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RIGGING IN THE SEVENTEENTH CENTURY.

STANDING RIGGING AND TACKLES.

(Continued.)

BY ALAN MOORE.

SHROUDS.

DURING the seventeenth century the number of the shrouds varied, but showed a tendency to grow somewhat less. In 1515 the *Henry Grace de Dieu* had twenty main shrouds a side, and the *Trinitie Sovereigne* thirteen. In 1618 the *Beare* had, or was intended to have, ten a side. The *Sovereign* of 1637 in Payne's engraving has twelve aside, but she like the *Harry* was an exceptional ship. The *London* of 1657 is shown in the print referred to previously, with ten, and Henry Bond in 1677 gives ten as the proper number. The following table compares the recommendation of 1618 with what Bond considered proper in 1677 :—

NUMBER OF SHROUDS A SIDE.

					H.M.S. <i>Beare</i> , According to Hy. 1618. Bond, 1677.	
Main mast	..	..	..	10	..	10
Fore mast	..	..	..	8	..	6
Mizzenmast	..	..	..	5	..	5
Bonaventure	..	..	..	4	..	
Main topmast	..	..	..	6	..	5
Fore topmast	..	..	..	5	..	4
Mizzen topmast	..	..	..	3	..	4
Bonaventure mizen topmast	..	..	..	3	..	
Spritsail topmast	..	..	..	3	..	4
Main topgallant mast	..	..	..	4	..	4
Fore topgallant mast	..	..	..	3	..	3

This table suggests that in 1618 the spritsail topmast was very small ; for though the fore and main topmasts, which we know had grown considerably by 1677, had *fewer* shrouds than in

1618, yet the spritsail topmast required more shrouds in 1677 than in 1618, which points to a larger relative growth for it than for the other topmasts.

It is not easy to determine how far abaft the masts the foremost shrouds of the lower rigging came. Miller, in 1676, shows the forward end of the main channels just abaft the mast, but does not show the position of the deadeyes; the foremost of them, however, can hardly have been at the extreme end of the channels, so that it is reasonably safe to conclude that the main yard could be braced a little even when lowered half mast, without unparrelling, and it must be remembered that the seventeenth century seaman did not think of his lower yards as more or less permanently at the masthead, and only to be struck in bad weather, but hoisted and lowered them far more frequently than his eighteenth century successor.

Deadeyes and lanyards were used in the modern fashion, but how the deadeyes were turned in the books do not mention, and the pictures do not show. This leads one to suppose that cutter stay fashion may have been the rule as being the less conspicuous method, but this is only conjecture. In Furtenbach's "*Architectura Navalis*," 1629, a ship is shown with the details of her rigging exaggerated. Above the upper deadeyes the shrouds seem to be coarsely served, but whether the ends are brought up is not clear. For setting up the shrouds Boteler obscurely describes a sort of Spanish windlass contrivance, in which a short piece of rope, that he calls a wapp and Manwayring a horse, was used, but probably tackles were generally employed. In Battine's lists of 1625 a tackle for setting up the shrouds is mentioned, and also in Narborough's book, where the next entry is "Busing" tackles. Bousing tackles are also mentioned by Bond, and may have been also used in setting up the rigging, but we are not told.

The channels were placed low on the ship's side. The tumble home was so great that had they been higher the spread of the lower rigging would have been seriously diminished.

In Payne's engraving the *Sovereign* has her fore and main channels level with her second deck carrying guns and so has the *London* of 1657. Miller shows them midway between the second and uppermost complete deck. The mizzen channels are generally shown a deck higher.

By Miller's time the aftermost unrattled shroud was called the swifter, but in the first section of the period under discussion all the shrouds seem to have been rattled. In the list of gear

for the *Bear*, however, there is the entry of two standing back stays and of "two falls to them," for the foremast. These must have been practically shrouds, presumably differing from them little but in being single ropes making an odd number when counted with the shrouds, while a swifter was, sometimes at any rate, but one of an even number. No lower backstays are recorded for the mainmast, and they do not occur in later lists.

Crossing from the shrouds of one side to those of the other not far above the deck were the catharpins, described both by Manwayring, and in the 1653 edition of Smith, as small lines running through blocks seized to the shrouds in the position mentioned. They were used for swiftering in the rigging when slack.

The topmast shrouds were set up with deadeyes and lanyards, of which the lower deadeye was either connected to an iron plate at the rim of the top, and by that means to the puttocks (for so what is now called the futtock rigging was named) or else directly to the puttocks (Smith, 1653). Exactly how the puttocks came to the shrouds is not easy to determine. Battine in 1685 mentions puttock staves, but the earlier inventories do not contain them, and even catharpins, in the sense of the word usually understood are not mentioned in the gear proposed for the *Beare*, though afterwards they are frequently met with.

