The SHOCK of the OLD

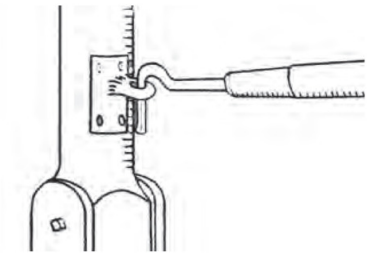
Part 31: Two Bands Are Better Than One

Moray MacPhail continues his analysis of boom fittings for gaff rigs with an evaluation of the ubiquitous modern gooseneck.

I still wonder why they are called goosenecks. You have to be quite selective choosing the picture of a goose which looks anything like the style of fitting shown in John Leather's *Gaff Rig Handbook*. Not that it matters much in what follows, except to note that our type of gooseneck has evolved rather more than geese have.

So where are we now? A good mast fitting is shown across the page and has many useful features. Firstly, the attachment comprises two bands to spread the load applied to the mast. I know there were plenty of examples with only one band which were standard offerings from reputable sources back in the day but a single gooseneck band on a wooden mast can rock up and down, damaging the mast. Starting from scratch, you may as well go for a good arrangement.

Ideally the bands are clamped around the mast rather than being screwed or bolted to it. This is for two reasons. The largest sideways forces usually come from the shock loads of a gybe and with round masts, it is useful



for the whole assembly to swivel a bit under extreme loads rather than break. The other reason is that holes reduce the strength of the mast near the middle of an unsupported panel and can allow water in.

Finally it is better for the boom to be held between two straps. Other than for the smallest boats, a spike in the end of the boom attachment is not recommended; it can split the boom and even if it doesn't, it's one more place for water to collect and start rot. The other snag with the spike is that the boom is not positively fixed to the mast and so can become detached. Many years ago, while gybing a Hamble Star I was lucky to avoid a broken nose or broken teeth, when a boom flew off the gooseneck and back into my face.

As with gaffs, how you fasten the straps to the boom is not critical: screws, through-bolts and rivets have all been used successfully. With regard to the length and width of the straps themselves, aesthetics usually predominate over engineering. Something like 40% of the boom

diameter for the width and 3-4 times the diameter for length is a fair start. Lastly, the gleaming attachment in the photograph has pins and other features which I'll deal with in a future article.

Reefing

Roller reefing is nowadays unusual on larger boats except for in-boom and in-mast systems which I suspect don't feature too highly on the wish lists of the devotees of traditional rigs. However, various varieties of slab reefing do and it is reasonably straightforward to incorporate reef hooks into the gooseneck into which you can hook the luff cringles of the sail. If you want to lead all lines aft, it is also possible to put cheek blocks on the side of the gooseneck strap to keep the lines roughly in the right place to line up with turning blocks at deck level.

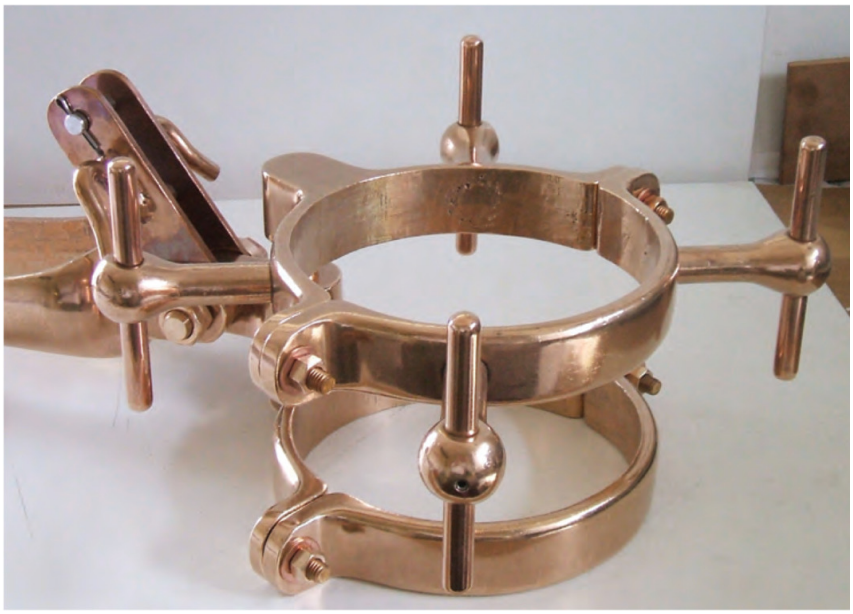
On smaller craft it may be more convenient to use a pendant permanently fixed to the fitting – on a loop rather than a hook – and then pass the loop of the pendant through the luff cringle and onto the hook, as shown here. This has the advantage that the sail stays central on top of the boom and it is quick and easy even with cold wet fingers.

What about the clew?

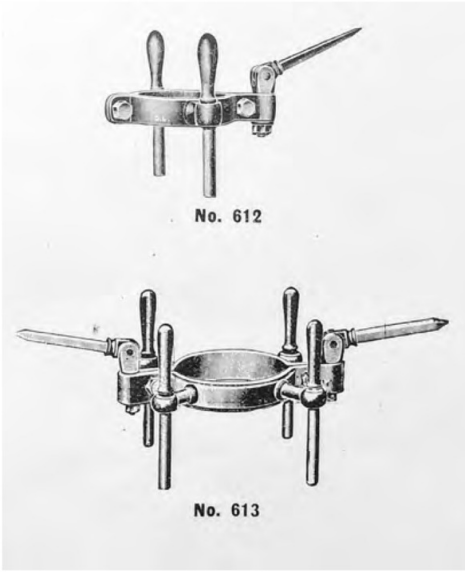
We will need to attach and tension the clew of the sail, attach the mainsheet block or blocks and maybe some topping lifts and reefing lines. Let's start with the clew outhaul.

