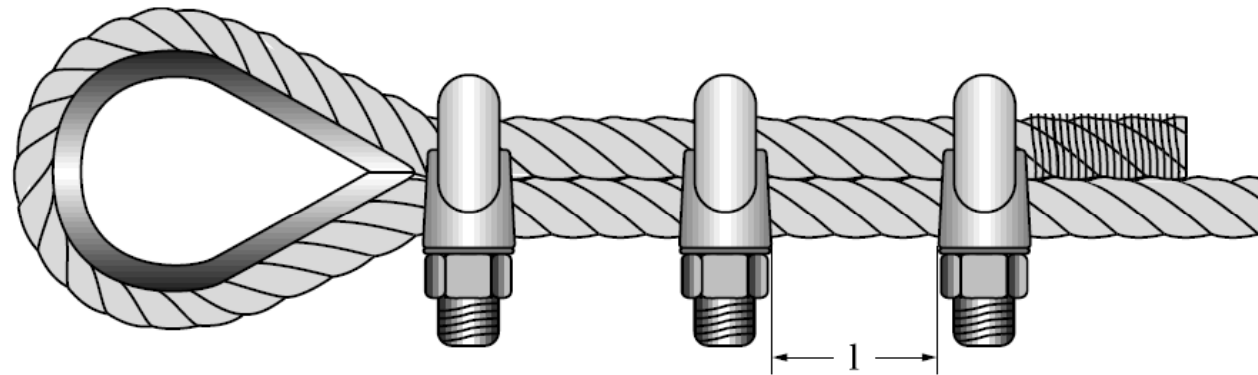
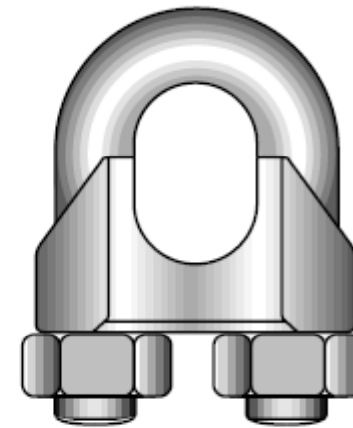
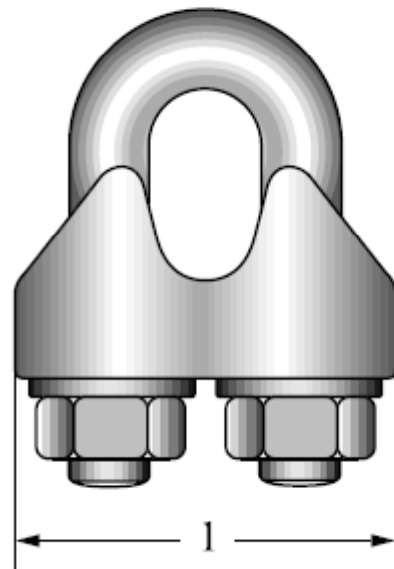




## The wire rope clip (Socketing or Capping)



Rope end connections using wire rope clips *are very popular because* they can be fabricated on-site with very little effort and they are also very cheap. Compared with many other end connections they are easily detachable and can be inspected without a problem.



Wire rope clip



The end of rope should be free from worn, rusted, bent or broken wire and free from effect of bending and corrosion.

