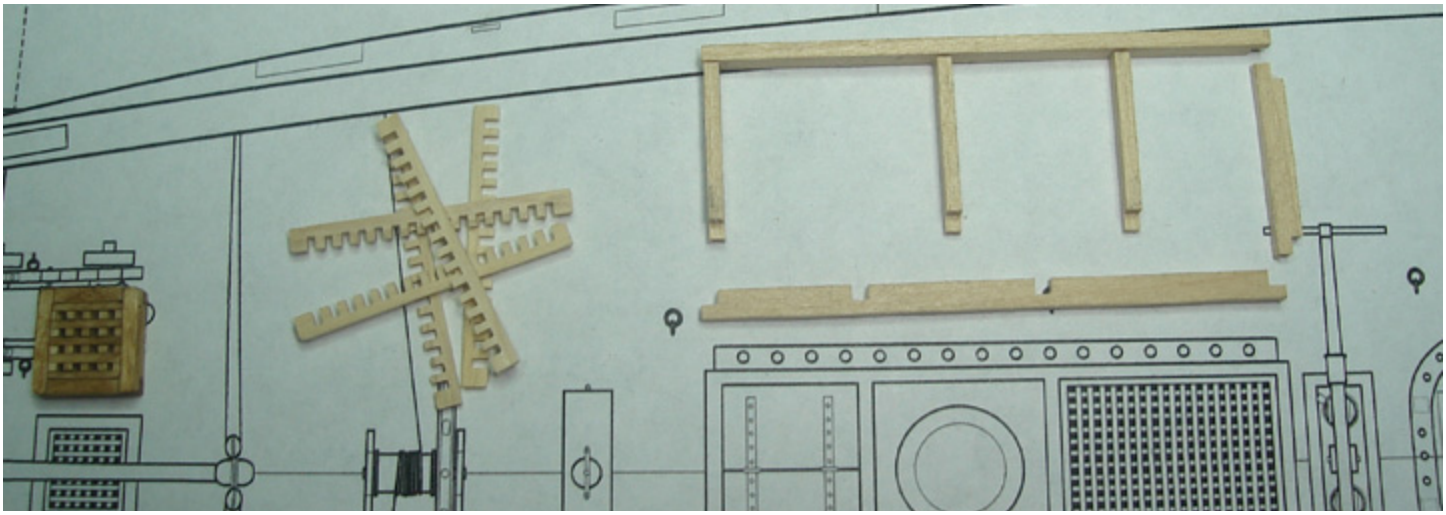


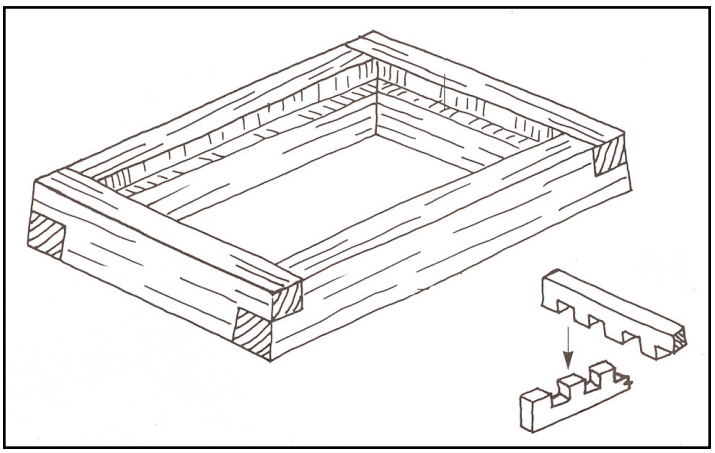
# Chapter Twelve Starting the Deck Fittings

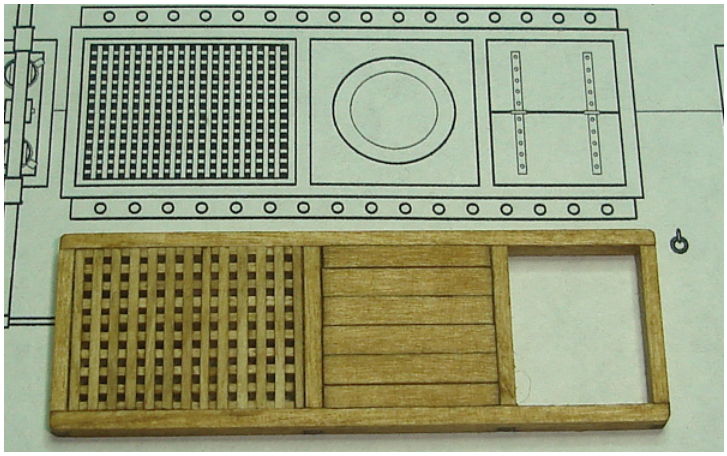
You can now dedicate your time to building all of those wonderfully detailed deck fittings on the Syren. The pumps, binnacle, hatches, bits, ship's wheel and companionway will create interest for anyone who examines your model. Each fitting should be treated as a mini modeling project of its own. Take your time adding as much detail as possible.

