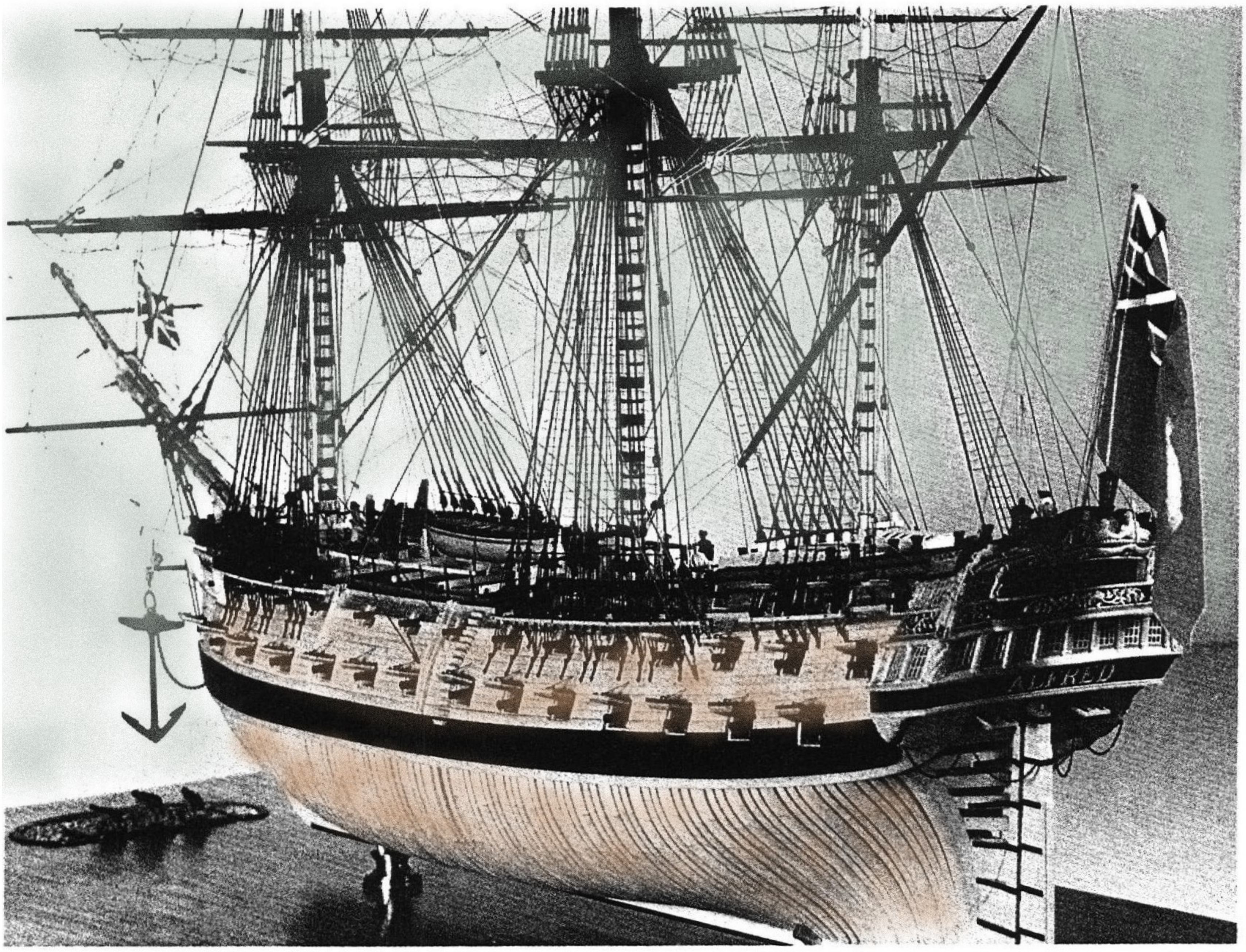
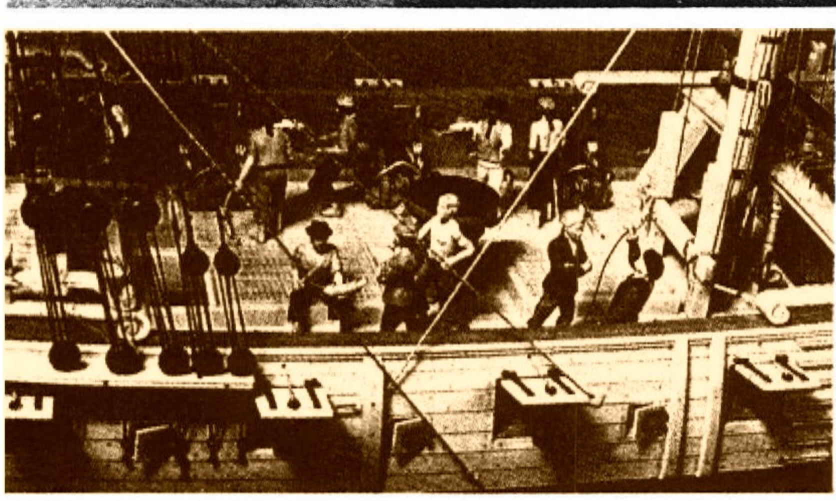
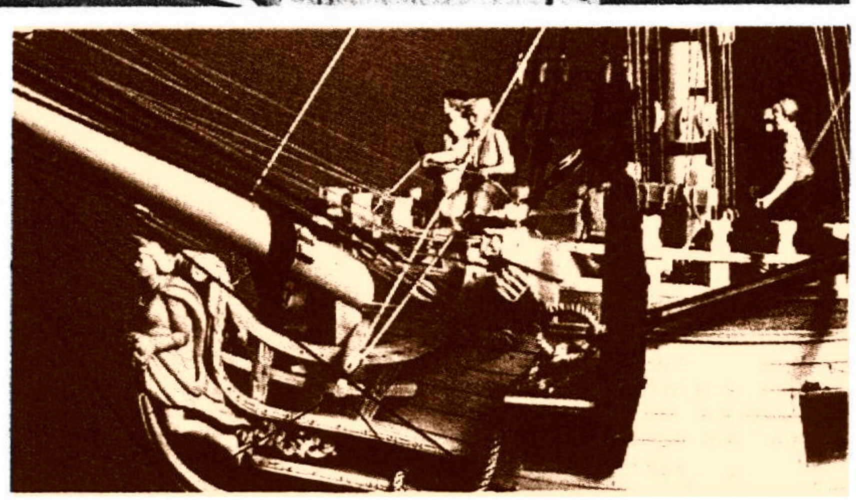
Ships of the AMERICAN REVOLUTION and their models

Harold M Hahn

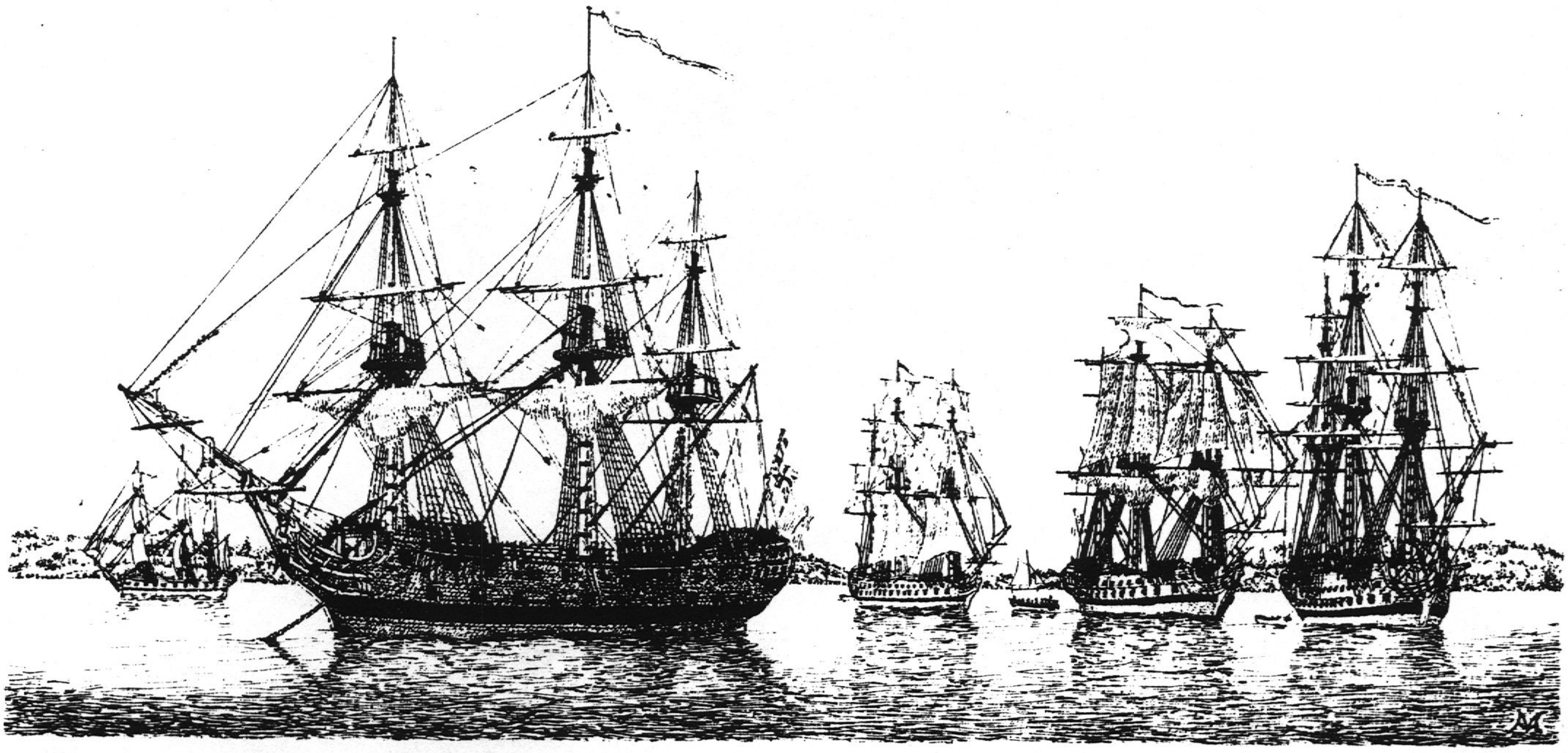


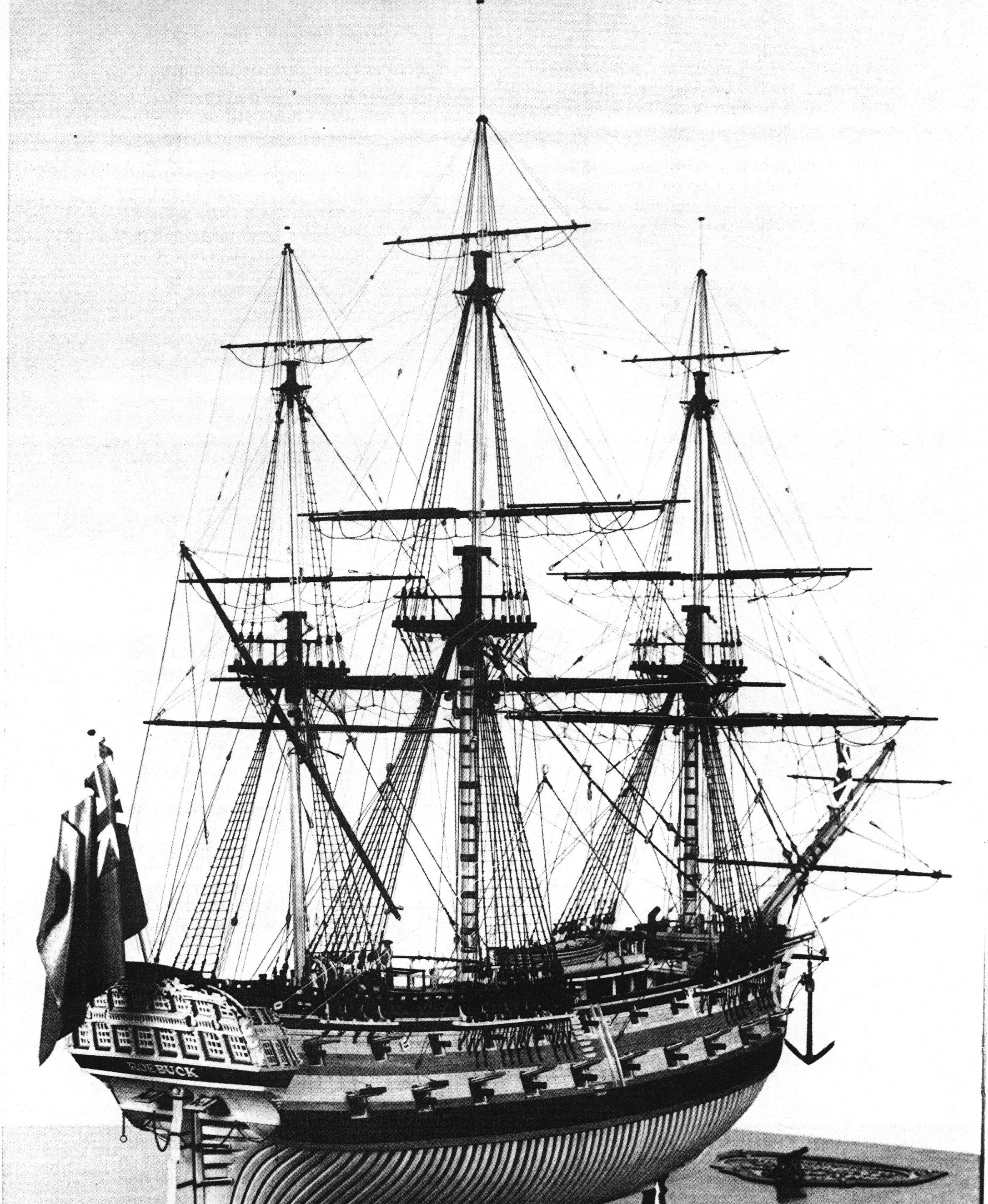


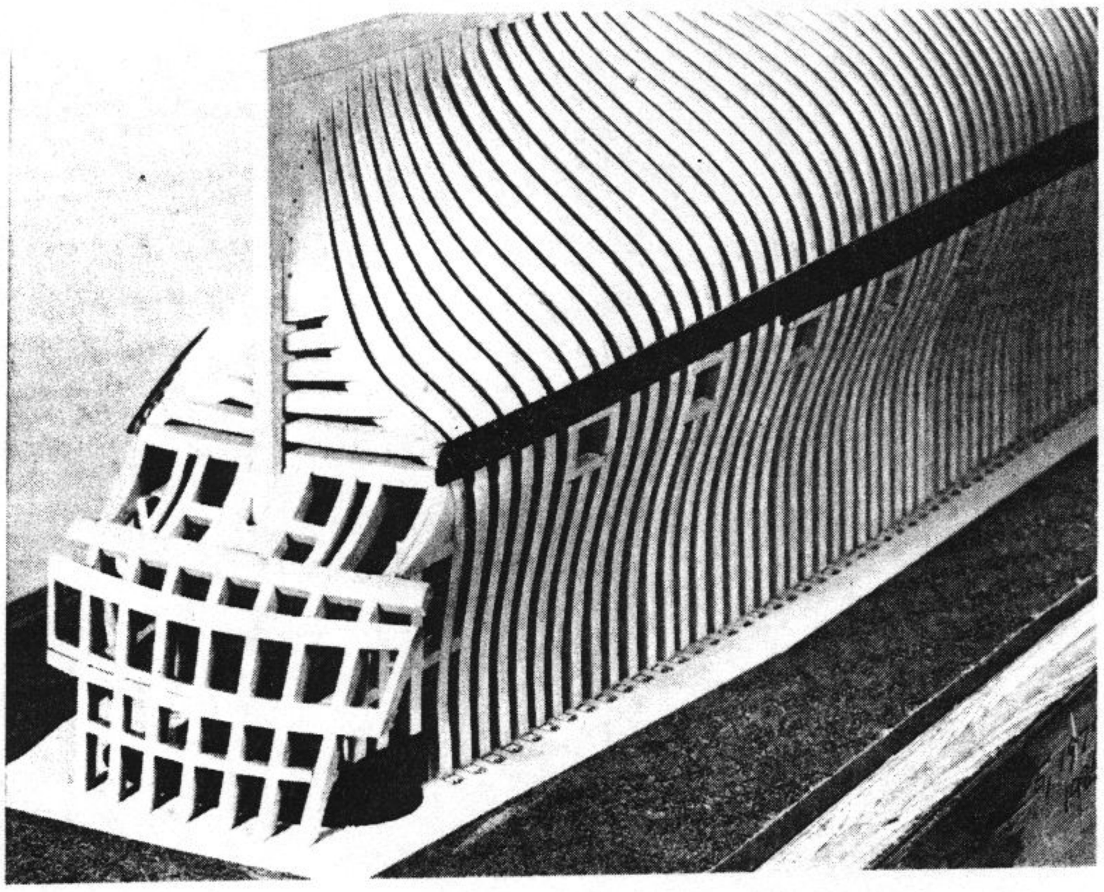


Chapter 1

HMS *Roebuck*, 44-Gun Frigate




ROEBUCK



1.1

France and America. This changed the complexion of the war. It had finally been realized that possession of Philadelphia offered no advantages of military value, and practical considerations dictated a retrenchment of British forces to confront the new alignment of powers. General Howe had been replaced in command by Henry Clinton who was ordered to evacuate Philadelphia, return to New York, and make plans for seizing Georgia and South Carolina. It became necessary to strengthen the defences of Florida and the British position in the Windward Islands against the threat of French offensive action.

General Clinton evacuated Philadelphia on 18 June 1778. The bulk of his army marched overland to reach New York but there were some three thousand loyalists to be removed from the city to preserve them from the wrath of the patriots who would be returning. Those people and the sick and wounded troops had to be transported by sea. On 20 June *Roebuck* was at Newcastle on the Delaware shore. The next day she had moved down to Stony Point on the Jersey shore. Finally, she cleared the Delaware Capes on 28 June and set sail for New York, arriving at Staten Island on 9 July. *Roebuck* moved about between anchorages at Staten Island, Sandy Hook, and New York until 26 November, when she sailed for England. She called in at Cawsand Bay on 20 December and then proceeded to Spithead, arriving there on the 24th.

From 1 January until May 1779, *Roebuck* remained at Portsmouth and Spithead, being refitted and enjoying a respite from the busy schedule of the previous three years. Then on 18 May she sailed in company with *Squirrel* and *Lord Townshend* to the Downs where a convoy was in preparation. On the 20th they were at Dungeness and then reached Spithead on the 23rd. On 11 June *Roebuck* sailed with the convoy as far as Portland and returned on the 16th. The next day she sailed with the 'Grand Fleet' and parted company with it to rejoin the convoy with which she arrived at Cork on the 21st. They remained there for a month. *Delight* was added to the entourage and the convoy sailed for America on 20 July. On 1 September while on this passage, leaving *Lord Townshend* as temporary guardian of the convoy, *Roebuck* took the French ship *Jeune François* which was bound from Bordeaux to Guadeloupe. She arrived at Sandy Hook on the 22nd with twenty-nine sail.

For the rest of the year, *Roebuck* was assigned to patrol the coast. On 8 October she sailed from Sandy Hook in company with *Romulus*. On the 18th they arrived in Penobscot Bay where the Americans had met with a disastrous defeat some two months earlier. On the 25th *Roebuck* sailed south with *Romulus* and *Nautilus*. The next day she took a schooner bound from Cape Ann for Cadiz. On the 29th she captured the privateer *Revenge* out of New London with 12 guns and 65 men. Returning to Sandy Hook two days later, *Roebuck* remained there for a month. Then in a short, two week cruise to the southward, she took the *Lady Washington* on 5 December at 37° 35′ north latitude with a cargo of tobacco meant for St Eustatius. She returned to Sandy Hook on the 11th to find a large invasion fleet in the last stages of preparation.

General Clinton at New York had been frustrated in his desire to take the offensive against Washington's army as Lord Germain kept urging him to do. While he could easily defend the New York base, he needed reinforcements and additional supplies to enable him to break the stalemate that existed. At the same time, King George was prompting him through Germain to make an assault on the southern states. Thus in December 1779 *Roebuck* became part of a fleet gathered for this purpose. She sailed on 26 December with 107 others. There is a note in the log book that when they were three days out, Thomas Whitton 'fell from aloft and was drowned'. On 12 January 1780, took *Betsy* from Charleston loaded with rice for Cape Fran,cois. She arrived at Tybee Island at the mouth of the Savannah River on 1 February and remained at anchor there until the 11th. Severe weather on the voyage had scattered the convoy, causing delays. A vessel full of heavy guns was lost and most of the artillery and cavalry horses had perished in their transports. Finally with the fleet reassembled, *Roebuck* found herself stationed off the coast at Charleston, South Carolina.

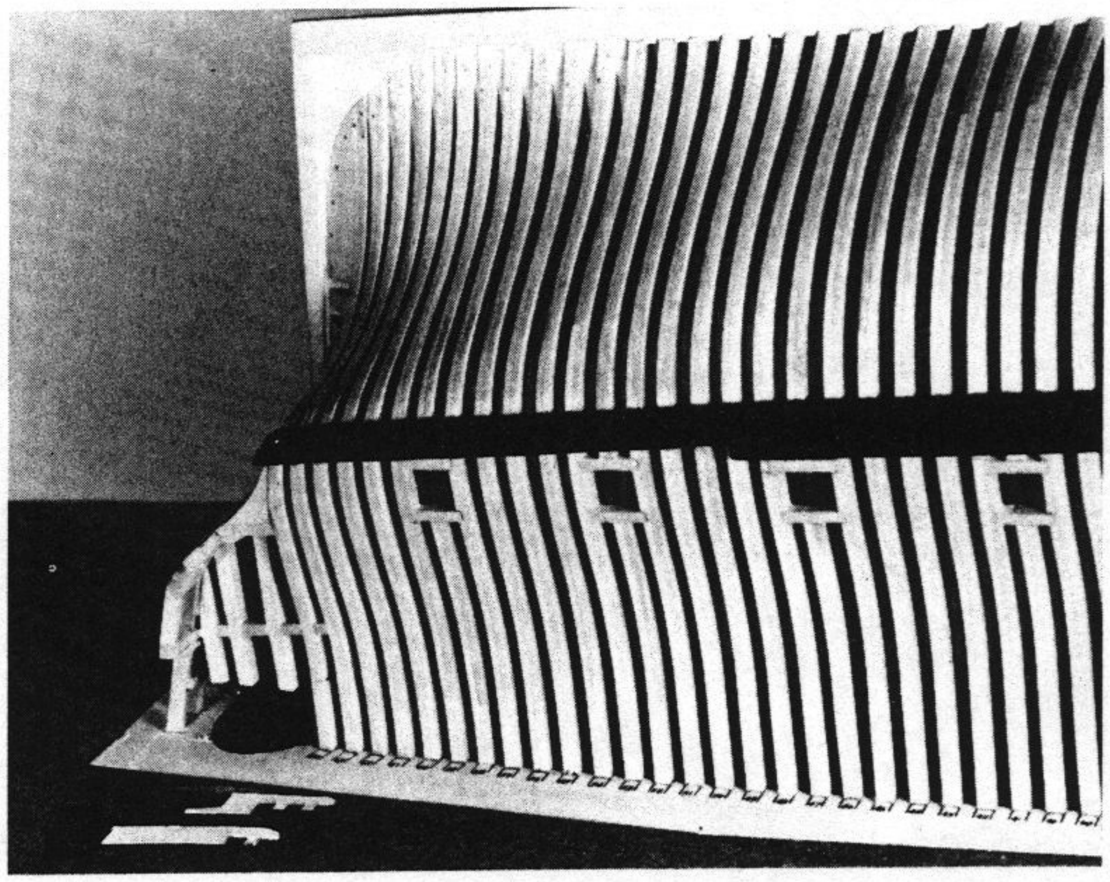
It wasn't until the end of March with his troops established on land that Clinton was able to make his approach on the defences at Charleston. On 9 April Arbuthnot, with seven frigates including *Roebuck,* sailed past Fort Moultrie at the mouth of the Cooper River. Twenty-seven men on the warships were killed or wounded during this manoeuvre. The British frigates were now in a position to bombard the city and otherwise assist movement of the troops on land. *Roebuck* was stationed in the Ashley River. Fort Moultrie surrendered on 6 May and Charleston's forces capitulated on the 12th. *Roebuck* moved out to the vicinity of Charleston Bar on 29 May. With British forces in full control of the area, she set sail with a convoy of a hundred sail on 8 June.

Roebuck parted from the convoy off Sandy Hook on the 18th and proceeded to cruise off the coast. On 28 August Master Abraham Pullibank replaced John Holroyd and three days later Captain A S Douglas took over command of the frigate from Captain Hamond. For the rest of 1780 and the first two months of the following year, Roebuck ranged up and down the Atlantic coast from New York to Charleston, taking prizes. On 19 November she took the schooner Molly, twenty-two days out from Hispaniola and making for Philadelphia. On 25 December she took the schooner *Cypress* bound for South Carolina. On 6 January 1781 it was the *Heart* of North Carolina. Late in the month *Roebuck* anchored in Port Royal Bay, south of Charleston, and the Master was 'employed sounding and buoying channels'. On the 29th when she sailed from an anchorage at Beaufort, she ran ashore. The 'ship listed and had to be lightened' and was hove off undamaged next day. On 21 February a schooner sailing from 'Havannah' for Philadelphia was taken.

Roebuck returned to New York on 13 March and was made part of a troop convoy. Benedict Arnold had been leading British troops, based at Norfolk, on destructive raids in southern Virginia. With Cornwallis moving up through the Carolinas, the British command in New York decided to send reinforcements and to replace Arnold with General Phillips as commander. *Roebuck* with *Richmond* in company sailed with a convoy of three thousand troops from Sandy Hook on 20 March. They arrived at Lynhaven Bay on the 26th and *Roebuck* carried General Phillips to the Elizabeth River on the 28th. With the transports unloaded, *Roebuck* sailed out of the Virginia Capes on 6 April with the convoy.

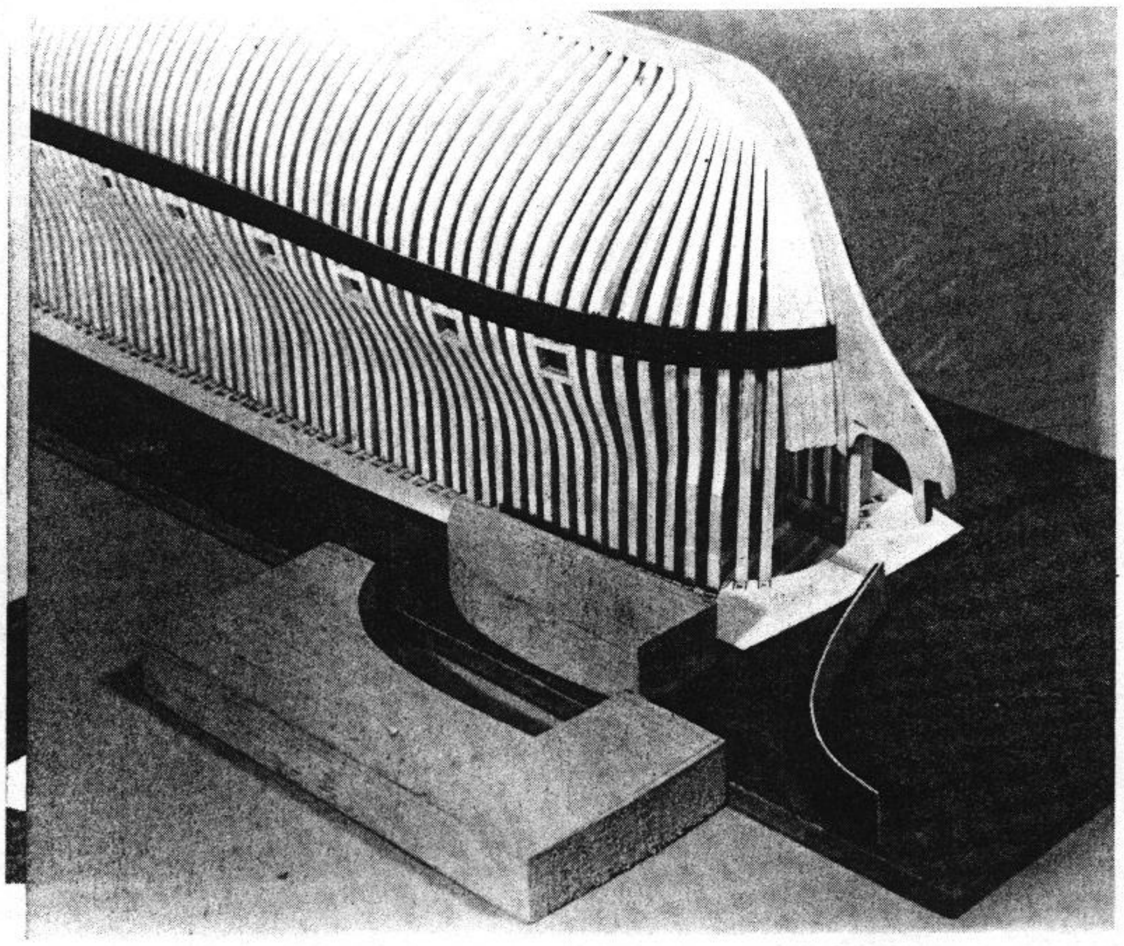
A week later off the Delaware Capes, *Roebuck*'s log book recorded events of the morning on 14 April 1781:

> Wind S.W. 6 a.m. fresh gales and clear Weather. Saw strange sail in the S.E. quarter, gave chase, Private signal from *Orpheus* at 6 AM found these to be a large ship and a brig, made the private signal, which she did not answer. At 7 made the signal to *Orpheus* that we perceived the chase to be an enemy, got all clear for action. Fresh gales V. clear, perceived the chase to be a ship, ½ past she hoisted Rebel colours, at 9 hauled up her courses. At 10 *Orpheus* bore down towards us. The chase made sail and bore away. Dis. 1½ Mile ½ past 11. were within musket shot of her, hoisted our Ensign, when Ship struck her colours. *Orpheus* about 4 miles to the Norward. She proved to be the Rebel frigate *Confederacy* 36 guns. Sent Lieutenant on board to take charge of her.

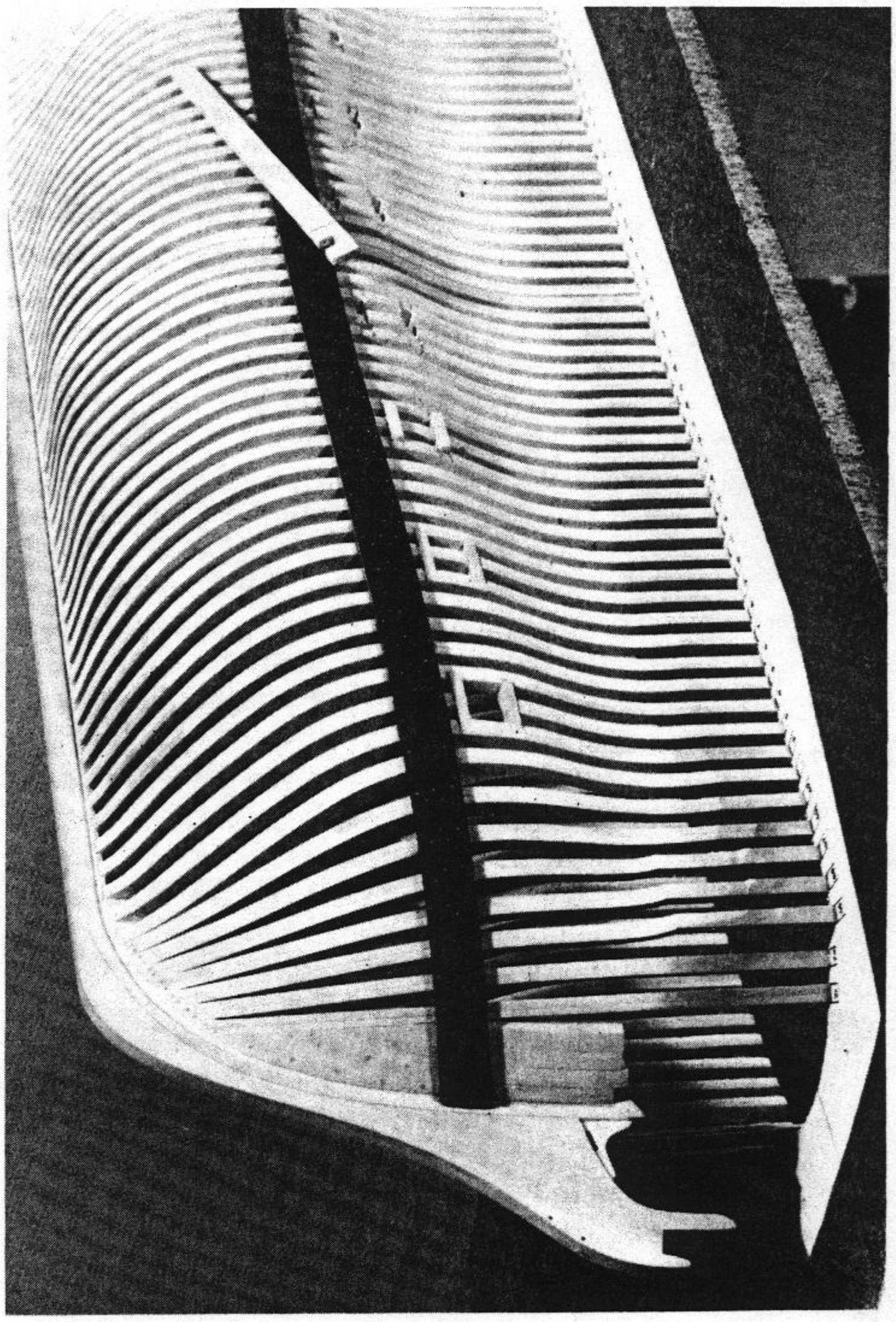


1.2

Apparently, Captain Colpoys of the *Orpheus* (32) was senior to Captain Douglas for he wrote to Vice Admiral Arbuthnot of the capture saying: 'I have ordered the *Roebuck* to return to New York with the Prize.' They reached port on the 19th. *Roebuck* ventured out once more on 4 May, after a couple of weeks spent in the Hudson River and at Sandy Hook. On the 6th she took the *Protector* manned by 180 men, mounting 26 guns, and bound from Martinique for Boston. After returning with her prize, she sailed from Sandy Hook on the 12th in company with *Charon* and a convoy. On the 26th she captured a brig bound from L'Orient to Philadelphia. *Roebuck* returned to remain at anchor in the Hudson and at Sandy Hook where Captain Orde replaced Douglas in command. Admiral



1.3



1.4

Arbuthnot was taken on board on 3 July. On the 5th, *Roebuck* sailed for England and was saluted by the fleet. She had carried Arbuthnot out to the war in 1775 and now, six years later, she was taking him home.

Roebuck's participation in the war across the Atlantic was at an end. When she arrived at Spithead on 2 August Admiral Arbuthnot was landed and the ship sailed for the North Sea to cruise off the Texel. The winter months were spent anchored in the Downs. In late March and early June 1782, *Roebuck* docked at Sheerness for a quick refit. She sailed on 21 June and reached Elsinore on the 25th. She remained at anchor there to assemble a convoy from the Baltic which she escorted across the North Sea in September. On 3 October *Roebuck* sailed from the Downs with *Sphynx, Brazen* (cutter), and a convoy for Spithead. A month later, she sailed with *Eurydice* and *Liberty* to cruise off Ushant. Returning to Portland on the 15th the little squadron cruised in the mouth of the Channel for a week. On 30 November *Roebuck* sailed to Spithead and stayed there until 23 March 1783. On the 24th, *Roebuck* sailed to the Downs and then into Sheerness. There the ship was paid off on 9 April 1783. HMS *Roebuck*'s service in the American Revolution was at an end, but she still had a long and distinguished career ahead.

Roebuck was recommissioned as a hospital ship for a year during 1790 and 1791. Captain George Lindsay took command at Chatham on 1 July 1790. He sailed her to Spithead to assume her new duties on 8 August. On 27 December Joseph Knowles, Boatswain, was confined for embezzlement. He was courtmartialled on the *Royal William* and dismissed from the service on 8 January. *Roebuck* remained in service at Spithead until 23 August 1791 when she was returned to Chatham and paid off on 3 September.