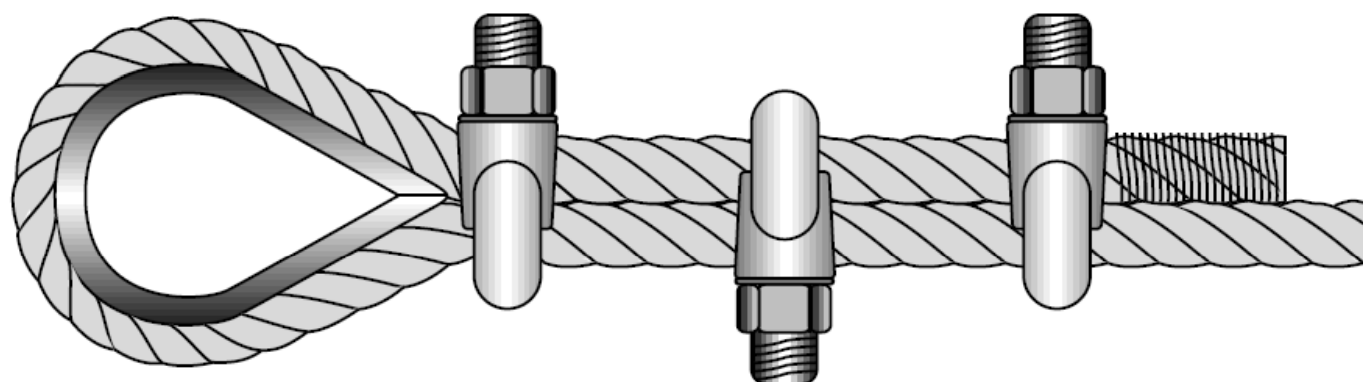
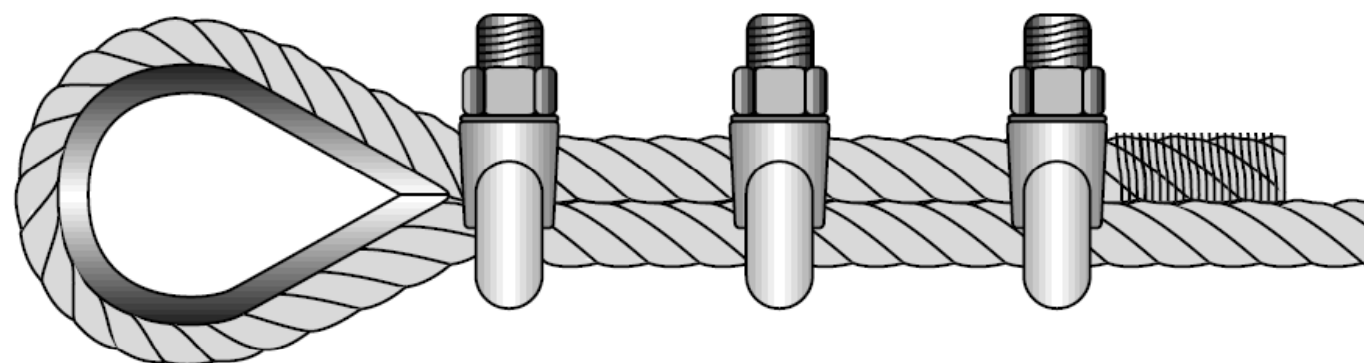
This type of joining of ropes is permissible for haulage ropes and skip ropes hoisting on inclined planes but not permitted for winding ropes.



## **Fabrication / Installation**

Wire rope clips when used as rope end connections are attached in the following way:

- First the threads of the U-bolt and the collars of the nuts are lubricated to ensure 'friction-free' tightening.
- The rope end is laid around a thimble and the first clip is threaded on close to the thimble.
- When attached without a thimble, the distance between the first clip and the apex of the loop should be about three times the diameter of the attachment pin, at least, however, fifteen times the diameter of the rope.





## **Inspection**

When inspecting a rope end connection with wire rope clips, the tightness of the collar nuts are checked by means of a torque wrench. If necessary, the nuts are tightened.

Then the free sections of the rope are visually inspected particularly along the clip zones in order to detect wire breaks or corrosion.

Especially with ropes that are subjected to great load changes, wire breaks might occur in the contact area between the rope lines near the clips.

If wire breaks are suspected, the clips must be completely removed and the squeezed rope inspected meticulously.