Legs and falls of catharpins occur in several of the lists, and from their place therein, next to puttocks, may be taken to refer to the upper set, and probably not to those used for swiftering in. In the latter days of their use, the legs were the individual catharpins, so to speak, so that what the falls were is not clear. Manwayring, however, expressly says that the catharpins near the deck ran in blocks, and that those aloft did not, so that it is just possible that the "falls" refers to the running variety. The puttocks of the spritsail topmast also present a difficulty, for the bowsprit had no shrouds, and necklaces were unknown; yet the puttocks must have been set up somehow, and where else if not to the bowsprit. Pictures are aggravatingly vague on this point.

There seems to have been no lubber's hole, and with the puttocks more perpendicular than the modern fashion, owing to their different method of fitting, there would have been less temptation to use it.

The topgallant shrouds, when there was a topgallant top, were set up as to the topmast shrouds were; otherwise to the topmast crosstrees.

THE TACKLES.

Inside the lower shrouds, and put over the mast head before them in rigging, were certain tackles. In every list of gear of the seventeenth century is found some such entry as the following for the *Beare* : " Foremast, Foure pennts for the tackles. Foure runners for the tackles, foure falls for them." A similar entry is found in the list for the mainmast, while the main mizzen is recorded as having but two tackles and the bonaventure mizzen none.

They are commonly referred to simply as " the tackles " of the fore or mainmast as the case might be. In Smith's grammar and Accidence of 1626 their mention after a full stop that should have been a comma, and an unnecessary capital letter, have led to confusion in subsequent copyists in compiling dictionaries. The passage runs : " The Tacklings are the fore stay, the maine stay. The tackles, the mizen stays, the collers, the maine shrouds and chaines," &c., as though " tacklings " were distinguished from tackles, whereas the passage should run " The maine stay, the tackles, the mison stay," &c. These tackles were of two kinds : the boat's tackles, which were the aftermost on each side of the foremast, and the foremost on each side of the mainmast (Manwayring), and those " that keep firm the masts from straying " (Smith 1653). These latter Manwayring calls swifterns, and in the XVI. century their usual name was swiftern tackles. The *Trinitie Sovereigne* had five on each side. In the seventeenth century the usual number was one on each side, though it is not unlikely that in the first years there were more.

Generally, they were runners and tackles, but Manwayring in explaining what runners were, though he says that the boat tackles had them, describes the swifterns as being without them, and as consisting of a pendant with a double block at the end of it, and a single block below hitched to a ring " by the chaine-wale," the fall being belayed " about the timberheads of the lower rails aloft." From this description it seems probable that the lower block was outboard : " by the chaine-wale," when we consider how far down the ship's side the channels were, can hardly mean on deck, and with the amount of tumble home then usual it is likely that the lower block could have been hooked to a ring-bolt in the ship's side, and not actually to the channels, and yet have had plenty of room for the fall to run. This view is further supported by the mention that the fall was belayed " aloft." This word seems unnecessary did the tackle come to the ship's side at the deck level.

The term "swifter" in this sense seems to have died out in the first half of the 17th century. For in Miller, 1676, we find the tackles undifferentiated, and swifthers mentioned just after shrouds and as having lanyards. Indeed, so completely did the name appear to have been transferred, that Bond, 1677, having mentioned four main tackles and having distinguished two of them as boat tackles, can find no name for the two remaining, but calls them simply "two other" tackles. It was, well, for as we have seen the word "swifter" and its near allies had more than their share of meanings, and there was yet another described both by Manwayring and Boteler, viz., when a ship was careened, the pendants of the tackles were brought close to the mast and seized there, and then the tackles were set taut; the whole process being known as "swifthering."

The boat tackles by their name discover their use, but how a boat was hoisted in without yard tackles is not easy to see, and yard tackles are not mentioned, except in Ed. Battine's lists in 1685. Like the other tackles the boat tackles were formerly more numerous, but throughout our period their number when recorded is never more than two each to the main and foremasts.

Besides these, the mainmast was furnished with two other tackles used for hoisting in stores, guns, and the like, viz., the Garnet and the winding tackle. The winding tackle was the greater and was used for hoisting in the heaviest weights, guns, etc. It is mentioned in nearly every inventory. Boteler records that both the blocks had three sheaves. Manwayring in his explanation of Runners, though he mentions that the Garnet had a runner, implies that the winding tackle had not; and Smith, Boteler, Bond, Battine and Narborough (the "Mariner's Jewell," 1695) agree.

Smith, 1653, thus clearly describes it: "but the winding tackle is the greatest, which is a great double block with three shivers to the end of a small Cable about the head of the mast, and serveth as a Pendant. To which is made fast a Guy, which is a rope brought to it from the fore mast, to keep the weight up on it steady, or from swinging to and again: Into the block is reeved a hawser, which is also reeved thorow another double block, having a strop at the end of it; which put thorow the eye of the slings is locked into it with a fid, and so hoise the goods in or out by the help of the snap-block."