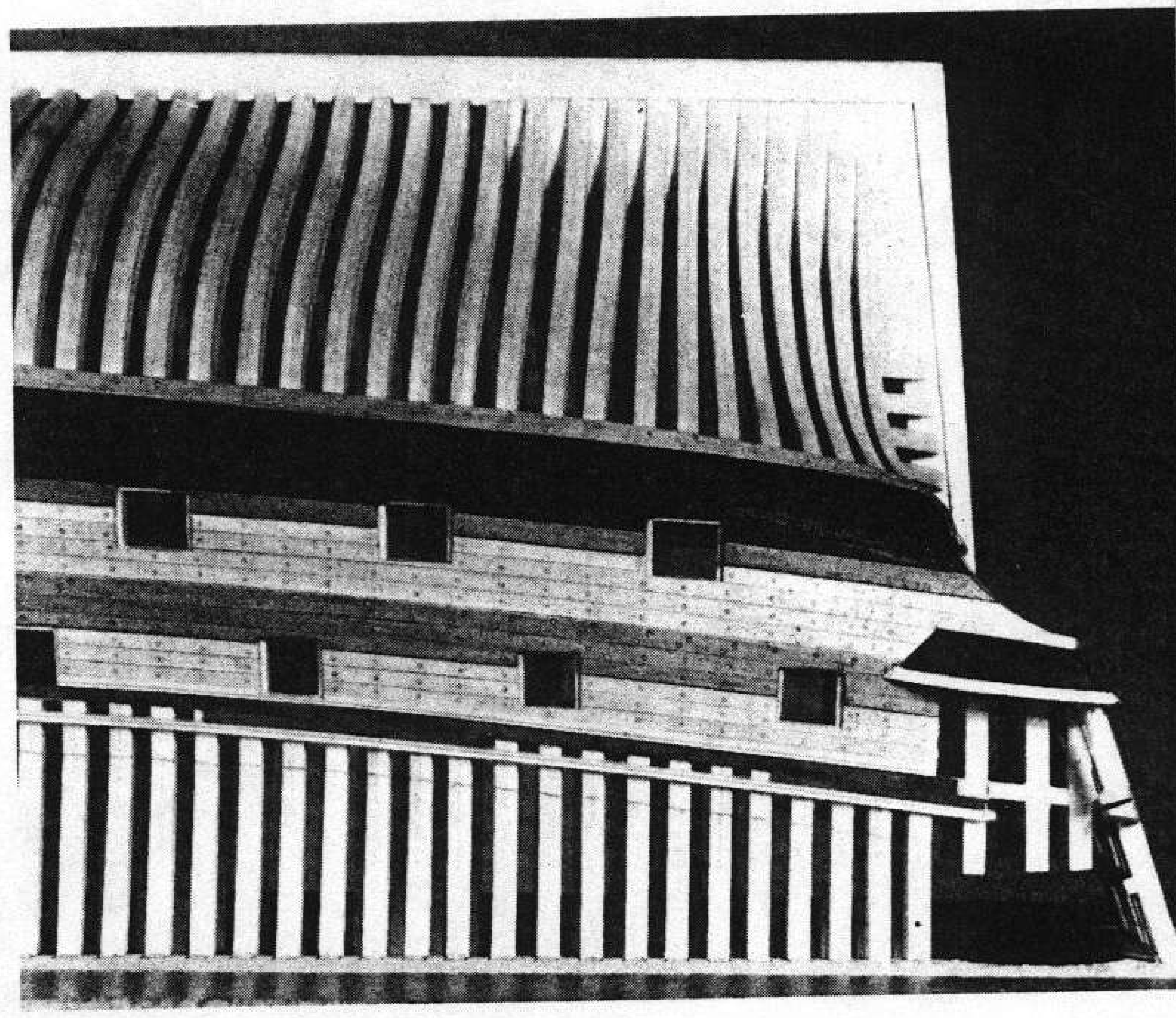
Two years later, *Roebuck* was once again commissioned, this time under Captain Andrew Christie as a troop ship. On 27 December 1793 she sailed from Spithead in company with *Asia* and a convoy which arrived at Carlisle Bay, Barbados on 9 February 1794. For the next four and a half years *Roebuck* remained on the Windward Islands' Station cruising up and down the long string of islands that comprise the Lesser Antilles. She lay at anchor periodically at such ports as St Pierres Road and Fort Royal in Martinique, Fort Lucy on Guadeloupe, Basse Terre on St Kitts, English Harbour, Antigua, St Georges Bay at Granada and Kingston Bay off the island of St Vincent. On 18 April 1795, Captain Christie was invalided and command was given to Captain David McIver. The next month *Roebuck* transported French prisoners from Kingston to the *Romola*. In November Captain McIver was replaced by Captain Alexander S Burrows.

Although nominally a troopship, *Roebuck* cruised regularly to protect British shipping and watch for possible prizes. On 22 May 1796, she retook the schooner *Polly* from a privateer off the island of Martinique. In February 1797 she sailed from St Johns, Antigua convoying four vessels but on 4 March she 'Missed stays and sprung the mizzen mast'. A new mizzen mast was installed at English Harbour. On 16 March she retook the French prize *Dolphin*. In the following month *Roebuck* escorted two convoys from St Johns to Basse Terre, St Kitts where a task force was assembling. The fleet sailed on 15 April and two days later *Roebuck* was disembarking troops on the island of Puerto Rico. For the next couple of weeks she remained 'with the fleet blockading Moro, Porto Rico'. The fortress of El Morro was too tough a nut for the British to crack so they departed on 3 May.

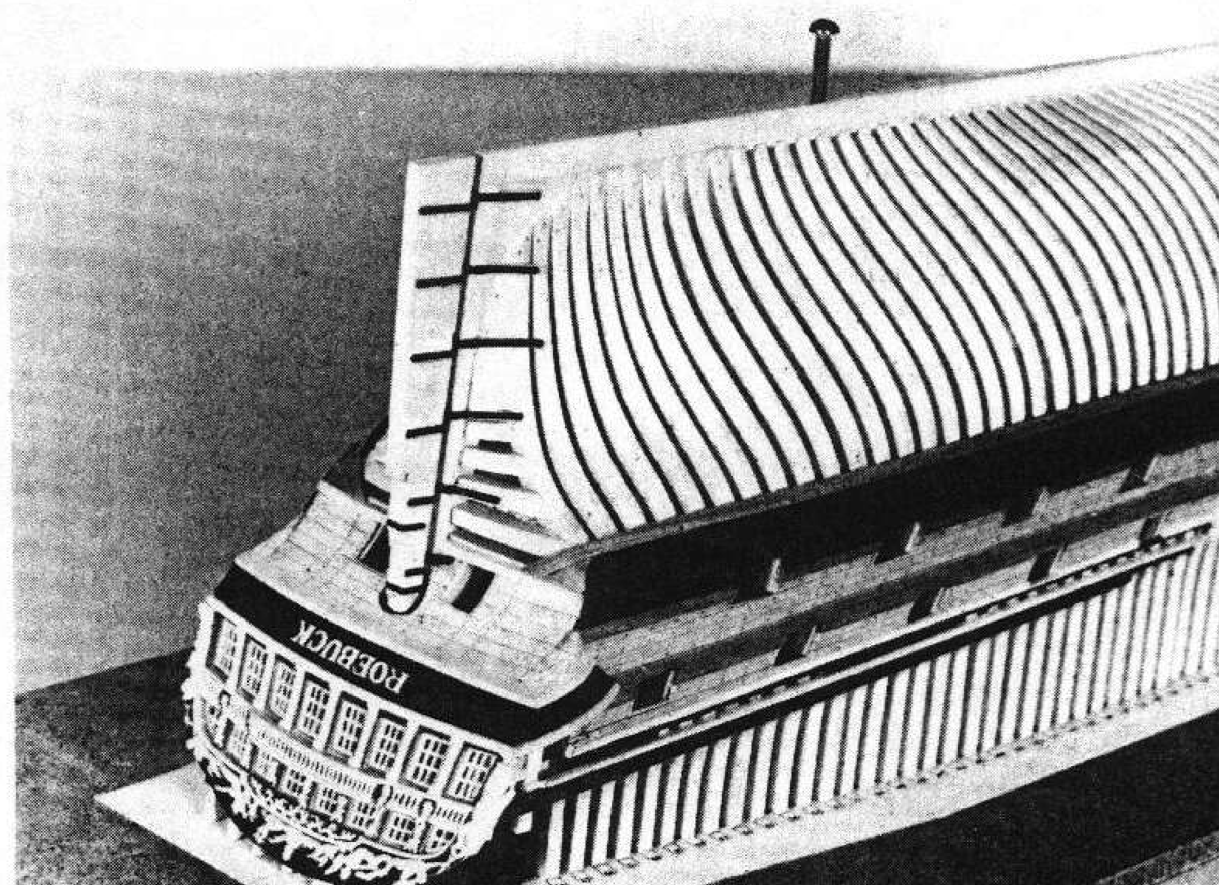
On 6 July *Roebuck* captured the Dutch privateer *Batave* which mounted 10 guns. Having failed to take El Morro, the British forces turned their attention to the islands of Trinidad and Tobago. Cruising out of Carlisle Bay, Barbados, *Roebuck* anchored in Grand Courland Bay, Tobago in the middle of July. The British seized Trinidad from the Spaniards in 1797 and *Roebuck* became involved in this operation. On 5 December she sailed from Fort Royal, Martinique with *Orpheus*, another transport. The log book recorded that an eclipse of the moon had been observed the day before. The two ships reached Port D'Espagne, Trinidad on the 10th and left a week later. For the rest of the month and January 1798, *Roebuck* cruised between Martinique and Barbados. On 5 February she took the French privateer schooner *La Parfaite* of 10 guns and 60 men off the island of Dominica.

For the next couple of months, *Roebuck* sailed up and down the string of islands transporting troops and escorting ships. A convoy was made up at Fort Royal and on 3 May she sailed from Martinique in company with *Syren* and a convoy of 38 sail. They reached Port Royal, Jamaica on the 18th. After remaining at anchor there for a month *Roebuck* sailed on 15 June but she had hardly left the port when disaster struck. Owing to generally rotten gear, the mainmast carried away, taking with it the mizzen and the fore topmast. A jury mainmast was rigged and she limped back to Port Royal. When repairs had been completed, *Roebuck* sailed once more on 20 July with 14 ships under convoy. They anchored at Port Antonio on the north side of Jamaica to collect more ships for the convoy. *Roebuck* sailed from Port Antonio on 27 July, in company with *Tortorelle* and a convoy of 34 ships. They were joined by others at sea until the convoy totalled 95 sail by the 29th. The convoy reached Spithead on 5 October. *Roebuck* sailed from Spithead to the Downs, up to Long Reach, to Woolwich, and finally to Deptford by 19 October where she was paid off on 6 December 1798.

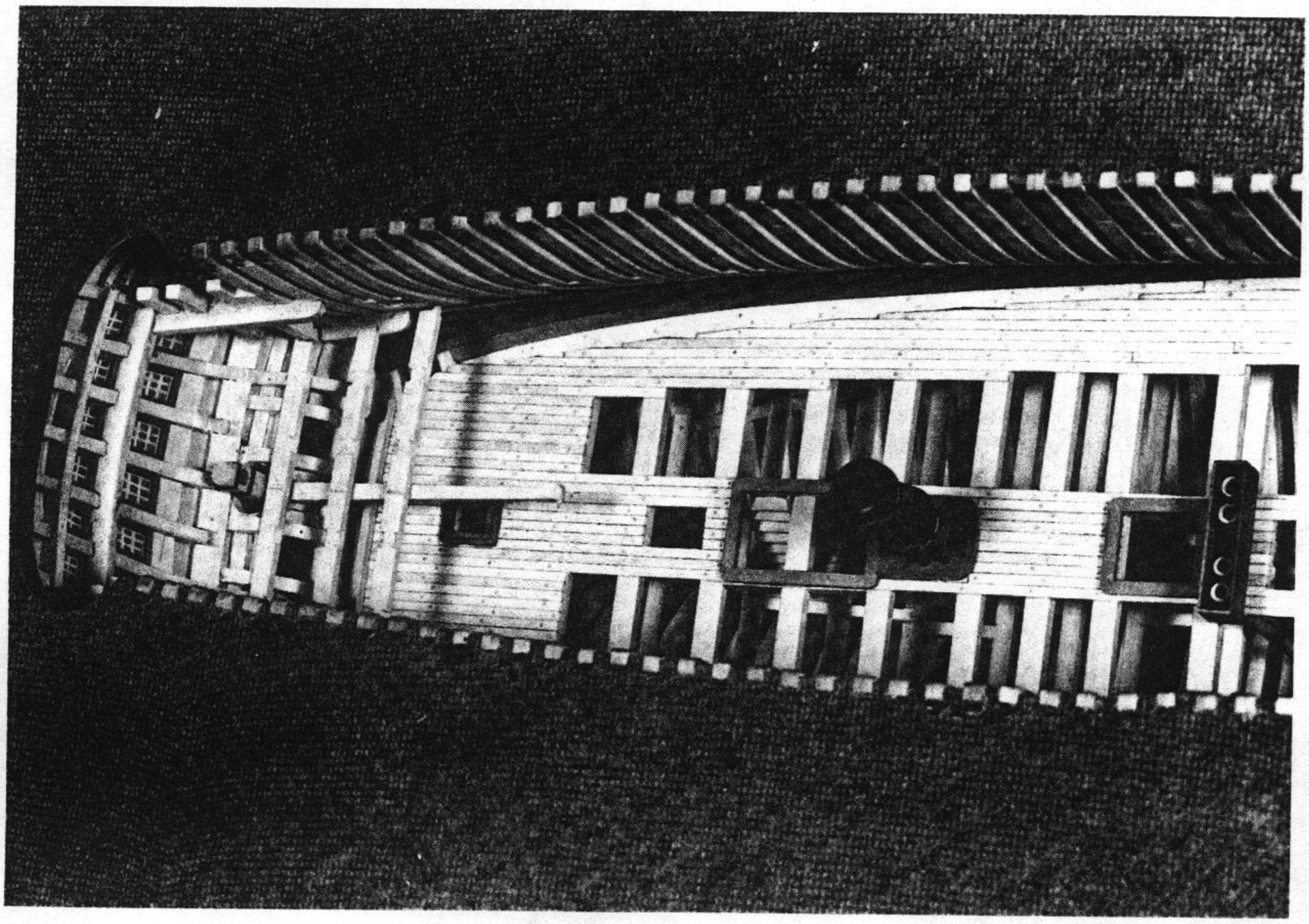
After a respite of seven months at Deptford,



1.5



1.6

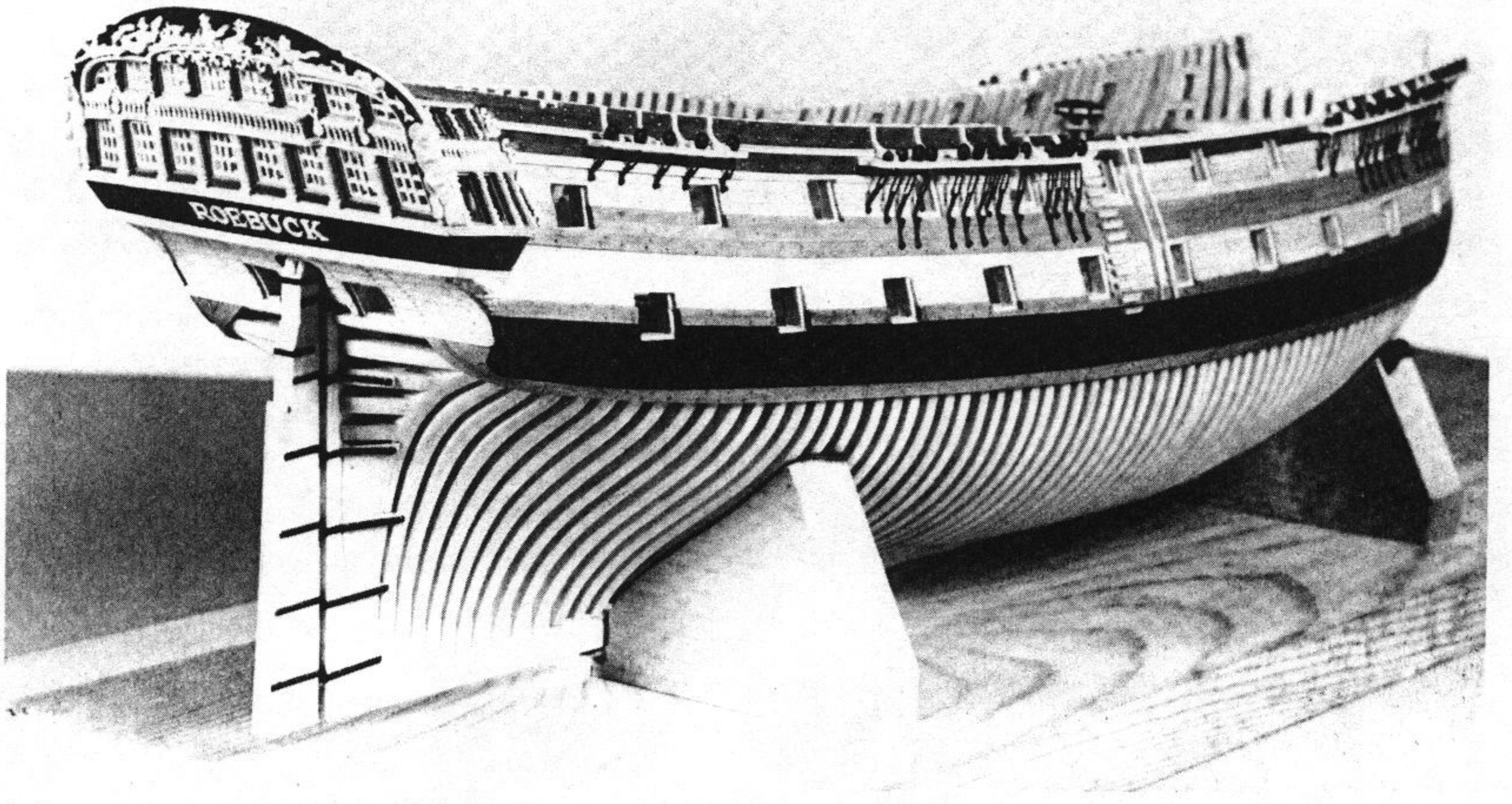


1.7

Roebuck was once again commissioned as a troop ship, with Captain John Buchannan commanding. She remained at Deptford fitting out until 6 August and then sailed downriver to the Downs. There she received part of the 20th Foot. She sailed across the North Sea and disembarked the troops on Texel on 4 September. On returning, *Roebuck* anchored for periods of time at Margate, Nore, Sheerness and in the Downs. On 13 October she embarked the Coldstream Guards but set them back on shore two days later. She then sailed to Texel twice in the following month to bring troops, including the 20th Foot, back to England. *Roebuck* sailed to Spithead at the end of November and anchored there for a month. On 24 December she embarked some Russian troops and carried them to Guernsey. During the first five months of the year 1800 *Roebuck* moved about from the Downs, along the south coast of England, and over to Cork on a variety of convoy and transport errands. But she was about to become involved in another major amphibious campaign.

In 1798 Napoleon had sought to open the gateway to the riches of India by taking control of Egypt and the Near East. His dreams had been thwarted by Nelson and the Royal Navy at the Battle of the Nile on the first of August. His 35,000 man expeditionary force campaigned successfully on land until checked in Syria. Napoleon fled back to France, slipping through the British blockade in a small vessel late in 1799. The army could not hope to do the same. It remained in Egypt under General Jean Kleber as a potent force that had to be neutralized. Sir George K Elphinstone, lately elevated to the title of Lord Keith with the rank of vice-admiral of the red, was put in command of an operation to accomplish this.

On 9 June 1800 *Roebuck* embarked the 20th Foot at Cork and sailed with seven warships. They reached Mahon on the island of Minorca on 19 July. At this time Lord Keith's responsibilities included a variety of operations to be mounted in the Mediterranean area. On 31 July *Roebuck* sailed from Mahon in company with the fleet commanded by Keith in *Foudroyant*. On 4 September they retook the island of Malta from the French. Lord Keith received orders from England that he should strike a punitive blow against Spain. The fleet sailed into the Bay of Cadiz but was persuaded against an assault on the plague-ridden city by pleas for mercy from shore and squally weather that made it difficult for his ships to manoeuvre. *Roebuck* was anchored at Cadiz 5-8 August. The fleet then repaired to Gibraltar on the 12th where it remained until

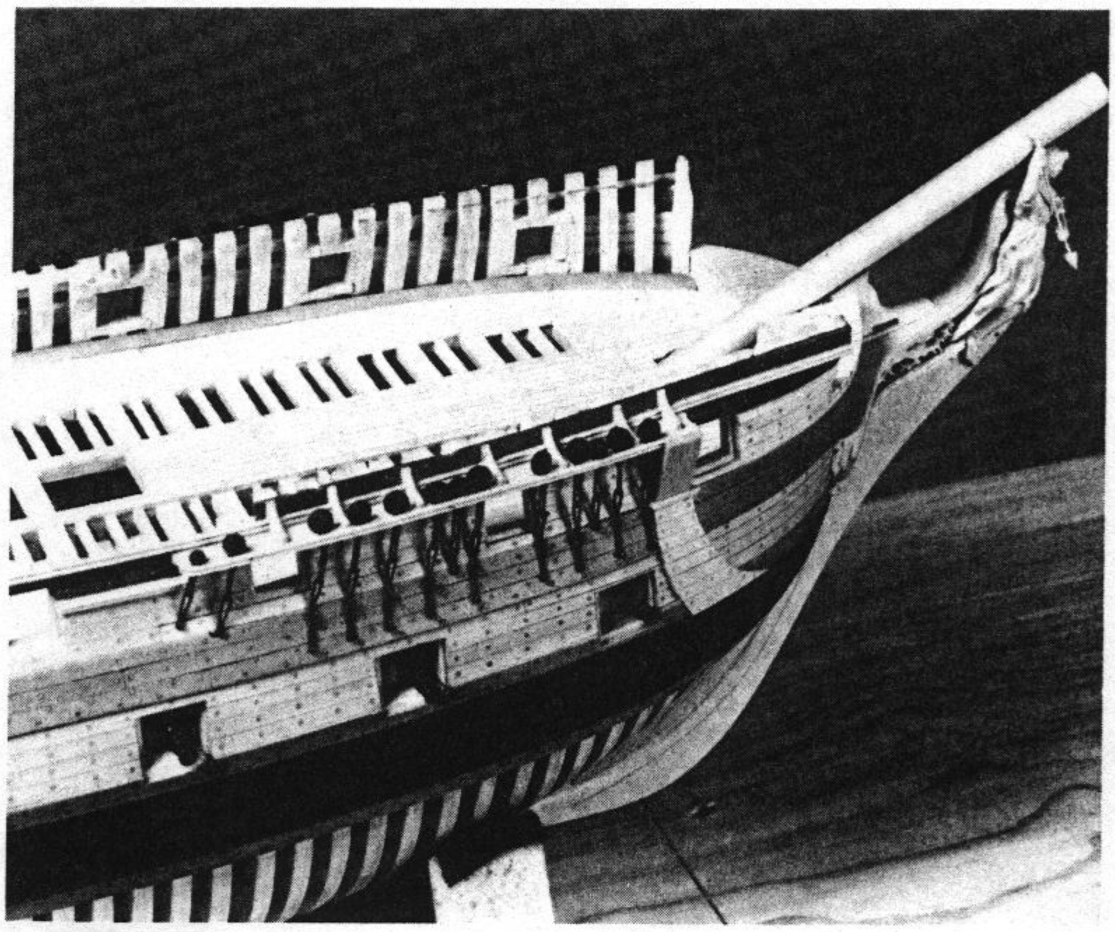


1.8

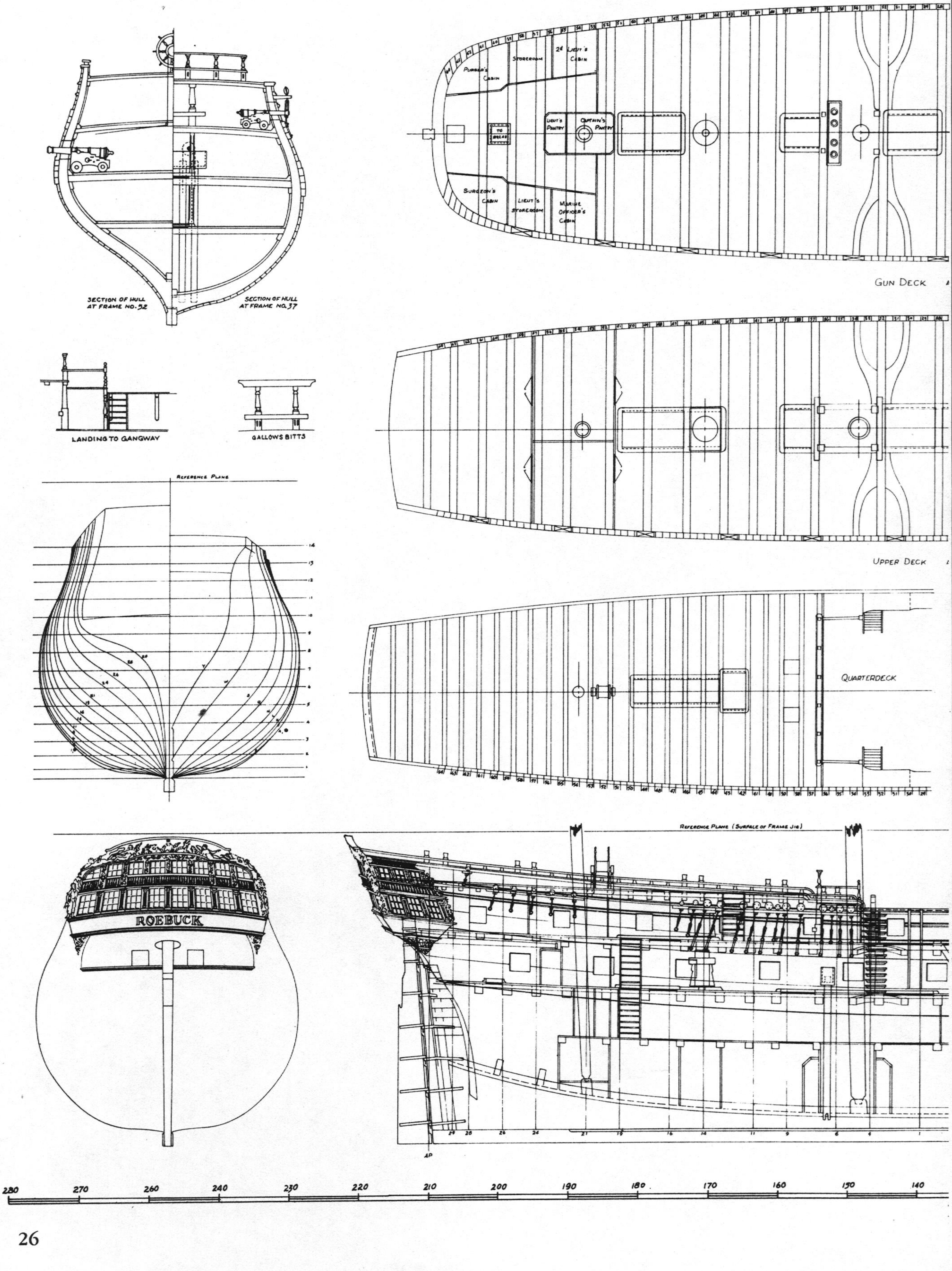
sailing for Port Mahon on the 27th. On 21 November *Roebuck* sailed from Mahon with *Minotaur* and other transports. They anchored at Malta on 1 December and sailed once more on the 20th, arriving at Marmorice on the coast of Turkey on 1 January 1801. Turkey was allied with England against France. Lord Keith was under orders to cooperate with the Turks so he assembled his fleet and waited at Marmorice until 22 February before making a move.

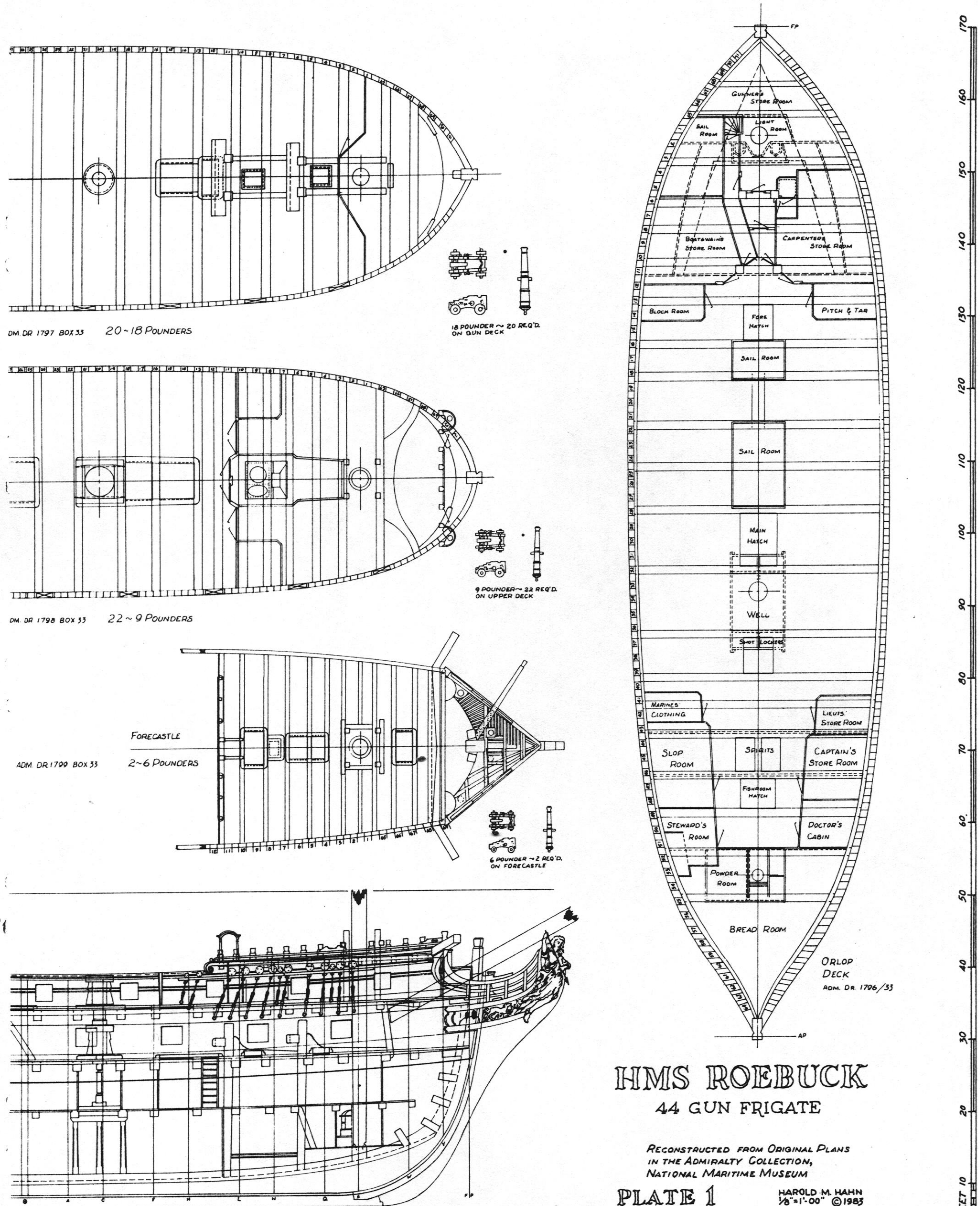
The French army under Kleber was fortified in the castle of Aboukir overlooking the bay of Aboukir where the Battle of the Nile had been fought. *Roebuck* arrived in the bay with the fleet on 2 March and prepared to disembark her troops. This was accomplished on the 8th at which time she also received wounded troops and prisoners. *Roebuck*'s people saw the surrender of Aboukir Castle on 18 March 1801 after which the land forces proceeded to capture Alexandria and Cairo with support from the navy.

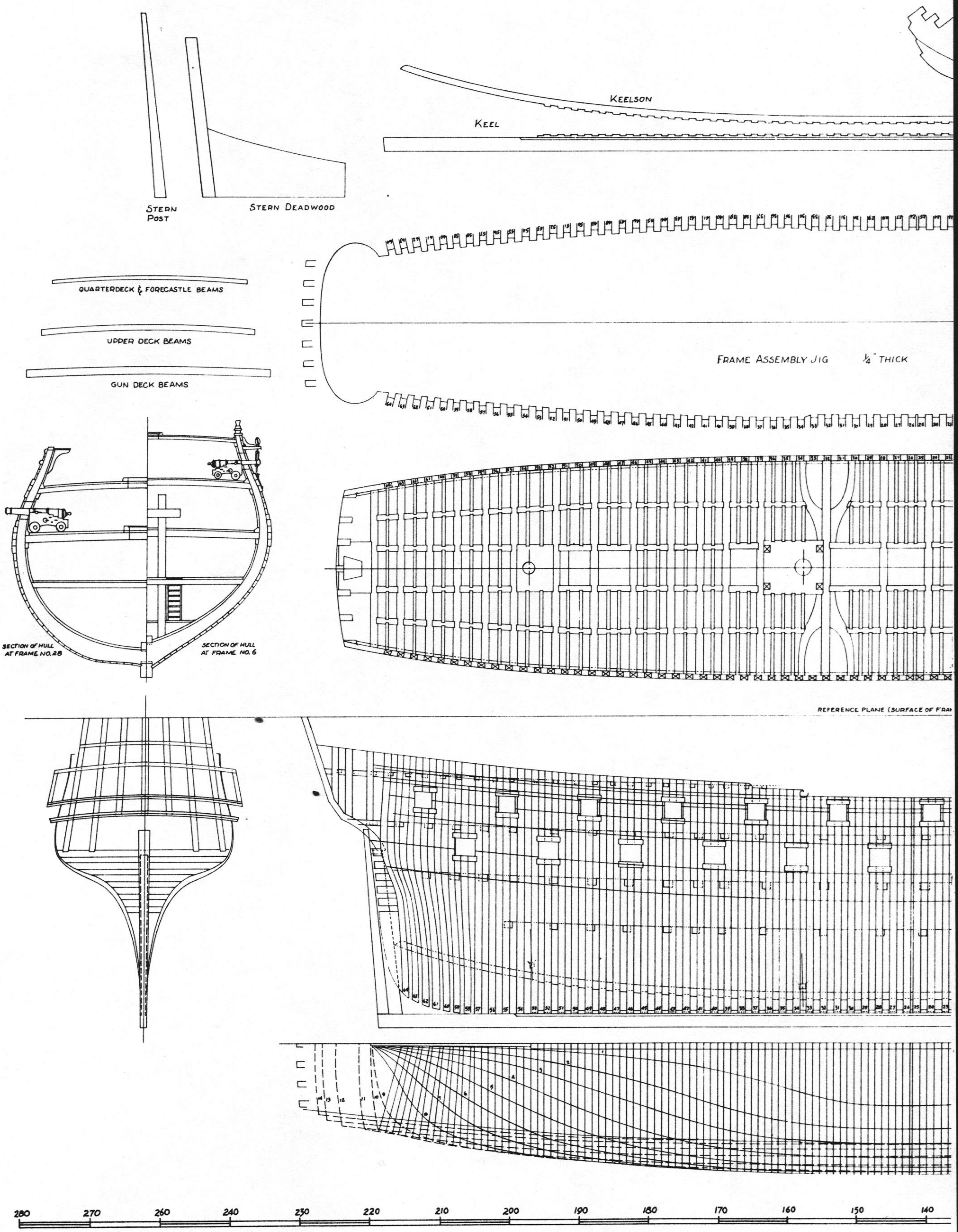
Roebuck remained in the eastern Mediterranean for six more months. Most of this time was spent at anchor in Aboukir Bay although she did sail up to Limassol on the island of Cyprus at the end of July and once again a month later. The fleet sailed from Aboukir on 12 September



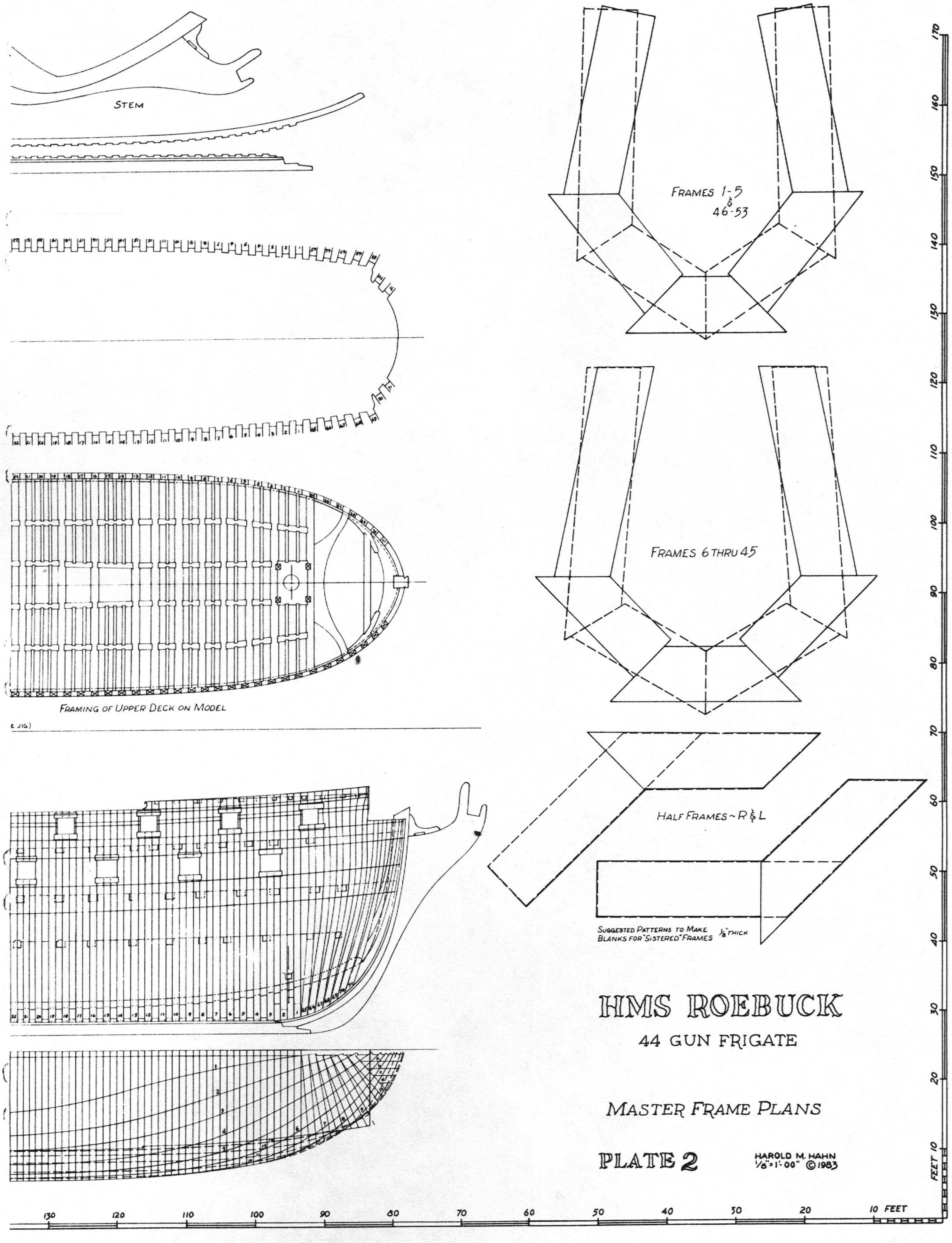
1.9

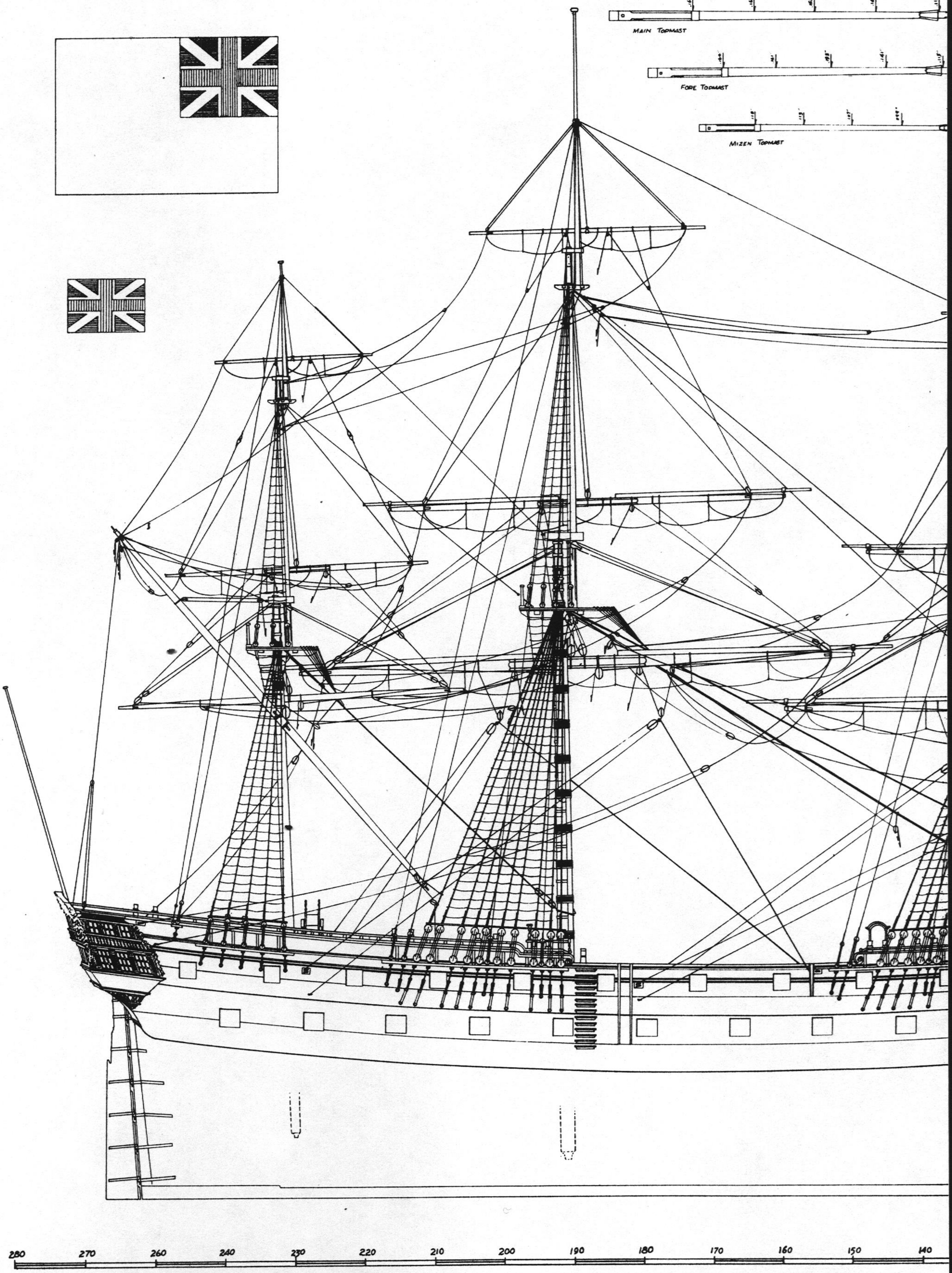

SECTION OF HULL AT FRAME NO. 52
SECTION OF HULL AT FRAME NO. 37
LANDING TO GANGWAY
GALLOWS BITTS
REFERENCE PLANE
GUN DECK
UPPER DECK
QUARTERDECK
ROEBUCK
AP
280
270
260
240
230
220
210
200
190
180
170
160
150
140