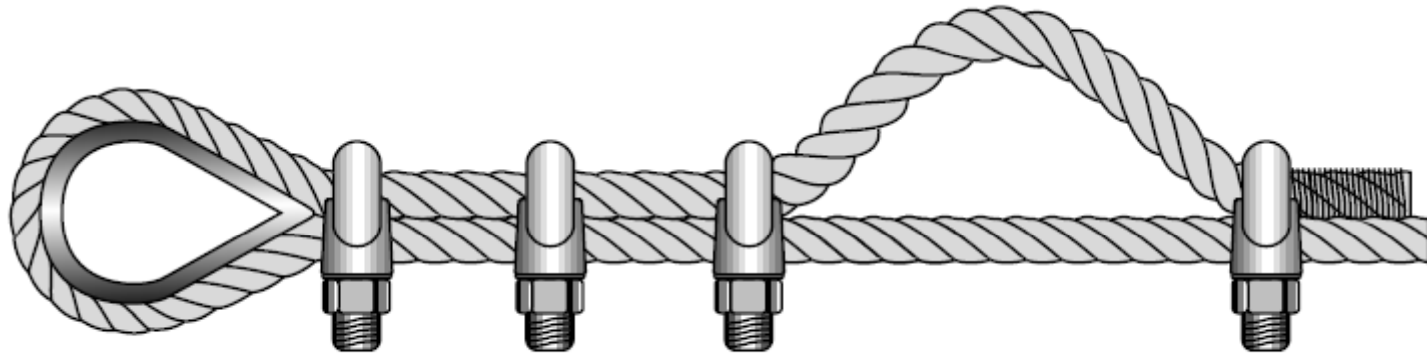


Fig. 9: The 'dead' end forms a bow – the wire rope has not slipped

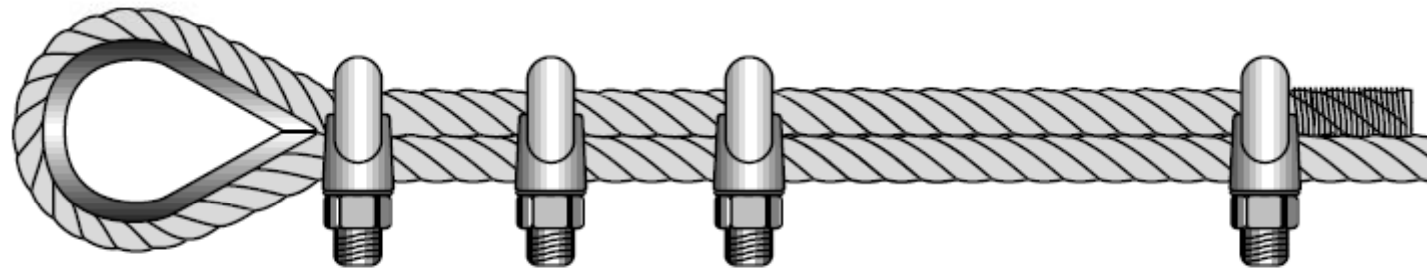
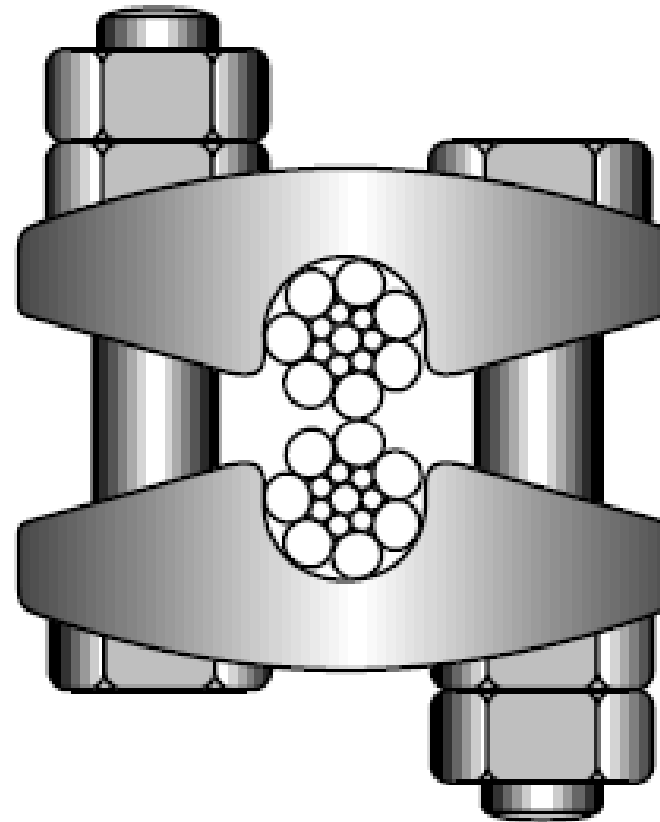