It is interesting to note that a double block could have three sheaves. The accounts agree in recording that the lower block was fitted with a strop, and not a hook. The spelling "strop"

is also interesting in agreeing with the modern practice, whereas in the eighteenth and a good part of the nineteenth century "strap" was usual. The term "fid," too, had a wider meaning, being here used, where we should now rather say "toggle."

The Garnet was much like the Winding tackle but smaller. Manwayring says it consisted of a runner and tackle, and so in effect does Miller, who gives a diagram of it, but calls the runner the tye. It seems to have been usual to have a hook to both the lower block and the end of the runner. It had a guy to the foremast. Boteler and Manwayring describe the pendant of the Garnet as being seized to the mainstay near the upper block, but Miller does not show this. It was kept along the mainstay when not in use.

Tackles, not otherwise named, but apparently used to help the shrouds were also fitted to all the topmasts, and sometimes to the topgallant masts also. It is interesting in this connection to note that in the proposed gear for the *Beare*, the topmast shrouds, where there were tackles as well, numbered one fewer a side than the corresponding puttocks. With the odd puttock on each side, the tackles may very well have been connected, but in later inventories the number of puttocks agrees with the number of topmast shrouds, and in the case of the *Beare* the spritsail topmast, for which no tackles are recorded, has the number of shrouds and puttocks the same.

Bond, Battine, and Narborough mention burton tackles to the fore and main topmasts. Battine records a mizzen burton as well, and that they had pendants. Burtons, if "Bretayne" tackles were burtons, are frequently met in fifteenth and sixteenth century inventories.

TOPMAST AND TOPGALLANT BACKSTAYS.

Standing backstays for the fore and main topmasts set up with lanyards, probably out board, though there is no mention of stools, were in use during the greater part, if not the whole of the century. The *Beare* had them, and Hayward, in 1660, and Battine, in 1685, give them. The mizzen topmast had them less often, only in third rates and above, according to Battine; while fore and main top gallant standing backstays were found only in first and second rates, and not at all in the earlier years of the century.

There were also what were called running backstays, which consisted of pendants and falls, and there was yet a further kind of backstay setting up to the stays with cranelines and crow-feet. These two sorts the lists are inclined to mix as far as

FIG. 4.

Craneline backstay to the spritsail topmast, after the fashion shown in the picture of the *London* mentioned in the text. The parts are drawn somewhat more extended than in the picture to show the leads better. It will be noticed that by casting off the fall at *f* and getting a pull on it the whole affair could be set up.

names go. Thus Hayward records pendants and falls for a spritsail topmast back stay, which we know was in his time often called a craneline, and then pendants and falls of both cranelines and backstays for the fore topgallant mast, and of *running* backstays for the main topgallant and fore and main topmasts, and of backstays for the mizen topmast.

Bond records three pendants for spritsail topmast cranelines, two for mizzen topmast cranelines, and gives backstays with pendants and falls for the remaining topmasts and topgallant masts, and these in addition to the standing backstays mentioned above.

Manwayring says that crowfeet were fitted to the bottoms of the backstays of the fore topmast, spritsail topmast, and topgallant masts.

Pictures, *e.g.*, of the *Sovereign* and the *London*, testify to the backstays fitted with crowfeet, sometimes called backstays and sometimes cranelines; but the running backstays are more obscure. Presumably they came to the ship's side with tackles.

The crowfeet seem to have flourished most during the first half of the century. Their chief use was to please the boatswain.

FIG. 5.

The chief crowfeet shown in the picture of the *London*. The starboard mizzen topmast stay is omitted for the sake of clearness. She had also crowfeet from the fore topmast stay to the bowsprit and from the main topmast to the mizzen stay.

It would be interesting to know whether under the Commonwealth the exuberance that delighted in them was suppressed; the picture of the *London* is evidence to the contrary. The craneline of the spritsail topmast to the forestay, and the crow-foot at the end of the mizzen lift, or as Manwayring refers to it the mizzen topmast backstay, were the last to go, early in the eighteenth century. Of the others Battine makes no mention, but it must be remembered that they were not part of the official equipment of the ship.

It is uncertain when the crowfeet from the top rims to the stays were introduced which are so often seen in XVIII. century models and pictures. The writer cannot recall an example before 1700, though it seems likely that they were in use before then.

One piece of standing gear remains to be described besides minor innovations that will be mentioned later, the "horse" of the bowsprit. It occurs in nearly every list and picture, and was a rope with knots upon it at intervals to help men to lay out on the bowsprit. It reached from the spritsail top to well in on the bowsprit and was seized to the forestay near the upper deadeye.

(To be continued.)