SHIP

ROYAL YACHT FUBBS

MODELING

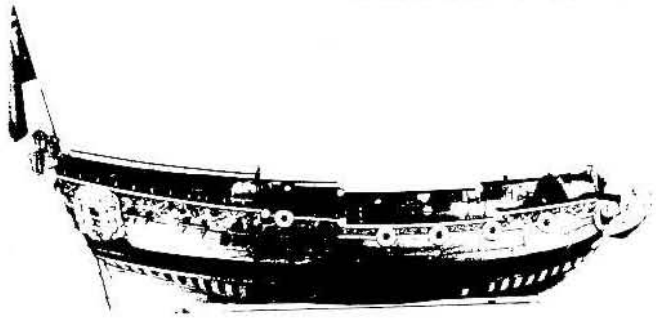
HUDSON RIVER SLOOP VICTORINE

TECHNIQUES

RESEARCH VESSEL VEMA

BY PORTIA TAKAKJIAN

SHIP



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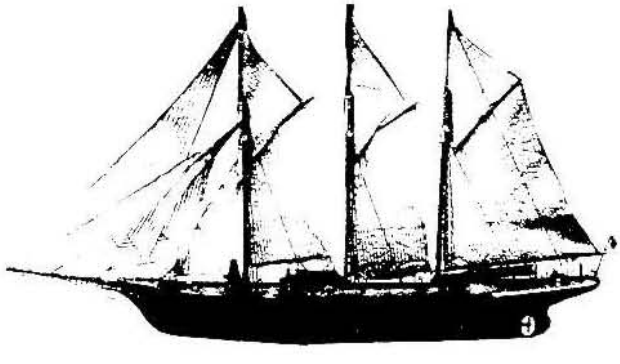

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BY PORTIA TAKAKJIAN

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Forward

Ship model building is a global pastime. However, training in model building is virtually non-existent, leaving most people on their own to develop beyond the basic kit level skills. The range of skills required at the highest levels of ship model building can be significant. The reward for attaining these skills is mainly measured in satisfaction with ones achievements.

One approach, incidentally an excellent one, is through membership in a ship model club. These, unfortunately, are not always available or geographically convenient and may specialize in only one aspect of model building. Another common approach to developing to more advanced levels is achieved largely by studying books and magazines, sorting the wheat from the chaff (when one has learned to do so), then putting the information gained into practice.

Finding someone capable of communicating the information and techniques needed, either first-hand or clearly through the written word, is often difficult. As in many other fields of endeavour, mastery of a subject does not always include the ability to impart that knowledge. Books and true experts often cannot communicate the techniques necessary for the more difficult aspects of model building, which is what an individual working alone needs and is invariably seeking.

Portia Takakjian has spent more than 20 years developing her skills as a ship model builder and has been associated with the Nautical Research Guild, The Connecticut Marine Model Society, The Shipcraft Guild and The USS Constitution Model Shipwright Guild of New England, and museums such as Mystic Seaport. She has models in private, industrial and museum collections. In addition, Portia is one of those rare individuals who has taught formal classes in ship model building.

Portia's many skills include those of a researcher, illustrator, model builder, writer and teacher. One of her most important attributes is the fact that she has not forgotten the needs and frustrations of students struggling along in an unfamiliar world. This combination of skills qualifies her work far beyond the capabilities of most writers in the field.

N. Roger Cole

Introduction

The name of Portia Takakjian is well known in the modeling community. She has the benefit of being not only a modeler, but also a teacher and writer. Her talents are apparent as she presents three distinctly different sailing ship models that represent over 200 years of history. The Royal Yacht FUBBS as re-built in 1774, the Hudson River Sloop VICTORINE of 1849 and the Research Vessel VEMA as she looked in 1953.

This book covers the extensive construction of each of the three models. Photo and illustration numbers are listed concurrently for each model. Chapter numbers are consecutive, though each chapter designates the model ship being discussed.

All three models have appeared in model ship building periodicals. These serialized works have been combined and produced in this book for the convenience of other modelers who will appreciate the wealth of knowledge brought about in this one publication.

Jeffrey A. Phillips
Model Ship Builder Editor

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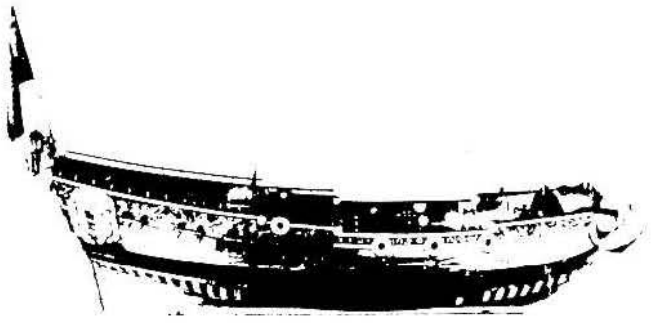

"The Royal Yacht Fubbs"

1

Single Foothook Construction

By the mid-seventeenth century the Baroque period had reached its peak both in England and Europe, and its influence was reflected everywhere. It was an age when the gilder and carver reigned supreme, with the rich and powerful clamoring for their services, not only for the trappings of their households, but as a matter of national pride and vanity, to embellish their ships as well.