Fig. 10: The 'dead' end is straight – the wire rope has slipped



## Special Designs

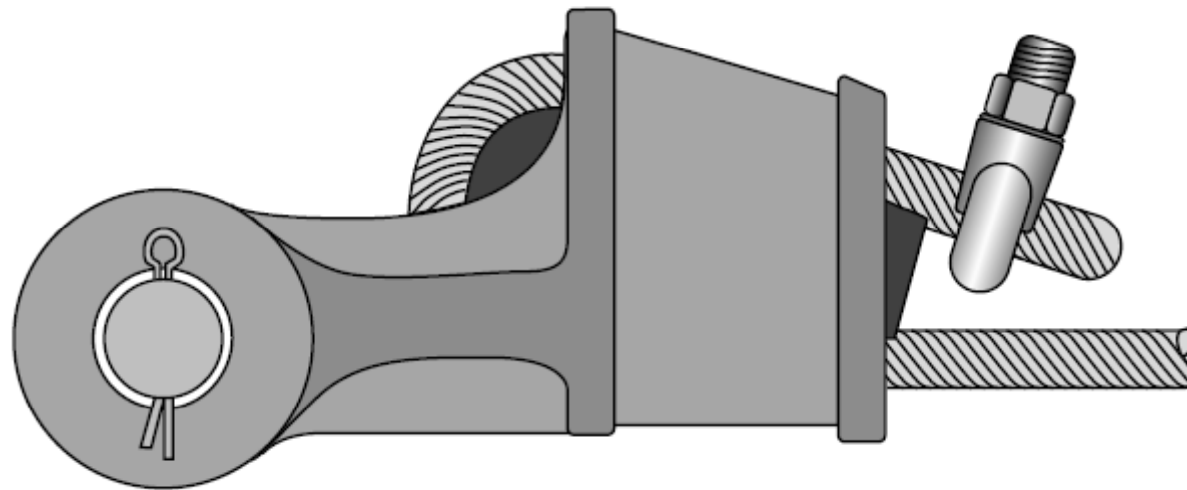


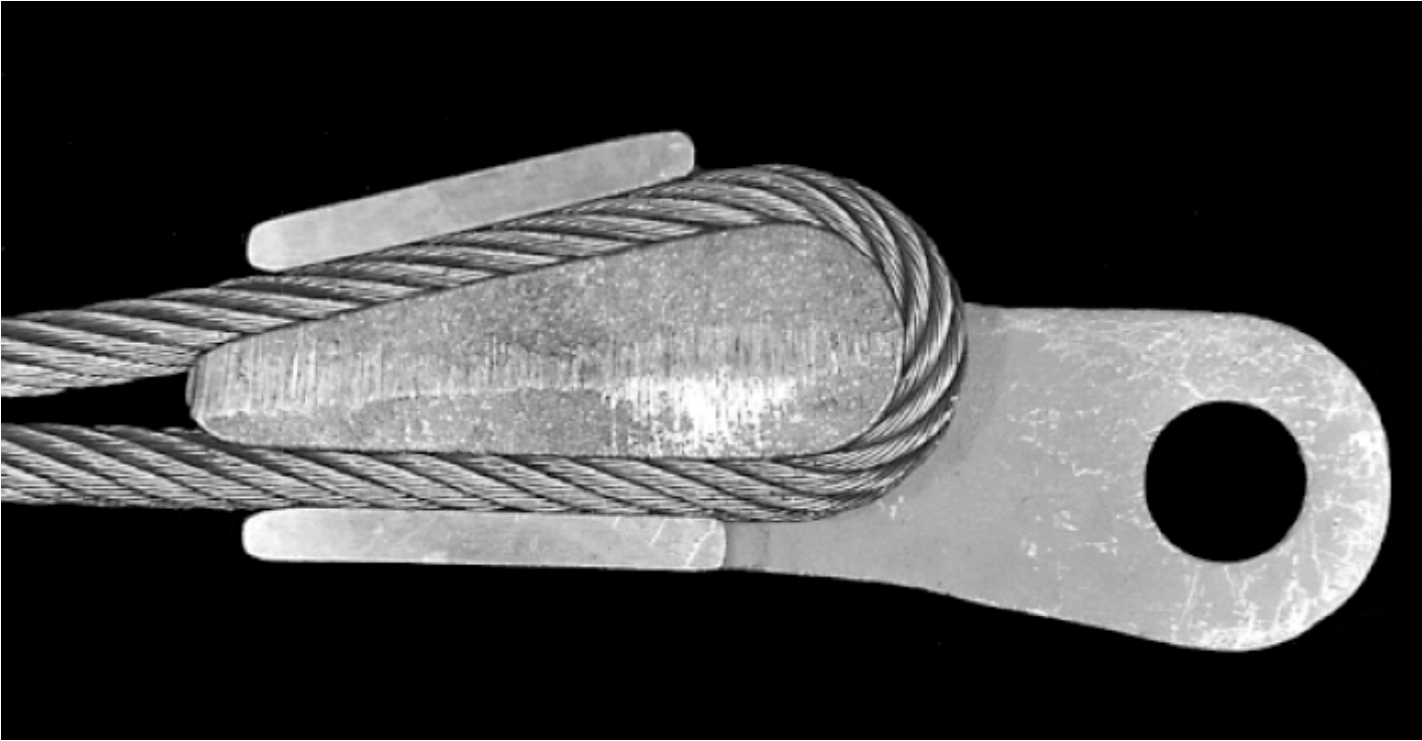
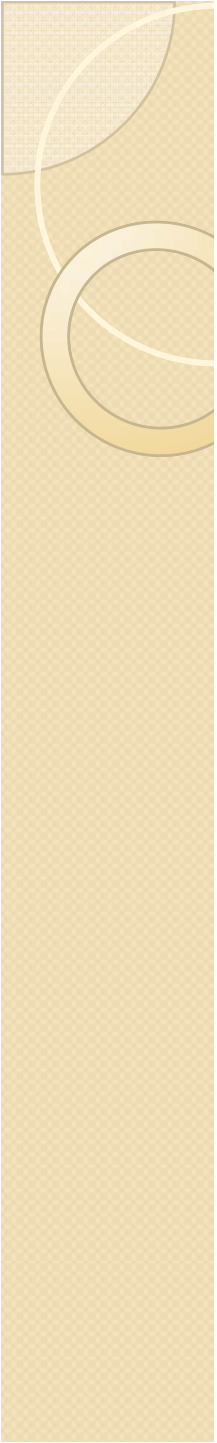
Compared to the standard clip, this one has the advantage that both halves are the same shape and cannot be mixed up during installation. In this case the 'live' as well as the 'dead' line are saddled.