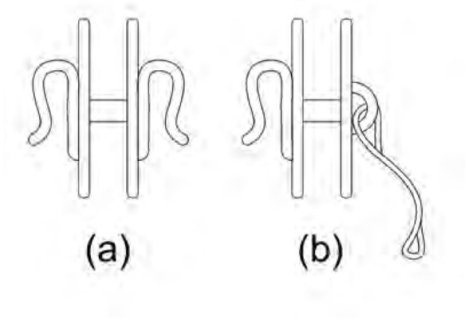
Whether the sail is laced to the boom or not, we need to tension the foot. If we are feeling rather racy, we may also want to adjust the tension as we sail. Though it's possible on small craft to combine the functions in one line – see the arrangement for small craft in W170 – there are usually two components: one to hold the clew just above the boom and the other to fix its position along the boom. Keeping the clew near the boom can be done with a lashing, though this makes it fiddly, sometimes sticky, to adjust. Better to use a short length of track, perhaps 12"- 24" (0.3-0.6m) long with a slide. Or we can fit a short length of bar mounted along the boom, a so-called 'clew horse'.

Tensioning can be done with a lashing to the very end of the boom, but this is difficult to adjust quickly. Alternatively a clew outhaul passing around a block or sheave and running forward to some suitable point for



Facing page top: *The author helms his 18' (5.5m) Orwell Corinthian One Design* First of April. *Photo: Kathy Mansfield*
Inset: *Early gooseneck*
This page above: *A gooseneck as described: double mast bands, forked boom end and tack/hook fitting.*
Right: *How it used to be – extract from a Pascal Atkey catalogue of the 1930s. Fitting 612 for a 6" (150mm) mast was priced at 28/6d – £1.43!*
Below right: *Attachments for reefing: a – A hook each side for the sail luff cringles; b – A hook one side for the pendant(s) to be passed through the cringle(s) to the hook on the other.*





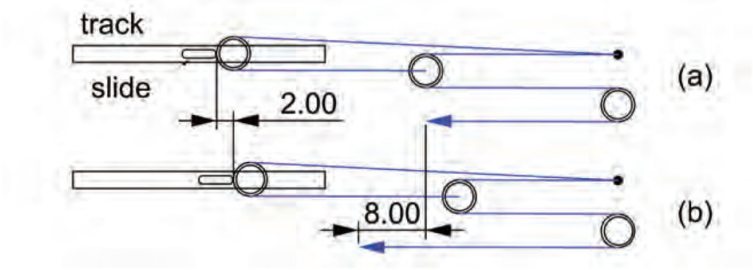
adjustment can be used. This is a perfect application for a cascade tackle; it's easy to rig a 4:1 purchase led forward along the boom. I find the ability to reduce the tension in the foot of a gaff mainsail off the wind should gives a bit more speed but it is best done from the cockpit or the mast. I also find in very light winds, setting the sail flat helps.

Mainsheet attachments

The main issue here is where to take the loads. If you accept my arguments about side loads in the article in W174, then the logic runs roughly as follows. Since most mainsails are effectively loose-footed, then the mainsheet should be attached at or near the attachment of the clew and only there. If the sail is laced to the boom or in a track or with widely spaced positions for the clew when reefed, it may be better to distribute the mainsheet blocks along the boom. But if, when reduced using slab reefing, the sail is loose-footed, a good compromise is to mount the mainsheet block(s) near the clew in the first reef position.

With very long booms there may be other factors, such as the need for it to be accessible. Often this will involve using a bail. There isn't much to say about them, except to note that the sheet attachment must be able to cope with +/- 60° either side without jamming. On a number of occasions we made a fitting which combined a mainsheet bail, a clew horse and attachments for the outhaul and reefing line. The forward hoop clamps around while the smaller hoop aft slides along and locates on a shoulder on the boom.

When thinking about how to attach the mainsheet, an often overlooked option – a pity because it is cheap and effective – is to use a wire strop around the boom for the mainsheet blocks. All you need to locate it is a small saddle or similar on the upper side of the boom.



Above: *A scheme for outhaul tension using a cascade to give a 4:1 purchase.*
Below: *A combined clew horse and bail, including reef/outhaul attachments.*
Bottom: *An arrangement on my own boat using ideas in the article. Note the adjustable clew outhaul using a line going to the gooseneck. The mainsheet blocks are tied on and located near the clew position when the sail is reefed.*

I saw an interesting variation of this on one of the early Spirit Yachts: instead of wire, a length of Velcro tape was used to attach the blocks. You get just under a boom circumference of hook and loop contact, all in shear. So it is light, cheap, effective, easily adjustable and it doesn't damage the boom – a good example of modern materials used in a traditional application. I use tie-on blocks on *April*. It all works!

In W172/3/4, we dealt with gaff and boom, next time we'll look at the bit in between – the mainsail.

www.moraymacphail.com