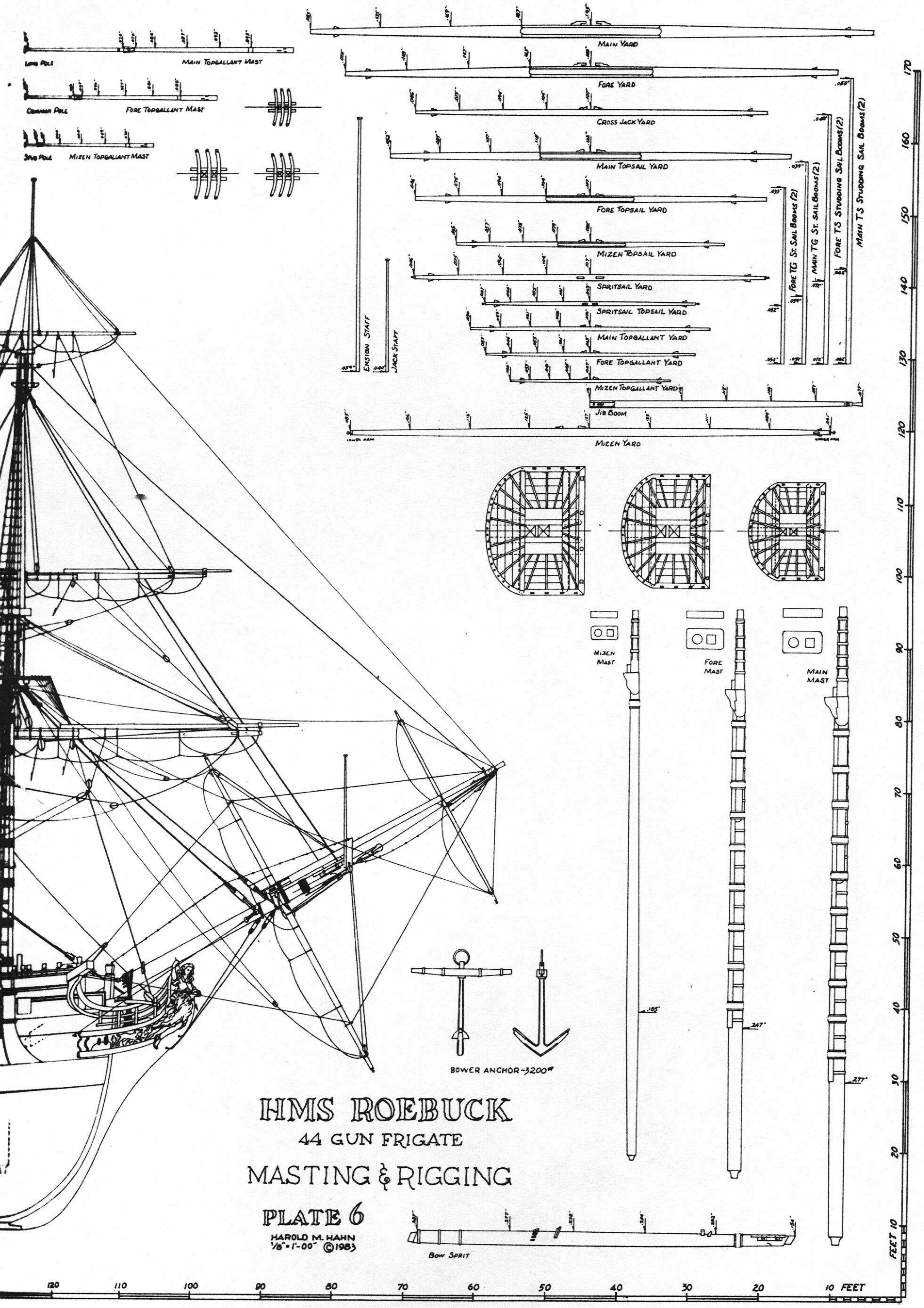

DM. DR 1797 BOX 33
20 ~ 18 POUNDERS
18 POUNDER ~ 20 REQ'D. ON GUN DECK
DM. DR 1798 BOX 33
22 ~ 9 POUNDERS
9 POUNDER ~ 22 REQ'D. ON UPPER DECK
FORECASTLE
ADM. DR 1799 BOX 33
2 ~ 6 POUNDERS
6 POUNDER ~ 2 REQ'D. ON FORECASTLE
GUNNER'S STORE ROOM
SAIL ROOM
LIGHT ROOM
BOATSWAIN'S STORE ROOM
CARPENTERS STORE ROOM
BLOCK ROOM
PITCH & TAR
FORE HATCH
SAIL ROOM
SAIL ROOM
MAIN HATCH
WELL
SHOT LOCKERS
MARINES' CLOTHING
LIEUTS' STORE ROOM
SLOP ROOM
SPIRITS
CAPTAIN'S STORE ROOM
FISHROOM HATCH
STEWARD'S ROOM
DOCTOR'S CABIN
POWDER ROOM
BREAD ROOM
ORLOP DECK
ADM. DR 1796/33
HMS ROEBUCK
44 GUN FRIGATE
RECONSTRUCTED FROM ORIGINAL PLANS IN THE ADMIRALTY COLLECTION, NATIONAL MARITIME MUSEUM
PLATE 1
HAROLD M. HAHN
1/8"=1'-00" ©1983
FEET
130
120
110
100
90
80
70
60
50
40
30
20
10 FEET

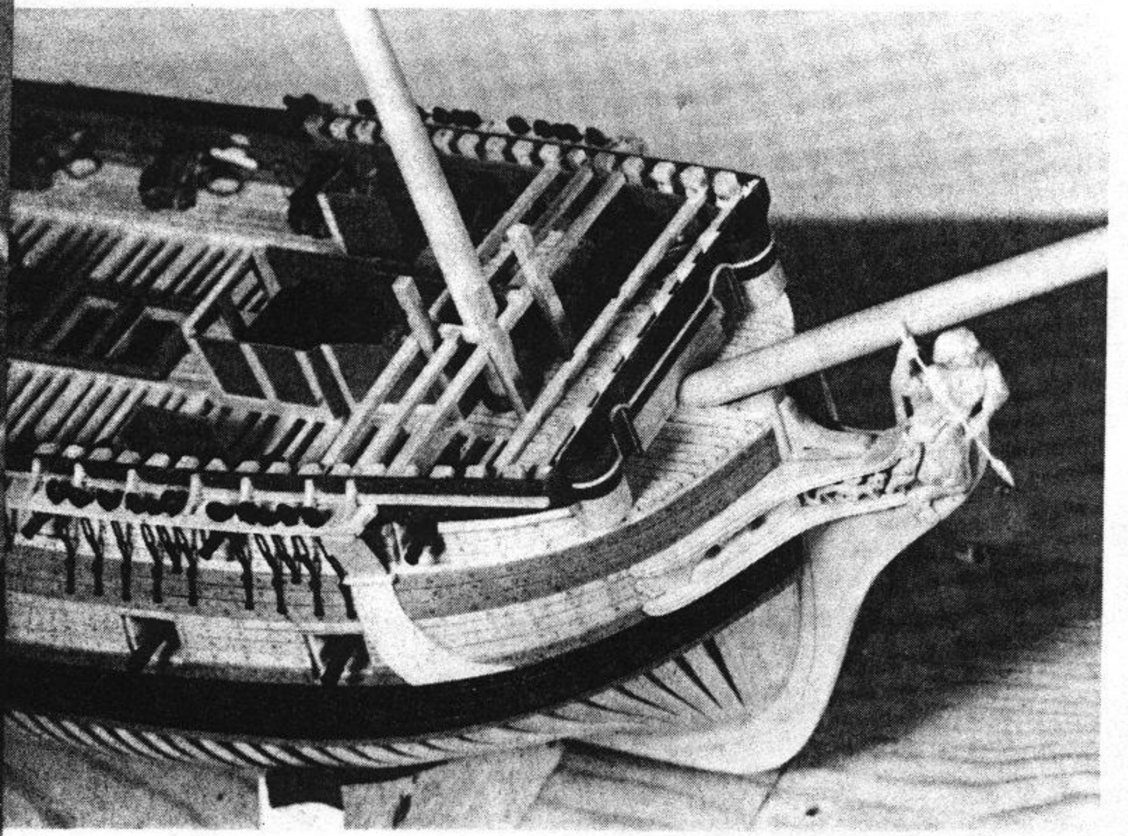


STERN POST
STERN DEADWOOD
KEELSON
KEEL
QUARTERDECK & FORECASTLE BEAMS
UPPER DECK BEAMS
GUN DECK BEAMS
FRAME ASSEMBLY JIG
1/4" THICK
SECTION OF HULL AT FRAME NO. 28
SECTION OF HULL AT FRAME NO. 6
280
270
260
240
230
220
210
200
190
180
170
160
150
140


STEM
FRAMING OF UPPER DECK ON MODEL
FRAMES 1-5 & 46-53
FRAMES 6 THRU 45
HALF FRAMES ~ R & L
SUGGESTED PATTERNS TO MAKE BLANKS FOR "SISTERED" FRAMES 1/8" THICK
HMS ROEBUCK
44 GUN FRIGATE
MASTER FRAME PLANS
PLATE 2
HAROLD M. HAHN
1/8"=1'-00" ©1983
10 FEET
FEET 10


MAIN TOPMAST
FORE TOPMAST
MIZEN TOPMAST
280
270
260
240
230
220
210
200
190
180
170
160
150
140

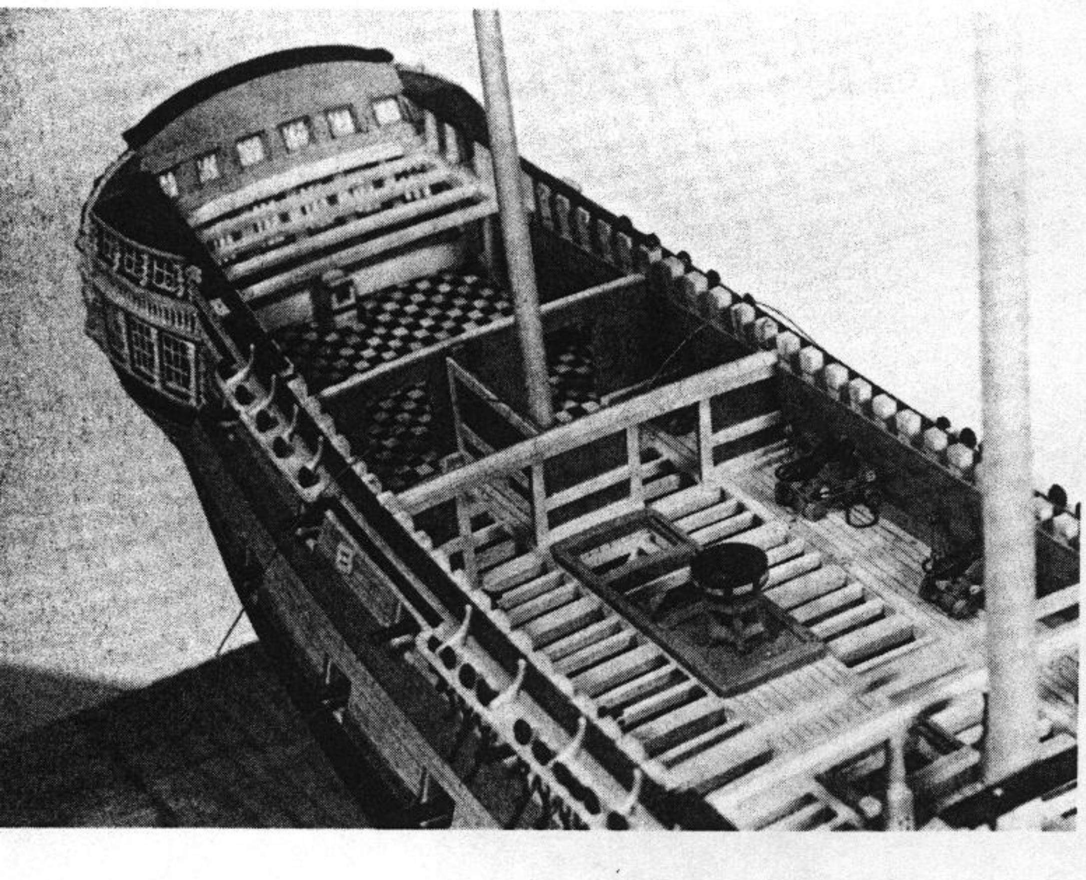

Main Yard
Fore Yard
Cross Jack Yard
Main Topsail Yard
Fore Topsail Yard
Mizen Topsail Yard
Spritsail Yard
Spritsail Topsail Yard
Main Topgallant Yard
Fore Topgallant Yard
Mizen Topgallant Yard
Jib Boom
Mizen Yard
Main Topgallant Mast
Fore Topgallant Mast
Mizen Topgallant Mast
Ensign Staff
Jack Staff
Fore TG St. Sail Booms (2)
Main TG St. Sail Booms (2)
Fore TS Studding Sail Booms (2)
Main TS Studding Sail Booms (2)
Mizen Mast
Fore Mast
Main Mast
Bower Anchor ~3200#
Bow Sprit
HMS ROEBUCK
44 GUN FRIGATE
MASTING & RIGGING
PLATE 6
HAROLD M. HAHN
1/8"=1'-00" ©1983
FEET



1.10

but *Roebuck* stayed until the 23rd embarking troops. She reached Malta on 10 October, remaining at anchor there until 5 December. In the meantime, Captain Buchannan was discharged to *Haerlem* on 16 October and Captain James Hawes took command on 27 November. From 5 to 12 December *Roebuck* sailed to Alexandria with a convoy. There she took on board the Queen's German Regiment and sailed on the 18th in company with *Romulus* and two transports. They arrived at Malta on 3 January 1802. On the 16th, she sailed to Syracuse with *Pallas, Success* and a convoy, proceeding from that port to Gibraltar. On 23 February *Roebuck* left Gibraltar in company with *Pallas*. She reached Spithead on 21 March and landed her troops on the 26th. In April *Roebuck* sailed to Long Reach and then up to Woolwich where she was paid off on 21 April 1802.

1.11



On 20 February 1803 *Roebuck* was once again called into service. She was commissioned at Woolwich with Captain George McKinley to command. The ageing frigate then remained in commission continuously until 30 July 1811. During all those years she stayed in the North Sea along the east coast of Great Britain. Most of this time was spent at anchor either at Yarmouth or at Leith in Scotland. Captain Richard Curry relieved McKinley in January 1806 and she flew the flags of Admirals Douglas or Murray while at Yarmouth. Finally, the log book record for 30 July 1811 wrote 'finis' to an amazing 36-year career: 'At 2 the Cook went on shore to receive his pay at 4 the Cook returned, hauled down the pendant and Ships company went to the *Raisonable.*'

HMS *Roebuck,* the Model

To my knowledge, there has never before been a model built from the plans for HMS *Roebuck*. I should like to fill this void for a number of good and practical reasons. The ship's history alone makes it a worthy subject for a model, but there are a number of other important considerations that make it a valuable project to attract the serious ship modeller. The fact that when *Roebuck* was launched in 1774 her lines, deck plans, and carved decorations were all detailed on Admiralty draughts suggests to me that she was the first of the 25 two-decker, 44-gun frigates built to the original design presented in 1770.

Roebuck's sheer plan, drawn in 1774, is a duplicate of the plan of 1770 which included the two levels of windows across the stern and quarter galleries. On viewing that arrangement initially, I was inclined simply to accept it as a natural feature. However, when I drew up my plans for a model and started construction, I realized that the upper rows of windows could hardly serve as more than dummies. They have no apparent practical function any more than the simulated balcony on the stern. The windows measure about 18 in high and the lower edges are flush with the quarter-deck surface. After puzzling over this peculiarity for some time, I came to the conclusion that the designer was trying to pass the two-decker frigate off as a ship of the line. In the peacetime of 1770, this could well have been an attempt to realize more value for the money expended to build the ship. The deception did work as will be shown later in the case of HMS *Rainbow* when she captured the Continental frigate *Hancock*. On boarding the

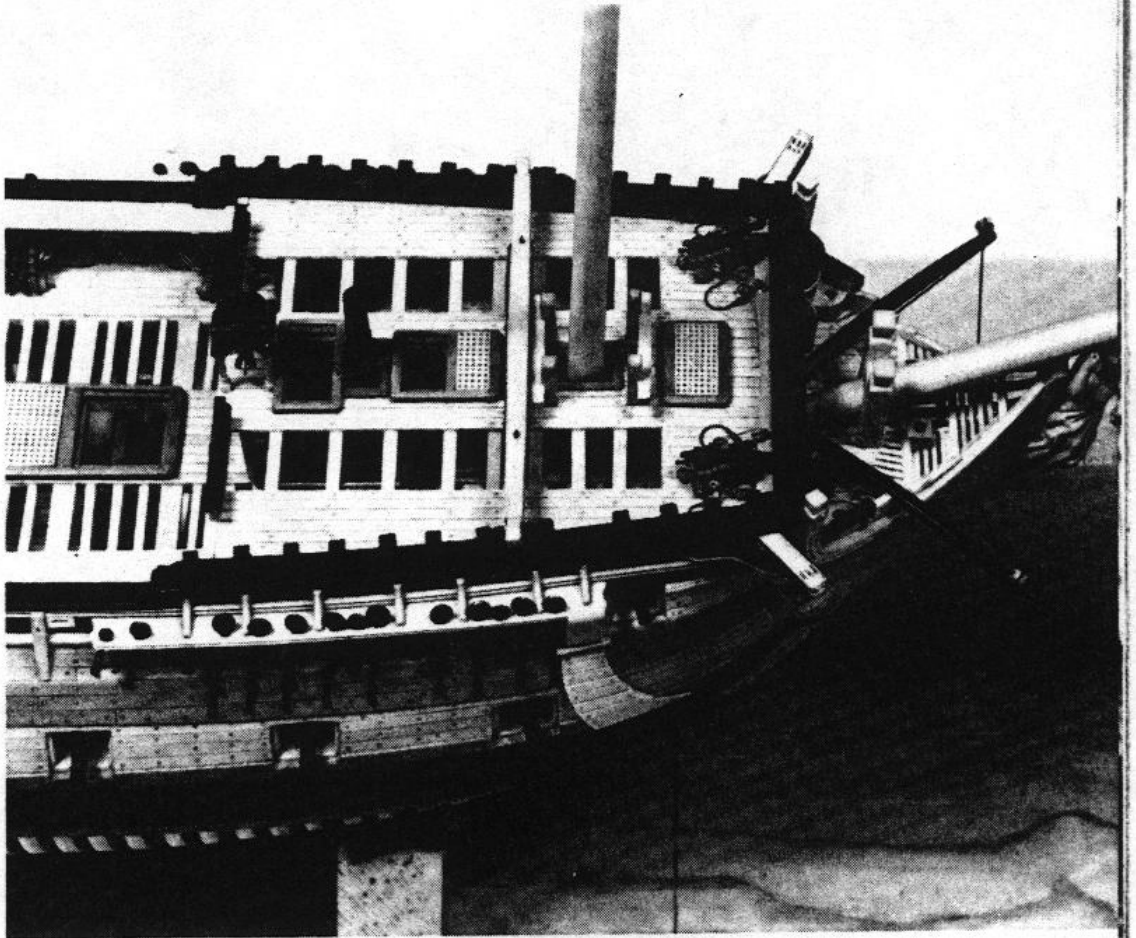
44-gun *Rainbow* after he had surrendered *Hancock*, Captain Manly was chagrined to discover she was not the 64-gun ship that he had thought her to be.

When present-day writers mention the 44-gun, two-decker frigate in relation to eighteenth-century ship design, they do so disparagingly. The usual criticism is that the lower gun deck was too close to the waterline. This is a valid complaint but as I interpret the record, the design was uniquely right for the years of the American Revolution when twenty-five such ships were built, many of which served with distinction. The 44-gun frigate was powerful enough to intimidate any ships that the Americans were able to send against it with one exception. *Bonhomme Richard*, the 'ship of the line' that John Paul Jones cobbled up prevailed over *Serapis*, but only after an epic battle in which the modified Indiaman was sunk.

At some point during the production of the twenty-five frigates, it was decided to dispense with the false line of windows at the stern. This is evident in a model of HMS *Endymion* on display in London's Science Museum. Here one finds those windows replaced with decorative features on the stern and quarter galleries above the usual frigate windows. Nevertheless the model of *Roebuck* will have the strange window arrangement which must be provided for in framing the stern as shown in photograph 1.1. Framing of the stern can not be standardized. It will be found that each ship for which construction is pictured in this book makes different demands on the craftsman who must be flexible and use some ingenuity to resolve them.

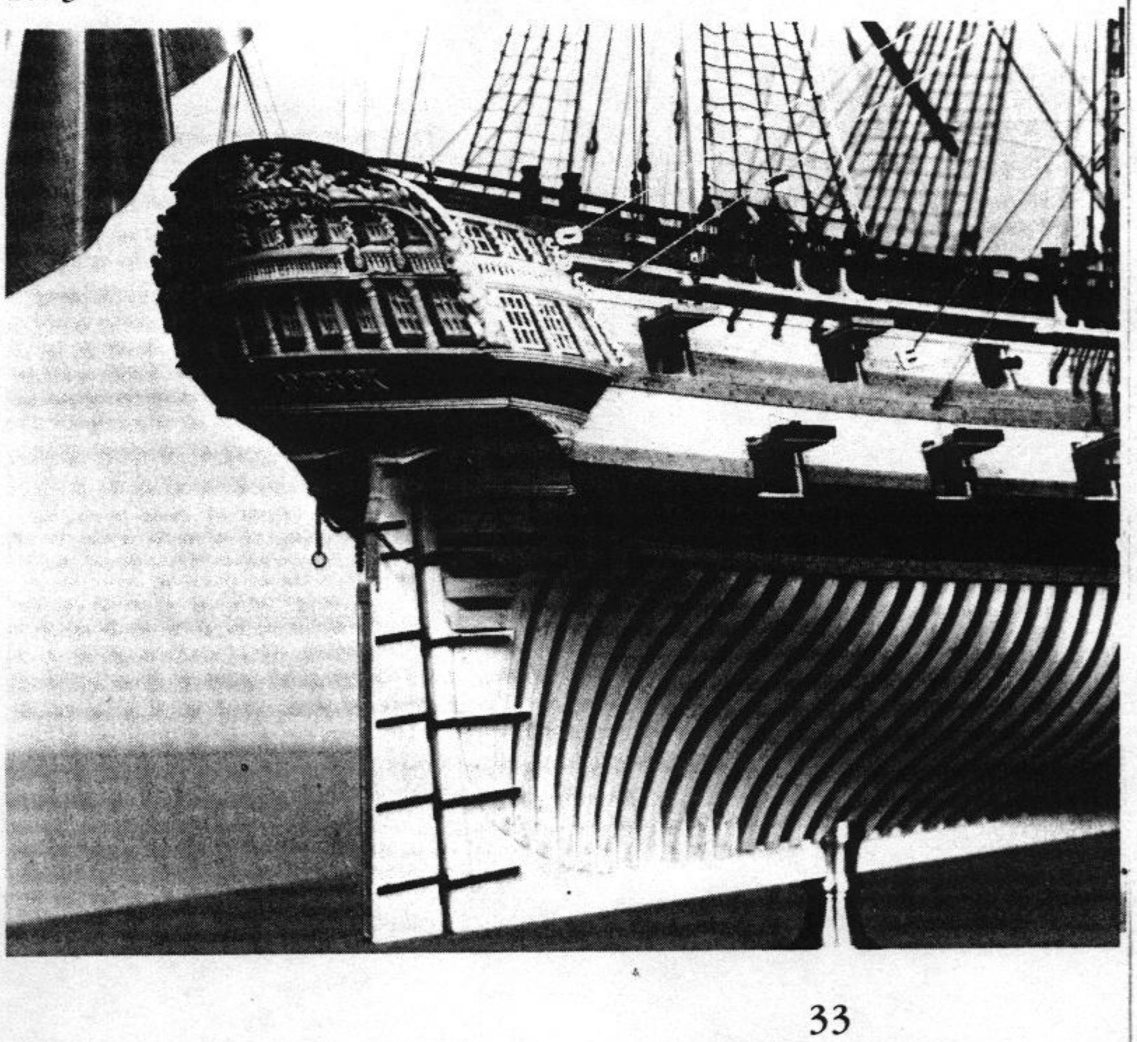
Photograph 1.2 shows how the gap between the last cant frame and the stern framing is bridged. The connection is made with 'quarter logs' at the upper gun deck and quarter-deck levels which will correspond to the top surfaces of the beams on those decks. Vertical framing pieces are notched into the horizontal members. Above the quarter deck, those pieces will fair up with the outside hull lines to provide a fastening surface for the planking. Below that level they serve as a partition with a door opening from the stern cabin into the quarter gallery. Cardboard templates appear in the picture which were used to determine the shapes of the quarter logs which then had to be trimmed and fitted into place individually. Theoretically it should be possible to lay out those shapes on the plans, but with the irregular spaces and probable variations in construction involved it would be a futile exercise.

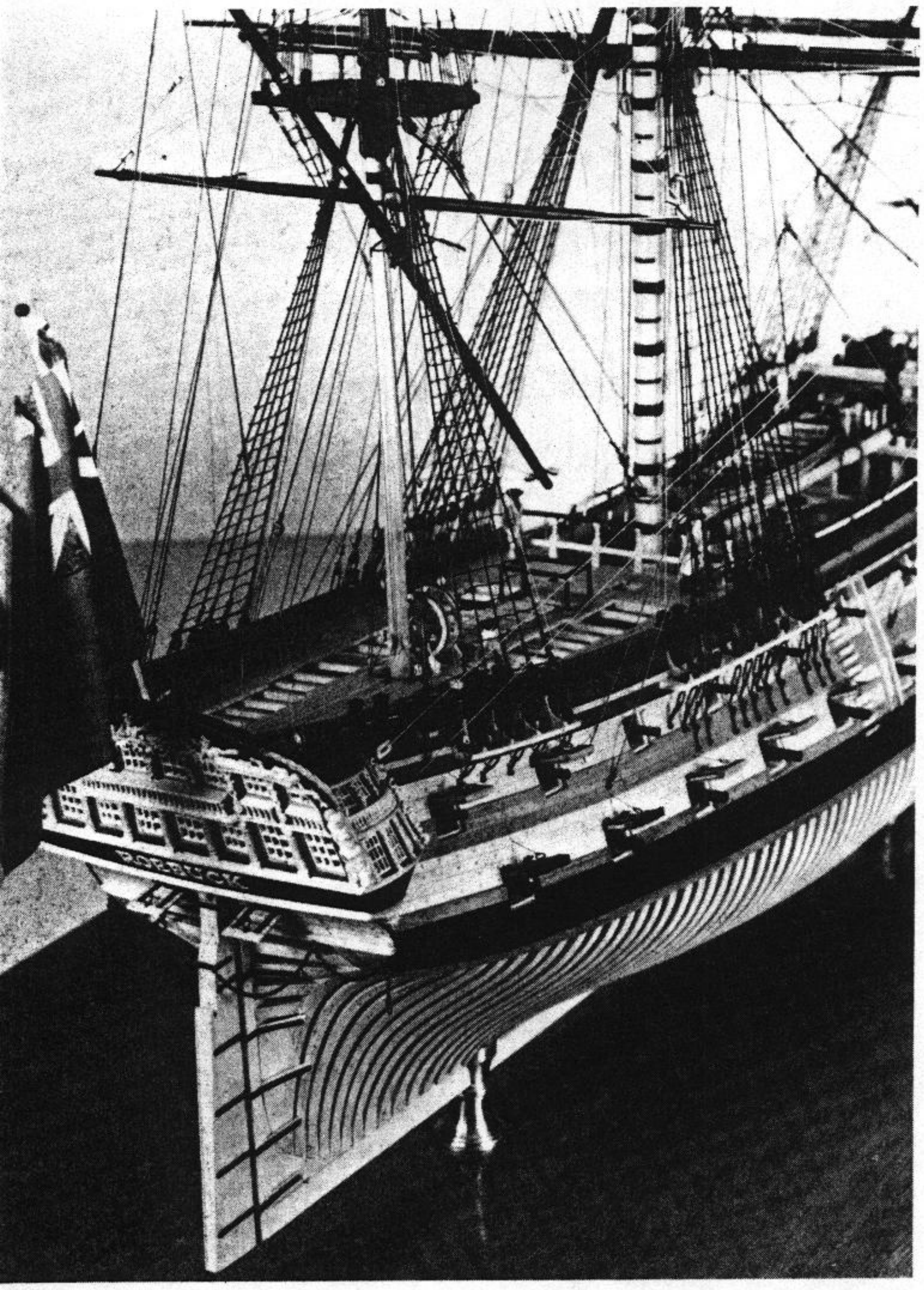
Photographs 1.1-4 show the model at the same stage in construction. Some strakes of the main wales have been fastened to the frames, and the gun ports for the lower gun deck have been framed in. Photograph 1.3 illustrates my method for forming the curved planks to fit the bow. A strip of ebony has been glued to one of boxwood while clamped in the form shown. Waxed paper or aluminium foil was wrapped around the pieces to keep them from sticking to the form. This moulded lamination, about 1 in wide, was then held against the frames in a position where it fitted best and the edge trimmed to follow the line of the wale that had been marked on the frames. A strake of suitable width was then



1.12

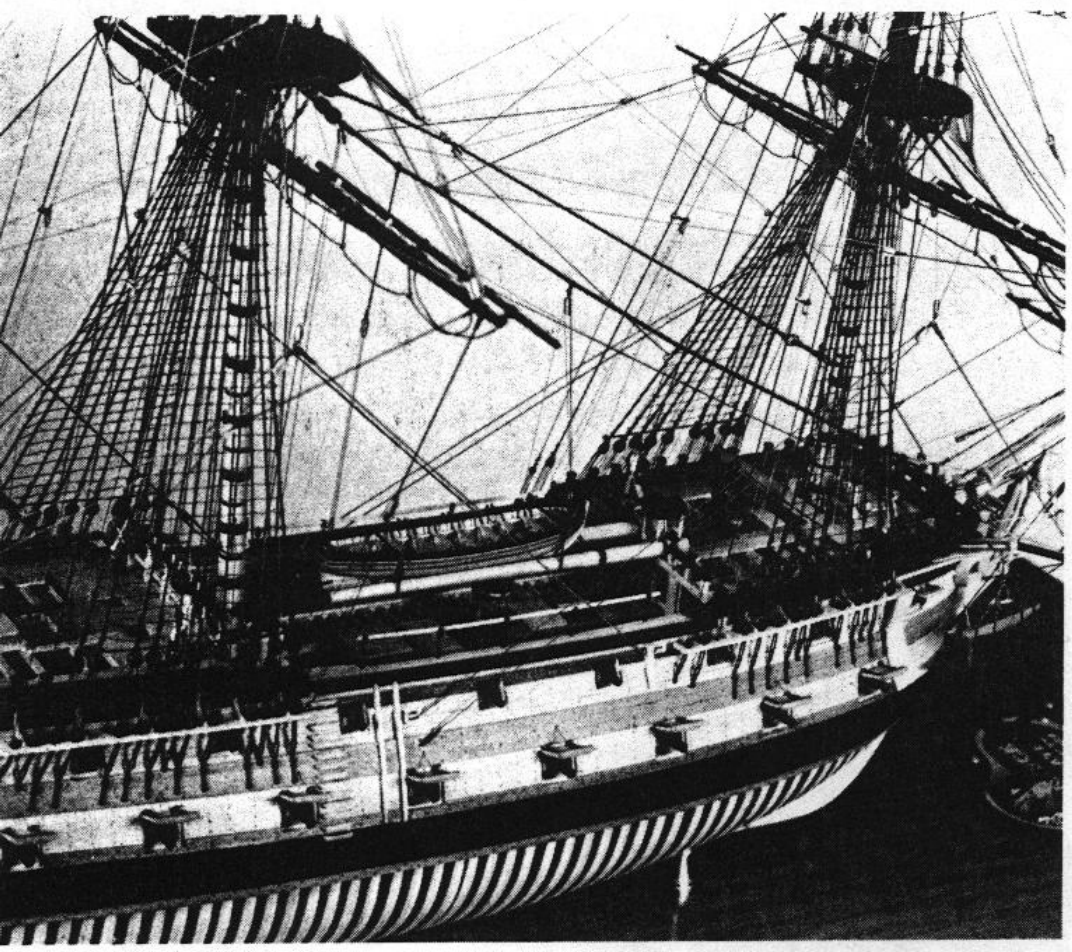
1.13





1.14

1.15



marked off from the trimmed edge and cut to make a plank.

The partially completed main wales were glued and trunnelled to the frames short of the sill line before I started to frame in the gun ports. This was necessary as a means of stabilizing the rather frail individual frames into a unit sturdy enough for fitting the gun-port sills as indicated in photograph 1.4. Where the ends of the sills fitted into the sides of frames, notches were cut through. Frames in between that would have to be cut away to provide the opening were notched halfway in from the outside. In order to facilitate the cutting and fitting of the individual sills, I cut a long strip of suitable thickness, wide enough to allow stock for finishing them flush with the frames both inside and outside. The sequence of operations can be followed best with reference to photograph 1.4 where one finished opening is shown. The second port shows the sills in place and trimmed flush before the section of frame was cut away, and the third port shows the two sills fitted and glued in place before being trimmed flush. With 42 gun ports to be framed in, it is well to work out some such procedure to expedite the work.

Before framing the ports of the upper gun deck, I added as much planking as I could to strengthen the hull assembly further. Photograph 1.5 shows the gun ports finished and the planking and moulding strips added short of the sheer line under the cap rail which shows as a pencil line on the frames. Note also that the base for the quarter gallery was added at this point and there are openings left in the planking to receive the main and mizen channels. Wanting to achieve some colour contrast with the variety of natural woods that I was using, I chose boxwood for the regular planking and strips of moulding, apple for the thicker strakes above and below the main wales and the upper (channel) wales, and English plum for the planks above the moulded strips.