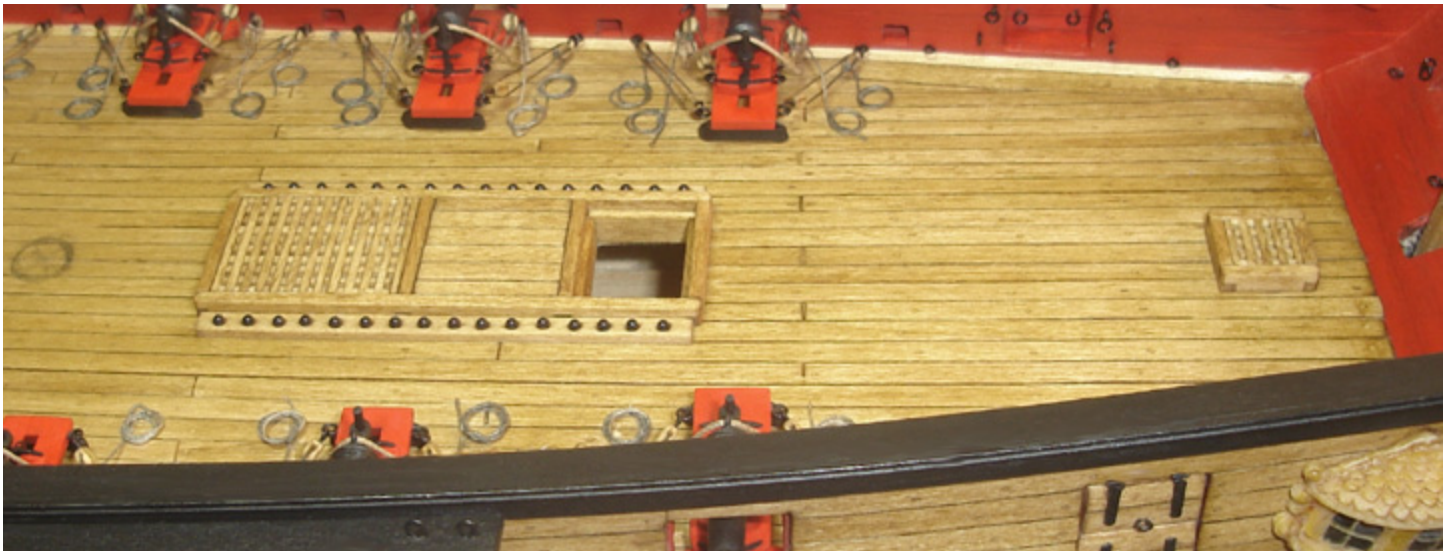
Before you begin however, it would probably be a good time to drill the mast holes. There are two methods that can be used. The first would be to drill deeper holes (about 1/2" deep) the same diameter as your masts. Using this method will give the masts a lot of stability. But the downside is you will have to be very careful drilling the holes at precisely the correct angles. The masts are raked at varying angles and once these holes are drilled it would be a challenge to correct any errors.

The second method would be to drill the mast holes smaller in diameter than the actual masts. The holes don't need to be very deep (1/4"). A small tenon will be carved into the base of each mast which will be inserted into each of these smaller holes. This method will give you the opportunity to adjust the angle of each mast before the glue dries. Yellow carpenters glue would be the best choice for securing the tenons in the holes. It will give you sufficient time to make adjustments before it dries.

**Hatches and gratings aft of the main mast —**
There are several hatches on the deck of the Syren. To build those aft of the main mast you can start by using 1/8" x 1/16" strips to make the coamings. The coamings are the frames for the hatches. The gratings or cover boards are supported on a ledge built up on the inside of these coamings. On the real ship, the corners of the coamings were formed with a lap joint. The ends were not butted together edge-to-edge or mitered. However it depends on your skill level whether or not you decide to construct them this way. Whichever method you choose be careful to glue the coaming sections together so the hatch will end up being square and not askew. Use a sharp #11 blade in your hobby knife to notch the coamings in order to form the lap joints. See the photo provided which shows the components of the larger coaming completed and being assembled. The smaller scuttle is also shown assembled in the same photo. After the coaming is glued together, the gratings can be assembled using the laser cut grating strips provided. The grating would normally sit on top of a ledge around the inside edge of each hatch opening. It isn't necessary to create this ledge on our model because the grating strips are already almost 1/8" deep. The center of the large coaming is filled with cover boards. The capstan will sit on top of these. Use 1/8" x 1/16" strips for them. Six strips were cut to length and then glued together edgewise. The resulting platform was sanded to fit the space on the coam-



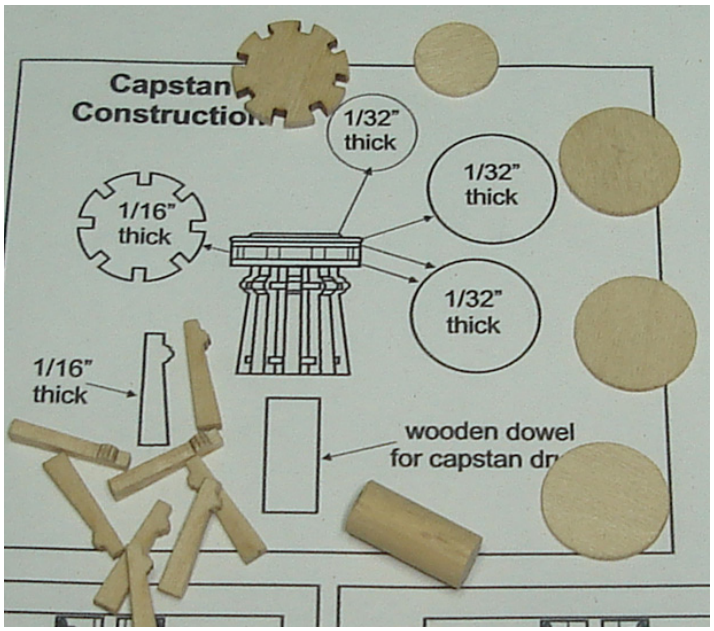




ing and glued into position. The smaller hatch on this assembly will be left open and the companionway will soon be built over it. See the photo showing the large coaming completed with the gratings and cover boards installed.