## **asymmetrical wedge socket**

The use of asymmetrical wedge sockets is highly popular as an end connection for the hoist ropes of mobile cranes.

Asymmetrical wedge sockets can easily be fitted on site and are as easily removed, which is a great advantage if the reeving is changed frequently.







By means of a wedge, the rope end is jammed into a tapered socket. With increasing load, the wedge is pulled deeper and deeper into the socket and exercises normal clamping force on the rope. The traction force in the wire rope is transferred by the friction between the rope and the wedge and by the friction between the rope and the socket.



## Installation

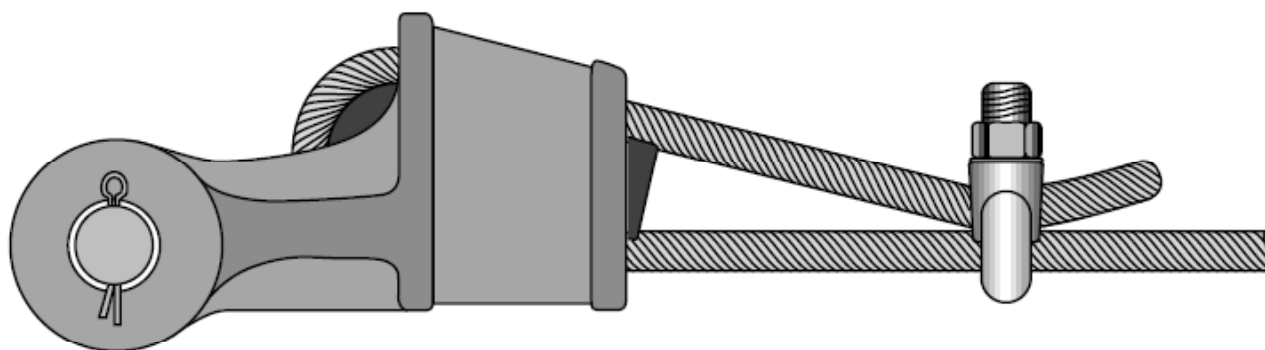
When fitting a wedge socket, the rope end is first fed through the tapered socket, then bent into a loop and fed back out of the socket.