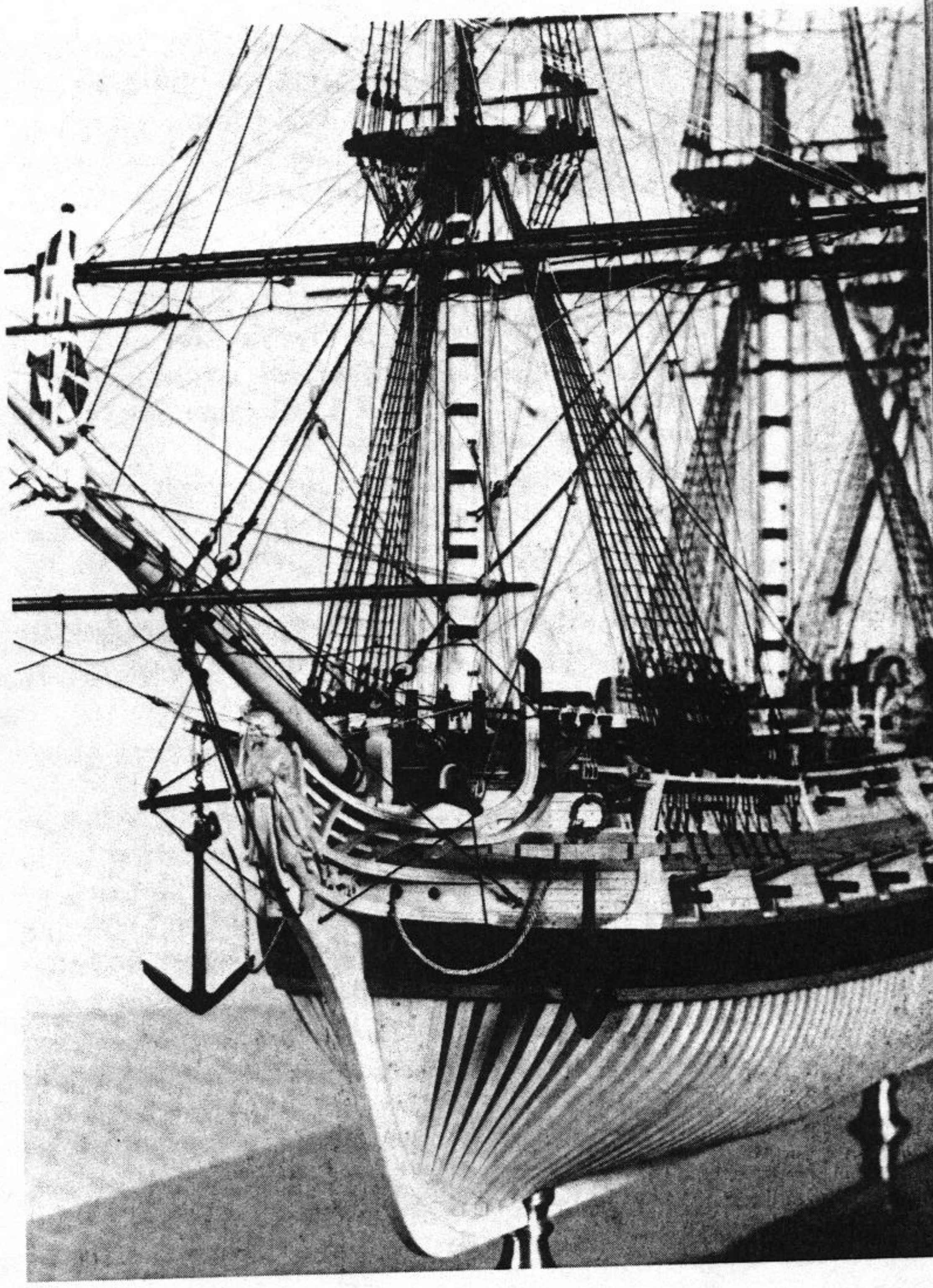
Photographs 1.6 and 1.7 show the model just before it was cut off from the building jig. I like to do as much work as possible while the model is still on the jig because it provides convenience in handling. The lower gun deck is finished, but the cannon must be installed before more work can be done on the upper deck. A few deck beams did have to be glued in place at the stern so that the rudder could be mounted with its tiller which grazes the under sides of those beams. Note in photograph 1.6 the machine screw protruding from the keel. Pedestal locations had been chosen and holes drilled and tapped through the keel, frame and keelson to provide for the screw fastenings that would be used to mount the finished model.

Photograph 1.8 shows the model cut off from the building jig at the sheer line under the cap rails. It is securely mounted in a work cradle with supports located so that screws could be threaded through into the holes tapped in the keel. The quarter galleries have been framed in. Channels with knees have been fitted and deadeyes mounted with their chains fastened to the hull. The next step was to make and install the twenty 18-pounder cannon on the lower gun deck so that work could proceed on the upper deck.

Photograph 1.9 pictures the upper deck framed and planked. I like to leave areas of the deck unplanked to show the deck beams and allow some small view of the ship's interior. A glimpse can be had of the planked-over beakhead. Note that as on the plan it is elevated above the gun-deck level. During this process, a dummy bowsprit was fitted to its bitts on the lower gun deck, through the upper gun deck and beakhead proper, to rest on top of the stem. The cheeks and figurehead have been added to the stem. The figurehead shown on the Admiralty drawing is of a female figure holding a spear. This might seem like a strange figurehead for a ship named *Roebuck* (male deer). My interpretation is that Diana, the Greek goddess of hunting, is represented. Between the cheek pieces, there are a couple of hunting dogs. The decorative carvings on the stern seem to comprise a mélange of Diana's Olympian cohorts, another hunting dog, and I do detect an antlered deer lurking beside the central figure.

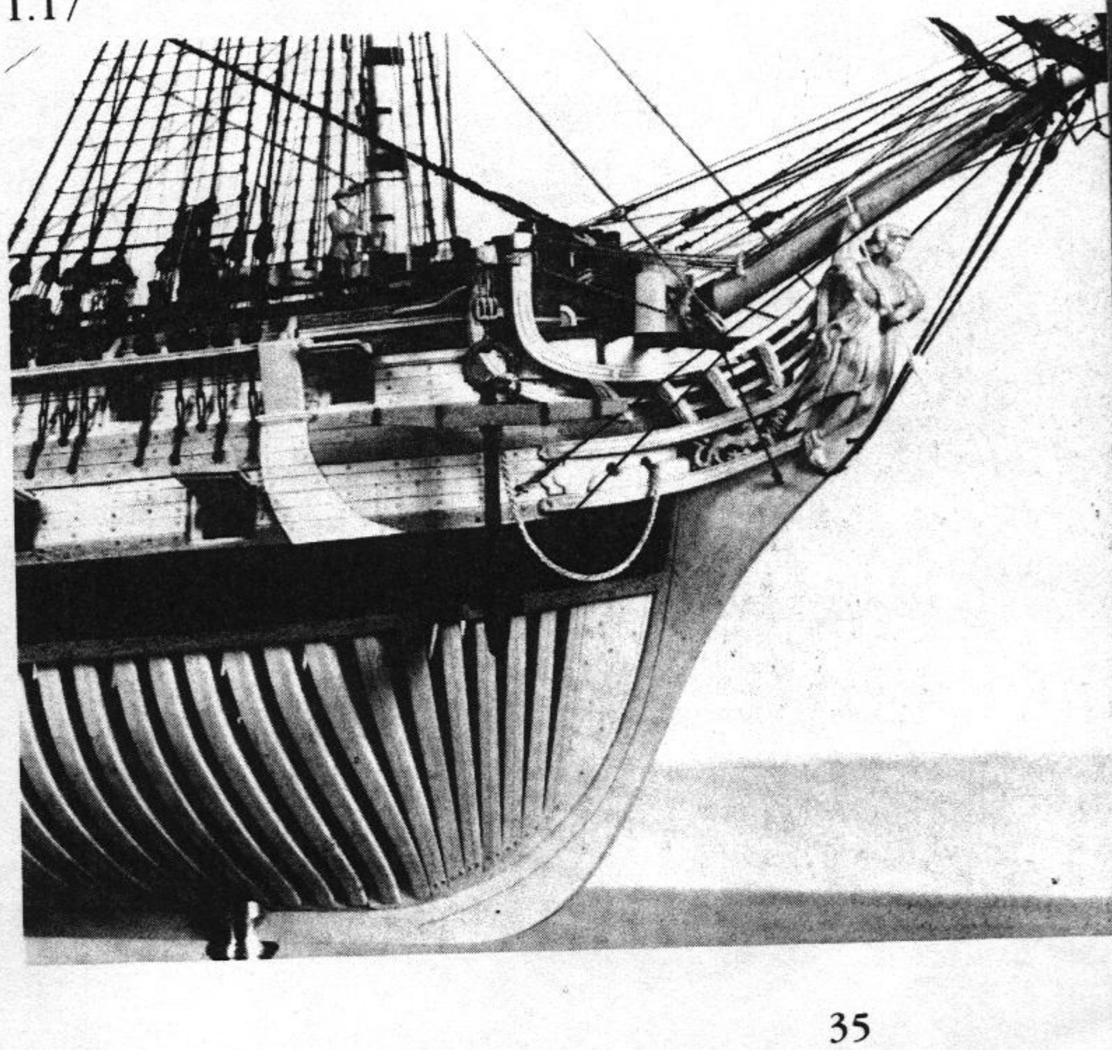
In photograph 1.10 it can be seen that the beakhead bulkhead has been built up with its door openings and small round houses. The 9-pounder cannon have been installed on the upper gun deck. The galley area in the forecastle has been partitioned to include the cook stove. The ceiling of the bulwarks in the forecastle has been carried up far enough to provide a 'deck clamp' ledge to support the forecastle beams. The first of those beams have been placed in conjunction with the bitts that extend through the lower deck. Every step in the construction must be carried out in a well-considered sequence if unfinished details are not to be covered over and made difficult if not impossible to reach.

Photograph 1.11 shows the stern area at the same stage of completion. The cabin areas have been partitioned off as indicated on the plans. I understand that the deck of the captain's cabin was commonly covered with canvas painted in a black and white checkerboard pattern. I added this detail to my model with squares of ebony and holly, although this feature was not much in evidence once the quarter deck had been finished. The ropes from the tackle connecting to the tiller can be seen draped over the sides of the hull. They would be brought up through the quarter



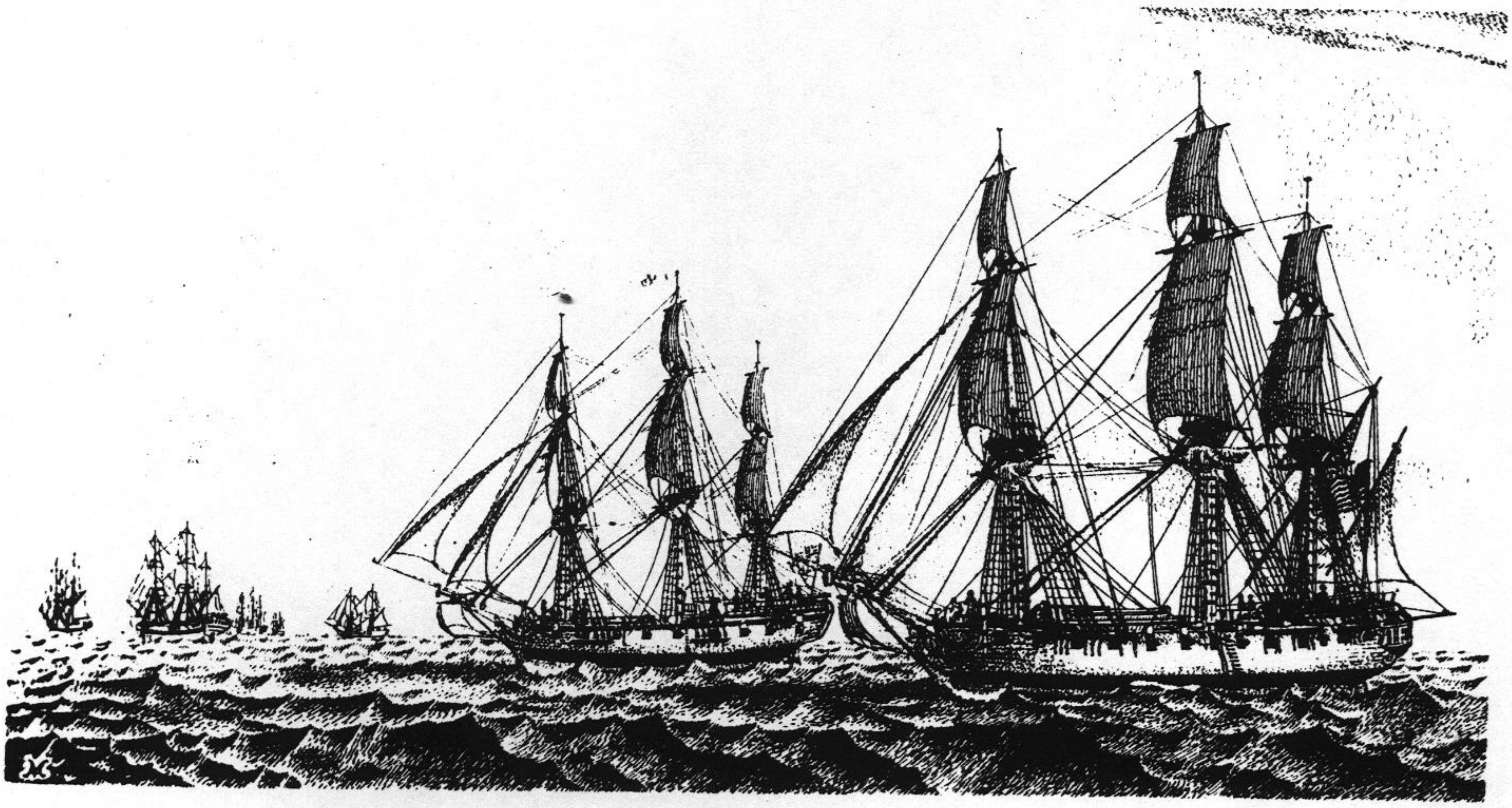
1.16

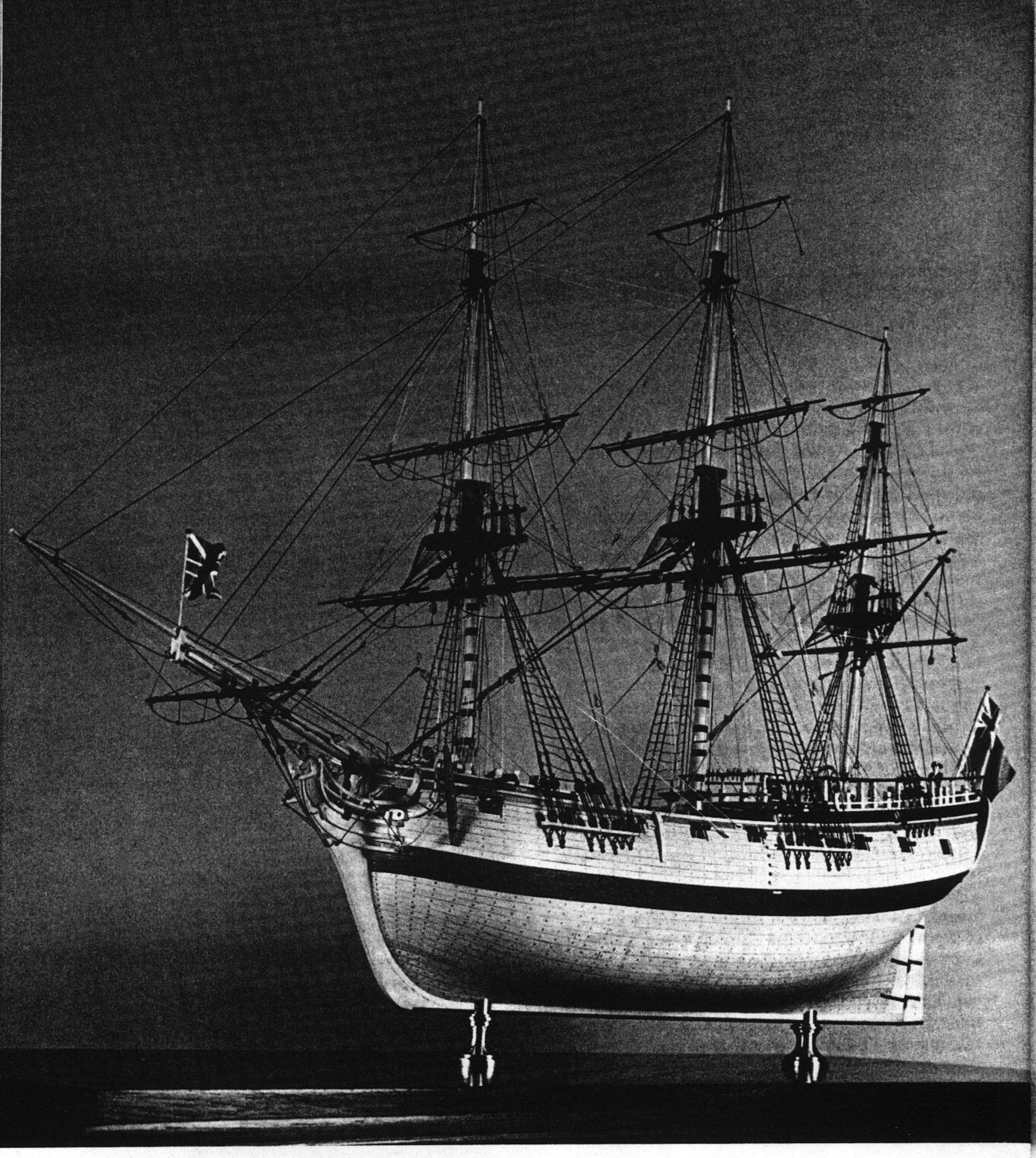
1.17

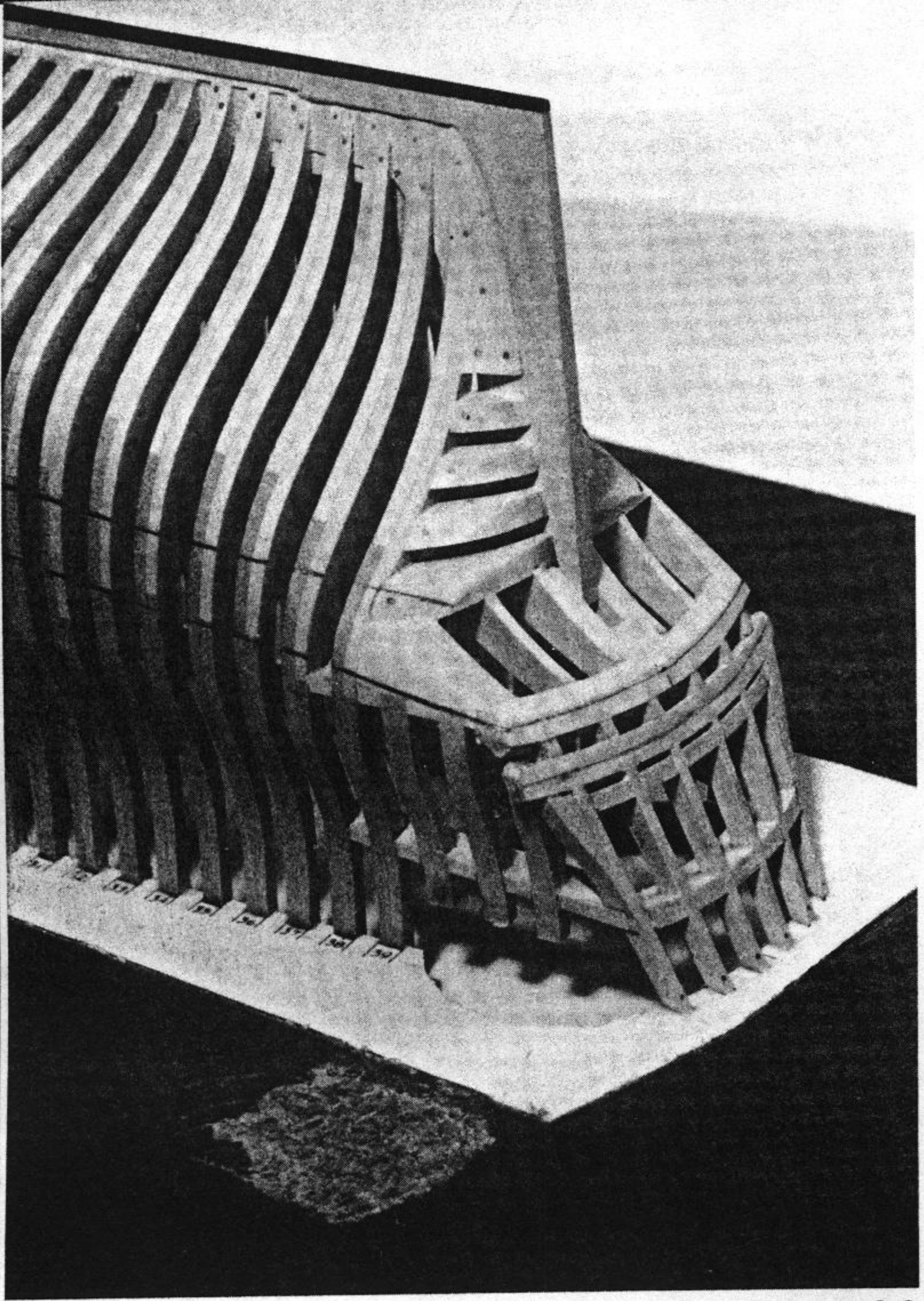


CHAPTER 2

HMS *Druid, ex-Brilliant*







2.2

them to careen the ship for repairs. For the following month she shuttled back and forth between St Kitts and St Eustatius. The patched leak gave way on 19 February and the ship had to be careened again for repairs to be made. On 8 March Captain Bowen noted in his log book that they 'got underweigh but ship not ans^{g} her Helm we fell on board a Prison Ship & carried away our F T Gal^{t} Mast &^{c} which obliged us to bring up again and refit' at Salt Pond Bay. The next day they heeled the ship once again to repair the recurring leak and then sailed on Basseterre.

Rodney was distracted from other considerations while making arrangements for transporting the plunder secured in the Dutch islands to England and providing for its safety during this period. These over-riding concerns affected the disposition of the ships in his command. Late in April de Grasse arrived at Martinique with twenty ships of the line to tip the scales of sea power in favour of the French and Rodney was forced to regroup his forces. Early in May *Blast* sailed with *Salamander,* a ship, and two brigs from St Kitts to Antigua. They anchored in English Harbour for several days and then on the 16th the two fireships sailed to join Sir George Rodney and the fleet. They reached Barbados a day before the others and anchored in Carlisle Bay on 23 May.

That same day French forces attacked the British island of Tobago. When news of this action as well as movement of de Grasse's fleet in that direction reached Rodney, he sailed for Tobago with his fleet to relieve the garrison only to find the French in full possession. He returned on 8 June to Carlisle Bay where he had left *Blast* as a guard ship.

With the bulk of the fleet remaining at Barbados to protect the main British base in the Caribbean, *Blast* was sent up to Gros Island Bay, St Lucia on 20 June. There she remained for the rest of the year. Her crew suffered poor health judging from the number of men sent to the hospital. The sailmaker, Thomas Jones, died on the 30th. A month later, the cooper, William Richards, also died. John Hunt deserted by swimming to the island on 20 December.

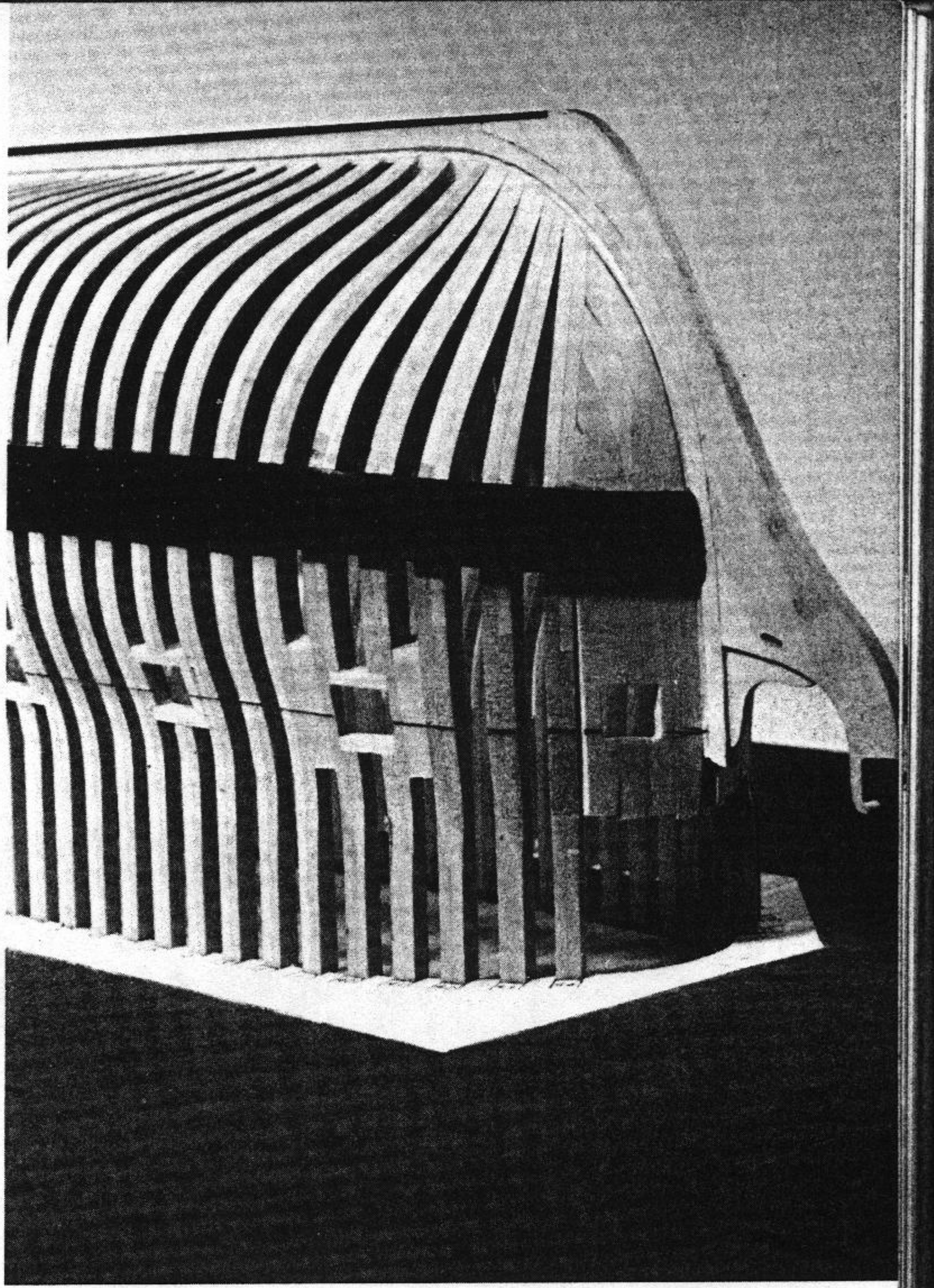
Rodney sailed for England in August, taking with him three ships of the line. Apprehensive of how de Grasse might employ his superior strength, Sir Samuel Hood, now commanding in the Caribbean, had sailed to New York. In September he and Graves joined forces only to be repulsed by de Grasse in the battle of the Virginia Capes which sealed the fate of Cornwallis and his army at Yorktown. Hood returned to Barbados with his ships on 5 December. In January 1782 de Grasse landed troops on St Kitts. They then besieged the British garrison which withdrew from Basseterre to a fortification in the hills. Hood moved into Basseterre roadstead in an attempt to relieve the British soldiers who were greatly outnumbered. When the cause had been lost on shore, he then had to slip away from the more powerful French fleet.

On 9 February 1782 *Blast* sailed from St Lucia with *Triton* and *Salamander* to Basseterre. On the 13th they sailed for Antigua with Sir Samuel Hood's battle fleet. Britain was reeling from the defeats suffered during the previous year. Yorktown signalled an end to the armed conflict with the United States to all intents and purposes. The French had seized Tobago and held the balance of power in the West Indies. The Spanish had driven them out of West Florida. The British government was desperate to salvage something out of this debacle. Admiral Rodney had come home in poor health hoping to enjoy in retirement some of the riches he had gained at St Eustatius. Instead he was prevailed upon to lead a fleet of battleships to Hood's relief. Rodney's ships arrived at Barbados on 19 February and joined forces with Hood's fleet at Antigua on the 25th.

The British now held a slight edge over de Grasse in seapower. Little *Blast,* of course, did not figure in those calculations. She stayed in the vicinity of Antigua for the next month and a half, moving between anchorages at St John's Roads and English Harbour. On 15 April she sailed out of English Harbour for Gros Islet Bay in company with *Prudent.* On the 23rd, they were joined by *Triton* and informed of Rodney's great victory at the Battle of the Saintes on 12 April. The crew on *Blast* 'cheered the *Prudent* and *Triton'* on hearing this news. *Prudent* parted company on the 24th and *Blast* anchored at Gros Islet Bay five days later. Captain Charles William Paterson took command on 30 April.

Admirals Rodney and Hood had sailed west in April in pursuit of the remaining French warships. On 25 May *Blast* sailed from St Lucia with *Dolphin, Tartar* and victuallers making a total of 35 ships in the convoy. On 3 June they came to anchor at Port Royal, Jamaica where they found Rodney and his fleet. Later that month *Blast* ran aground in the harbour and needed assistance from *Alecto,* fireship and *Cornwallis,* storeship, to get off. Early in July Rodney received orders recalling him to England. By this time with the French and Spanish showing no inclination to meet the British in battle, the naval warfare in the Caribbean could be considered as being at an end. On 17 July *Blast* became part of a fleet that sailed for New York. Early in August she had to accept a tow from *Jupiter.* On the 16th, John Arthur of the carpenter's crew died from a blow on the side given him by the boatswain. The boatswain, James Todd, was confined by order of the Commander in Chief. On 25 August *Endymion, Sybil, Southampton* and prizes parted company at latitude 32° 20' north. *Blast* anchored with the fleet off Staten Island on 6 September. James Todd was tried by court martial for the death of John Arthur and acquitted on the 27th.

Blast remained in the vicinity of New York until 22 November when she sailed with the fleet commanded by Admiral Hood in *Barfleur.* They reached Port Royal on 31 January 1783. Peace treaties had been signed to end the war but there were still loose ends to be tidied up. *Blast* stayed in port at Jamaica until 13 March, when she once again sailed with a convoy bound for New York. After running into some difficulties, she returned to Port Royal. Finally on 25 April *Blast* sailed with a fleet bound for England. While at sea in May, Captain Paterson noted in his log book that she was very leaky. It is surprising that the ship had survived in tropical waters for so long without the protection of copper sheathing. *Blast* anchored in the Downs on 3 July, moved up to Galleons Reach in the middle of the month and finally to Deptford on the 18th. The ship was paid off on 9 August 1783 to end her career in the Royal Navy.