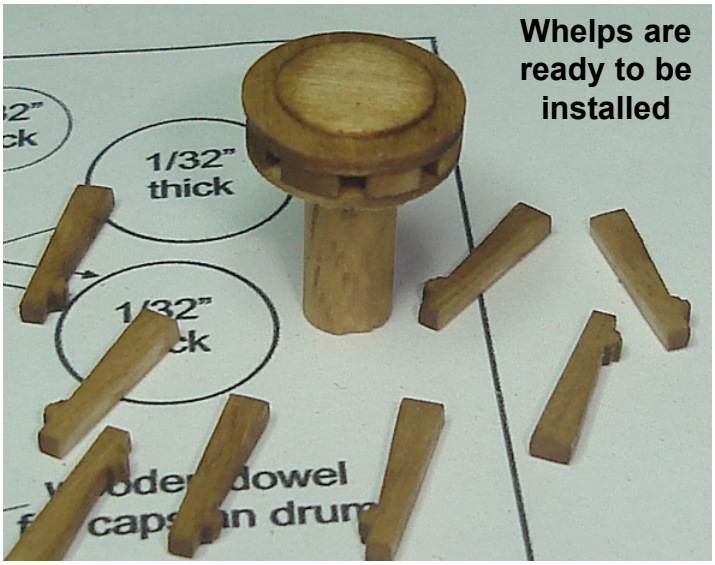
The deck is curved and has a distinct camber. The hatches will not sit properly on deck until the camber is sanded into the bottom side of each hatch coaming. Don't sand too much off at a time. The port-to-starboard camber is very slight. Test your hatch in position often to avoid sanding too much off. When the coaming sits properly on deck be sure to sand the tops of the hatch to match this camber as well. This will result in making your entire coaming slightly thinner but that's OK. The hatches on the actual ship were always constructed so they conform to the camber of the deck. When satisfied glue them on deck.

You will notice that the larger coaming has a shot rack on the both sides of it. These are made from a 1/16" x 1/8" strip. Small holes are drilled down the length of each shot rack to accept the plastic cannon balls. The holes are not drilled entirely through the strip. You should only drill part way through creating a small divot. The 1.5 mm cannon balls are glued into these divots. Fill up the shot racks with canon balls and glue the racks alongside the coaming as shown in the photo provided. Before moving on to construct the capstan, 1/32" x 1/8" strips should be glued around the inside edge of the open hatch. You can see them in the same photo. These strips will finish off the inside of the opening nicely and form a ledge. The ledge is 1/32" deep and the companionway will sit securely on top of it.




**The Capstan —**
The capstan is constructed of the many elements for the drum head and whelps shown on the inboard plan sheet. To avoid a blotchy finish, all of these elements should be stained prior to gluing them together. The capstan parts have been laser cut for you. The drum head is assembled first by gluing the two 1/32" circular pieces to the top and bottom of the "cog-like" piece (1/16" thick). A third slightly larger circle is then glued to the top of the drum head which will create a small overhang. To complete the drum head a final smaller circle is glued to the top of this. The edges of this smaller circled should be softened and not left with a hard edge. The capstan drum head is then glued to the top of a 5/32" wooden dowel cut to length. See the photo provided.

There are eight whelps (1/16" thick) that are glued around the drum. Be careful to space them evenly around the drum. To complete the capstan, two rows of chocks (1/32" thick) are glued between the whelps. The first row is located just below the drum head and the second is located just above the base of the capstan. These chocks are very tiny and can be tricky devils. Keep them aligned at the same height as they work their way around the capstan. The chocks are pie shaped and can be cut from a strip of 1/32" x 1/8" wood. Stain the entire strip before cutting your chocks. This will help you keep a consistent finish to your capstan. You can also paint certain elements of the capstan to help emphasize them. The chocks and

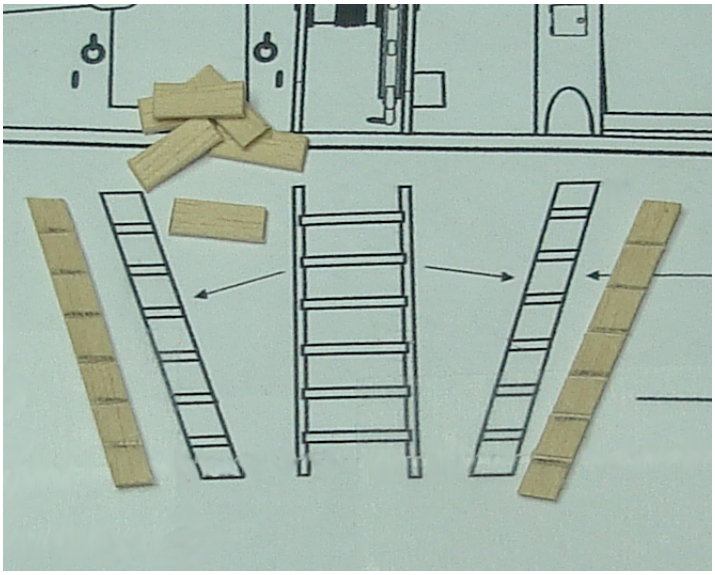



Whelps are ready to be installed

the small circular top were painted black on the prototype but in the end the choice is yours to decide. See the photo provided showing the capstan glued into position on the model.

**Ladder for the companionway —**
The inboard plan contains a template for making the ladder. The sides and steps of the ladder are cut to length from a 1/32" x 1/8" wood strip. The sides were placed on top of the plan so the locations of each step could be transferred to them. See the photo provided. The six steps were all glued to one side of the ladder and left to dry. The remaining side was added afterwards. Small grooves can be filed into the sides of the ladder if you wish to have a guide for the placement of each step. Just file along the reference lines you just transferred from the inboard plan. But at 1/32" thick be careful not to file all the way through them. Carefully glue the ladder into position on the starboard side of the open hatch on deck.