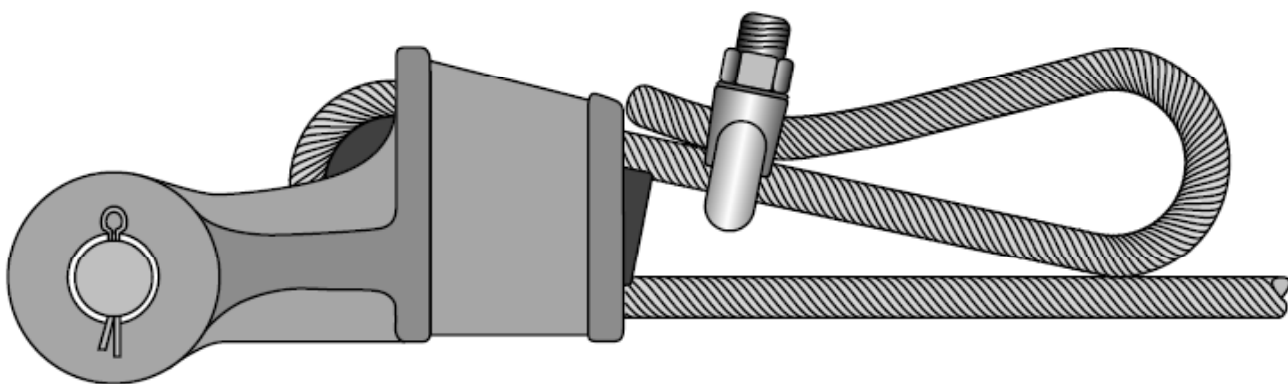
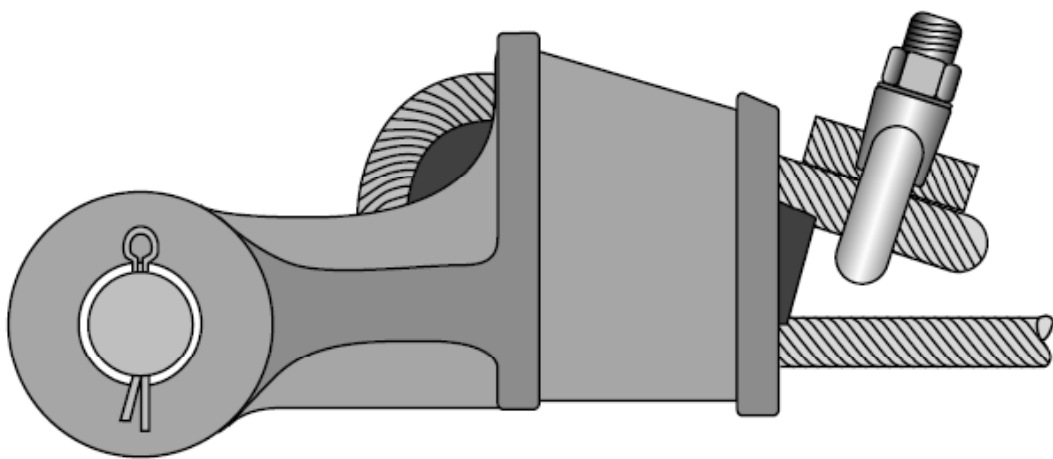
After that the rope wedge is placed inside the loop and the protruding rope ends are pulled further out of the socket, so that the wedge is pulled a good way into it.

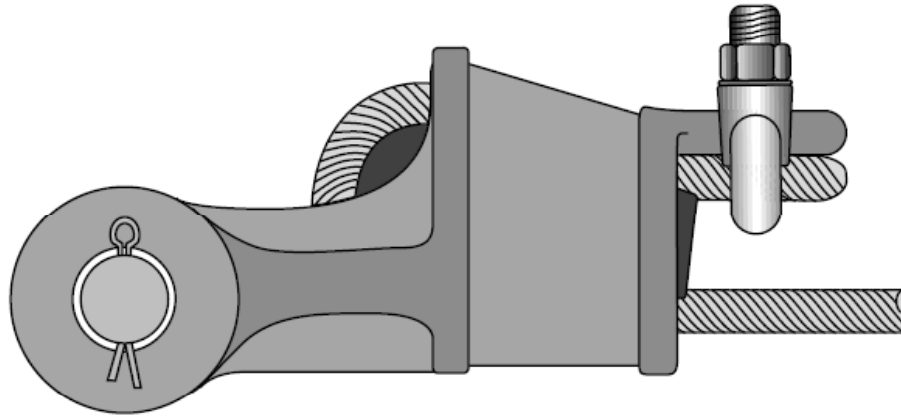
The 'dead' rope end should then poke out from the socket by at least several rope diameters. Immediately at the exit of the wedge socket the tail end should be secured with a wire rope clip.