The wealth of detail from this period is recorded in the paintings and drawings of Diest, Sailmaker and the two Van de Veldes. Both Van de Veldes, the elder and the younger, were employed by King Charles II to illustrate his ships. Both men were prolific artists and produced thousands of sketches and drawings as well as full size paintings. Perhaps most valuable are the quick sketches, drawn on site of major sea battles, and details of vessels which would otherwise have been lost to us of the 20th century.

Because the baroque style touched every facet of 17th century life, it is not surprising that yachts of that period, more especially during the reign of Charles II, would be as lavishly decorated as the larger ships.

Aside from their duties associated with the workings of the royal household, yachts were becoming increasingly valuable adjuncts to the Royal Navy's fleets. Their speed and maneuverability made them ideal dispatch boats and personnel carriers. They mounted between four and twelve guns and carried crews of from 30 to 40 men.

During the reign of Charles II there were 23 yachts built, five of them in just three years after his return from exile. Of all these built, the most outstanding both in appearance and sailing qualities was the FUBBS, built at Greenwich by Phineas Pett. The word "Fubbs" is defined in an early English dictionary as a half contemptuous name for a chubby child. It was the nickname Charles II gave his mistress, Louise de Keroualle, Duchess of Portsmouth, and for whom the yacht was named.

The mid-17th century was also a period of court intrigue and romance. Royal marriages and the taking of mistresses were largely arranged for political and financial reasons rather than amorous intent. On his return to England, Charles married the Portugese Catherine of Braganza, promising to aid Portugal in their wars with Spain. His sister Henrietta became the Duchess of Orleans and it was through her that he met Louise. Louis XIV had placed Louise in the household of Henrietta as a paid informer. After Charles signed the secret treaty of Dover in 1672 he permitted Louise to leave France and to become a member of court. Louise became the Duchess of Portsmouth in 1673 and remained with Charles until his death in 1685.

The FUBBS had two refits before being broken up in 1781. The first of these occurred in 1701 at Woolwich and here the work was carried out by N. Lee. The second rebuilding was in 1724; this time by R. Stacey at the Deptford yard. It's noted that her carvings were salvaged at this time and it's presumed that these were the originals installed in 1682. The following table shows the changes made

	TONS BURDEN	LENGTH KEEL	LENGTH GUNDECK	BREADTH	DEPTH IN HOLD	GUNS 3 POUNDERS	NUMBER MEN
1682	148	63′	73′6″	21′0″	9′6″	12	30
1701	157	61′	—	22′0″	9′8″	12	40
1724	152	61′5¼″	76′9″	21′6″	9′0″	8	40

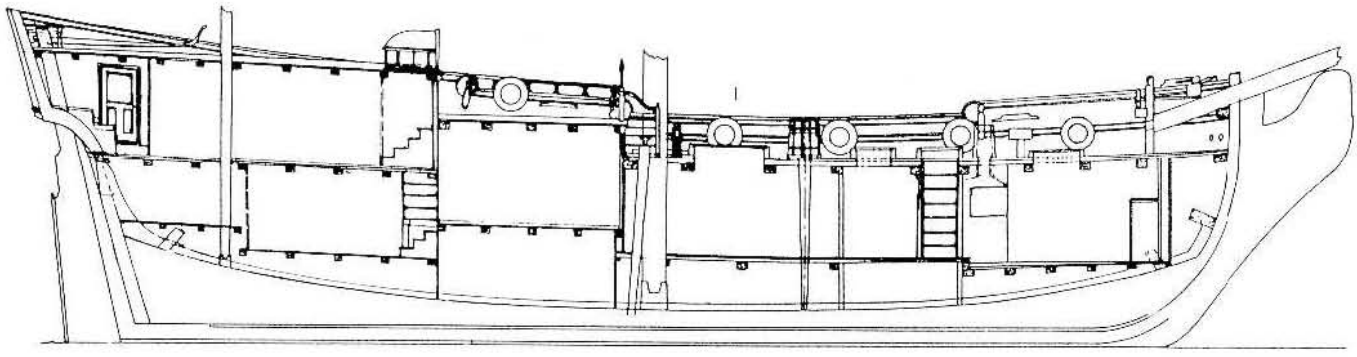

Figure 1.

but does not include the raising of her deck "as much as could be done" in 1749.