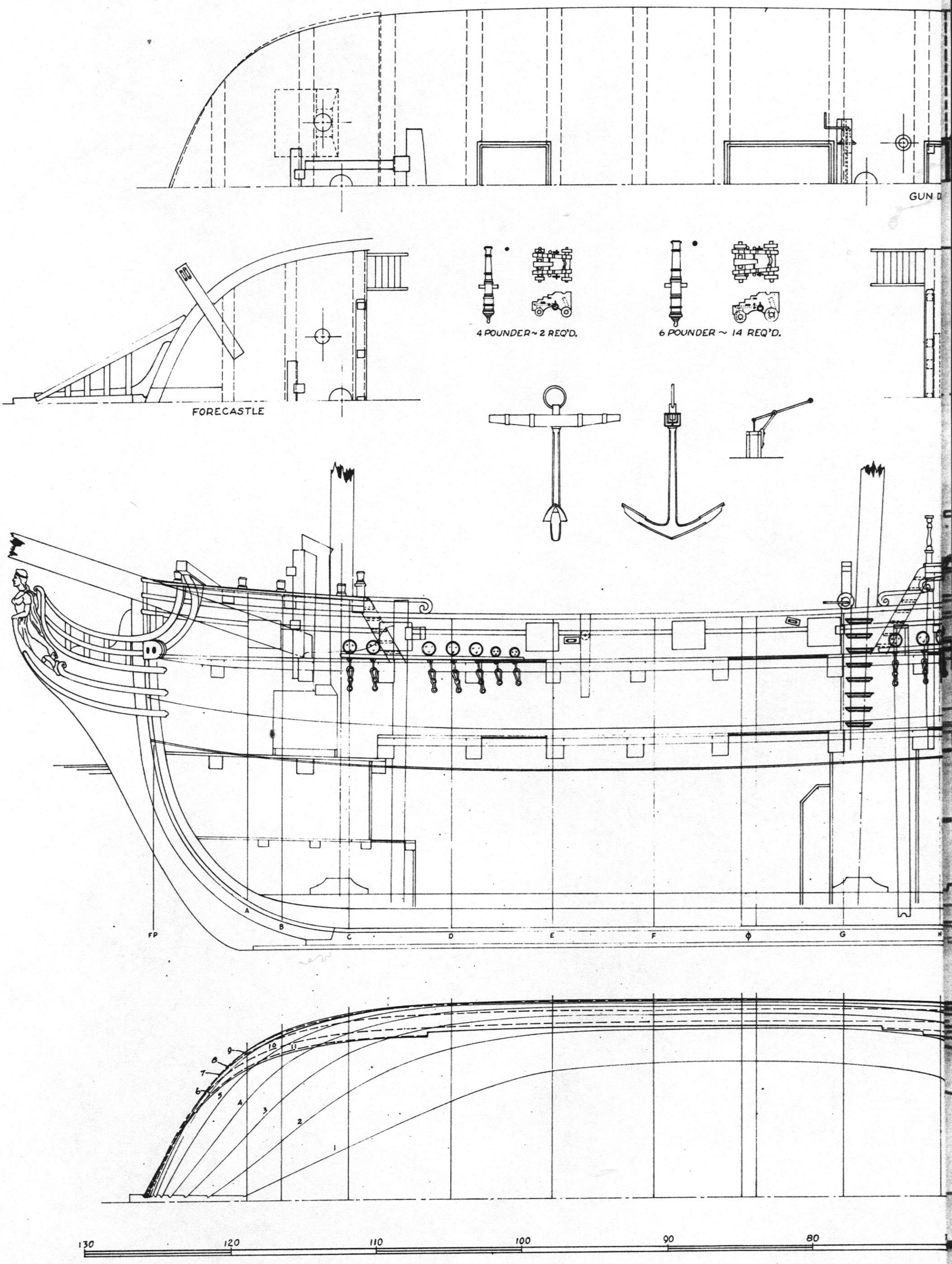


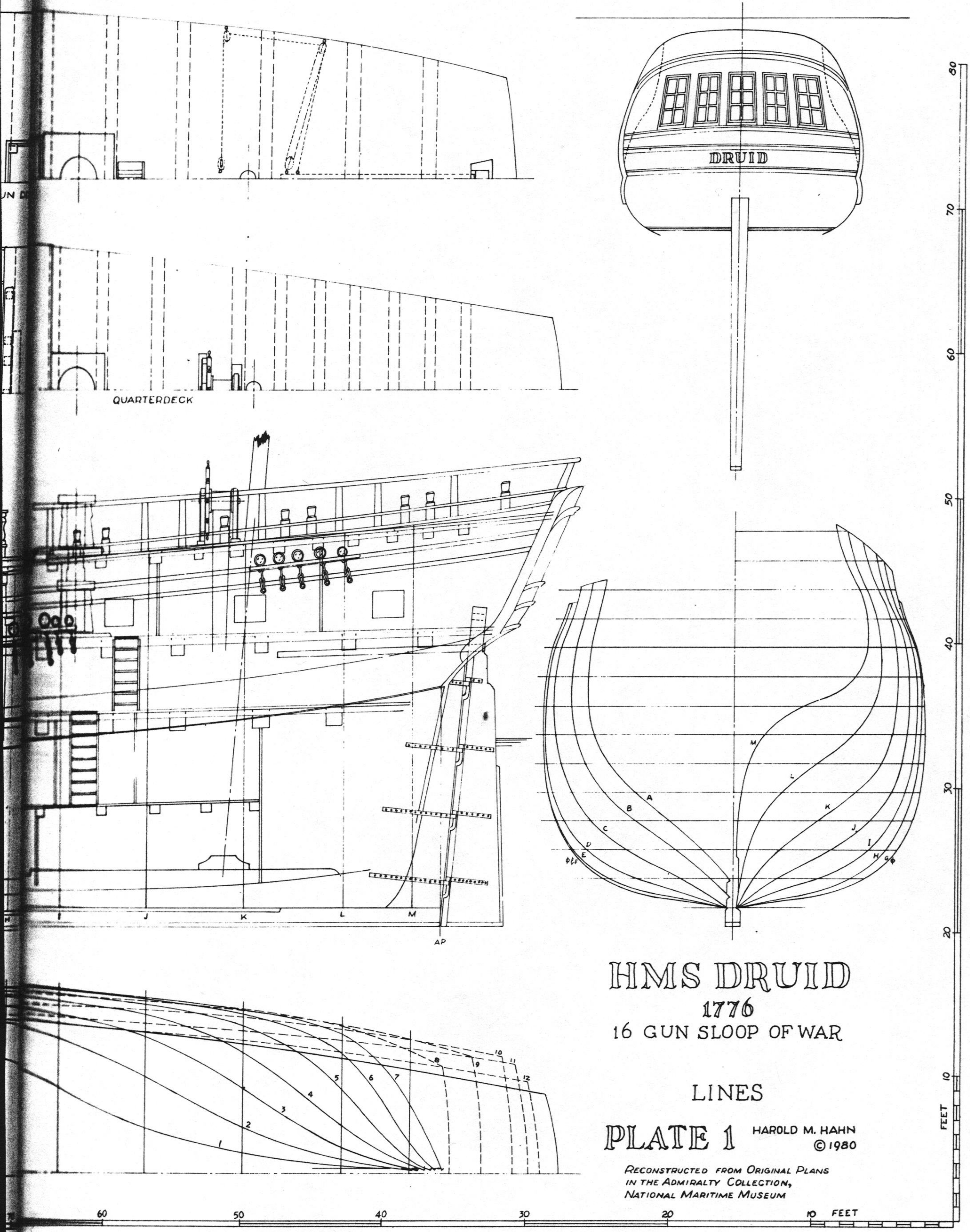
2.3

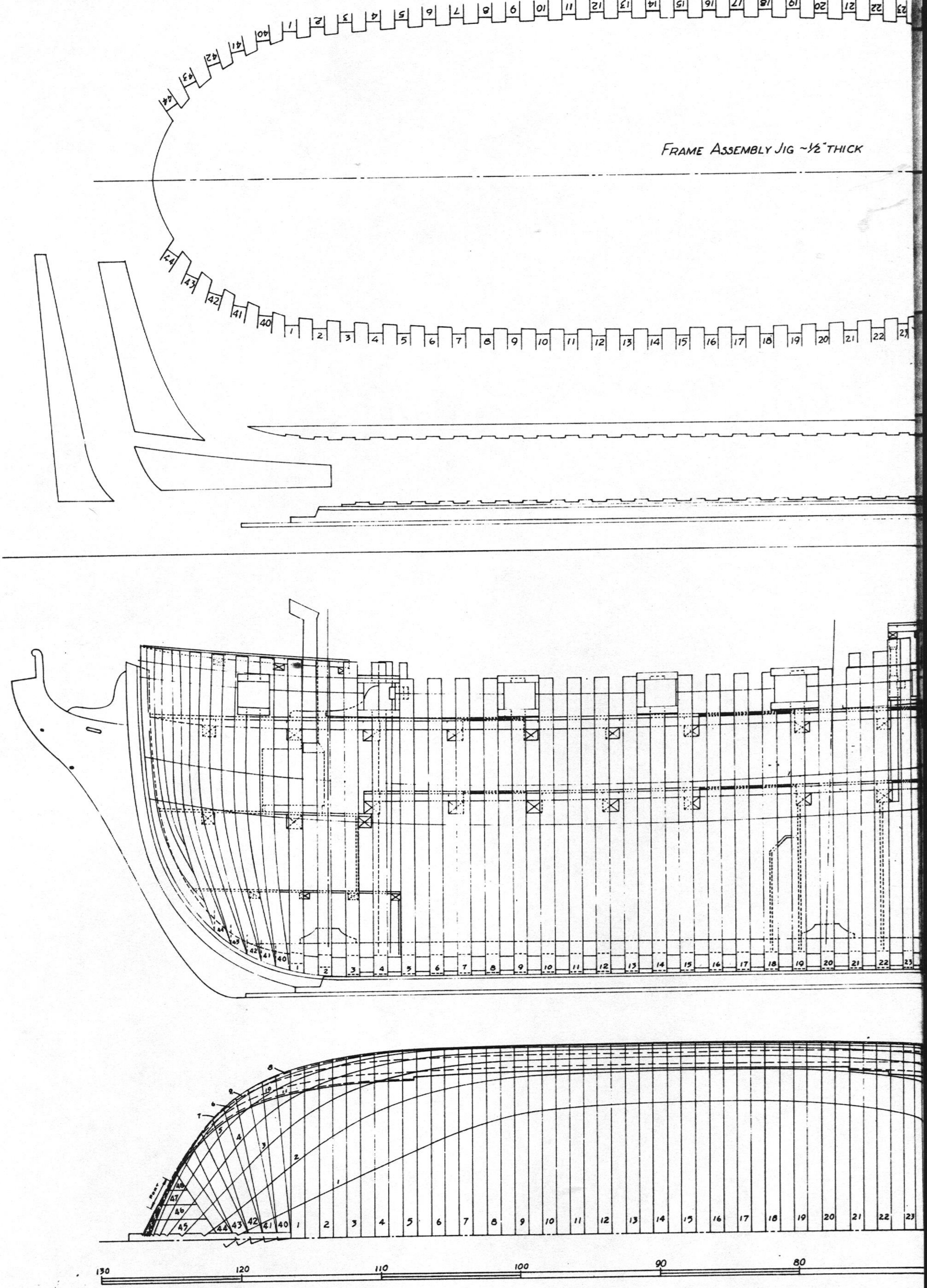
The Model

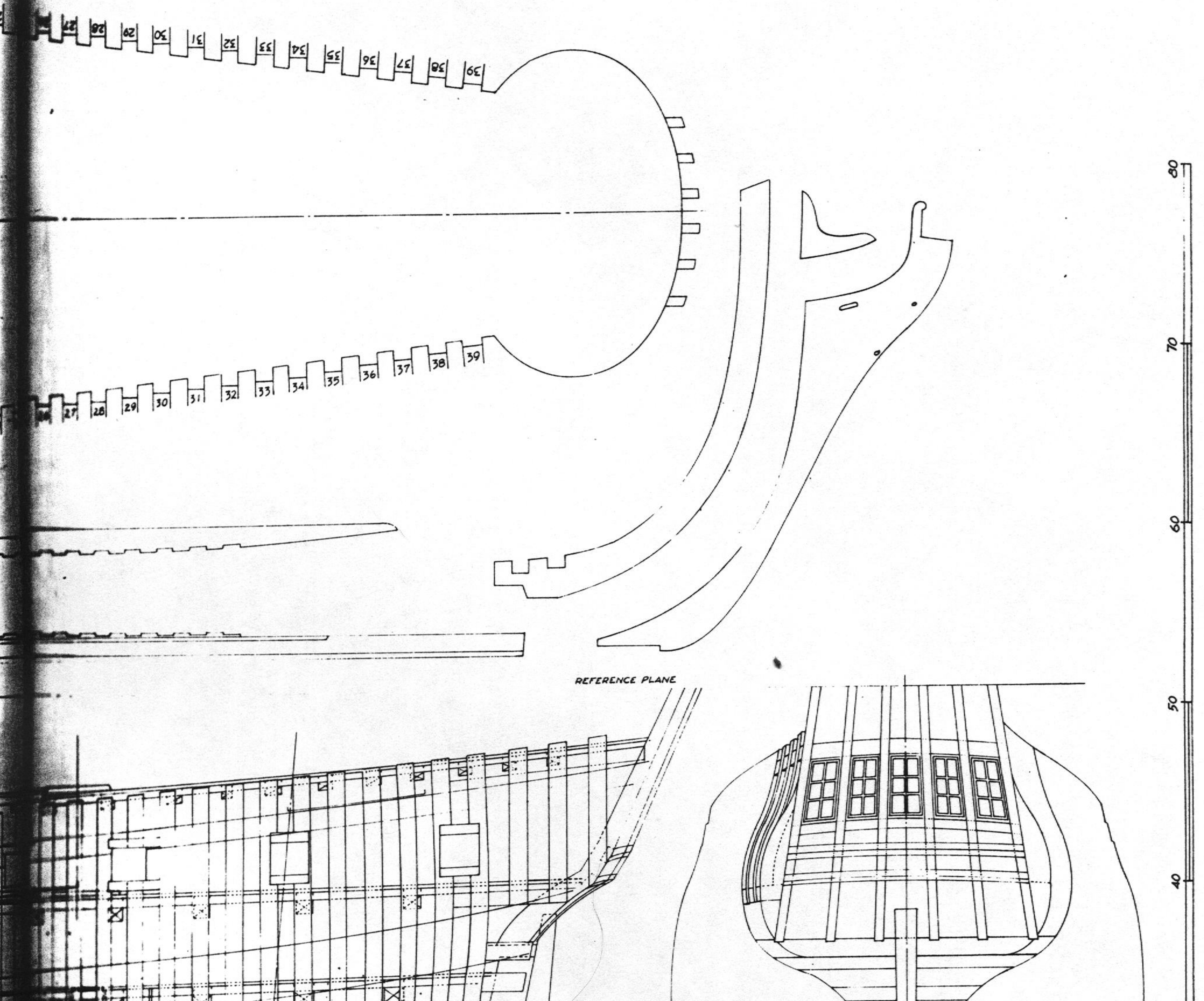
The seven models described in this book were built using plans developed from contemporary Admiralty draughts made from the original ships. Some of those draughts appear at first glance to be quite complete, with details of the decorative carvings, deck plans, and a list of the mast and spar dimensions.

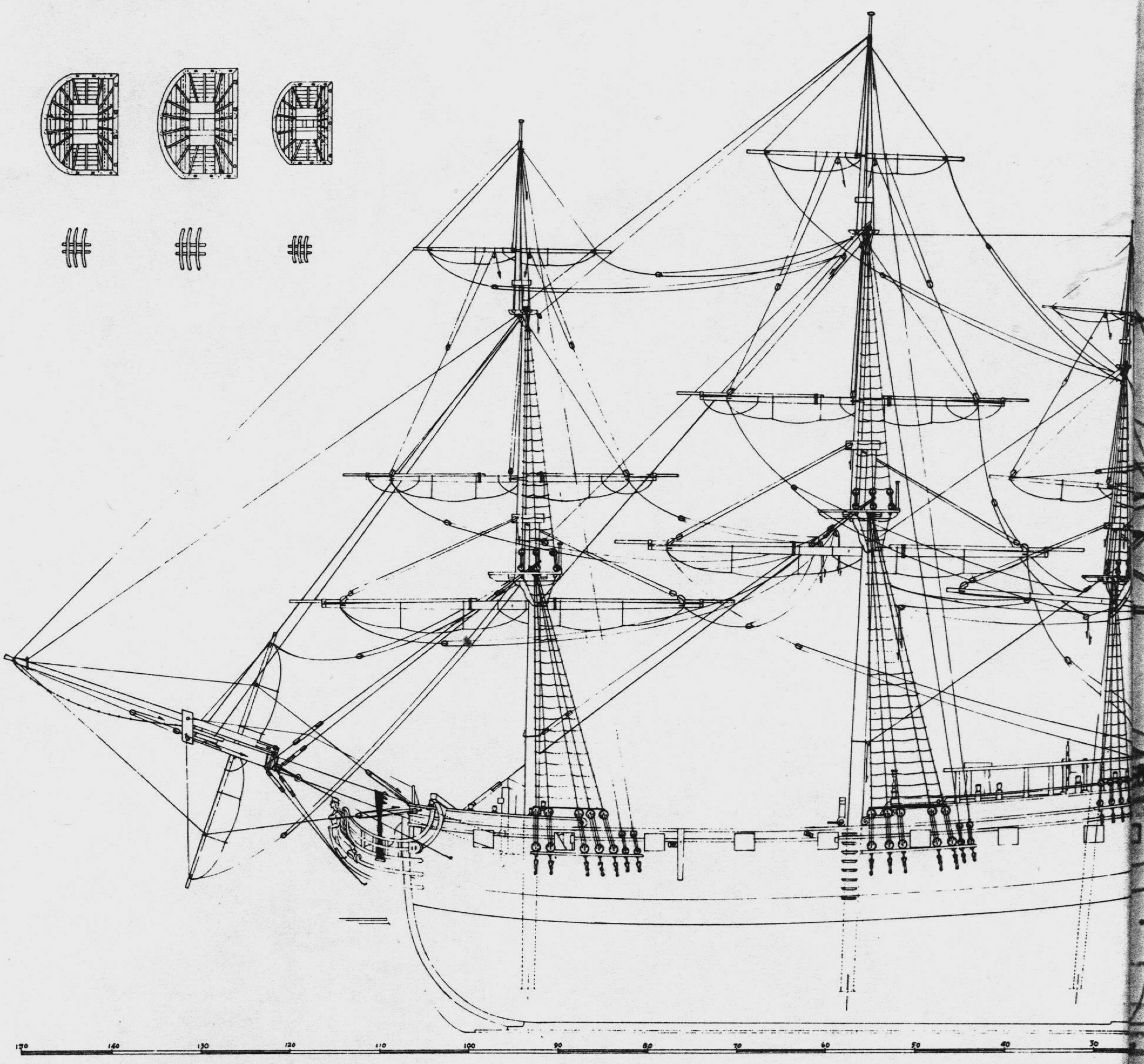
It is only when one starts to plan and then to construct a model that one realizes how much detail must be reconstructed. In preparing plans for use by others, I have tried to present the information offered on the original drawing with a minimum of my own interpretations added. This can be disconcerting to the less experienced model builder who understandably wants all the details clearly set forth. He does not realize that in many areas exact information is not available and two hundred years after the fact many arbitrary choices must be made. I could draft the


4 POUNDER ~ 2 REQ'D.
6 POUNDER ~ 14 REQ'D.
FORECASTLE
FP
A
B
C
D
E
F
G
130
120
110
100
90
80


DRUID
QUARTERDECK
AP
HMS DRUID
1776
16 GUN SLOOP OF WAR
LINES
PLATE 1
HAROLD M. HAHN
©1980
RECONSTRUCTED FROM ORIGINAL PLANS IN THE ADMIRALTY COLLECTION, NATIONAL MARITIME MUSEUM
FEET

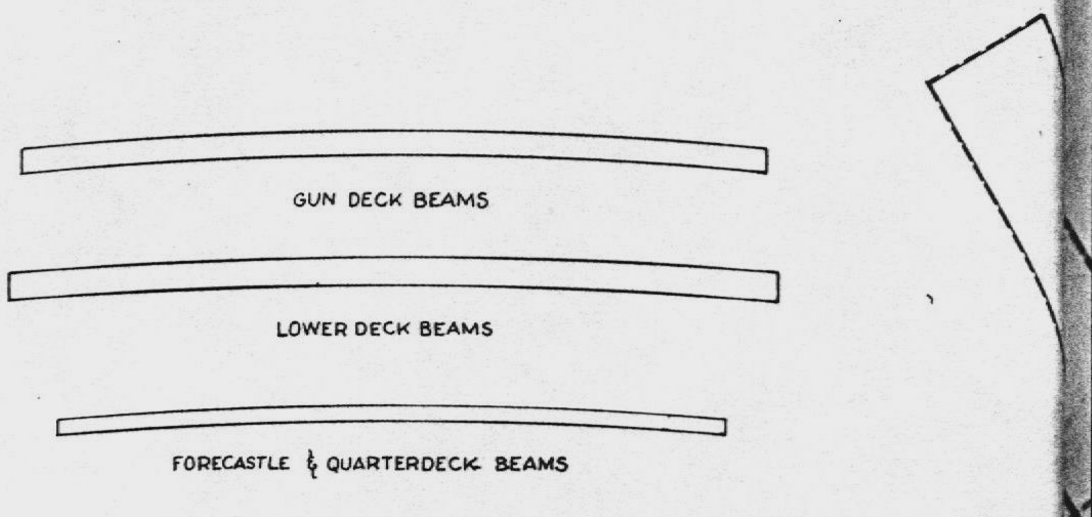

FRAME ASSEMBLY JIG ~½" THICK

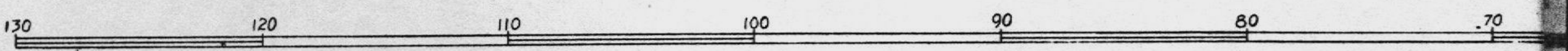

REFERENCE PLANE
HMS DRUID
1776
16 GUN SLOOP OF WAR
MASTER
FRAME PLAN
PLATE 2
HAROLD M. HAHN
© 1980
FEET
FEET

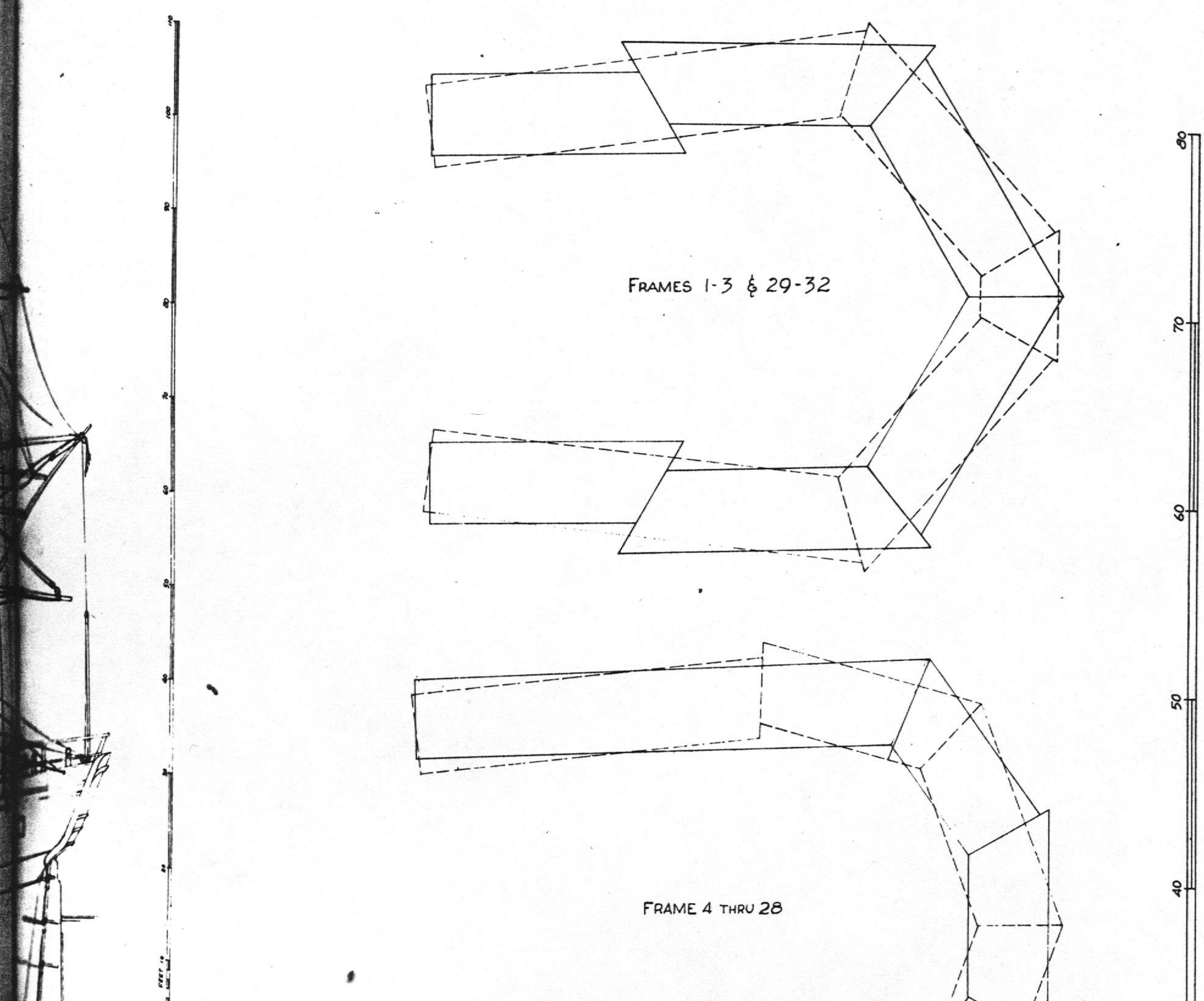


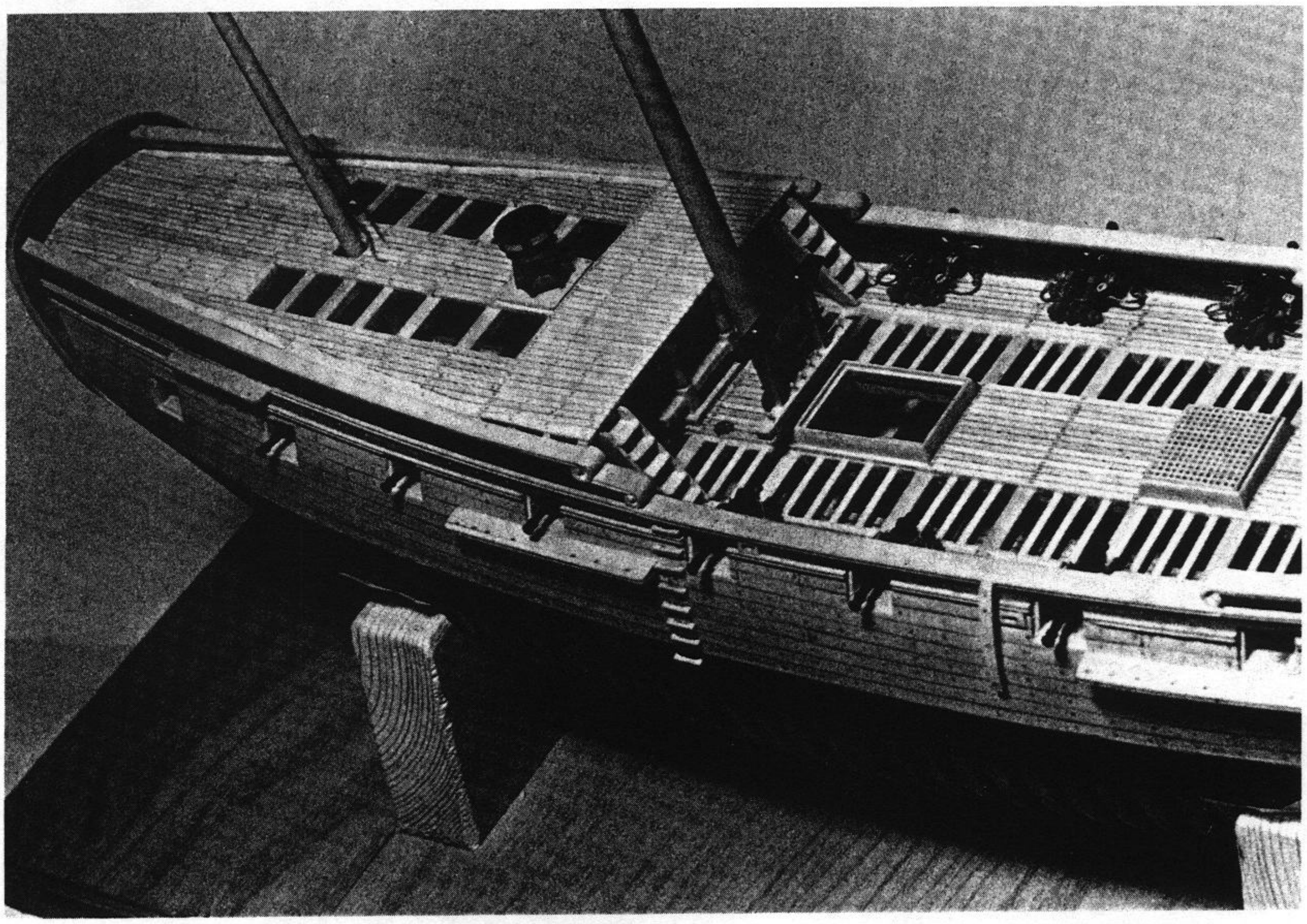
MAST & SPAR DIMENSIONS ON ADMIRALTY DRAUGHT
#3314/BOX 49 DEPTFORD YARD 2ND OCT. 1776

	MASTS		YARDS	
	LENGTH	DIAM.	LENGTH	DIAM.
MAIN MAST	61'-3 3/8"	20"	44'-0"	12"
TOPMAST	36'-2 1/2"	11 3/4"	33'-4"	8 3/4"
GALL'T. MAST	24'-8"	6 1/2"	24'-2"	5 3/4"
FORE MAST	52'-9"	18 3/4"	41'-10"	11 3/4"
TOPMAST	33'-10"	11 1/8"	31'-10"	8"
GALL'T. MAST	21'-6"	6 1/2"	22'-1"	5 1/4"
MIZEN MAST	52'-1"	12 7/8"	34'-10"	8"
GAFF			25'-7"	6 1/4"
TOPMAST	27'-2"	8"	27'-0"	6 7/8"
GALL'T. MAST	16'-5"	5 1/4"	18'-1"	4 1/4"
BOWSPRIT	39'-0"	19"	30'-0"	7 5/8"
FLYING JIB BOOM	32'-4"	8 1/8"		






FRAMES 1-3 & 29-32
FRAME 4 THRU 28
FRAMES 37, 38, & 39
HMS DRUID
1776
16 GUN SLOOP OF WAR
MASTING,
RIGGING, ETC.
PLATE 7
HAROLD M. HAHN
© 1980
10 FEET
FEET



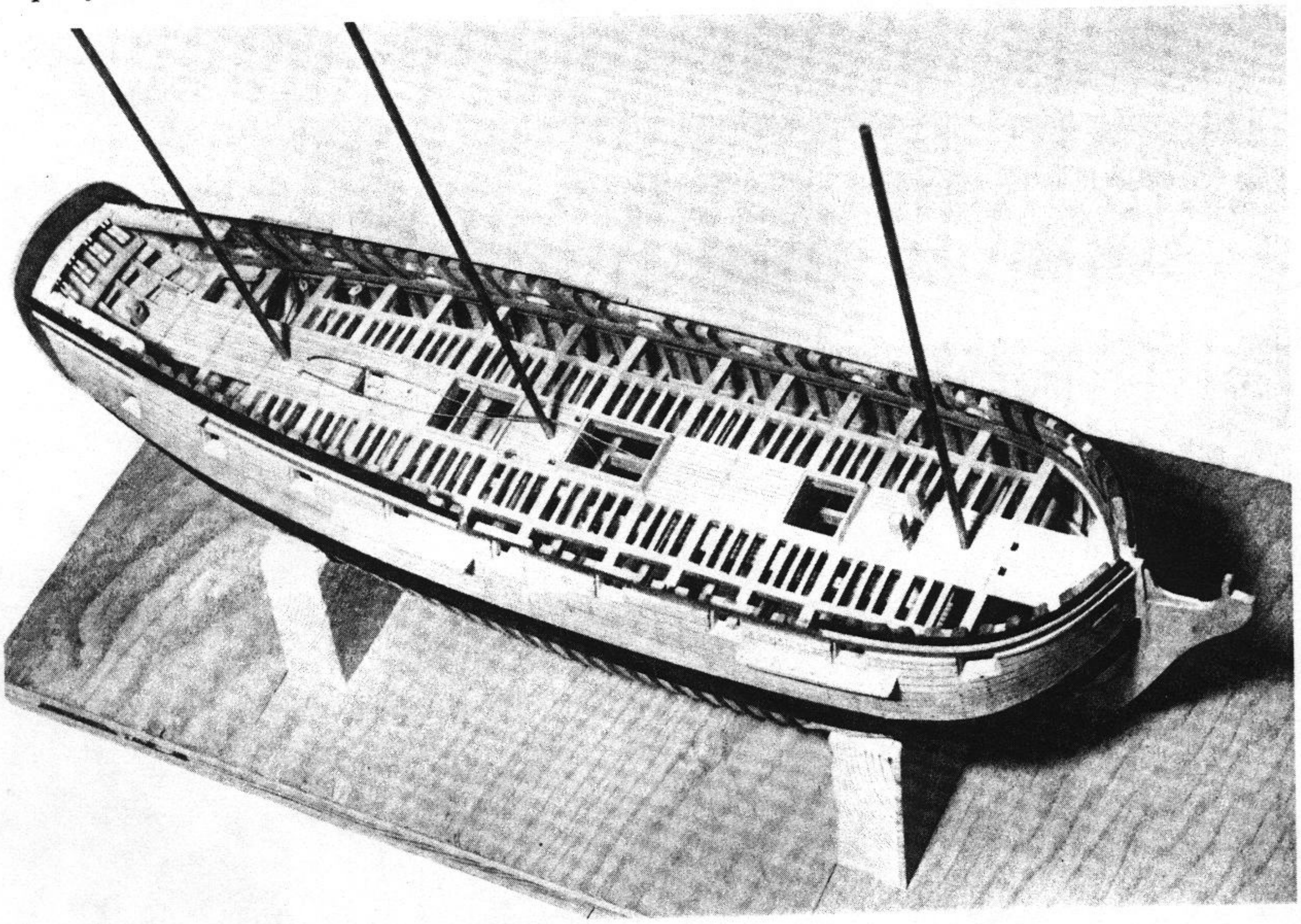
2.7

wasting condition in the tiny stern cabin. Therefore, I located the tiller below the gun-deck beams in a typical arrangement. Location of the steering wheel is another questionable decision that I won't argue about. A very interesting feature shown on the original plans which I have not seen elsewhere on contemporary plans is the pair of hand-crank windlasses mounted on the gallows stanchions forward of the main mast. They would be of particular value for hauling on the main topsail sheets.

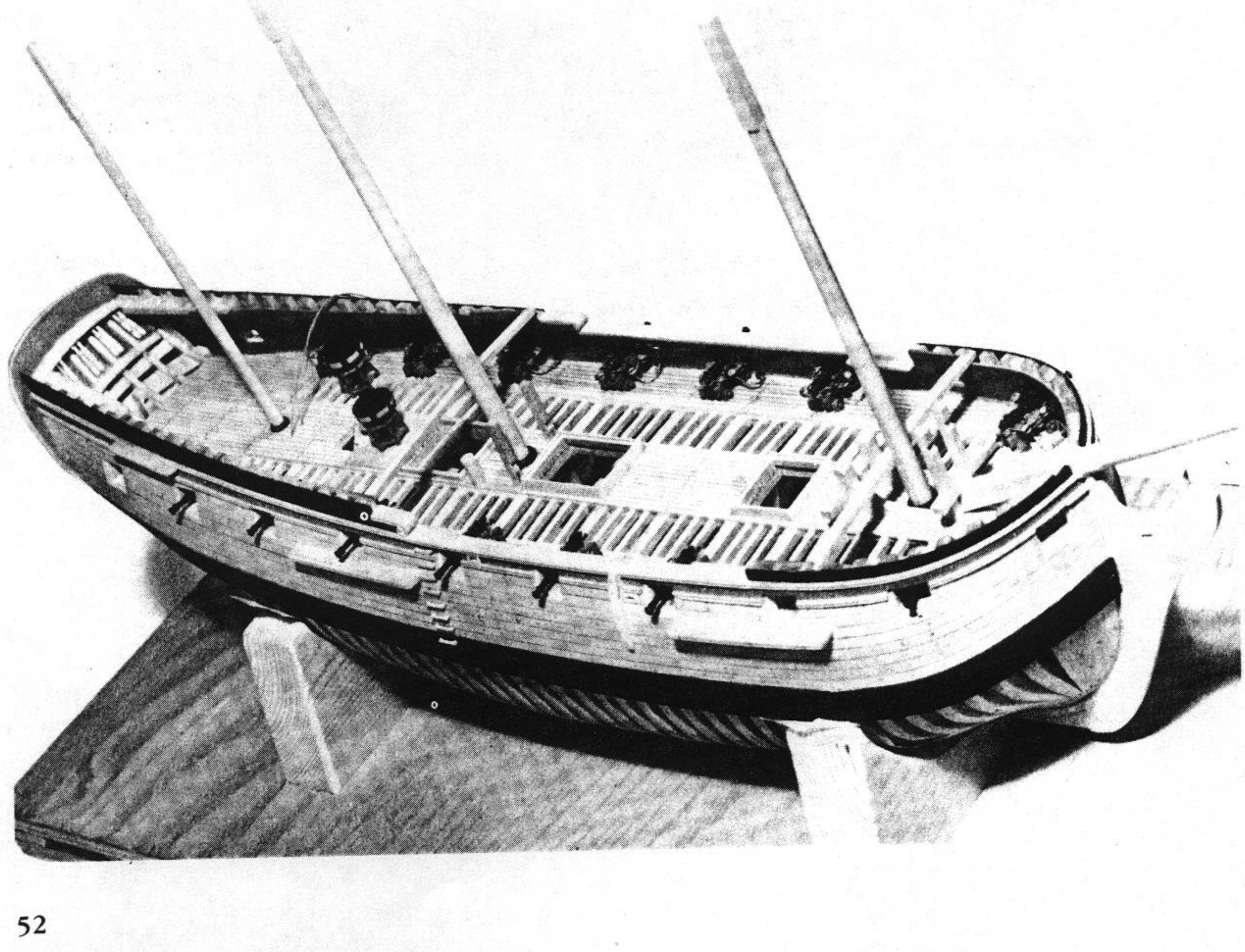
Assembly of the hull on the frame jig progressed easily as usual. It is my experience that this part of the job really doesn't take much more time than producing a hull carved from the solid, and I find the results much more satisfying. Photograph 2.1 shows the forward end of the model with the frames all in place and the stem, keel and hawse pieces added. Photograph 2.2 pictures the stern at the same stage of construction with the hull ready for planking. Lines have been marked on the frames to locate the wale. This view may be of special value to model builders who are puzzled by the problems involved. It can be seen that the framing design differs from the one used for *Roebuck,* but the principle of using transverse and longitudinal (quarter logs) timbers to form the foundation for two deck levels is the same. There are no quarter galleries to provide for, so the quarter logs are notched to receive the short, vertical framing pieces that continue the hull lines beyond the last cant frames. When all these framing pieces have been assembled, the spaces outside the stern frames are filled in with blocks of wood which can be faired up with the frames to provide a fastening surface for the planks at the counter. Notches in the wing transom and locating points on the surface of the frame jig position the stern frames to produce the window openings, and correctly shaped stern frames maintain the stern profile accurately.

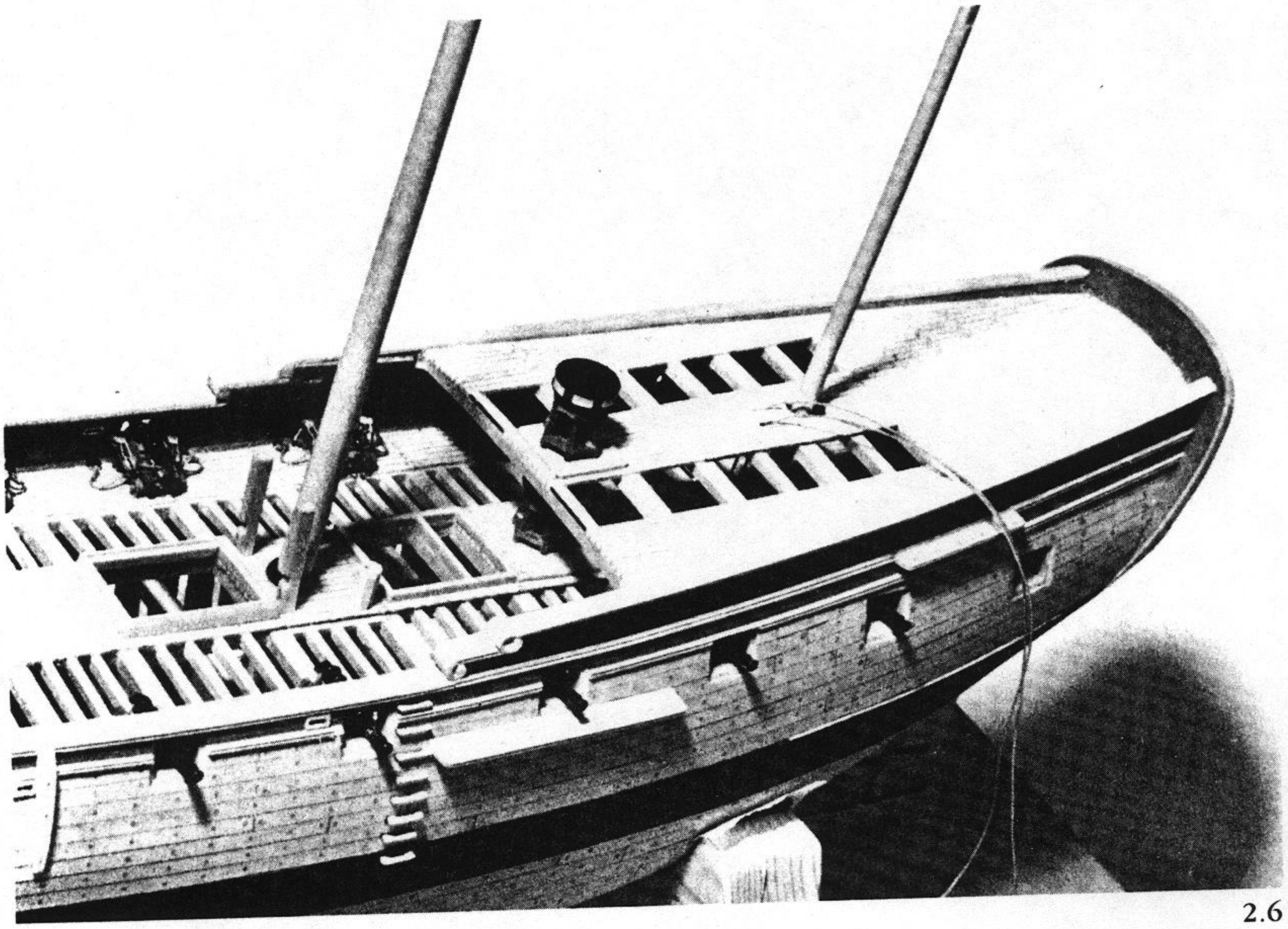
Photograph 2.3 shows the bow again at a later stage in the construction. *Druid* has ten gun-port openings on each side, some of which cut right through the frames as they are located on the plans. Before cutting to frame those openings, the wales were fastened on to provide support and greater rigidity to the frame assembly. Filler blocks were glued in between frames at strategic points for the same purpose and also where the hull would be cut through to mount sheaves. At this point, the hull was ready to have the outside planking completed.

While the hull was still connected to the frame



2.4
2.5





2.6

plans to show the choices that I made in constructing my model which would then intermingle with the basic information derived from the Admiralty draught. I have tried to avoid such adulteration as much as possible.

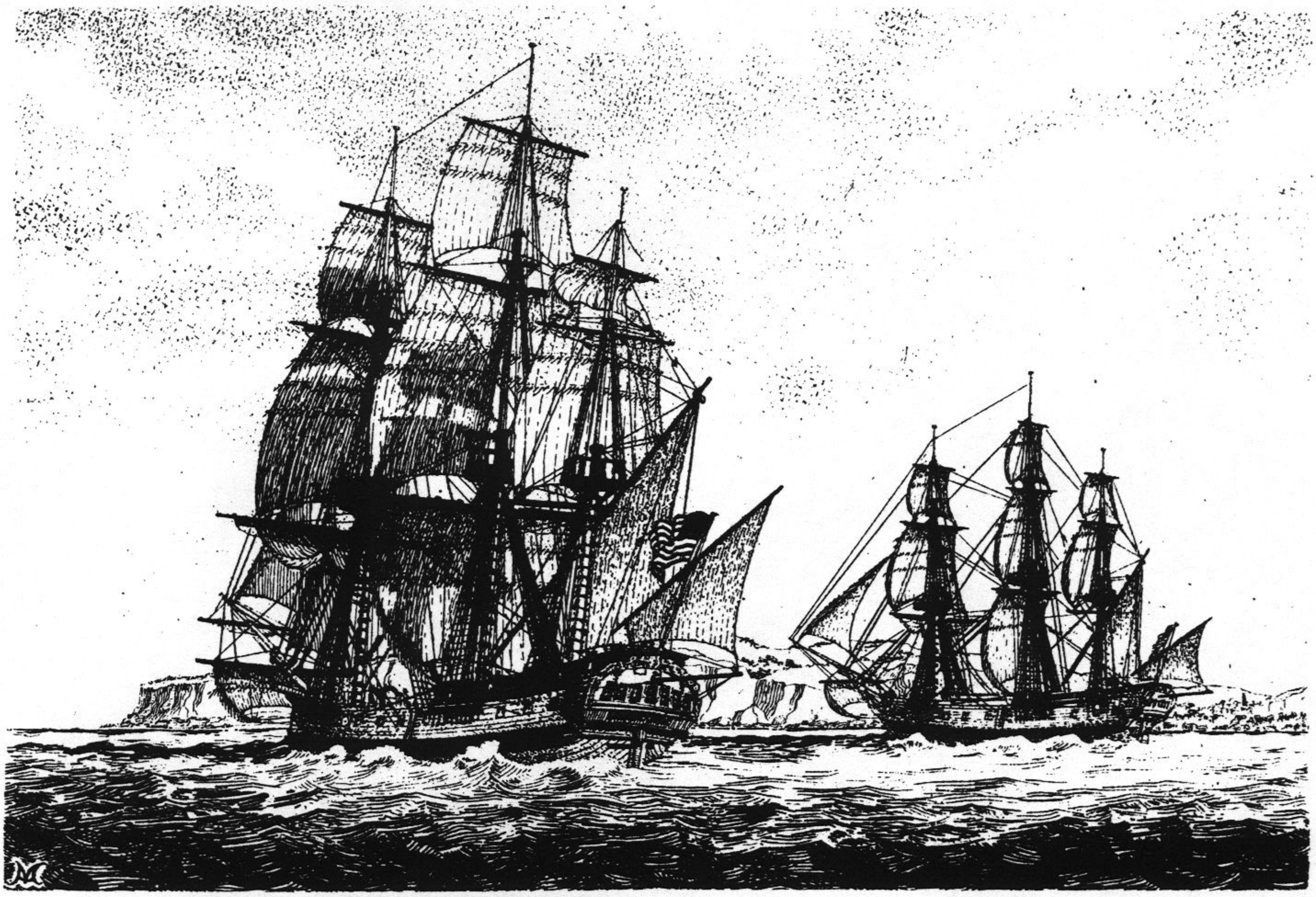
In spite of my desire to maintain their purity, there are definitely aspects of the ship not clearly shown on the original plans which must be established arbitrarily in order to produce a useful set of working drawings. The Admiralty draught for *Druid* does not include an end view of the stern design, so it was necessary to improvise framing of the stern windows and a basic outline of the taffrail. The side view of the stern on the original drawing does give a fair impression of the general shape of the stern and its lines of moulding, but it is still subject to interpretation. I took the liberty of designing a figurehead for the stem which is not detailed on the Admiralty draught. I chose to use the figure of a lady as the least controversial subject. It might be felt that this choice is not appropriate for a ship named *Druid,* but I was thinking in terms of the name *Brilliant.* So far in my research on ships purchased for service in the Royal Navy, I have seen no indication that original decorations were changed when alterations for navy service were carried out. When I carved the figurehead for my model, I gave the lady a flaming torch to hold as a further interpretation of the name *Brilliant.*

The Admiralty draught shows some interesting changes made on *Brilliant* in fitting her out to navy requirements. The lower deck was originally all on one level which allowed just a little more than 4ft of head room under the upper (or gun) deck beams. In order to provide for galley space, the navy had a section of deck lowered 18in at the bow. *Brilliant* must have had a log windlass just aft of the fore mast, but there is no evidence of such a device on the Admiralty draught. To replace the windlass, they added a double capstan at the forward end of the quarter deck. Then to enable the crew to push on the capstan bars, the quarter deck was extended forward 7ft. The plans indicated that the planks for this addition rested on top of the original quarter deck which may have resulted in some stubbed toes.