**The companionway —**
The companionway can be built in three steps. For step one cut the necessary 1/32" thick strips to length in order to construct the sides for the companionway. These strips should be glued together edge-to-edge as shown on the inboard plan. You can run a pencil down the edge of each strip before you glue them together if you wish to emphasize the seams between each plank. Test each side in the opening of the hatch for a proper fit before you glue them together. You can see in the photo provided that the sides of the companionway were glued together off of the model. This will make it easier to finish step two and three. Keep testing the companionway in the hatch opening periodically as you glue each side together. Make any adjustments needed as you progress.



In step two, the top of the companionway is completed. Glue more 1/32" thick planks together edge-to-edge in order to make the larger fixed side of the companionway top. Even though you won't see them, two photo etched hinges are glued to the top if it. Glue a tiny length of 28 gauge wire along the edge of each hinge strap to simulate the hinge pin. This is an important detail because the hinge pins will raise the lid of the companionway slightly making it look more realistic in its open position. Glue this half of the companionway lid on top of the structure. It should overhang the edges slightly as shown on the plans. Glue a 3/32" wide strip down each side of the open portion of the companionway. These strips should also match the overhang you created with the lid on the port side of the companionway. See the photo provided showing how it looks at this stage. The companionway is not glued onto the model yet.

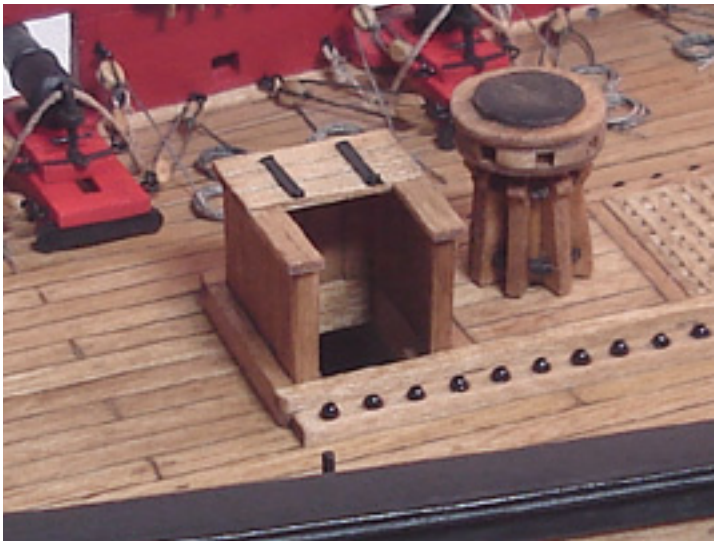
The final step would be to create the lid and doors for the companionway. The lid is made so it would theoretically fit the open space provided for it if the lid were closed. You don't have to glue the photo etched hinge straps to the lid seeing as they won't be seen. Simply glue the lid into position after you make the handles for it. They are the same type of handles that were made for the gun port lids using an eye bolt bent over. They should be painted black. The doors are made the same way. Keep in mind the doors should be slightly shorter then the companionway to account for the depth of the companionway as it sits in the coaming. Don't make the doors so long that they

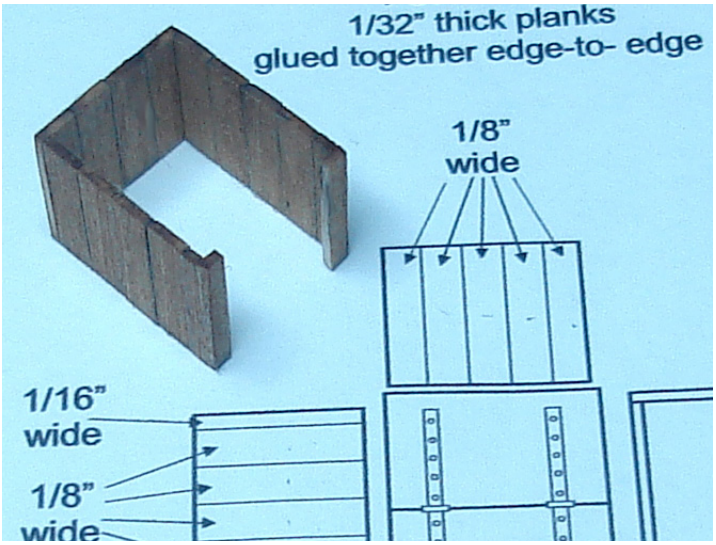
are even with the bottom of the companionway. Glue the hinge straps onto each door after you bend them. Each hinge is bent so there is a little extension on each of them. This extension will be glued to the companionway itself as shown in the accompanying photo. This is how you will attach them. A tiny length of 28 gauge wire can be glued into the fold of the hinge to simulate the hinge pin. A handle is added on the outside of each door as well. When constructing the doors make sure they are the proper width. Would both doors fit the opening of the companionway if they were closed? Glue the companionway into position by resting it on the ledge you created within the hatch opening.

**The binnacle —**
The binnacle is located just aft of the companionway. It housed the compass for the ship. The main structure of the binnacle is created by cutting a 3/16' x 3/16" strip into three pieces. Use the inboard plan to cut them to their correct lengths. Glue them together as shown in the photo below. Stain all elements of the binnacle before you glue them together. This will help keep the finish consistent because the glue might change the porosity of the wood and make it appear blotchy.

The back and sides of the binnacle are 1/32" thick. These pieces have been laser cut for you. Glue the back of the binnacle into position first followed by each side as shown below. These pieces are quite delicate so be sure to handle them carefully.