Some of these measurements require explanation especially when viewing the inboard profile of the FUBBS. Prior to 1677 the tonnage rule was calculated on the formula using the length of the keel as the standard of measurement (length of keel × breadth × 1/2 breadth ÷ 94). After that date, the formula was altered to compensate for the lengthening of keels, which was said to increase the strength and stability of ships without changing its overall length between perpendiculars. This meant that the true length of the keel would no longer be used for measurement. Instead, the length of the gundeck minus 3/5ths the beam would be the measurement of the keel for tonnage. The formula now read: length of the gundeck − 3/5ths beam × beam × 1/2 beam − 94. You'll note the tonnage of FUBBS when first built reflects the old formula.

The length of the gundeck was increased in 1724 by 3'3". As seen in the inboard profile of the FUBBS (Figure 1), the actual gundeck stops at the quarterdeck bulkhead abaft the main mast. The measurement is taken from the wing transom at the stern forward along an imaginary line to the fore side of the quarterdeck bulkhead and then forward to the bows. The depth of the hold is measured from the underside of the deck beams in the waist to the upper side of the floors.

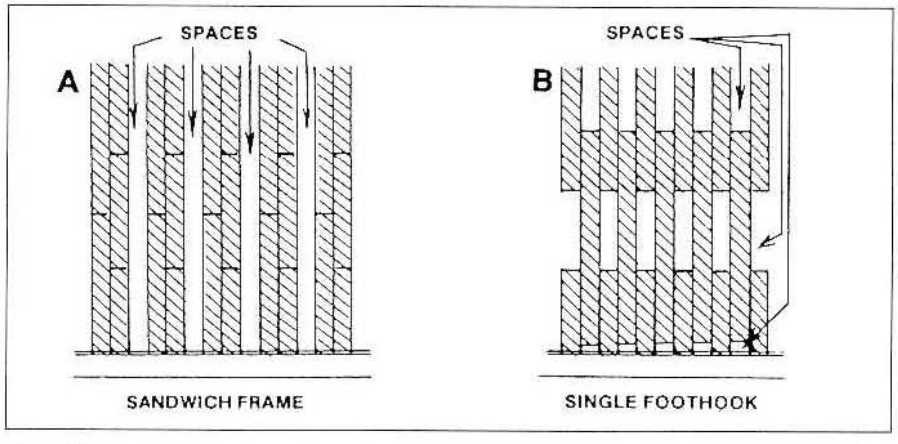

Figure 2.

It appears as though the establishment of 1701 which abolished carved gilded work on men of war, had little or no effect on FUBBS as rebuilt in 1724. Originally, the carvings on the FUBBS cost the crown over 300 pounds. Reason enough for saving them. However, the answer may be in the fact that these rebuilidings were more often than not presented as refits, thereby making the expenditure of funds more palatable. Anything that could be salvaged from the former vessel was, and so the majority of the beautiful carvings were retained.

The number of men carried aboard FUBBS in 1724 reflects the involvement with naval affairs as opposed to strictly pleasure use of the yacht. It was normal for yachts of this size to carry a crew of 30 men except in time of war or when on naval business. Officers of rank were housed under the quarterdeck and the remainder of the crew forward of the main mast below the gundeck. The galley forward had a large open hearth whose chimney vented through a movable wooden stack, lined with clay on the gundeck. Most of the beams were relatively light. The poop deck was not

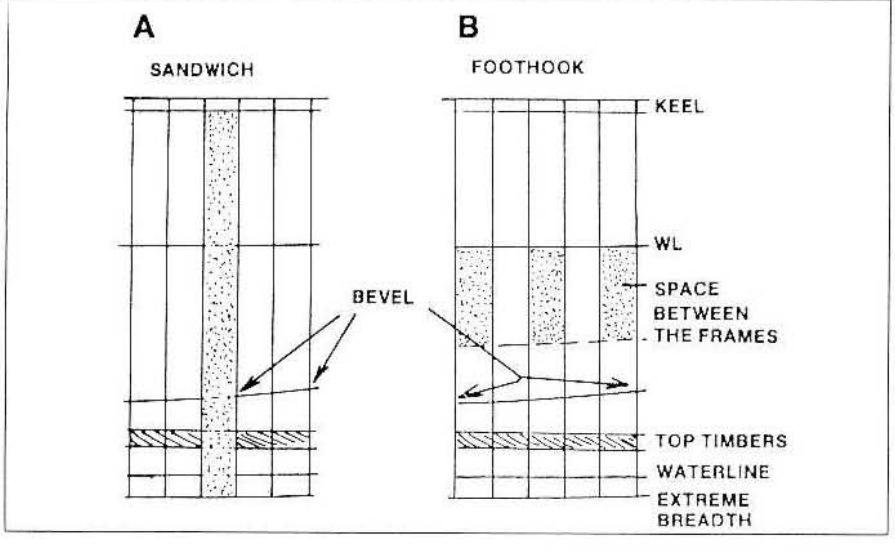

Figure 3.