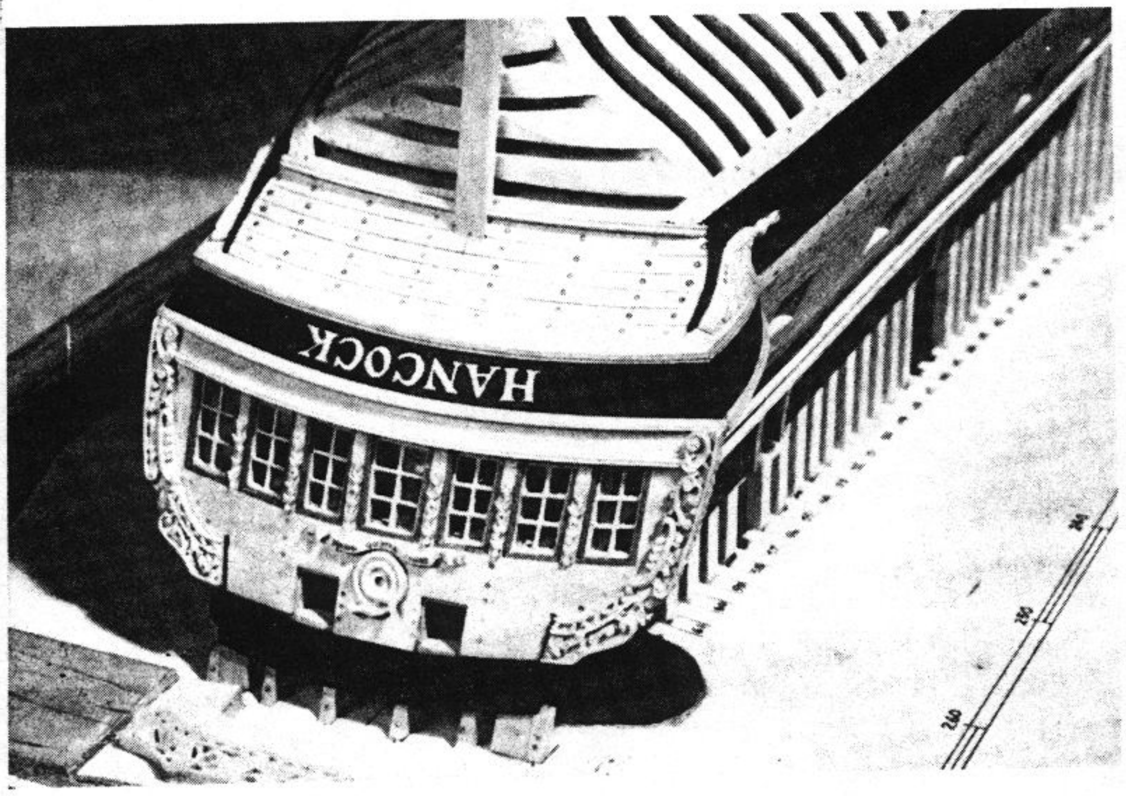
The rudder-tiller arrangement is indeterminate on the original drawing. It might be argued that on a small ship like *Druid* the rudder head should be extended right up through the quarter deck, but I felt that with the profile of the stern as shown, this would create an awkward, space-

CHAPTER 3

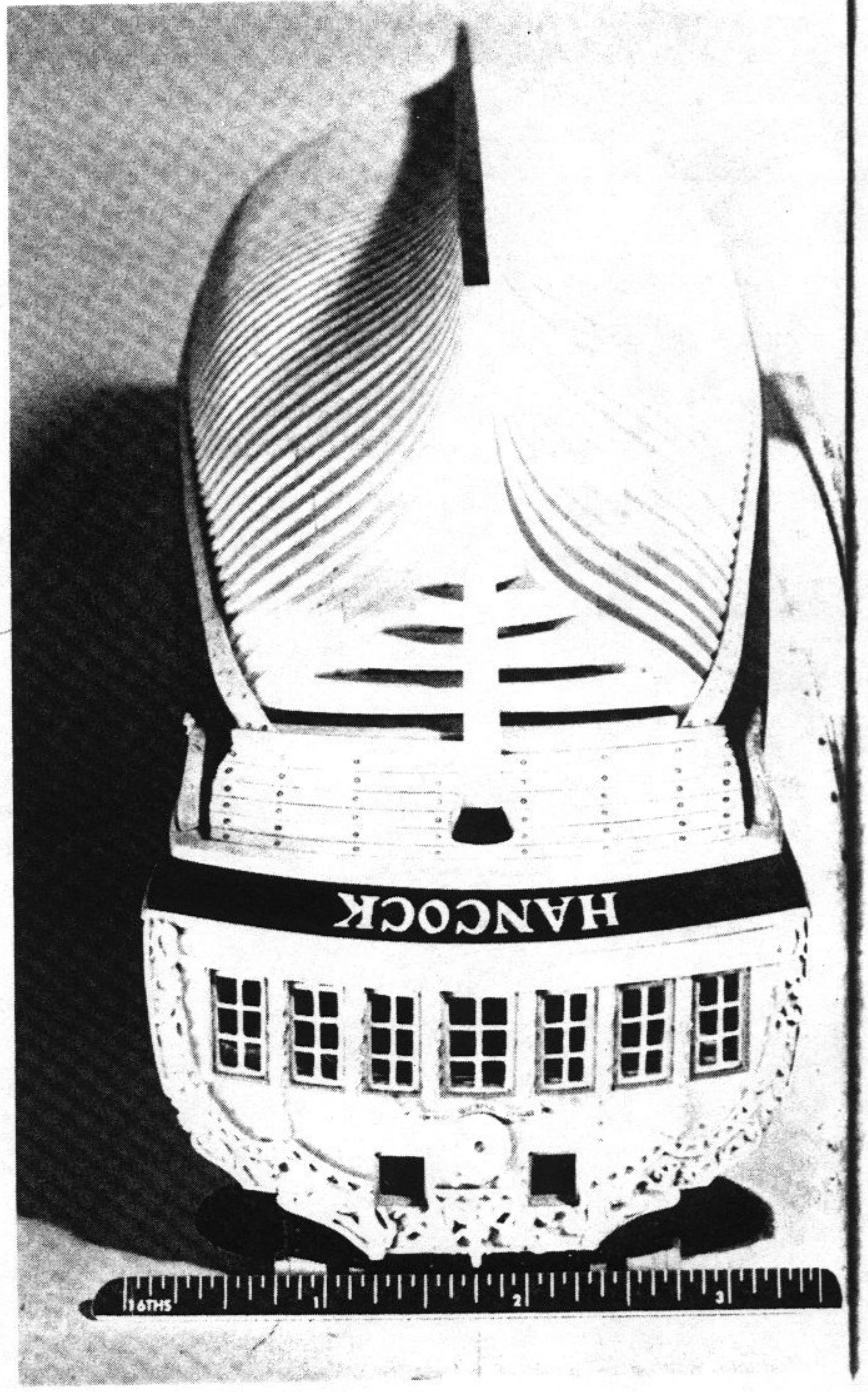
Continental Frigate *Hancock* (32)




HANCOCK



3.3

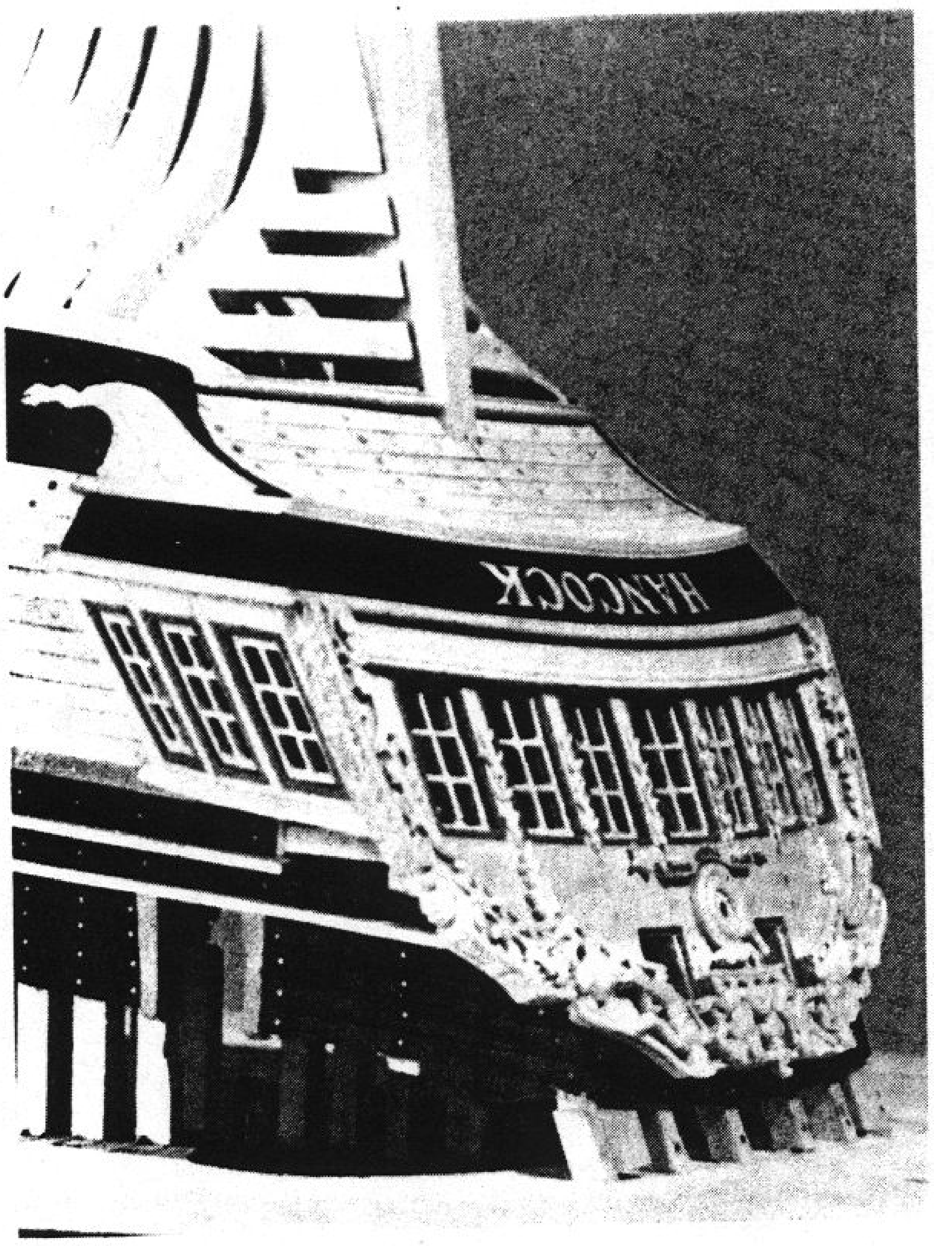


3.4

When she was purchased into the Royal Navy, the British changed *Hancock's* name to *Iris.* That is the name which appears on the Admiralty draughts with no reference to *Hancock.* Since *Iris*, ex-*Hancock*, was known to have left an excellent record of service in the British navy, I determined to learn as much as I could about her career during those years. At my request, Commander W E May, RN ret, reviewed the log books and Admiralty letter files which are preserved in the Public Records Office, London. The information he was able to furnish provides a much better picture of *Hancock's* sterling qualities than might be assumed from her record in the Continental Navy.

There is a lapse from 8 July 1777 until November 1778 during which time no mention of *Iris* is made. I suspect that during this lengthy hiatus, the ship lay idle in the harbour at Halifax where she had been taken after her capture. Until the summer of 1778 with just the modest American naval forces to contend with, the Royal Navy had no need to augment its fleet of larger ships. Then France and later Spain entered the conflict and the situation changed radically. On 10 November 1778 Captain George Keppel commenced his log-book records at Halifax with a notation that he had hoisted a pendant over his new command, *Iris.* The log is not very informative at this point, but it would appear that *Iris* wintered at Halifax while being fitted out for the voyage to England. She did reach Spithead on 19 March 1779, entered Portsmouth Harbour on the 29th, and the ship's crew was paid off on 16 April.

At some time in the next few weeks, *Iris* was moved down the coast to Plymouth. During the month of June, the frigate's lines were taken off in the Plymouth dockyard. The draught made from them and dated 21 October 1779 is identified among the Admiralty drawings with the number 2285. It provides an excellent basis for producing an authentic model of the Continental frigate *Hancock.* Although the drawing was made more than two years after the ship had been captured by HMS *Rainbow* and the name *Iris* is used with no mention of *Hancock,* all of the decorative carvings shown are those that must have been created when the hull was built at Newburyport. Thus we have a record of the 'devices' that Thomas Cushing chose under Hancock's authorization. The figure of John Hancock appears in resolute stance with his arms folded on top of the stem. The decorative supports under the quarter galleries sweep into the unusual form of a striking rattlesnake, and a coiled rattlesnake is a prom-



3.5

inent feature on the stern above the cabin windows. Even more surprising in that it should be recorded on this British drawing is a carved simulation of a ribbon just above the same windows which bears the legend, 'Don't Tread on Me'. All of these decorative features were well-known symbols used by the rebellious colonies. If they were still present so long after the British had captured the ship, it is reasonable to surmise that they never were removed or altered. Having them thus recorded on the Admiralty draught should give the model builder a confident sense of being able to reproduce the American frigate as she had been originally designed.

On 9 July 1779 *Iris* was recommissioned under Captain James Hawker while in the Hamoaze at Plymouth. She then apparently spent several months there while being fitted out and a crew was collected for her. It should be remembered that throughout the summer and early autumn of that year the southern coast of England along the English Channel was alerted to the imminent threat of invasion by a combined French and Spanish force. The danger had largely disappeared by late September but it is probable that *Iris* had figured in some of the preparations to fend off the enemy should he have appeared. On 11 October she moved out to Plymouth Sound. A month later she ventured forth to reconnoitre a fleet of ships that had appeared but returned to her anchorage on discovering them to be British.

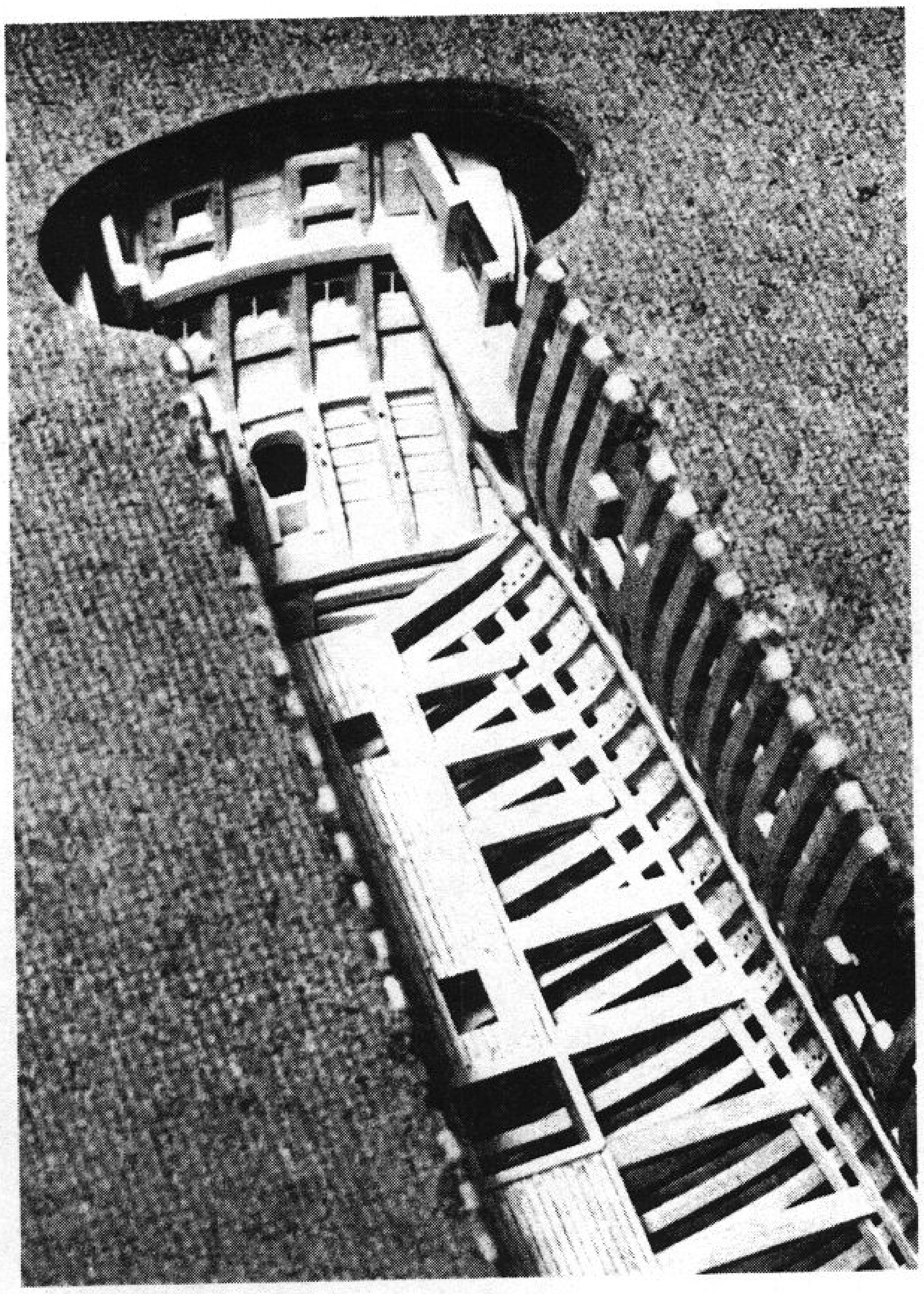
On 18 November *Iris* sailed with a merchantman to join HMS *Hydra* as guard to a convoy. By the 29th, there were 37 sail in company headed for the West Indies. On 19 December *Venus* lost her mainmast, so *Iris* took her in tow. A week later a mate, midshipman, four seamen and two marines were transferred from the frigate to help on the stricken ship. such activities kept *Iris* busy through the month of January and on into February. On 28 January 1780, she captured a sloop bound from North Carolina for the West Indies. The cargo was unloaded and the prize sunk two days later. The convoy arrived at St Kitts on 17 February.

Iris sailed for South Carolina on 28 February with a convoy of 37 ships. On 22 March *Iris* along with several other ships in the convoy ran aground on Hawser bar. HMS *Delaware* continued on with the rest of the convoy while *Iris* was lightening ship to get off. Two days later she was able to follow along with the other ships that had been stranded, and they anchored off Charlestown Bar on the 25th.

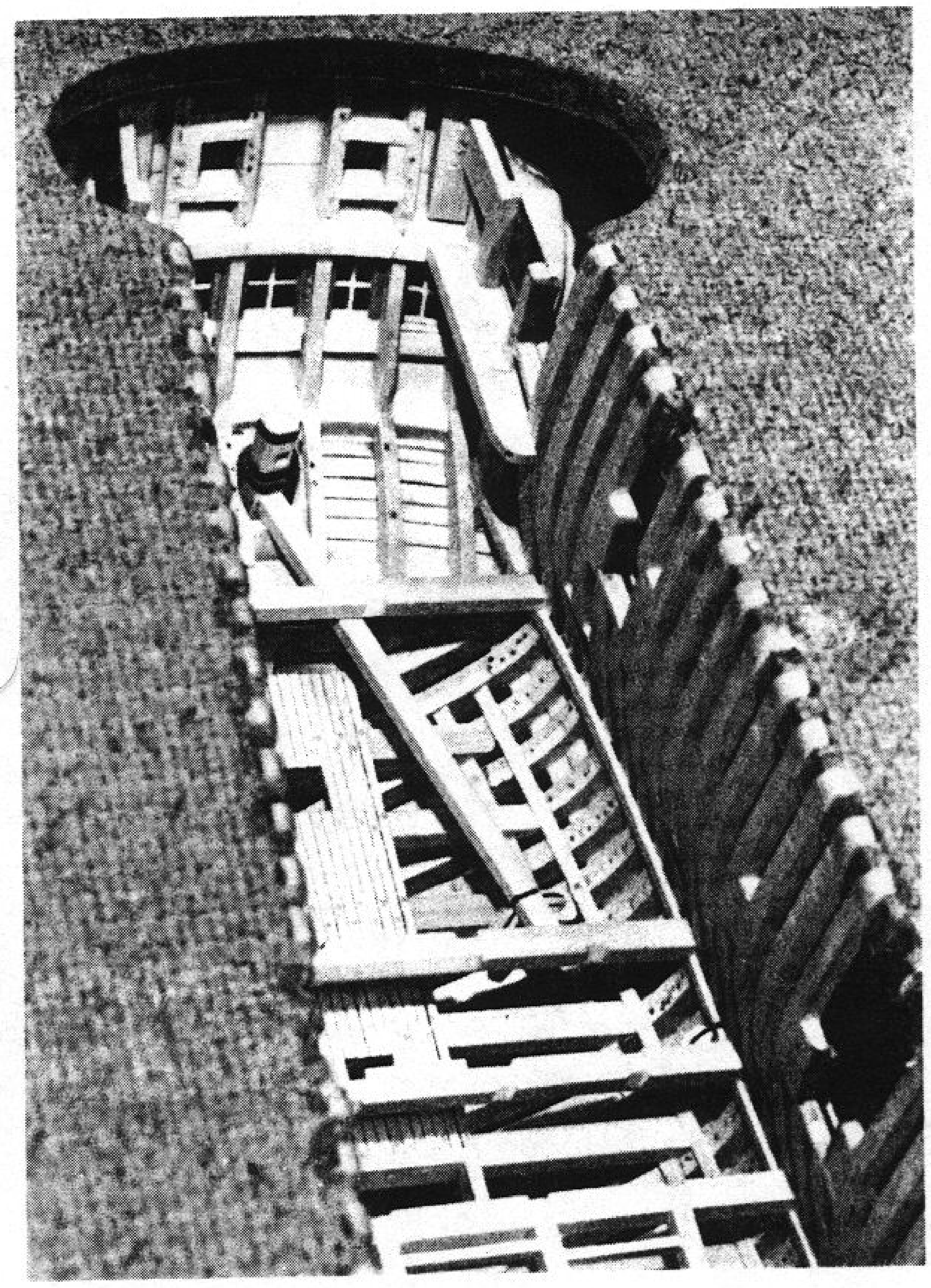
HMS *Fowey* appeared on 4 April with a convoy from Savannah, Georgia. *Iris* joined them and on the 9th they sailed for New York. On this voyage, they spoke HMS *Rainbow* escorting some transports to the southward, and *Iris* captured three privateer ships out of Philadelphia. *Hetty* and *General Reed* were taken on 22 April and *Neptune* two days later. The convoy reached New York on the 27th. *Iris* sailed south from New York on 4 May. On the 6th she captured the privateer brig *Argo* cruising out of Philadelphia with 14 guns and 80 men. She anchored off Charlestown Bar from the 10th to the 16th. Sailing the next day, *Iris* had a very busy two weeks while on passage to New York.

On 21 May *Iris* took the Letter of Marque brig *General Lincoln* which was carrying rum, sugar, coffee and cotton from Port au Prince to Salem. Four days later the Letter of Marque brig *Active* of 14 guns was taken with a cargo of indigo and tobacco on shipment from Philadelphia to St Eustatius. Then on the 27th the *Aurora* of 20 guns was seized with iron, slaves and tobacco also bound for St Eustatius. On reaching New York on 30 May *Iris* was paid prize money for four of the ships she had captured.

Escorting a snow, *Iris* sailed from New York on 5 June. Two days later she encountered the French frigate *La Hermione* (36). Captain La Touche de Treville, commanding the French ship, had bragged to the Americans that he would sweep all British cruisers from the sea. The two ships fought for an hour and twenty minutes until



3.6

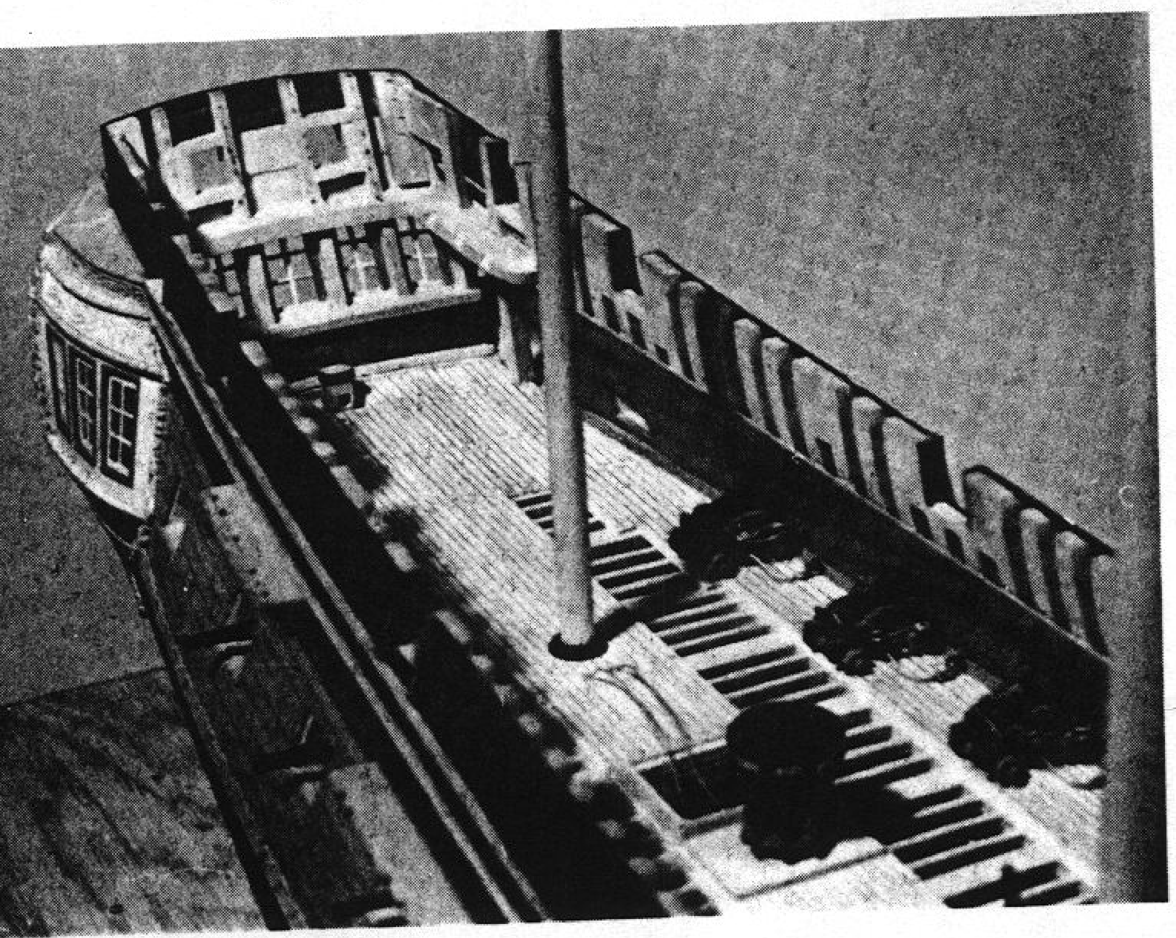


3.7

the Frenchman fled from the scene. *Iris* attempted a pursuit but she was too badly damaged aloft to catch *La Hermione.* The British ship suffered 7 men killed and 9 wounded including Lieutenant Bourne of the marines. Later, de Treville accused his lighter opponent of running away and Captain Hawker made counter charges which appeared in the *New York Gazette. Iris* had returned to New York by 10 June to effect repairs. On the 26th Vice Admiral Arbuthnot noted in a letter to the Admiralty that the frigate was once more fit for sea.

When France and Spain entered the conflict which had begun as a local squabble in the American colonies, the Atlantic Ocean became like a giant chessboard with the principal players manoeuvring their massive ships of the line to counter each other's moves. The intended invasion of England failed to materialize because of the set of circumstances over which the French leaders had no control. In point of numerical strength the British Navy was seriously disadvantaged but the enemy allies failed to take advantage of their superiority by cooperating with combined operations. Lafayette had returned to Paris in 1779 to beg King Louis to send an expeditionary force to America to augment Washington's fragmented army. On 2 May 1780 the Chevalier de Ternay, commanding 7 ships of the line, 5 frigates and escorting transports with 5500 troops, sailed from Brest. As soon as intelligence of this move was received the British sent Rear Admiral Thomas Graves with 6 ships of the line to join Arbuthnot's 5 at New York thus maintaining superiority in that critical area. The French fleet arrived at Newport, Rhode Island on 10 July 1780.

Iris sailed to join the fleet at Sandy Hook on 16 July. The next day they moved to the east with Admiral Graves in command. On the 19th they observed the French fleet at Rhode Island. Unable to contend in battle with the heavy guns of the larger ships, frigates served a vital function as 'eyes' for the fleet. Throughout the rest of July and the month of August, *Iris* shuttled back and forth between anchorage at Block Island, just south of the Rhode Island coast, and Gardiner's Bay at the east end of Long Island, keeping an eye on French activity. On 5 August the officers on *Iris* were replaced when Captain George Dawson joined the ship with new first and second lieutenants and a master. The French ships showed no inclination to venture forth and challenge the British, so the vigil came to an end by September when *Iris* sailed with the fleet. On the 13th she captured the *Hector* (Philadelphia



3.9

who took over Arnold's command. HMS *Roebuck* had escorted their relieving force. On 27 March boats were sent from *Iris* to assist in landing the new troops.

This brings to an end the available log-book records for *Iris*. One of the frustrating things about researching the history of a ship that was captured or lost at sea is the fact that the final log book was also lost. As a means of filling in the missing sequence of events, Commander May reviewed the log-book records of HMS *Pearl*, a ship known to have sailed in company with *Iris* during the months that followed. With the arrival of reinforcements for the army in Virginia the navy was no longer needed for protection. Arbuthnot sailed with his fleet for New York on the evening of 13 April. During the night after they lost contact with the rest of the fleet *Pearl, Iris* and *Amphitrite* found themselves still in company. On the 10th they anchored off Cape Fear Bar. The following morning *Pearl* and *Iris* sailed, leaving *Amphitrite* at anchor. Four days later, the two frigates anchored off Charleston Bar. There is no further mention of *Iris* for about a month while *Pearl* moved about in the Charlestown area. Then on 20 May she joined *Iris* along with HMS *Richmond* at anchor off Charleston Bar once more.

Throughout June and the early part of July 1781 *Iris* and *Pearl* cruised together in the vicinity of Bermuda. On 7 July *Iris* took *Betsey* of 9 guns and 39 men bound from Philadelphia for Hispaniola in ballast. *Pearl* captured a ship on the 10th and then the two warships sailed with their prizes in company for New York. In a report to the Admiralty that he wrote while anchored at Sandy Hook on 19 July 1781, Admiral Graves advised: 'The *Pearl* and *Iris* are returned from a long cruize off Bermuda, with only two Prizes, one of them a French Zebeck from Cape Francois, which I hope will enable us to make an exchange for most of the *Mentor*'s Ships Company taken at Pensacola.'

The Continental frigate *Trumbull* sailed from Philadelphia on 8 August, escorting a convoy of 28 merchantmen. During the day they observed two sail to the eastward that gave chase. In the night a violent storm cost *Trumbull* her fore topmast and main topgallant mast. The convoy sailed on leaving her behind to fend for herself against the pursuing ships. Captain Nicholson wrote later that: 'we commenced an action with the *Iris* for one hour and thirty-five minutes, at the end of which the other ship came up and fired into us'. The badly battered *Trumbull* was towed into New York by *Iris*. This event takes an ironic twist if it is recalled that *Iris, ex-Hancock,* was originally armed with the twelve-pounder cannon that had been meant for *Trumbull*. Quite possibly, *Trumbull's* own guns had been used to bring about her surrender.

From that time we lose sight of *Iris* until September. During that period, the American Revolution was moving toward a climatic finale. Cornwallis had fought his way through South Carolina, North Carolina and into Virginia. Needing to maintain his supply and communication lines, he moved down the peninsula from Richmond to Yorktown. Here he felt sure that the Royal Navy could supply and reinforce him should the need arise. This reasonable calculation was upset by a most timely and opportune collaboration between General Washington and his French allies who brought the Comte de Grasse and his fleet of battleships into the picture. Admiral Graves left New York on 31 August, with his battle fleet to give Cornwallis his protection. He was too late. When he reached the opening to Chesapeake Bay on 6 September he found the French fleet waiting in Lynhaven Bay. The Battle of the Virginia Capes that ensued drove off the British fleet and denied help to Cornwallis who was then penned in at Yorktown.

In his haste to get out of his vulnerable anchorage, de Grasse had his ships cut their anchor cables, leaving the locations marked with buoys so that the anchors could be recovered later. After an indecisive action, de Grasse drew the British fleet out into the Atlantic where the two great fleets manoeuvred outside the Capes for several days with a few British ships that had suffered severe damage licking their wounds. While this was going on *Iris* and *Richmond* were sent into the bay to deliver a letter from Clinton to Cornwallis. While there, they busied themselves with cutting cables to the French anchor cables. This bit of boyish mischief proved costly to them. The French fleet returned in time to catch them in the act. The two frigates found themselves trapped and were forced to surrender. Later that month, General Washington wrote to Major-General Greene: 'Two British frigates, the *Iris* and *Richmond,* peeping into the Bay, have also been captured, and now form part of the fleet of our allies.'

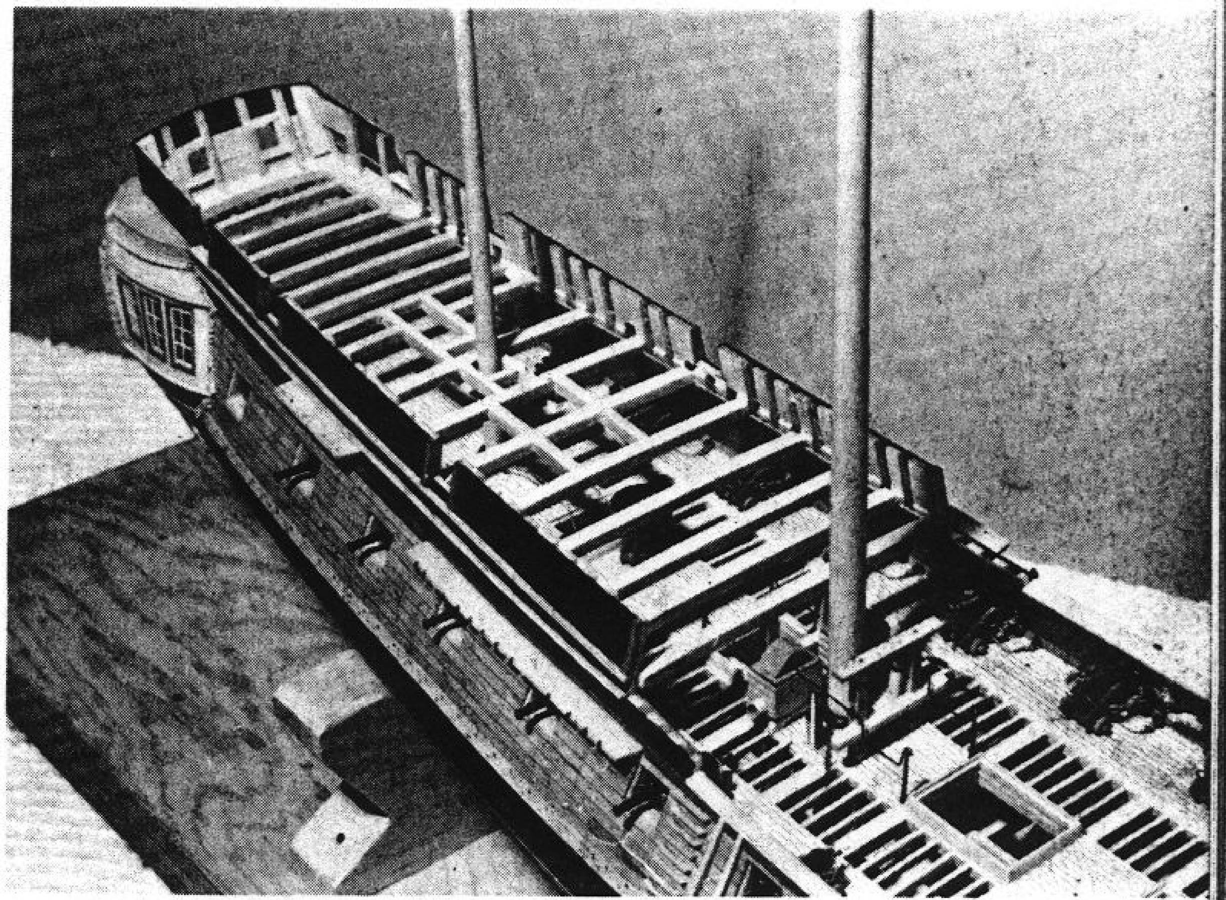
Early in September Washington's Continental troops and the French under Rochambeau marching south from New York were still far from the scene of action. To expedite their arrival *Iris* along with fourteen other sailing vessels was sent up the Bay to Annapolis to provide transportation for the troops and equipment. Thus it might be said that the former *Hancock* offered some redress for her lengthy defection from the American Cause. In effect, the surrender of Cornwallis and his army which took place on 19 October 1781 marked the end of warfare on land for the American Revolution, but the war was not over for *Iris.*

In 1782 *Iris* was attached to the Second (or White) Squadron of de Grasse's fleet. Action that year moved to the West Indies where the great powers slugged it out with the Americans forgotten. The French lost the initiative as well as De Grasse and his flag ship on 12 April 1782 at the Battle of the Saintes. It was the last major contest of the war. I have no record of *Iris* for the long period of peace that followed but doubt that she was involved in any significant events during those years.