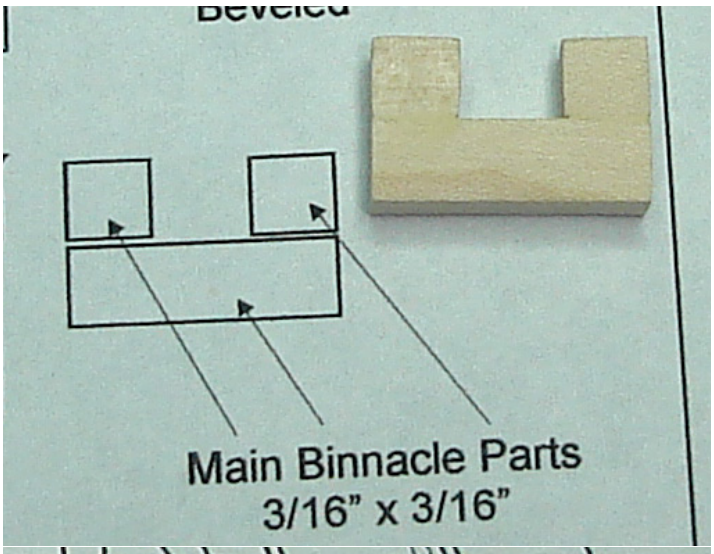
The top of the binnacle (1/32") is glued into position. The edges were beveled first as shown on the plans. The doors were also glued on the binnacle along with the two decorative kick boards between the legs. See the photo below. Three small air holes were drilled just above the doors on each side of the binnacle. These compartments are where the lamps were kept. An open flame/lantern was used and ventilation was required to keep them lit.

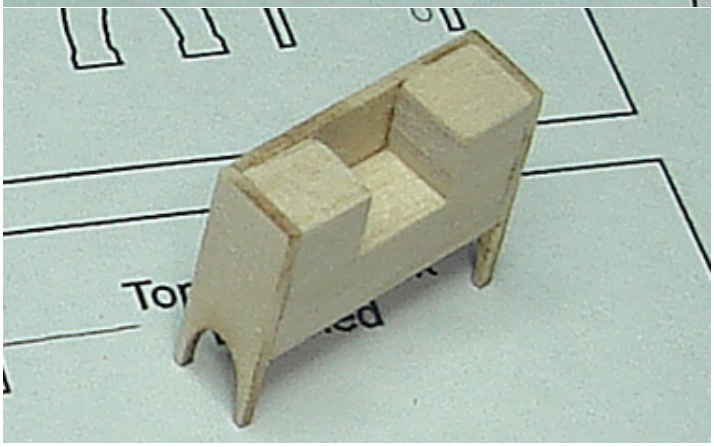




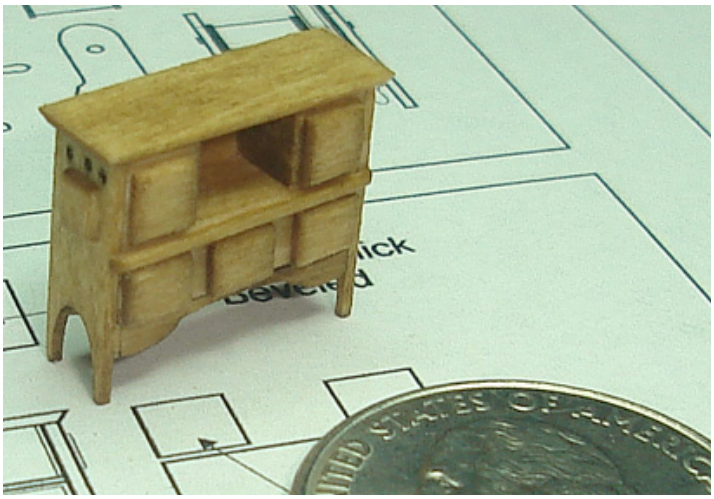

To finish off the binnacle, tiny handles were made for the drawers. Small brass nails were trimmed so the heads could be used to simulate them. The drawers sometimes had no handles at all. Instead they were opened by inserting your finger into a small hole bored into them. It is very difficult to create knobs or handles at this scale which don't look too large. So this method would be acceptable as well. You can see in the photo below that this was the method used for the doors on each side of the binnacle. The choice is yours. A small disc of wood can be cut to fit in the center compartment of the binnacle to simulate the actual compass. Paint it to resemble brass.

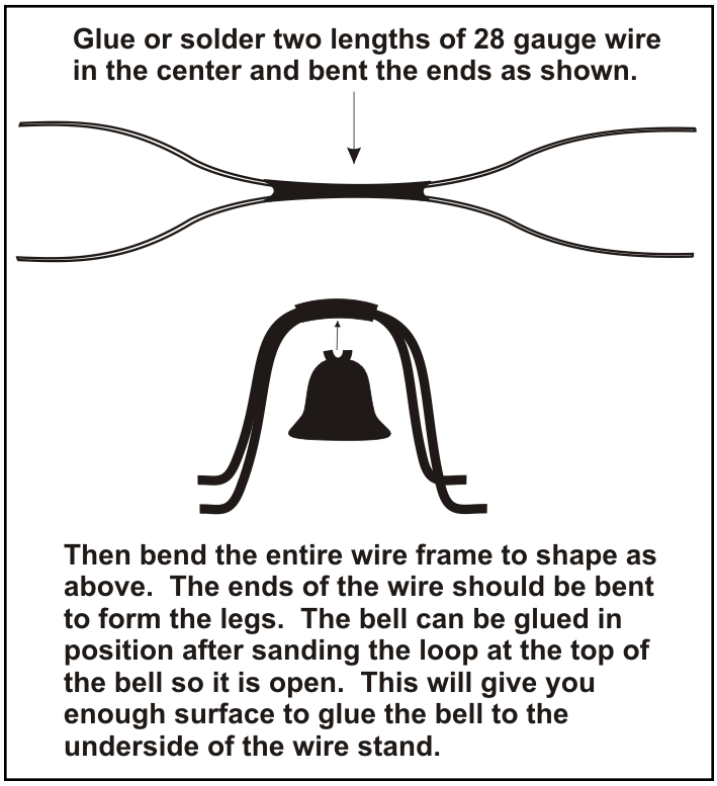
Every ship had a bell. The Syren was no exception. They were often located on the top of the binnacle. The framework to hang the bell is made with 28 gauge black wire. See the illustration on the next page which shows how to create this stand. Test fit the stand on the binnacle to ensure it is the proper height and keep in mind the size of the bell that will hang from it. Paint the bell to look like brass and glue it onto the stand as described in the same illustration. Don't glue the stand on top of the binnacle until after the bell is in position. It is easier to glue the whole assembly on top as one unit. This process can be a bit finicky because of the small scale of our ship model. If it proves to be too much of a challenge based on your level of experience the bell can be omitted from the binnacle.