This will prevent the wedge from coming loose and possibly dropping out if the end connections are abruptly unloaded

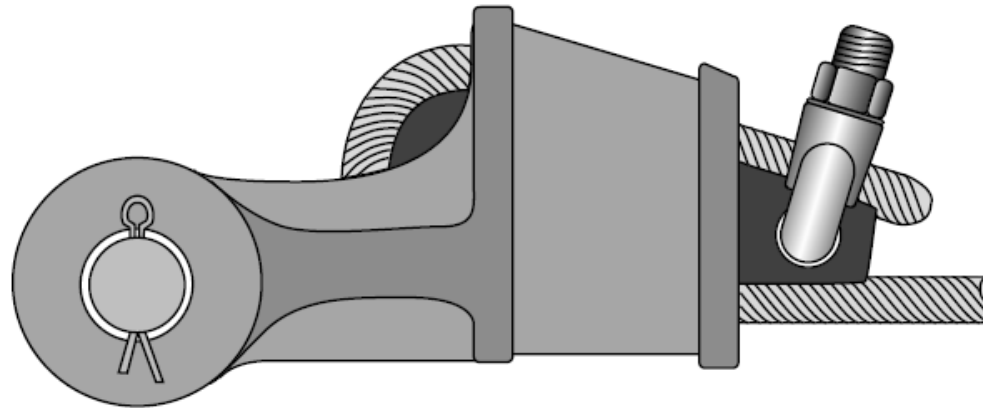
The wire rope clip must not be fitted in a way that connects the 'live' and the 'dead' wire line.







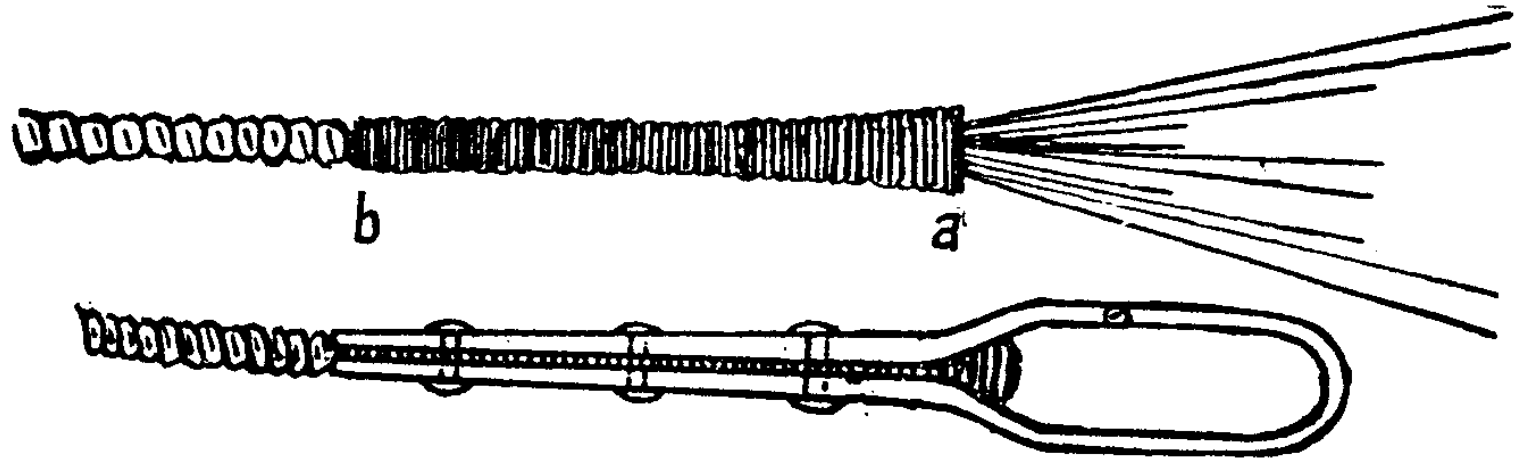
Attachment of the 'dead' rope line to the body of the socket