The start of the French Revolution in 1789 marked the beginning of an era of almost continual warfare in Europe. War was declared between France and England in 1793. Toulon, on the south coast of France, was their greatest naval base in the Mediterranean. Admiral Sir Samuel Hood, with his naval squadron in conjunction with a large part of the City's population, seized control and garrisoned the port with English, Neapolitan and Spanish troops. They held out for several months until closely surrounded by a formidable army. In his first significant appearance as a leader, Bonaparte oversaw placement of artillery on the heights that forced the British withdrawal. Admiral Hood, who had been second in command of the fleet when *Iris* was captured in Lynhaven Bay twenty-two years before, ordered destruction of the large arsenal and dockyard. Reduced to the status of a hulk in the harbour, *Iris,* ex-*Hancock*, was part of the general conflagration that ensued as the British evacuated Toulon on 18 December 1793.

The Model

Describing the experience of building my *Hancock* model offers an opportunity to point



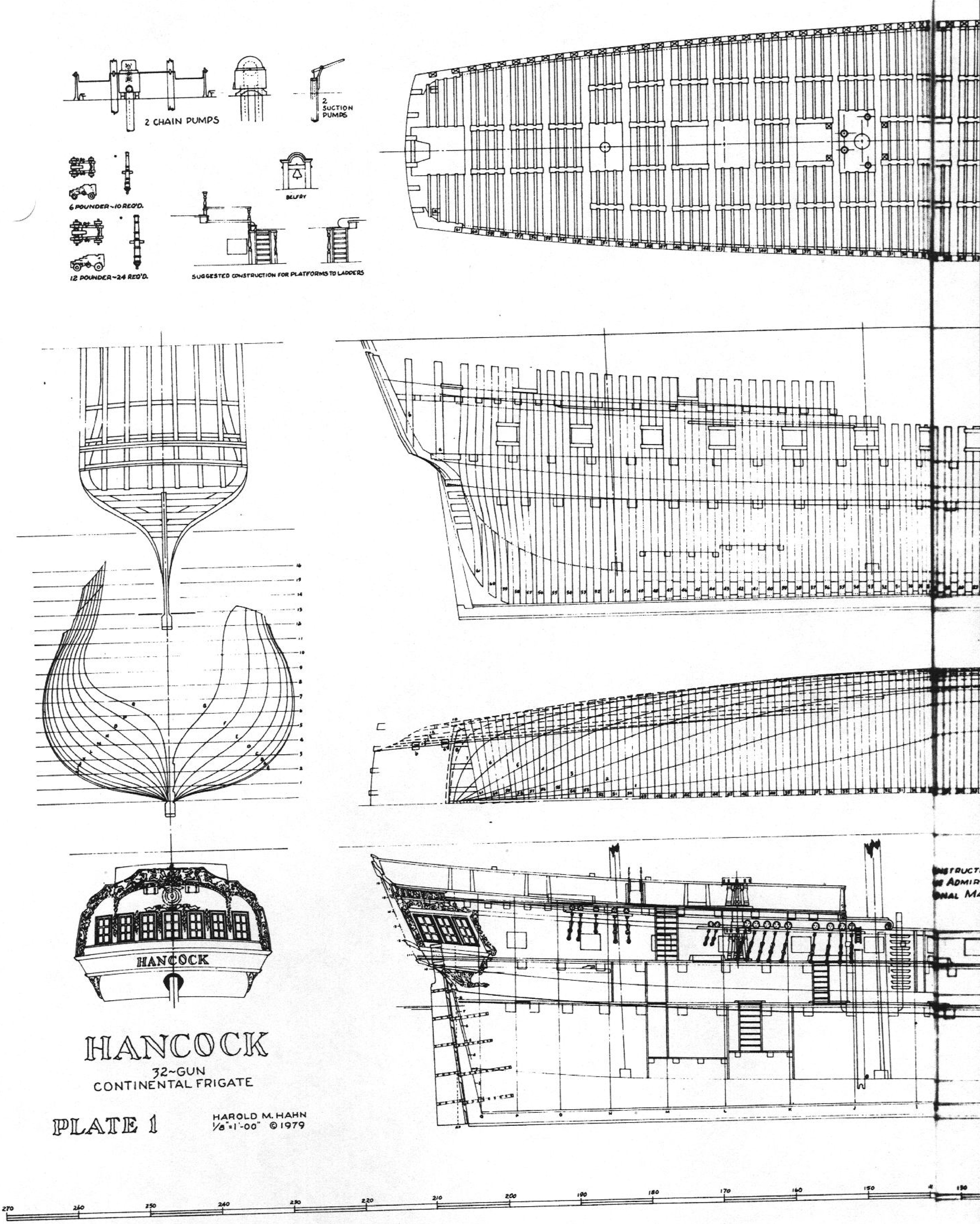
3.10

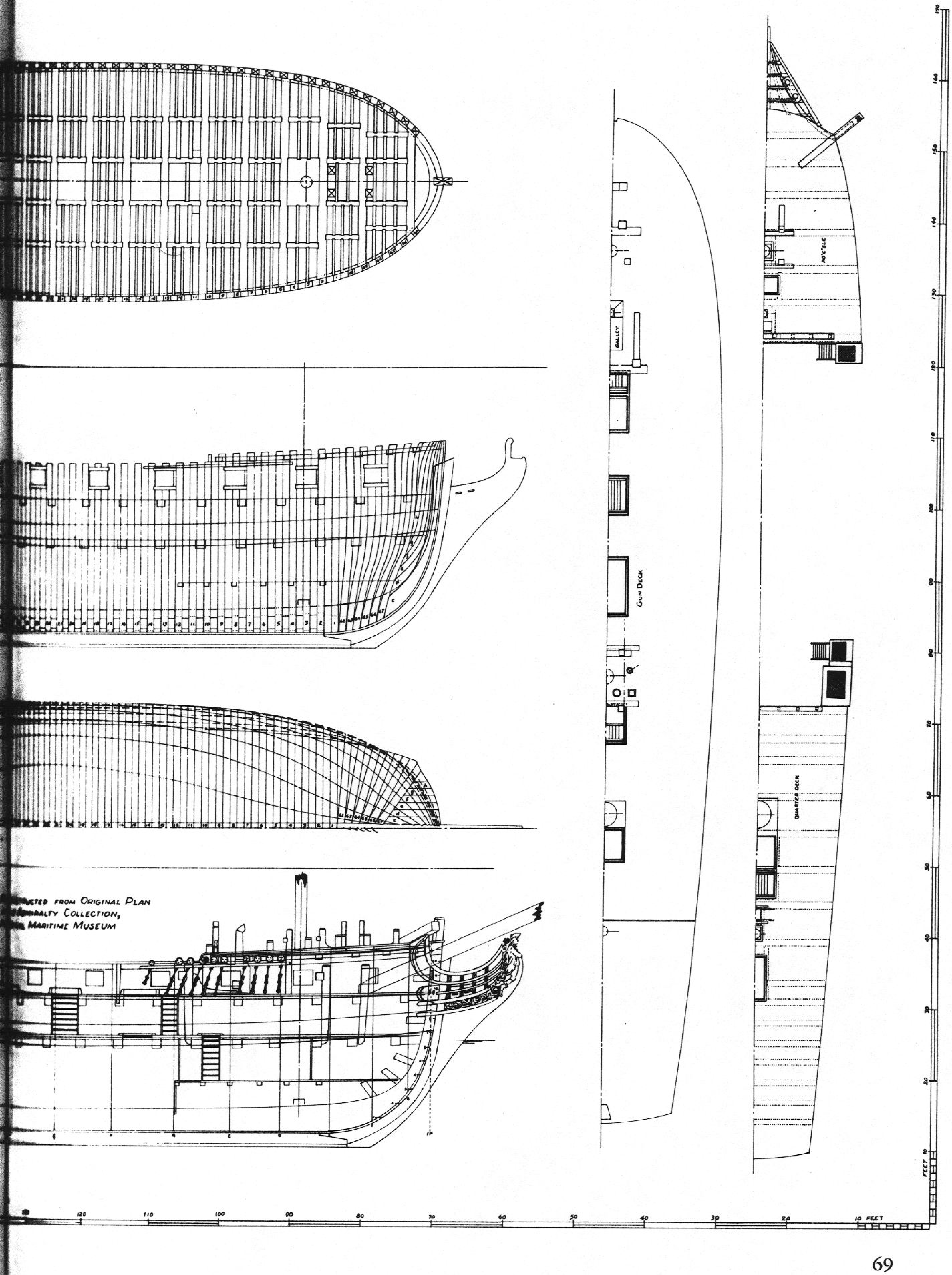
out the pitfalls apt to be encountered in trying to reconstruct an incomplete plan or to use the reconstructions that others have made from contemporary drawings. As I mentioned in the previous chapter, I try to limit my interpretations on a set of plans to the minimum absolutely necessary to produce the basic model. Once something has been published and distributed in printed form, it seems to acquire an aura of authenticity to which it may have no real claim. This danger is present even when the information is clearly noted to have been reconstructed.

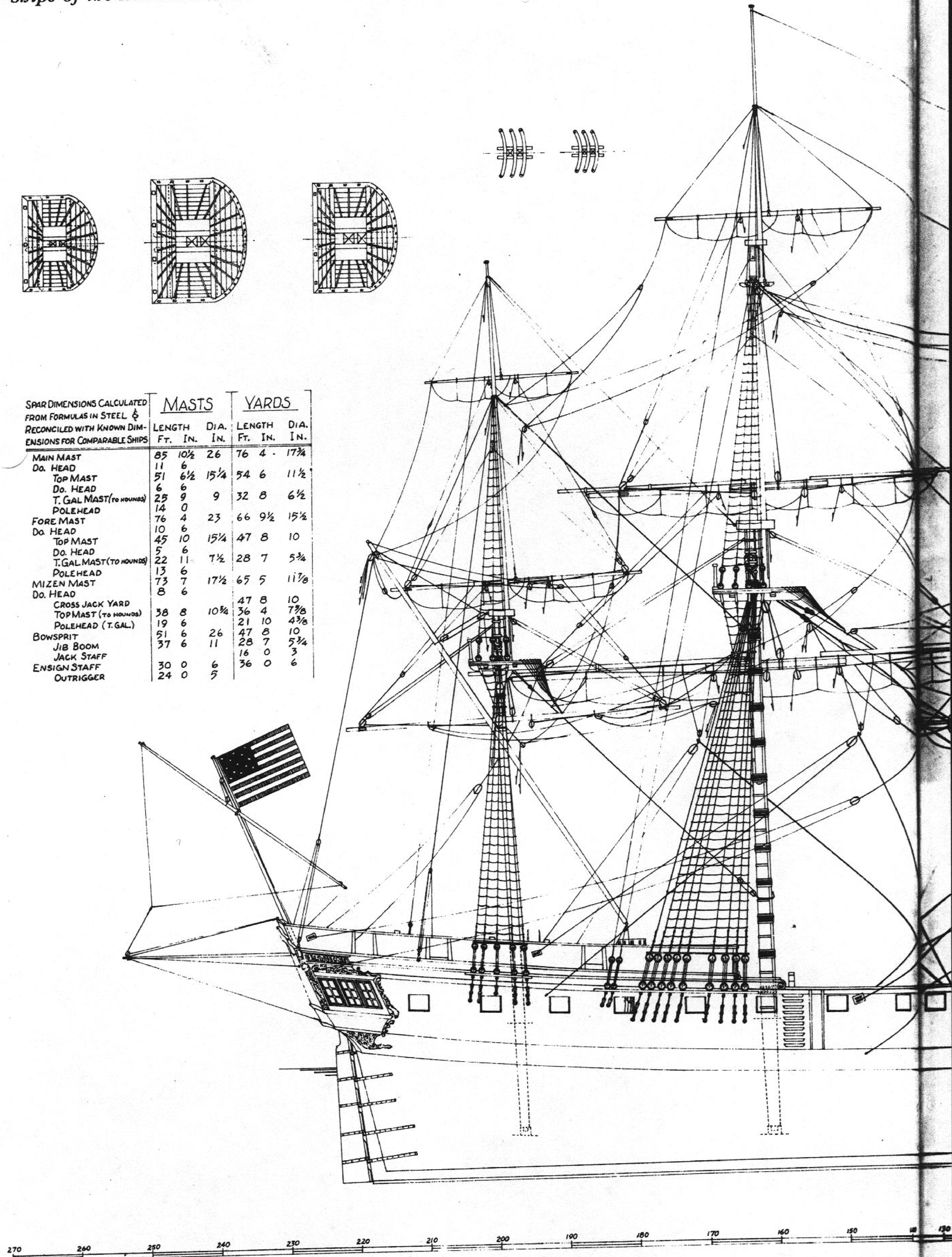
The case in point regards the contour of *Hancock's* forecastle deck at the bow. My plans for all seven models in this book have been developed from photostats of the contemporary Admiralty draughts that were made from the original ships. My guide to selecting and ordering those photostats has been a booklet entitled *Ship's Plans* which was published in 1959. When I ordered the plan for *Iris,* the booklet listed just the No 2285/38 sheer and profile plan which was noted as including details of all the carved work. I assumed from this listing that no deck plans were available. However, this did not greatly concern me because Howard Chapelle had published plans for *Hancock* in his books that included deck plans.

My friend John Tilley was more fortunate than I was. Having access to the Admiralty draughts, he discovered that there did exist a complete set of deck plans for *Hancock.* Those plans were reproduced with his first article on *Hancock* which appeared in the September 1983 issue of *Model Shipwright.* The contour of the forecastle deck was clearly different as shown on those plans from the one that Chapelle had drawn.

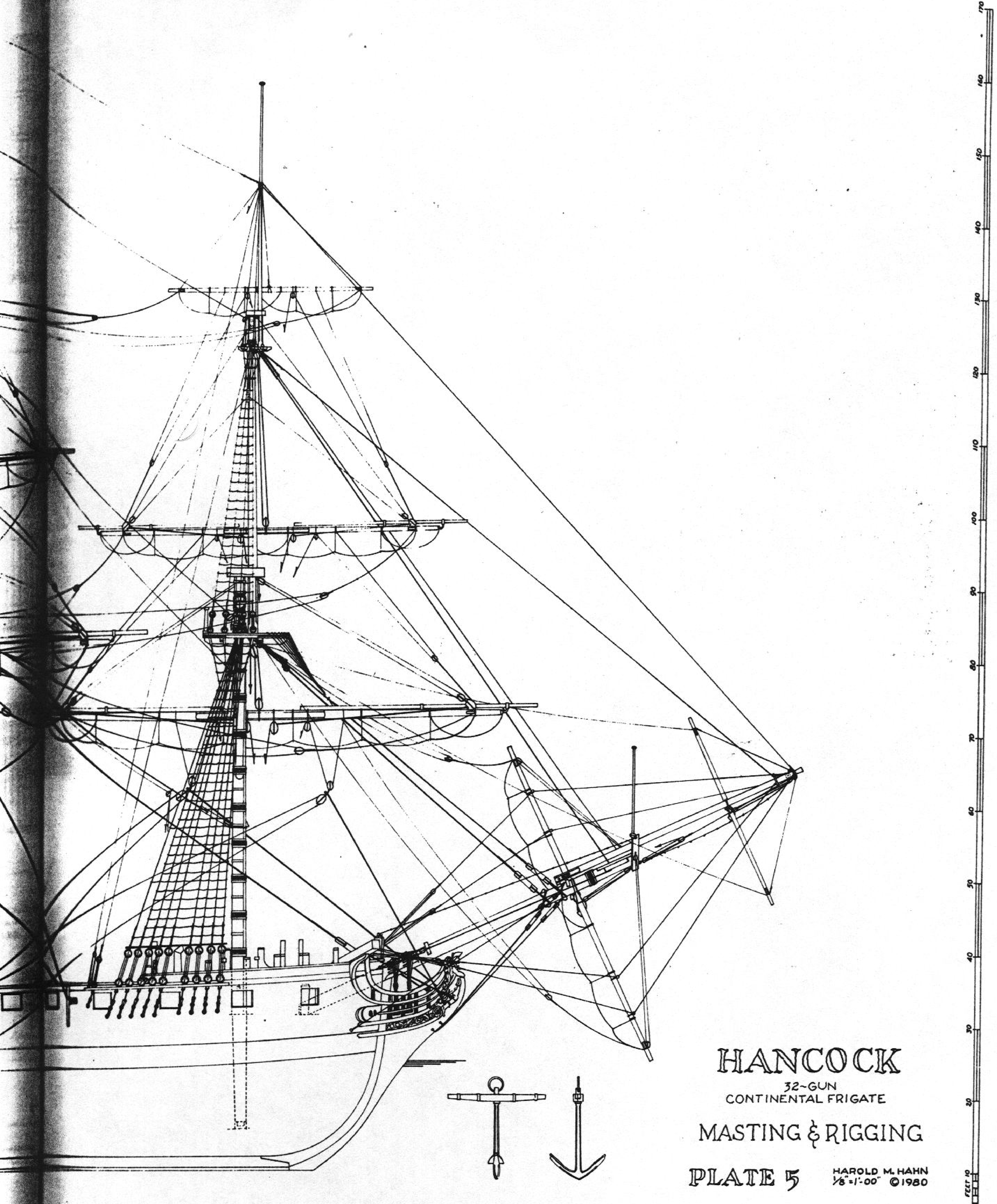
Trying to determine how this discrepancy came to be, I looked once again at Chapelle's


2 CHAIN PUMPS
2 SUCTION PUMPS
BELFRY
6 POUNDER~10 REQ'D.
12 POUNDER~24 REQ'D.
SUGGESTED CONSTRUCTION FOR PLATFORMS TO LADDERS
HANCOCK
HANCOCK
32~GUN
CONTINENTAL FRIGATE
PLATE 1
HAROLD M. HAHN
1/8"=1'-00" ©1979
270
260
250
240
230
220
210
200
190
180
170
160
150


FROM ORIGINAL PLAN
COLLECTION,
MARITIME MUSEUM
GALLEY
GUN DECK
QUARTER DECK
FO'C'SLE
10 FEET
FEET 10



SPAR DIMENSIONS CALCULATED FROM FORMULAS IN STEEL & RECONCILED WITH KNOWN DIMENSIONS FOR COMPARABLE SHIPS	MASTS Length Ft.	MASTS Length In.	MASTS Dia. In.	YARDS Length Ft.	YARDS Length In.	YARDS Dia. In.
MAIN MAST	85	10½	26	76	4 ·	17¾
DO. HEAD	11	6				
TOP MAST	51	6½	15¼	54	6	11½
DO. HEAD	6	6				
T. GAL MAST (TO HOUNDS)	25	9	9	32	8	6½
POLEHEAD	14	0				
FORE MAST	76	4	23	66	9½	15½
DO. HEAD	10	6				
TOP MAST	45	10	15¼	47	8	10
DO. HEAD	5	6				
T. GAL MAST (TO HOUNDS)	22	11	7½	28	7	5¾
POLEHEAD	13	6				
MIZEN MAST	73	7	17½	65	5	11⅞
DO. HEAD	8	6				
CROSS JACK YARD				47	8	10
TOP MAST (TO HOUNDS)	38	8	10¾	36	4	7⅜
POLEHEAD (T. GAL.)	19	6		21	10	4⅜
BOWSPRIT	51	6	26	47	8	10
JIB BOOM	37	6	11	28	7	5¾
JACK STAFF				16	0	3
ENSIGN STAFF	30	0	6	36	0	6
OUTRIGGER	24	0	5			


HANCOCK
32~GUN
CONTINENTAL FRIGATE
MASTING & RIGGING
PLATE 5
HAROLD M. HAHN
1/8"=1'-00" ©1980

3.11

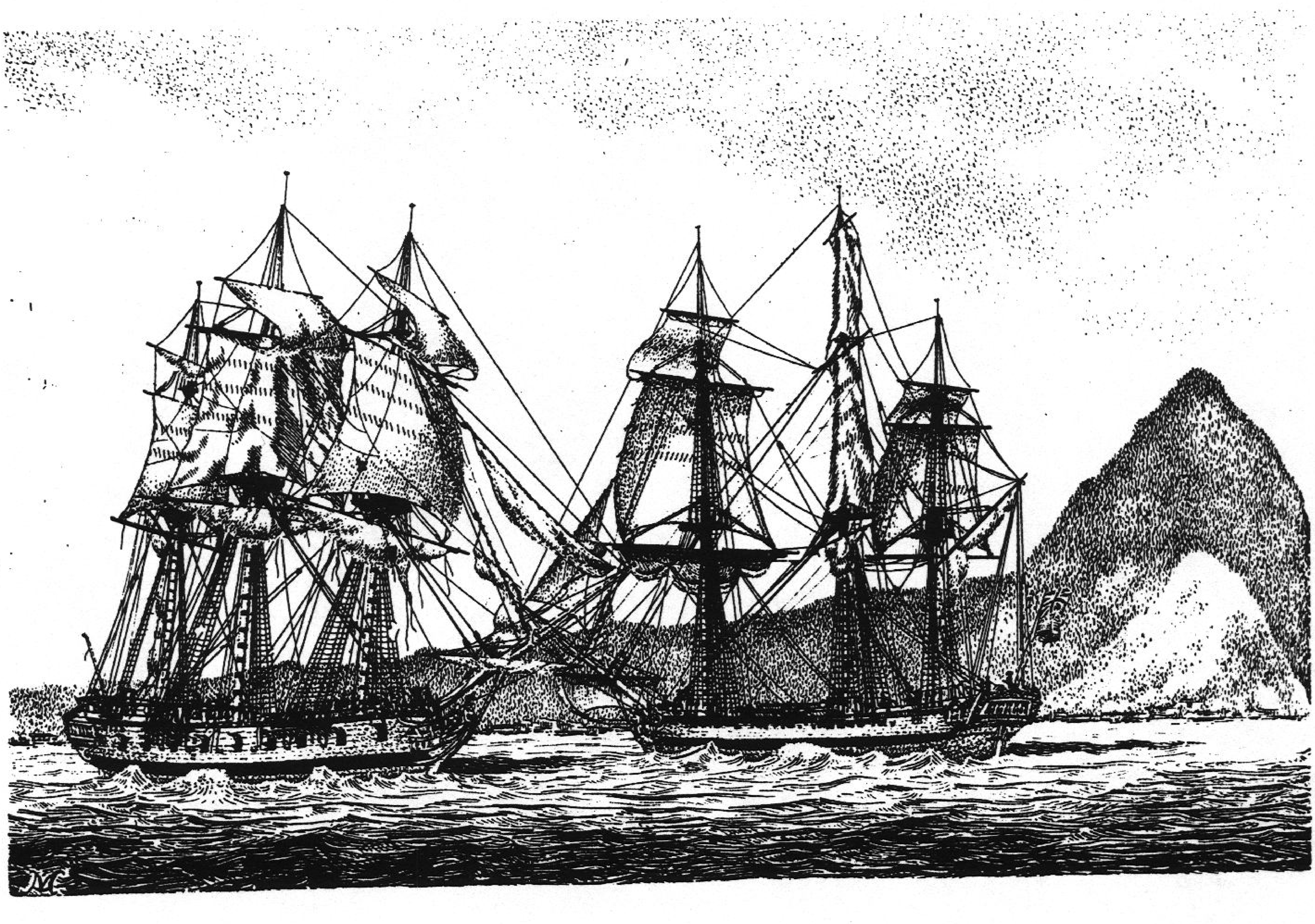
plans. They were first published in the book *The History of American Sailing Ships* (1935). At that time a smoothly rounded shape was shown for the forecastle and a note was appended to the effect that the deck plans were reconstructed from the profile drawing. The *Hancock* plans next appear in *The History of the American Sailing Navy* (1949). Those plans had been altered to show in particular a different contour to the forecastle deck and inboard sections of the catheads with an unusual curved shape. Unfortunately, Chapelle did not copy the shape of the forecastle rail as shown on the Admiralty drawing which he must have had for reference when he made the changes. Not being aware of the contemporary deck plan, I quite naturally based my design on Chapelle's drawing.

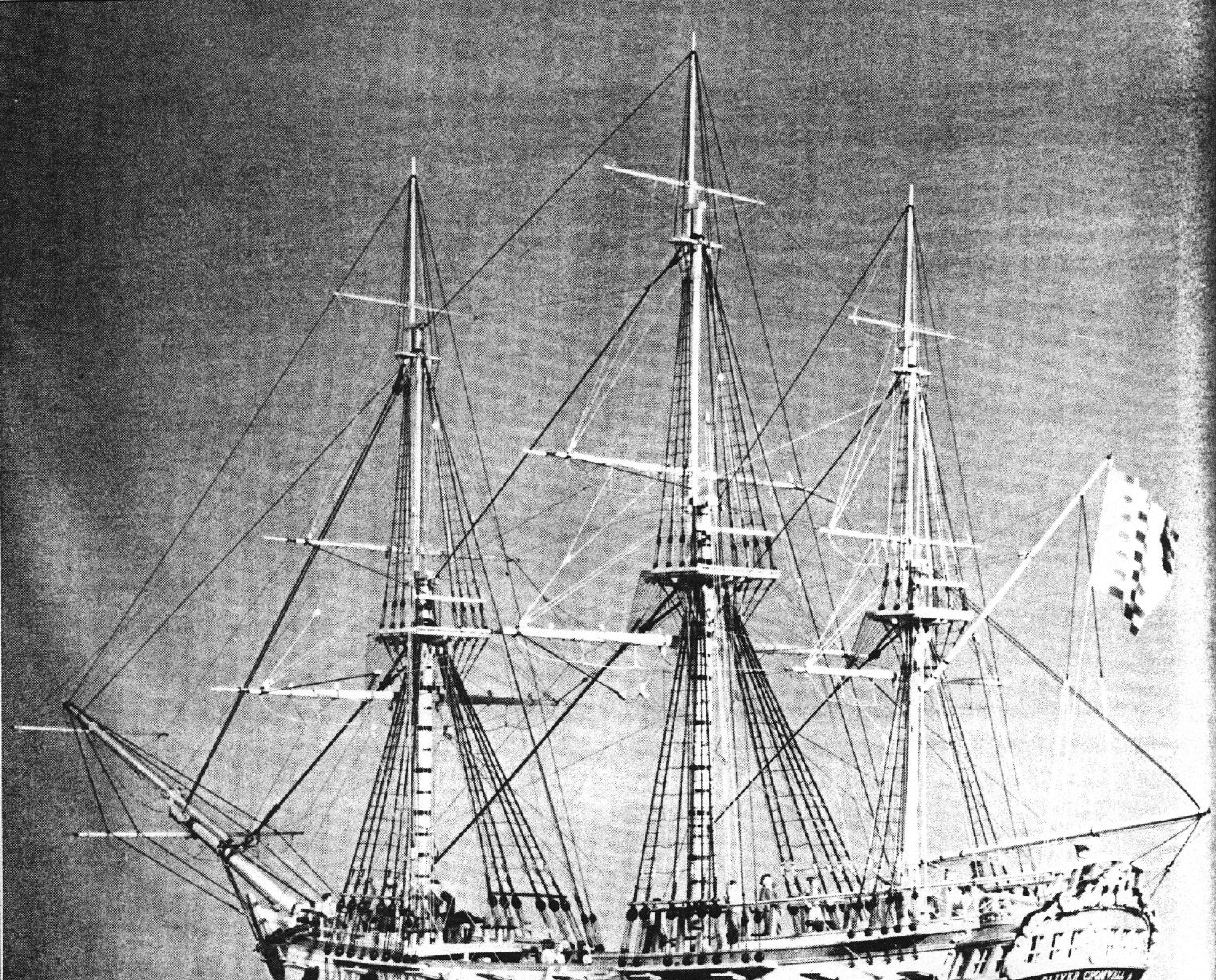
The unusual shape at the bow consists of a convex curve in the centre which leads into concave curves that end at the catheads. This provides a wider deck at the bow which is produced by a flare of the bulwarks. Chapelle observed this general design so that I didn't go too far astray, but the contemporary drawing shows a much sharper convex curve at the point of the bow. Photograph 3.1 will give some idea of how the frames flare out to create the shape described above. The procedures previously described have been followed here to initiate the planking process and framing of the gun ports. With no beakhead to contend with, the bow construction will be complicated only by the head rails to be added later.

The stern design poses its own special problems. Photograph 3.2 shows the basic framing with the lower counter already planked over. In photograph 3.3 the frames have been planked, window sashes installed in the openings and the

CHAPTER 4

Oliver Cromwell/Beaver's Prize



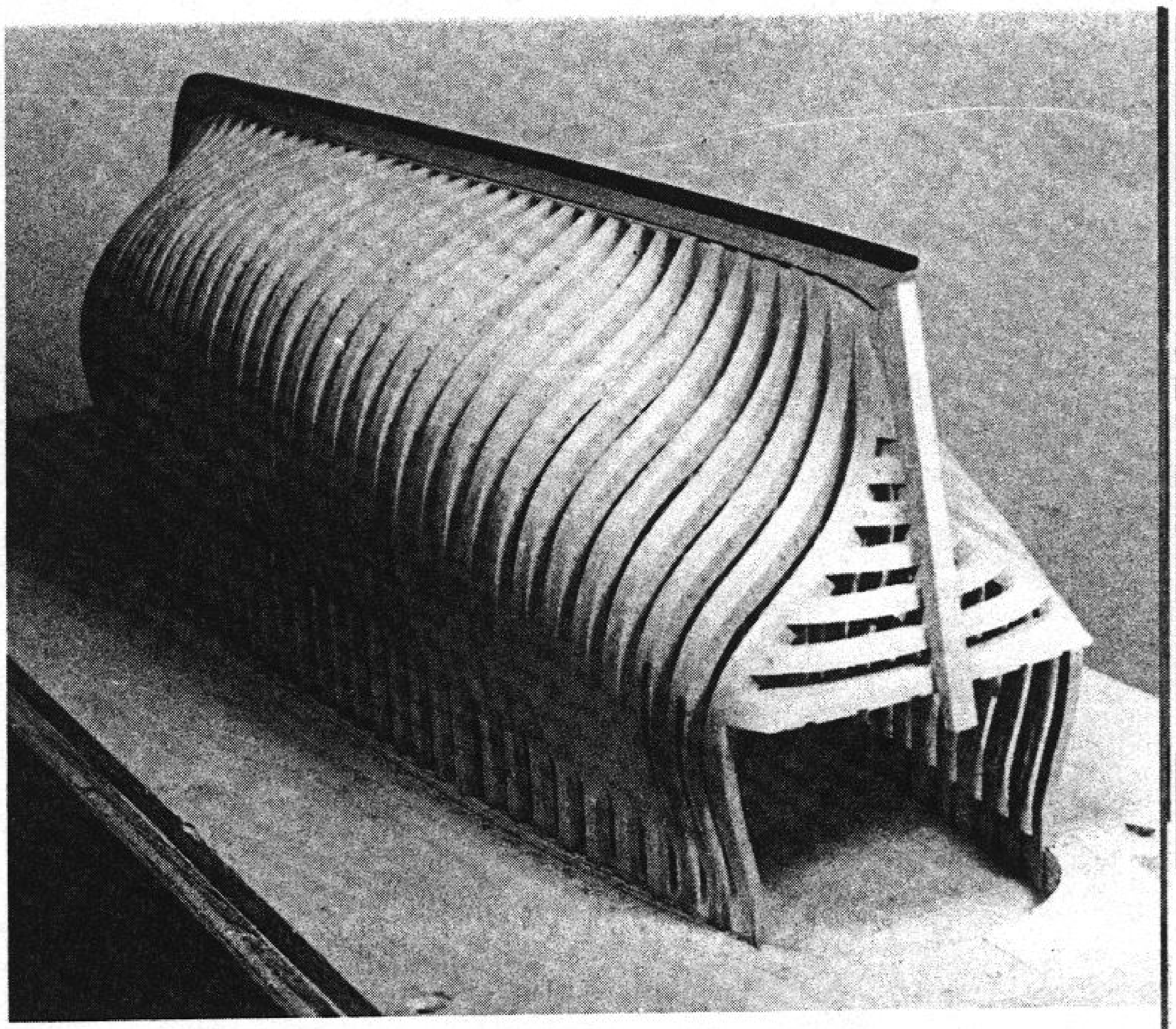

OLIVER CROMWELL

Drummond had given Robert Brown, master's mate, an acting warrant after examination. Maintaining discipline and filling the complement of his ship was a continuous trial for the Captain. These problems were widespread in the Royal Navy, but it is likely that Drummond's youth and lack of experience as a commander contributed to his difficulties. He found himself in trouble for pressing men from the Greenlanders and had to release some of them.

Late in September, Captain James Piggott of *Jason* informed Captain Drummond that two French 40-gun frigates and a 14-gun cutter were cruising around the Orkneys and ordered *Beaver's Prize* to accompany him in search of them. Drummond advised Captain Piggott that he could not sail because his ship's complement was so reduced as to render her unable to go to sea. Finally in late October, he received instructions to apply to Captain Bover for sufficient men to sail his sloop to Sheerness. On the return to Sheerness, and with Gunner Hamilton still absent, the Admiralty refused to accept Drummond's acting warrant for Brown as a replacement. This left the poor Captain in a quandary. He was not permitted to list Hamilton as a deserter, and he still had no gunner. Later in December he reported that Samuel Pritchard, midshipman, had absconded with £20 belonging to some of the men. It must have been a very frustrating time for the young commander.

When *Beaver's Prize* returned briefly to the Nore in mid-November, she had been assigned to a new station. Based in White Booth Roads at the mouth of the Humber River where the city of Hull is located, she was to cruise between Flamborough Head and Yarmouth. Drummond kept his ship at anchor in White Booth Roads through the month of January 1779 and until 12 February. On resuming his cruising activity, he and *Beaver's Prize* experienced a bit of excitement about two miles off Flamborough Head. The logbook entry reads:

> 1 PM a Ship to Windward Made the Signal for Seeing an Enemy D'o discovered two Ships and a Brigg with their Courses up gave chace and Observed they stood towards us Cleared Ship for Action at 3 D° being within a Musquet Shot Saw they were two Ships of 20 Guns each one of which hoisted french Colours and fired a shot d° hoisted our Colours and began to fire at them – at 25 minutes after they edged away and made Sail – gave Chace but they sailing much faster – fired 3 Guns to bring to the Brigg – Brought her to – Sent the Boat to board and took 6 french men out and sent an Officer with 4 men to carry her to Shields – at 7 Brigg parted Company.