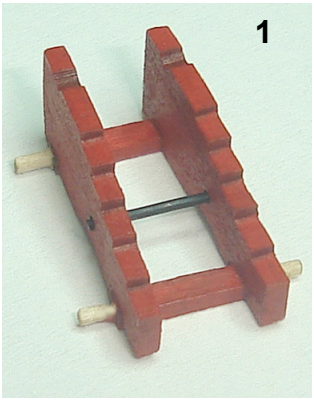


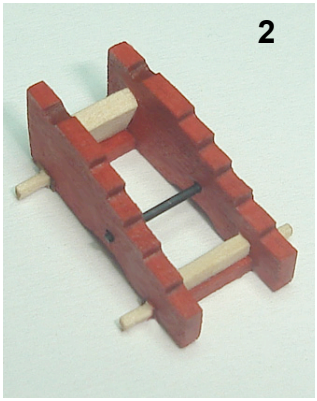



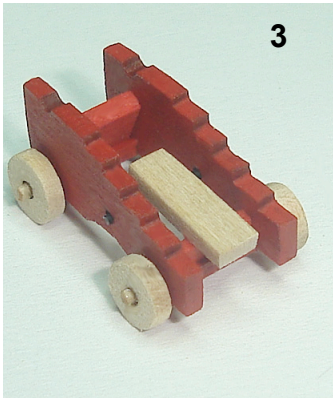
Before you glue the finished binnacle on deck it should be noted that it was secured to the deck with wooden battens. Glue a (1/32" x 1/32") strip to the inside edge of the binnacle's legs as shown on the plans and the final photo below.

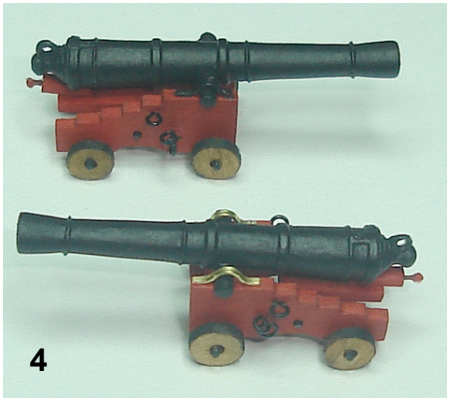





**The12 pounder long guns and carriages —**
The Syren carried two long guns as stern chasers which are positioned at the stern. To build the carriages for the long guns follow these 4 steps.

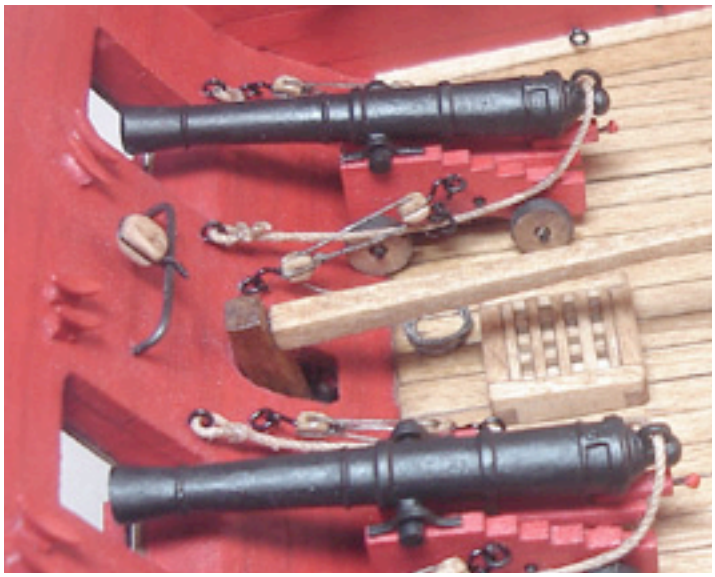
**Step one —** Paint the carriage brackets and axles red. These elements were laser cut for you. Sand the axle extensions so they are rounded to accept the trucks (wheels) later. Assemble the axles and carriage brackets to form the basic carriage design. While aligning the four pieces make sure the correct axle is placed up front as it is shorter then the rear axle. The carriage should taper and become narrower towards the front. All of these elements are 1/16" thick. When the glue is dry cut some 22 gauge black wire to length to use as the support rod. This rod is slid through the hole on the carriage brackets and spans across the carriage as shown.

**Step two —** Paint the transom and bolster pieces red. They are not painted yet in the photo so they are easier for you to see. The transom (1/16" thick) is glued into position at the front of the carriage. It is placed on an angle which is shown clearly on the plans. The bolster (1/16" thick) sits right on top of the rear axel. It is centered front to back on top of the rear axel.

**Step three —** The trucks (1/16" thick) are glued onto the carriage axels. Note that the front trucks are slightly larger than those at the rear of the carriage. These are left natural and not painted. The stool bed (1/16" thick) is painted red and glued into position. The stool bed spans across the support rod and the bolster as shown. The back edge of the stool bed lines up with the back edge of the carriage brackets.