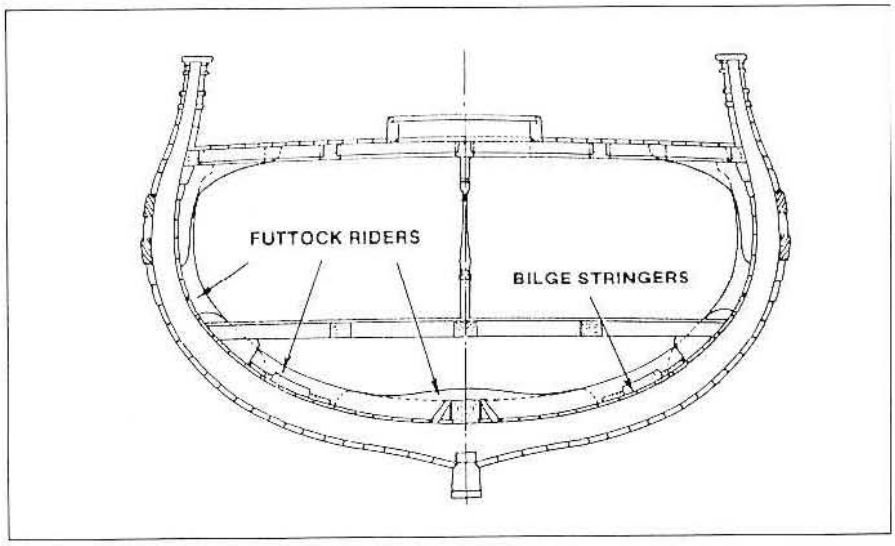

Figure 4. Frame 14.

meant to carry any weight. The king's quarters were called the round house or poop royal.

The lack of space below decks not only affected the lives of those on board, but had a direct bearing on the type of ballast carried aboard these small vessels. Depending on their size, these yachts would carry between 10 and 14 tons of ballast. Had this been the usual type of ballast — sandstone and shingle — it would have filled half the space below the gundeck. Some sort of ballast that would require less space was essential, and while the Navy commissioners were not happy over the cost, it was agreed that lead and old iron shot was the best solution.

The challenge to the model builder is in recreating the carvings and mouldings of this baroque period in scale. The National Maritime Museum at Greenwich has over a dozen drafts of yachts but few are as complete as those for the FUBBS.

In addition to the plans, there are photographs of the model believed to be the FUBBS at the time of her 1724 rebuilding. These consist of two broadsides, one from the bow and the other from the stern quarter, and a stern shot of the yacht done during various periods in her lifetime, so that if one wished to paint the model it could be done with accuracy. There are also written accounts of her fittings and rig. She is believed to be the first Ketch rigged yacht, because up until 1677 there were no ketches on the naval lists. A note in the Naval Minutes (pages 116, 220, and 366) of Samuel Pepys dated January 1677 reads, "The King pleases himself mightily with a design he is now going upon building, a yacht the size of the KATHERINE that shall go with a Ketch's sail."

In keeping with the period of the original model, I planned to build this model on the single foothook system, and hoped to devise a method of construction that would appeal to other modelers who might like to try building a similar model or one on this same system. At the same time, I knew there would be people out there who would like to build this model, but who would want to use the usual double or sandwich type frame that most modelers are familiar with. These frames are constructed in two layers, glued together. This type of construction leaves the frames independent of each other but of the hull (Figure 2-B). They are all interdependent and only the floor sections are secured to the keel.

The spaces between the floor timbers and the top timbers form an openwork pattern from bow to stern. Unlike the sandwich type framing, all the frames are set square to the keel with the occasional exception of the very last frame aft. There are no cant frames at the bows and the only one at the stern would have been the fashion timber, but this would depend on the type of stern the vessel carried. The FUBBS had a square stern. At the bow, a solid chock of wood replaces the cant timbers. At the stern, another chock of wood fills in below the lower horizontal transom timbers. The bevels on the frame sections flow in an uninterrupted curve in contrast to the sandwich frame where the bevels must be assumed in the spaces between the frames. This is more easily seen in the half breadth plan where the waterlines cross the outer faces of the frames (Figures 3-A and 3-B).

Although there is no evidence that the FUBBS was built on this single foothook system, there is a hint that the framing was light. A note from Sir Phineas Pett, the