Attachment of the 'dead' rope line to the wedge



## Split capel with rivets

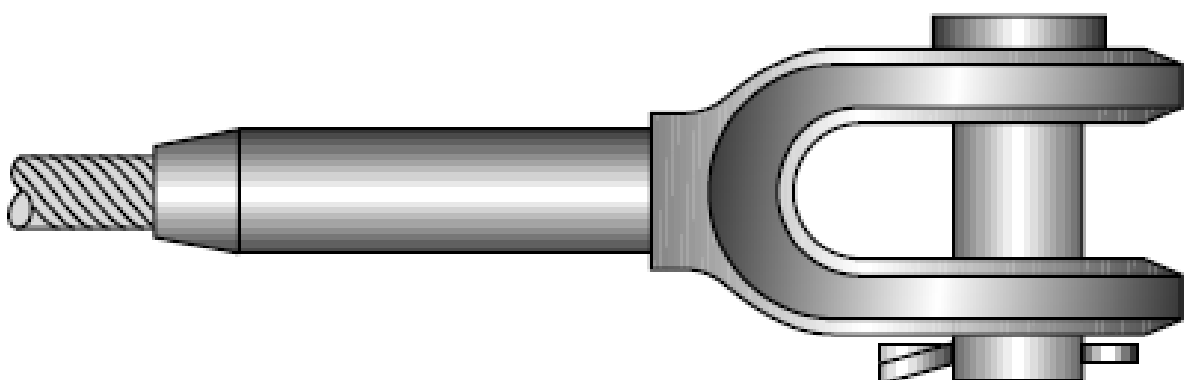
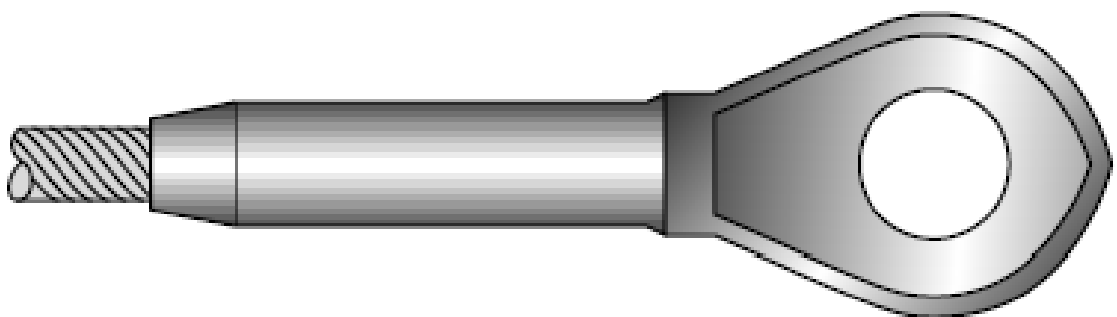


It is permitted for haulage but not for winding ropes

- 
1. Mark two point a and b near end of rope
  2. Between point a and b warp a number of turns of binding wire tightly to form a layer.
  3. Near to a give several wrapping of the wire to make it thick and slightly conical.
  4. Open out wire between end and point a.
  5. Clean them with petrol, kerosene oil or diesel oil to remove grease, oil and dust.
  6. Cut wires  $\frac{1}{3}$  of them to  $\frac{1}{3}$  length and  $\frac{1}{3}$  to  $\frac{2}{3}$  length.
  7. Turn back all the wire on the rope portion a b to give cone and tie them on the rope.
  8. Cut exposed core.
  9. Lay a thin layer of molten white metal on the cone.
  10. Hammer a thin wooden wedge into the cone.
  11. Hammered into capel through the rope

## **The swaged socket (coned socket)**







## **The swaged socket (coned socket)**

- **This is most common type of rope capping. This can be fitted on**
- **The rope used for practically every purpose including winding.**
- **Near the rope warp a few turns of binding wire tightly at a point Equal to  $1 \frac{1}{4}$  times.**
- **Open out the end wires beyond the binding wire lashing, clean them**
- **With suitable solvent.**
- **Pull the ropes through the capel so that the open wires are remain In the capel and readiness to receive the molten white metal.**
- **Heat the capel gradually and evenly all around.**
- **After heating pour the molten metal.**