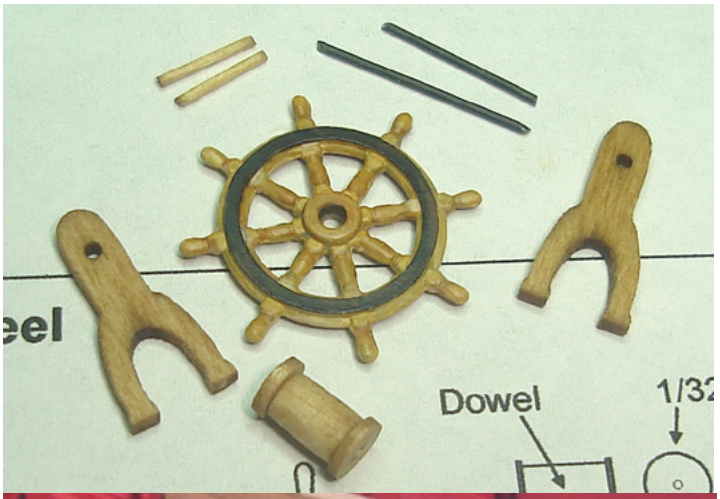
**Step four —** Drill a hole in the arse end of the cannons for the breech line rings. Insert an eye bolt in each hole to simulate the breech line rings just like you did for the carronades. Remember to drill a hole for the breech line ring. Then insert an eyebolt to be used as the ring for the breech line. This is the same thing you did for the carronades earlier. (After painting the cannons black you can place them in the carriage. ) They are secured to the carriage with an iron bracket called a 'cap square'. The cap square can be simulated by using a brass strip that is 3/64" wide. Bend it to shape as shown in the photo. The cap square is not yet painted on one of those carriages so you can see it clearly in the last photo. The quoin is a wedge shaped piece of wood with a handle and was used to raise and lower the cannon's muzzle. A tiny brass pin can used to simulate the handle for the quoin. It is also painted red. Glue it on top of the stool bed under the cannon…but only after determining the proper height of the cannon's muzzle so it will be centered in the stern ports as much as
possible. To finish everything up there are two eye bolts on each side of the gun carriage. The lower eye bolt also has a split ring on it. The breeching will pass through this split ring when you rig the cannons.

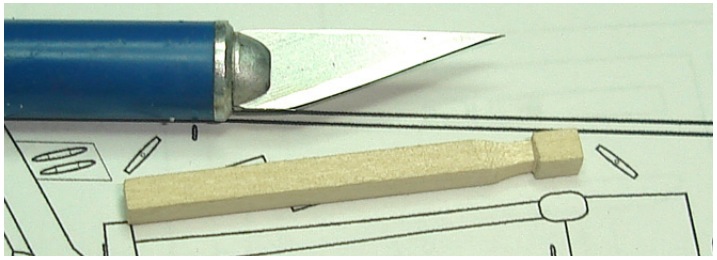
**Rigging the Long Guns —** Use .028 tan rigging line for the breeching on the long guns. Seize one end to the eyebolt on the stern as shown in the attached photo. Run it through the split ring of the lower eye bolt on that side of the gun's carriage. From there it works its way through the ring on the breech of the cannon. Then continue to rig the breech line on the other side of the carriage in the same way and seize it to the corresponding eye bolt on the stern. Note in the photos how the breeching is left slack and not pulled tightly.
There are also two tackles (one on each side) for each carriage. They are made the same way as those for the carronade sleds. Use 3/32" single blocks which are hooked to the eye bolts as shown in that same photo. Use .008 tan rigging line for them. Finish them off with some rope coils on deck.

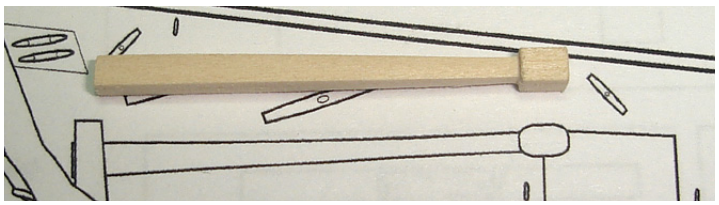


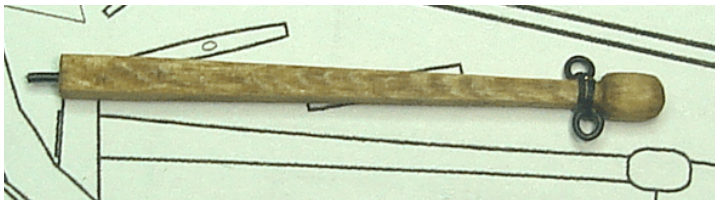
**The Ship's Wheel —** The ships wheel is supplied as a metal casting. It can be painted to look like wood with an iron ring on both sides which would have secured all of the elements together. There are two support posts which are 1/16" thick and laser cut for you. These posts supported the wheel and drum so it could be revolved around a spindle. Twenty-two gauge black wire is used to simulate the spindle. The drum is a 5/32" diameter dowel cut to length. A 1/32" thick disc is glued to each end of the dowel to form a lip. The discs were also laser-cut for you. They are slightly larger in diameter than the dowel. You can see all of the components that make up the ship's wheel in the photo provided.

The components can be assembled by inserting a length of that 22 gauge wire into a pre-drilled on both end of the drum. You don't have to use one length that goes completely through the drum. Simply glue two smaller lengths into a hole on both sides. Then slide the wheel onto one side followed by one of the support posts. The support post can be glued firmly onto the wire to secure the wheel in position. Trim the wire to the appropriate length afterwards. Glue the remaining post on the other side of this assembly in the same manner. To finish it off, two 1/32" x 1/32" battens are used to secure the whole finished wheel assembly on deck. This is the same method that was used to secure the binnacle on deck. See the photo that shows the completed wheel glued into position just aft of the binnacle. Stain all of the components before you glue them together. This will again prevent the stained finish from appearing too blotchy.





