How are ships and boats constructed? This is an important question to consider when examining a ship. It is important to remember that ships are constructed in a lot of different ways. This explains why you can look out to sea and see many different types of boats. So why are ships so varied in their construction? Well that depends on a ship’s function. It is said by experts that there are three main aspects of a ship. One of these aspects is its raison d’etre, or simply its reason for existing. As the title indicates let’s look more closely at the Chinese junk boat. As we have already mentioned—construction and reason go hand in hand. This blog breaks down a junk boat’s construction while discussing its keel, rudder, propulsion, and other notable features in basic words. We will go through all of these components and comment on both style and importance in the context of a junkboat. So let’s begin!

A ship’s keel is the backbone of a ship. It is the lowest timber in the hull and for this reason many would think that it is an integral part of a ship’s foundation. However, with respect to a junkboat, the keel is virtually nonexistent. Why is this? That is because often junkboats sail in either shallow or calm waters. For this reason a keel was almost detrimental to its function as it could hit the bottom of a shallow river and lead to danger. There was an important consequence of this that also serves as a transition into our next feature. A keel-less or short-keeled ship leads to a flat bottom ship that can then be difficult to steer in water. For this reason, a ship’s rudder is paramount. A rudder, like the one we see below helped keep the ship on a straight path. Each type of junkboat had a certain type of rudder that was structured to fit a type of purpose. Deep draught rudders tend to be narrower and extended shorter from the sternpost
(the back of the ship) as opposed to shallow draught rudders, which are wider and extended longer from the sternpost.

A ship’s rudder is part of the overall theme of propulsion. A ship’s propulsion is simply how it moves along within the water. As we have just discussed the rudder is an integral part of a ship that is not supported by a keel. There are also two other key features of motion for a Chinese junk boat: sails and oars. Let’s take a look at sails first.

**Sails** are perhaps the most visible feature of a ship. They are often large in scale when suspended upwards on the mast of a ship. Sometimes there are multiple sails and sometimes there may just be one. In the case of our junkboat there is just one sail. Although lone in number, it is a very large sail indeed (see below). In a rather obvious statement: sails are meant to be both strong and economical. For this reason, the Chinese brilliantly created “battens”. Battens are bamboo poles that are fed into the cloth-like sail to add another degree of structure and strength against strong winds. Why is this so crucial? Well because winds in China could sometimes reach violent speeds during typhoon season and for this reason merchants had to protect their junk boats on the water to withstand such force. In addition to rudders and sails, junkboats also had manual **oars** (see below).
The Chinese in particular used a method known as *yuloh* to oar. This method was practical and convenient because it could be executed by women and children as well as experienced seamen, making it much more versatile. With all this talk about how a ship moves let’s quickly look at how a ship can *stop*. It will seem like an obvious answer to most, as anchors are a well-known part of a ship, and this is true and no different for our junkboat. Below is a picture of the anchor. Anchors have evolved since the beginning of time. It is said that most anchors in Asia were flat in their arms and lacked curvature until European foreign influence showed them otherwise. You can see the differences in these two types of anchors.

We are now going to change pace and quickly look at two parts of a ship that are a little more technical: planking style and fasteners. There are two different kinds of **planking styles** in ship construction: carvel and clinker. The type that is relevant here is the clinker style of
construction because that is the style we see in this particular model. Clinker ships have overlapping boards called strakes. This is determined based on the rectangular spaces we can see along the hull of the ship (see below). These rectangular areas are where the fasteners were, fasteners were extremely important on clinker build ships because of the aforementioned overlapping timbers. Thus fasteners served to keep overlapping planks in place.

Our final point of emphasis on ship constructions focuses on the obvious superstructure on our ship model. A superstructure is a feature that extends as a separate part of the ship (as we see in the image below). On the outside this superstructure looks like a dwelling. This is, in fact, very true. Merchant ships like the junkboat had to have protective dwellings for the people on board, almost like a miniature apartment complex. Because water could come up and splash those on board it was extremely important to have a covered place of residence. It is interesting, however, to look a little deeper and below this superstructure. Junkboats also have watertight compartments called bulkheads that helped prevent junkboats from sinking easily. These extended down into the hull of the ship and are not completely visible to the naked eye. Overall, this post was meant to orient you both with words and images about the basic construction of a specific ship called a junkboat. With a basic knowledge of the ship’s foundation you can explore certain aspects at your own leisure!
References