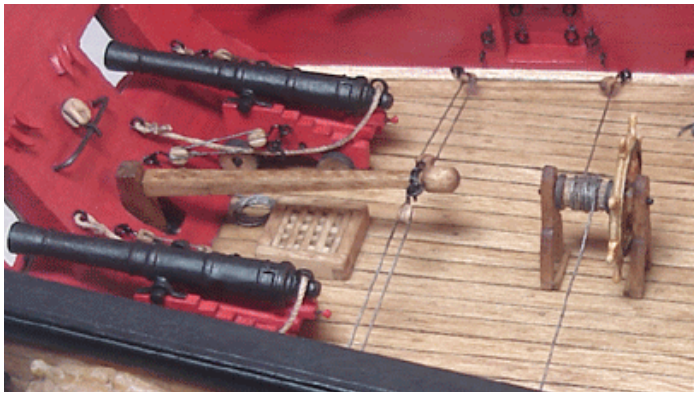


**The Tiller —** The tiller is shaped using a single 1/8" x 1/8" basswood strip. The photos provided show the tiller being carved to shape. This can be done using a sharp #11 blade in your hobby knife. Sand it smooth when finished. Don't be afraid to thin down the tiller to about 1/16" thick just as it meets the "ball-like" forward end. The tiller should not look too thick and chunky. Two split rings are lashed to the end of the tiller as shown in the last photo. The tiller rigging will be hooked into these rings on both sides. They should be painted black.

The rigging for the ships steering mechanism consists of six 3/32" single blocks stropped with hooks. Check the plans for their placement. Seize a generous length of .008 tan rigging line to one of those hooked blocks. This block is hooked to an eye bolt along the waterway just aft of the last gun port. From here the line is reeved through another block hooked to the split ring on the tiller and brought back through the same originating block on the waterway. Then it is run through a third block hooked to an eye bolt along the waterway just forward of that last gun port. Wrap the end of the line around the drum of the steering mechanism five or six times. To finish it off, take the loose end (hopefully it will be long enough) and complete the rigging on the other side of the ship following the steps in reverse. The line should end up being seized to the hooked single block on the opposite side of the hull from where it originated.

This is a tricky task and it would be best to immobilize the tiller beforehand so it can not swing from side to side. It will help you set up the necessary tension in this rigging as you proceed. Another method would be to rig each side of the steering independently. Rig the first side as described above but only wrap the line around the drum 3 times and secure it with some glue. Cut the excess off so the end of the line terminates on the underside of the drum and cant be seen. Then set up the rigging on the opposite side in

same manner and when wrapping the line around the drum make it so the end of the line terminates next to the other one. Because they meet on the underside of the drum it will be nearly impossible for anyone to tell you didn't use one continuous length of rigging to complete this task.



**The Pumps —** Components for the pumps are shown in the photo provided. Each component is best shaped ahead of time so the entire unit can be assembled in two sections later. It should be noted that the pump sits on top of a platform that is constructed much like the hatch coamings earlier. This time the coamings are constructed using 1/16" x 1/16" strips. The coaming for the pump is not as tall as those you made for the hatches. See the inboard plan for details. You can create lap joints at the corners. This frame is built around a 3/16" x 1/16" wood strip cut to length. You can see the finished platform in the same photo.

The pump drums are made by cutting a 1/8" diameter dowel to length. Drill the top of the dowel so the drum looks like a hollow pipe. Start by drilling a small hole about 1/16" wide. Then switch to a larger bit and drill the final sized hole. This hole does not have to be drilled straight through the drum. They will painted black and it would be difficult to tell if they are or not. These drums can also be made using the appropriate sized brass or styrene tubes. You can see on the plans that the drums taper from a wider base and this can be easily replicated on our model. Simply wrap some 28 gauge wire around the base of the drum and secure it with some glue. This won't create the gradual taper so you will need to apply some wood filler around this rim with your finger. It will settle along the top of the wire to form the gradual taper needed. To finish off the drum add a smaller dowel for the pump spout and drill a tiny hole into the end for realism. Once this is completed the drums can both be painted black. You can see in the photo that one of the pre-assembled drums has not been painted yet. This was left unpainted to show you how they look prior to painting. You can see the black wire around its base.

The center post for the pump is shaped using a 1/8" x 1/8" basswood strip. The top is rounded off as shown and the center filed down to form the slot for the pumps crossbar. A hole is drilled through the sides of the slot because a pin will secure the crossbar in position later. It is best to drill the hole before you file the slot since the post will be less fragile at that time. Glue the post to the center of the pump platform when it's finished. The two pump drums can also be glued into position on both sides of the post.

The pump's crossbar is made by cutting a 1/16" x 1/16" strip to length. Both ends of the crossbar have metal bands/sleeves used to insert the portable handles for the pump's operation. These sleeves are made by wrapping a paper strip around the end of the crossbar. Paint them black afterwards. You can see them in the photo provided. One sleeve was not painted so you can see how it looks. Heavier paper was used. Drill a hole through the center of the crossbar to finish it off.

Temporarily pin the crossbar into position on the support post using some 28 gauge black wire. Mark the locations on the crossbar for the locations of the iron brackets. They should be positioned directly above each pump drum. Remove the cross bar. The brackets are made by bending a brass strip (3/64" wide) as shown in the photo. Drill a tiny hole through the underside of these brackets. Paint the brackets black and glue them onto the crossbar. Temporarily pin the crossbar back onto the support post when it is finished. The final pieces needed to complete the pump are the two pump rods that extend from the brackets into each pump drum. Measure two lengths of 22 gauge black wire so that after they are inserted into predrilled holes on the bottom of the pump drums, they are long enough to also extend through the holes you made on the bottom of the pump brackets. Remove the crossbar and glue them into the pump drums. Then reinstall the cross bar being careful to insert both wires into the holes on the underside of each bracket. Insert the crossbar pin to lock the whole pump assemble together.