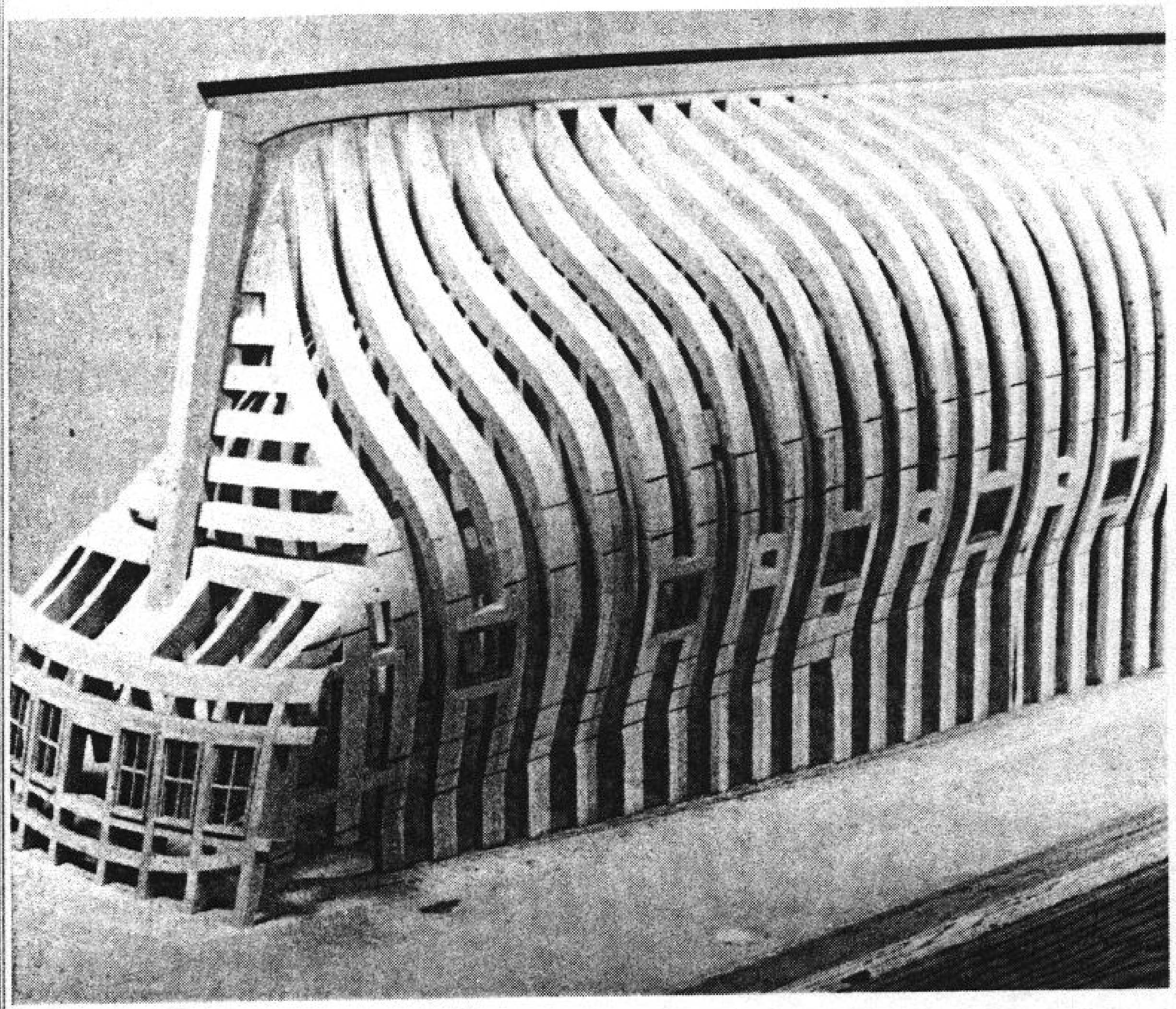


4.1

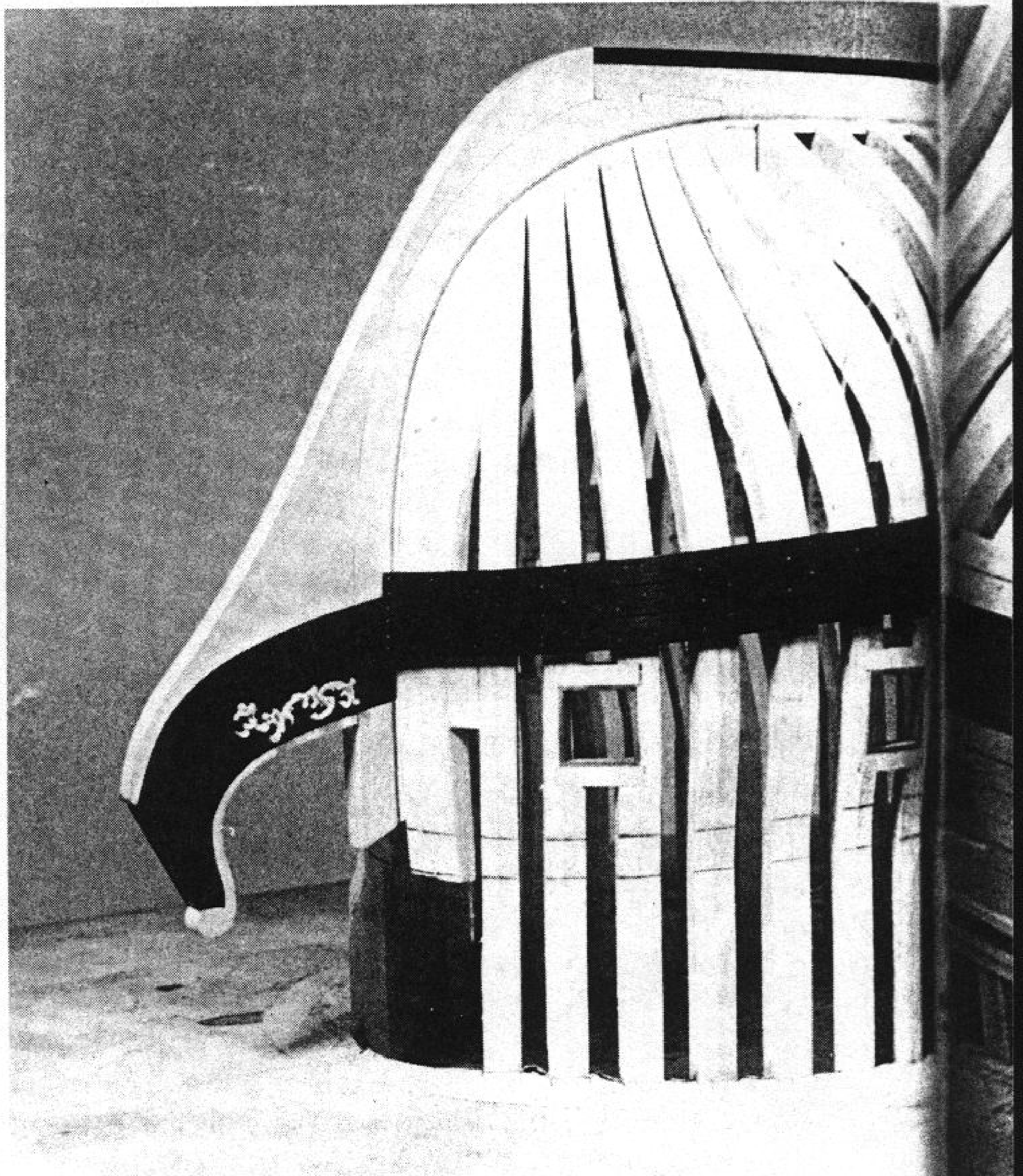
On 19 February, Captain Drummond wrote a report of the action to Philip Stephens while he was anchored in Bridlington Bay just under Flamborough Head. This letter adds some interesting information to that found in the log book. The ship that signalled the presence of an enemy was 'part of a large Fleet of Colliers Standing to the Southward'. In spite of their superior armament the French ships did not care to do battle *Beaver's Prize*. Drummond made after them, but finding that he was 'being outsailed by three feet to one', contented himself with recapturing the brig *Polly*. He learned from the French prisoners taken aboard from the brig that one of the privateers was the *Countess de Provence* and the other *La Countess Dartois*. Each one mounted 20 six-pounders, carried 130 men and sailed out of Dunkirk.

In March *Beaver's Prize* sailed across the North Sea in company with the *Countess of Scarborough*. They escorted two brigs which were bound for Hamburg up the Elbe River. After staying in the river for a week, she sailed with the *Fly*, and on 31 March called at Cuxhaven, a town situated at the mouth of the Elbe.

In April Drummond wrote to the Navy Board that his sloop was a year out of dock and badly needed cleaning. On 14 April he reported that he was faced with a lawsuit over pressing four men. On the 29th in acknowledging Admiralty instructions, he advised that he had discharged the four



4.2



4.3

men. From Bridlington Bay on 26 May Captain Drummond reported having chased a ship and a snow. They escaped from him because *Beaver's Prize* was too slow-sailing.

While anchored in the River Humber in June Drummond wrote a couple of letters pertaining to his problems in pressing men. He had discharged Edward Bottomly and Laurance Hurry while retaining Joseph Todd who had no 'protection'. Then in July, he received the following order from the Navy Board:

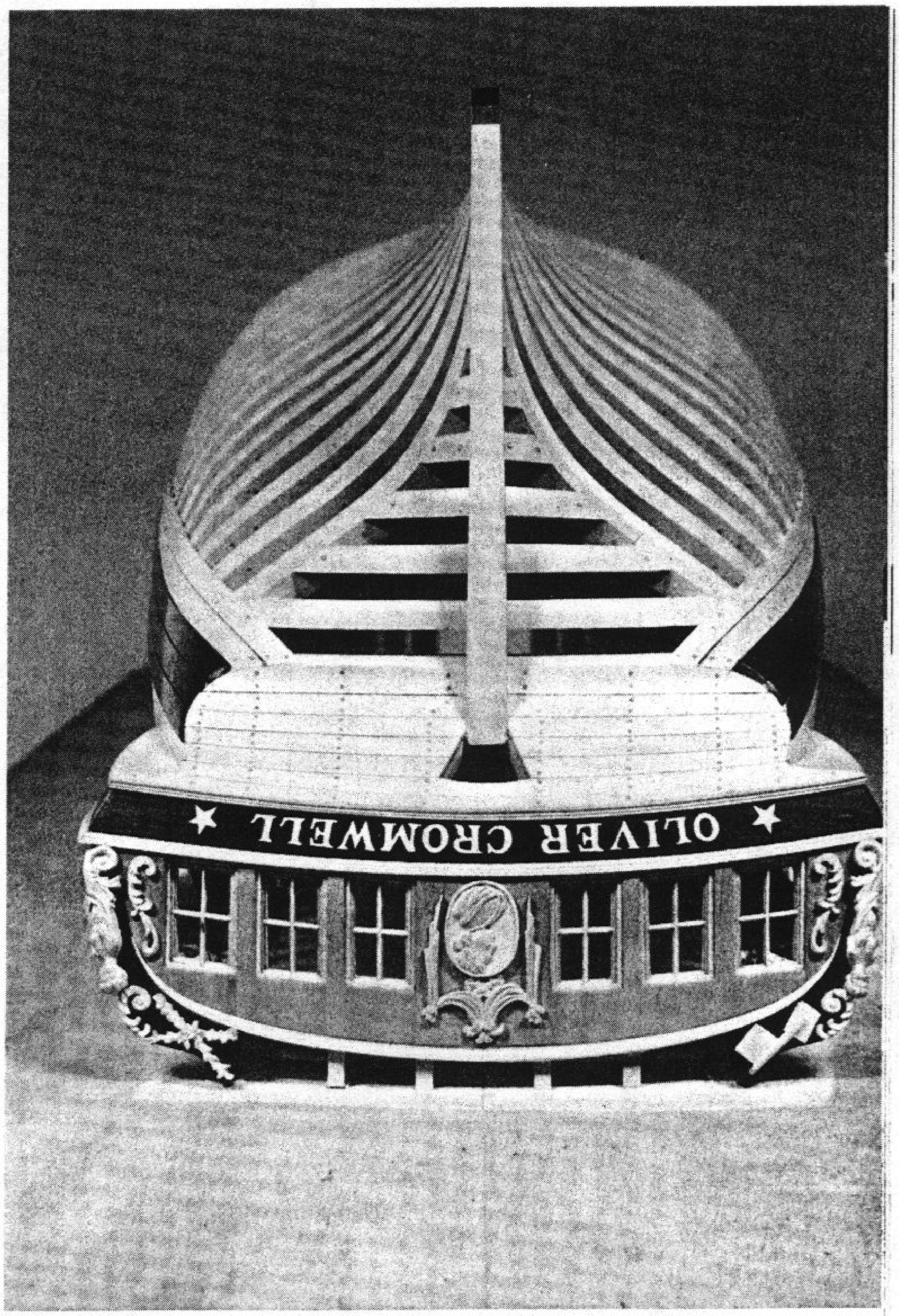
> Whereas the homeland bound Greenland Ships may be daily expected to arrive at Hull, Lynn and London; you are hereby required and directed to proceed and Cruize very diligently in the Sloop you command off Flamborough Head and to use your best endeavors to press their Men, continuing on that Station until you shall have reason to believe that the whole are arrived and then to proceed into the Humber, and having put the Men you may have procured on board such Tender as may be there, carry into execution your former orders.
>
> Given etc. 7th July 1779
>
> Captain Drummond — Sandwich
> *Beaver's Prize* — J. Buller
> Bridlington — H. Penton

On 1 August from Grimsby Road, Captain Drummond reported that he had pressed thirty-nine men out of the Greenland ships.

This reversal of policy of the Admiralty calls for an explanation. This can be provided by quoting an earlier letter which had been addressed to thirty captains of navy ships, including Captain Drummond:

> By the Commissioners for Executing the Office of Lord High Admiral of Great Britain and Ireland, etc.
>
> The Spanish Ambassador having delivered a Paper by order of his Court, amounting to a Declaration of War; You are in pursuance of the King's Pleasure, signified to us by Lord Visc[t] Weymouth, one of His Majesty's Principal Secretaries of State, hereby required and directed to seize or destroy all ships and vessels belonging to Spain or Spanish Subjects which you may meet with.
>
> Given &c. 17 June 1779
> Sandwich
> Lisburne
> H. Penton

4.4

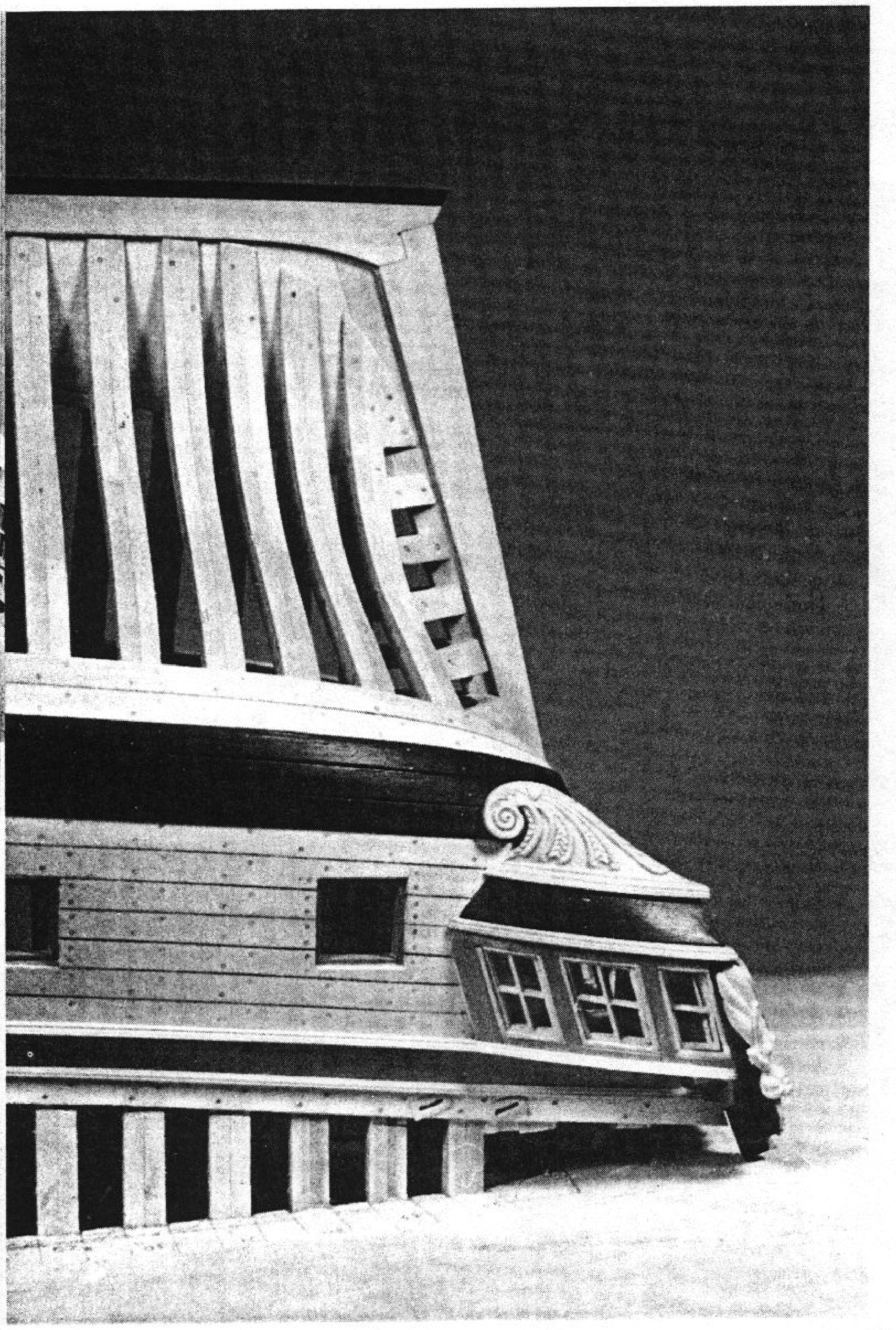


4.5

When considering the course of the Revolution, Americans tend to think solely in terms of the events that took place in North America. The year 1779 produced a temporary stalemate in the Northern colonies. Entry of France into the conflict with the arrival of her troops and ships had been heartening but produced no immediate results. Action taking place in the Southern colonies was gaining a momentum which favoured the British forces. Thus, England still appeared to dominate the scene, yet this was far from true. The latter half of 1779 was a time of grave crisis for the British Isles.

The entry of Spain into the war had seriously disturbed the precarious balance of seapower on which England depended. British warships were widely dispersed, and the Channel fleet which was meant to protect the island from invasion was caught out of its proper station. Spain was no longer the first-rate military power she had been at one time. Nevertheless because of her many rich possessions in the Western Hemisphere, she had maintained a strong navy. If that navy had been properly coordinated with the powerful French navy, the two allies would have presented a force superior to the Royal Navy in numbers.

The French had assembled an army of 50,000 men with 400 vessels to transport it at Le Havre and St Malo. Their original plan was to capture the Isle of Wight and use Spithead as an anchorage. Knowledge of this imminent danger alarmed the people in Southern England. A royal proclamation on 9 July ordered that all horses and cattle should be driven inland in the event of an invasion. Well-to-do people departed from the area thus increasing the apprehension of those unable to leave. The invasion never took



4.6

place for several reasons. The French and Spanish allies failed to cooperate well and were dilatory in their actions. Adverse weather conditions played a part and there was an irrational change in plan which made the remote coast of Cornwall the target for invasion forces. The threat of invasion had dissipated by late September, but the harrowing experience had altered British strategic planning.

Thus the Navy Board had reversed its stand on the pressing of men due to the exigencies of the situation. *Beaver's Prize* maintained her patrol along England's east coast, escorting merchant vessels from time to time. This activity continued without undue disruption through the months of June and July and well into August while the huge fleets were manoeuvring in the English Channel along the south coast where the countryside was thoroughly aroused. Perhaps Captain Drummond was becoming frustrated at being left out of the action. In the year which had passed since *Beaver's Prize* was anchored at the Nore ready for active duty, she had had her one encounter with the French privateers and then been on just one convoy cruise to Hamburg.

While anchored in the Humber on 20 August Drummond wrote to Philip Stephens at the Admiralty office in London that local merchants had asked him to strengthen a convoy to Elsinore which was being made up by the *Countess of Scarborough*. He advised that he planned to do so and enclosed letters written by the merchants to justify his decision. The convoy sailed on 23 August. On his return from this cruise Captain Drummond made the following report:

Beaver's Prize River Humber the 4th Oct. 1779

Enclosed you have the state and Condition of his Majesty's Sloop under my command. Please to Acquaint my Lords Commissioners of the Admiralty that agreeable to my letter of the 20th of August, sailed with his Majesty's Armed Ship *Countess of Scarborough*, & Thirty sail of Merchant Vessels that were bound up the Baltic, that on my Arrival at Elsinore, Capt. Richard Pearson of his Majesty's Ship *Serapis* gave me Directions to Continue at that Place until the 6th Ultimo, and then take under Protection the trade bound to Great Britain; which service I was carrying into Execution but was prevented by strong Contrary Winds, that Obliged me to Return to Elsinore on the 8th When Capt. James Pigott of His Majesty's Ship *Jason* gave me Orders to wait there to Strengthen the Convoy that were homeward bound with the said Ship, sailed on the 25th Ultimo in Company with the *Jason, Queen,* Armed Ship & Twenty One Sail of Merchant Vessels, Parted company with them the 2nd Instant at Flamborough Head and Arrived at this place Yesterday to procure a supply of Provisions

I likewise beg leave to Inform their Lordships that his Majesty's Sloop is very much in want of Officers. . . all species, and hope that their Lordships will give me. . . accordingly.

I am

To/Philip Stephens

Sir

Admiralty Office
London

Your very Humble Servant
John A. Drummond

It would appear from this account that John Drummond came close to getting more excitement than he had bargained for. Possibly *Beaver's Prize,* herself, had taken a hand in avoiding what could have been a disastrous encounter. It should be pointed out that throughout her career in the Royal Navy she exhibited a fastidious avoidance of engaging in hostile action against an American ship.

Serapis and *Countess of Scarborough* left Elsinore with a convoy of 70 sail on the 1 September. An easterly gale caused them to anchor near Christiansund in the Skagerrak where they remained until 15 September. Drummond's letter indicates that Captain Pearson of *Serapis* had expected him to join the convoy before it proceeded across the North Sea. If he had, *Beaver's Prize* would have been present when the convoy met John Paul Jones and his squadron off Flamborough Head on 23 September. It was on that occasion that John Paul Jones left the sinking *Bonhomme Richard* to capture *Serapis* and *Pallas* took the *Countess of Scarborough* while the British escorts were successfully protecting their escaping convoy of merchant ships.

As far back as April, Captain Drummond had complained about the deteriorating condition of his sloop. On 24 October he wrote that *Beaver's Prize* was in urgent need of a refit and was actually becoming unfit for sea. In the meantime, he had resumed patrolling on his assigned station. The Navy Board had dispatched orders dated 19 October instructing Drummond to proceed into Yarmouth Roads to find 'a Ship laden with Bale Goods'. He was to escort that ship to Rotterdam. On returning across the North Sea, he was to sail into Sheerness 'to have the Sloop you command cleaned and refitted agreeable to Orders you will find lodged there for that purpose'. Captain Drummond did not receive the orders until 6 November. By that time, the *Alderney* had taken over as escort for the ship to Rotterdam. *Beaver's Prize* did pick up a convoy at Orford which she escorted down the coast to the Nore. She went into dock on 22 November at Sheerness.

Drummond was still having disciplinary problems with his personnel as indicated by the following report from one of his officers:

Beaver's Prize 15 Dec. 1779

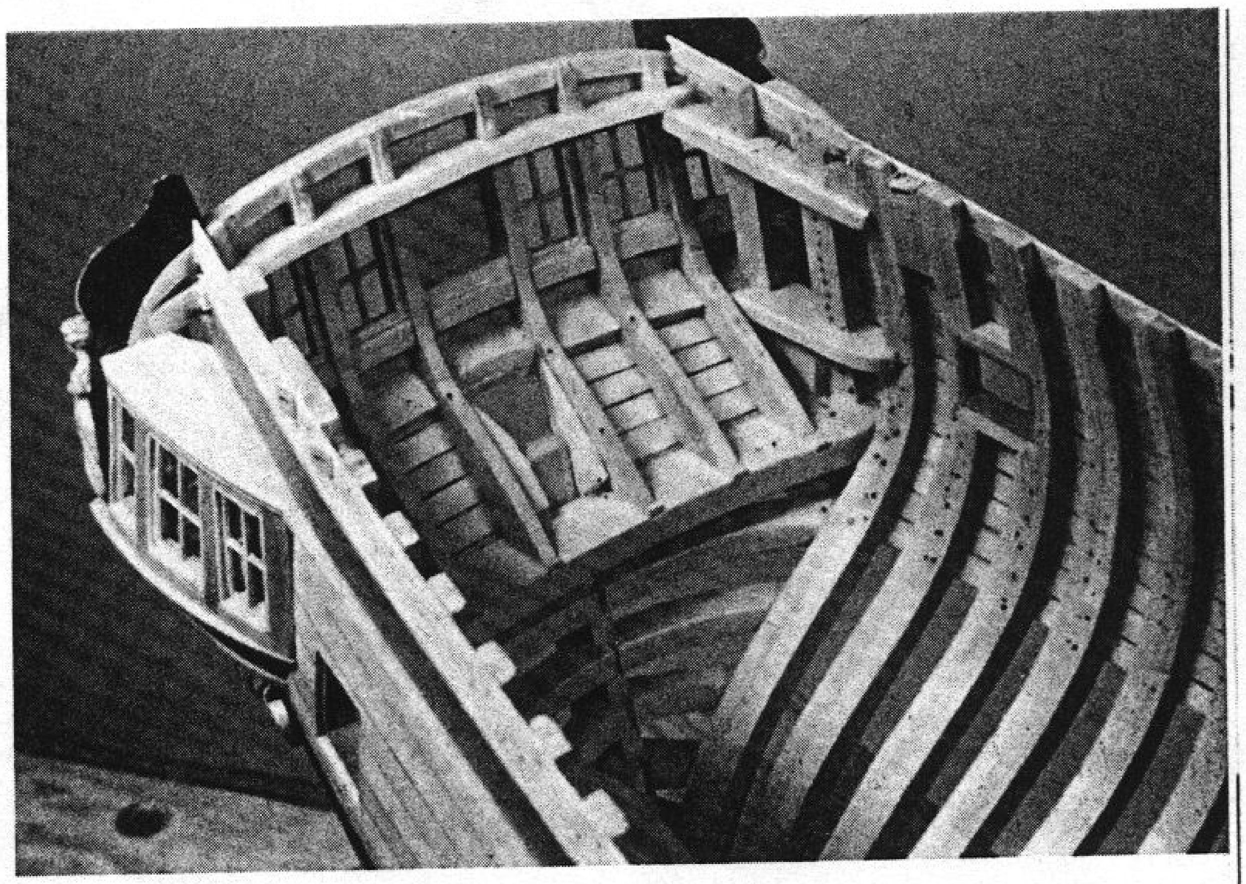
Sir,

In Obedience to orders received from you the 13th Instant That Mr. Christopher Webb Turner Purser of His Majesty's Sloop under your Command should not go on shore or leave the said Ship without the leave of the Commanding Officer and if he attempted the same to confine him, and in consequence of the said Mr. Turner coming on Board the Afternoon of the same day and asking my leave to go on shore my Answer was I should not give him leave and ask'd him if he did not remember your orders given me on the Quarter Deck. But contrary to these orders the said Mr. Turner immediately went out of the ship into the Boat. I ordered him repeatedly to come into the ship his reply was he would not and at the same time calling the people in a Boat which was passing the ship to put him on shore. In the time of 5 or 10 minutes after he came into the ship when I ordered the Sarjant of Marines to take him in Custody as a prisoner, he immediately went without the rail of the Quarter Deck. I then ordered the Sarjant to lay hold of him when he threatened to Knock the Sarjant over Board if he lay'd his hands on him, finding he was likely to get over the ship's side I seized him myself upon which he made use of many provoking speeches and Doubled his fist at me. For the above behaviour I beg you will be pleased to cause the said Mr Turner to be brought to a Court Martial.

I am
Sir
Your most
obediant
Humble servant

John Auriol Drummond Esq'r
Commander of His Majesty's
Sloop *Beaver's Prize*

Jno Newsom



4.7

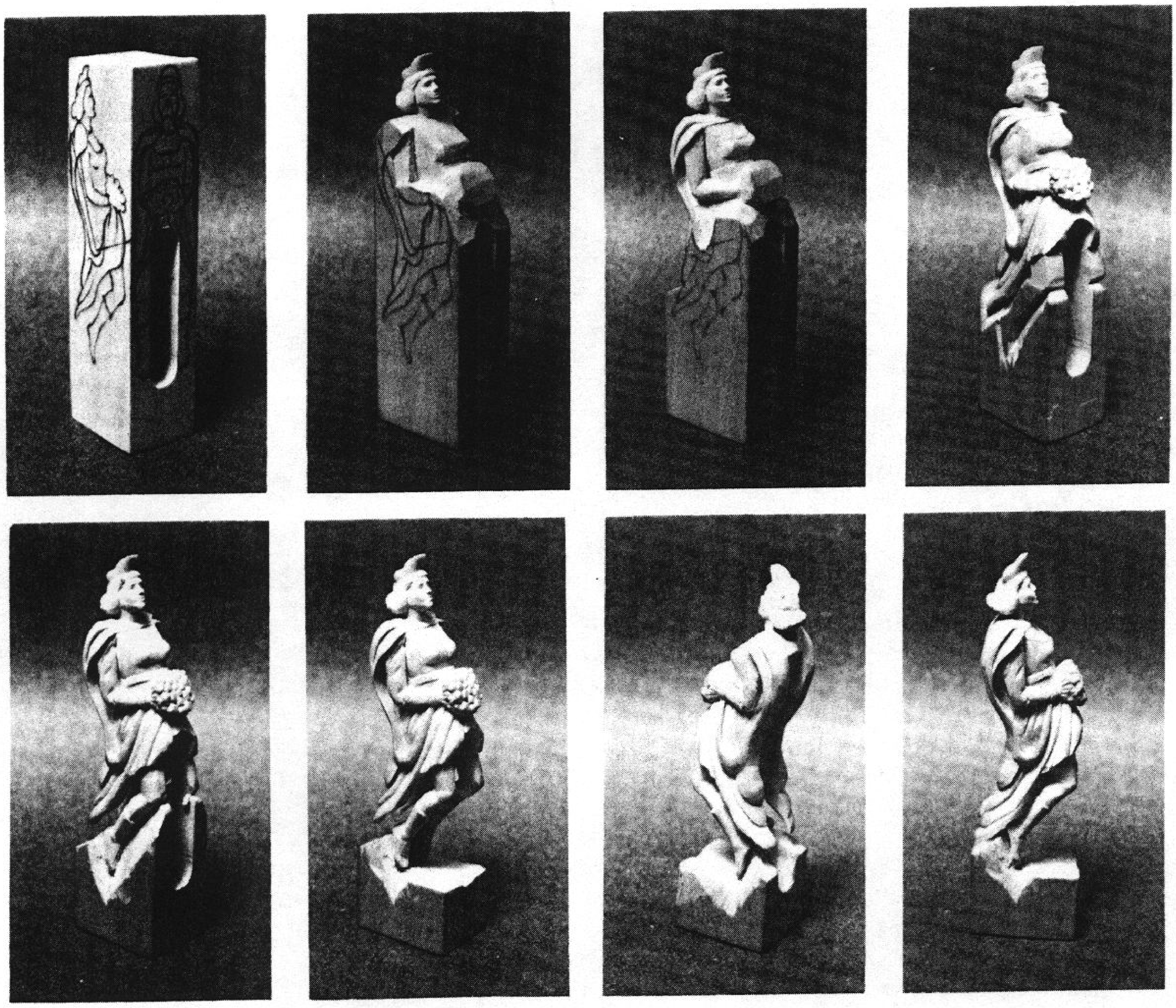
This letter is the last to be preserved that was produced by a member of the complement aboard *Beaver's Prize.* Captain's log-book

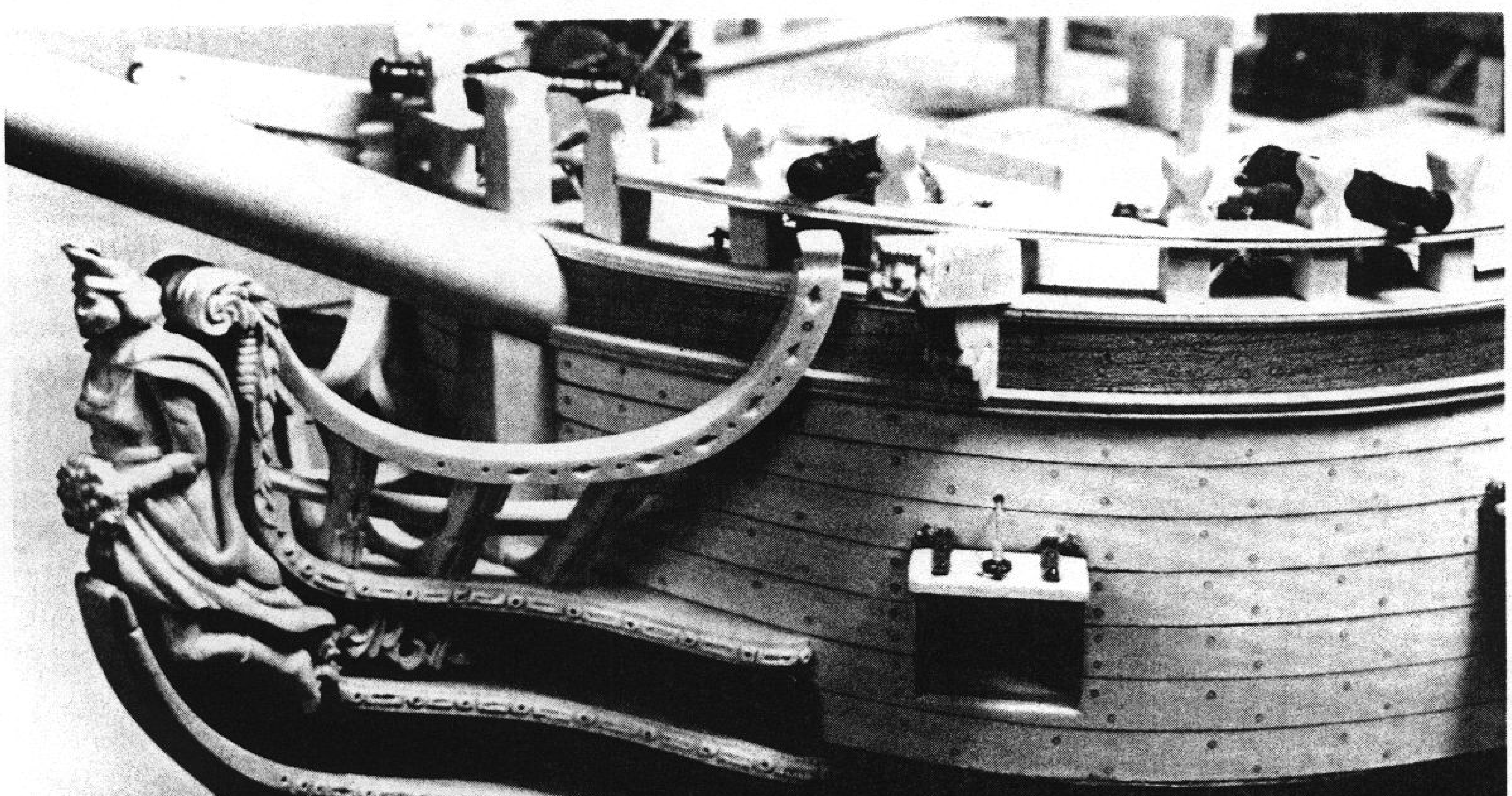
4.8

records cease in August 1779 at the time the ship sailed for Elsinore. The Master's log-book ends on 31 December. The last of Captain Drummond's letters was dated 25 November 1779 while *Beaver's Prize* was in dock at Sheerness. At that time he asked if the reduction of weight resulting from the alterations to the masts and spars might not make it possible for the ship to mount two additional guns. This request was acknowledged and approved, so presumably the armament on *Beaver's Prize* was increased to sixteen cannon. In order to carry the story into 1780 when some of the most interesting and climatic events took place, it was necessary to uncover other sources of information.

From the time it was decided to send *Beaver's Prize* into Sheerness for a refit, there was an indication that she was being drawn into a broader sphere of activities than she had experienced in the North Sea. Navy Board instructions to Captain Drummond dated 25 November 1779 indicated that *Beaver's Prize* was intended 'for foreign Service, & her Provisions for six months with all Species except Beer of which she is to have as much as she can conveniently stow'. Instructions dated 3 December and issued in duplicate to Captain Drummond and to Captain Carteret, *Endymion* (44), called for stores as necessary for a voyage to Africa with provisions for eight months. Orders dated 15 December, issued in duplicate to the same captains, instructed them to receive on board an additional 'proportion of Wine or Spirits for four Months'. On 27 December a long letter of instructions which will be described later was issued to Captain Carteret as commanding officer. All of these orders expressed a sense of urgency which was belied by the fact that the expedition they called for was a very long time in getting under way.

It would appear that the Navy Board was in a dither as a result of the events which followed Spain's entry into the war. Once the threat of invasion had been dispelled, the Admiralty still found itself faced with a number of serious problems. Upon signing the Treaty of Alliance, France had proceeded to furnish the Americans with substantial aid. She had no need to apologize for simultaneously working for her own interests in the West Indies. Spain, on the other hand, was concerned only with taking advantage of the situation to promote her own selfish interests. This opportunity to take advantage of the beleaguered British Lion was irresistible. Spain wanted to regain the Floridas that England had taken in



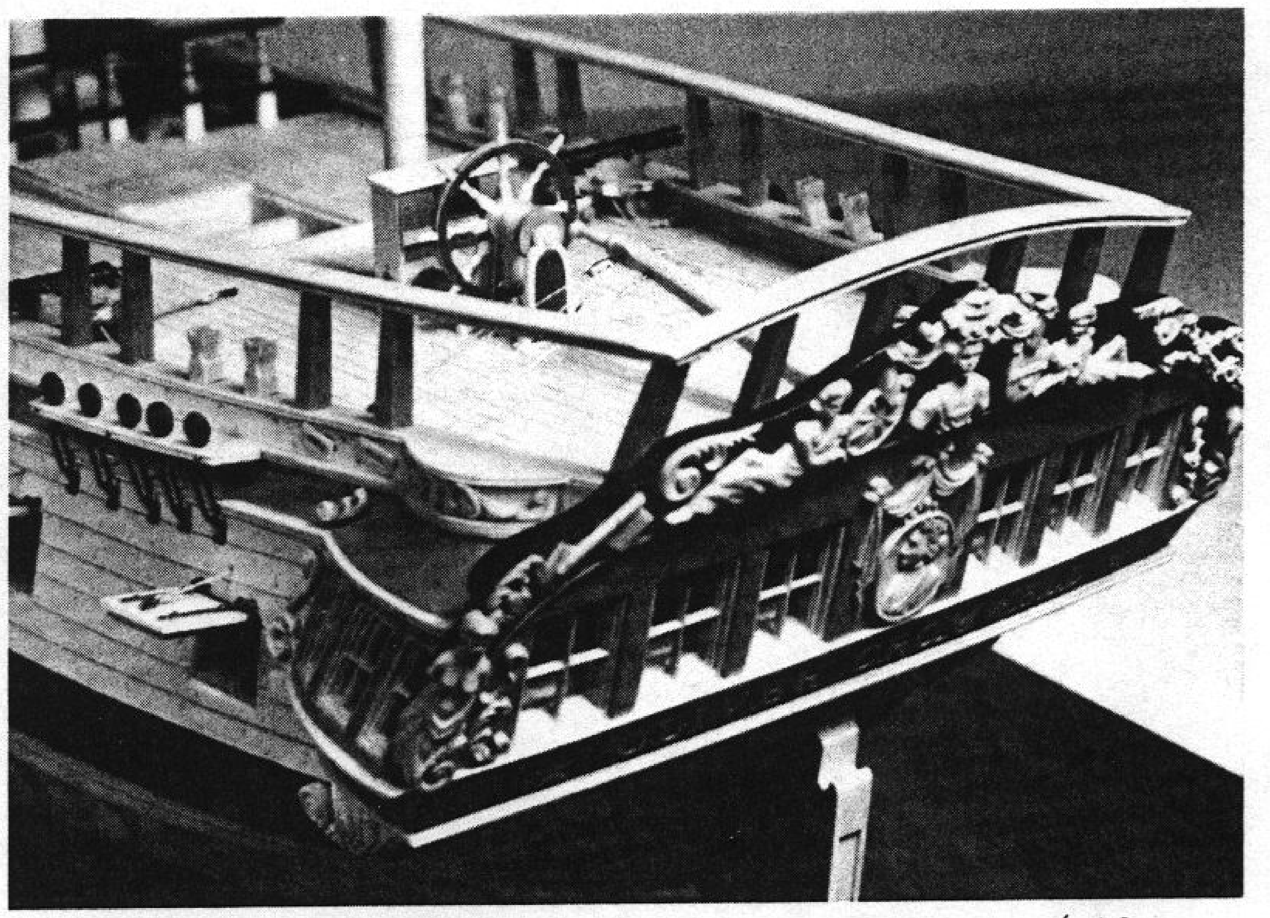


status of the various Windward Islands changed during the course of the war. When *Oliver Cromwell* was captured in 1777, St Lucia was a French possession while St Vincent and Grenada belonged to the British. When she returned in 1780 as *Beaver's Prize,* the three islands had changed hands. Thus the islands had retained the same relationship to her as regards which was enemy and which was friendly territory. Admiral Rodney had stationed Commodore Hotham at the town of Castries on the northwest corner of St Lucia where he could keep an eye on French activity at Martinique where their fleet was based.

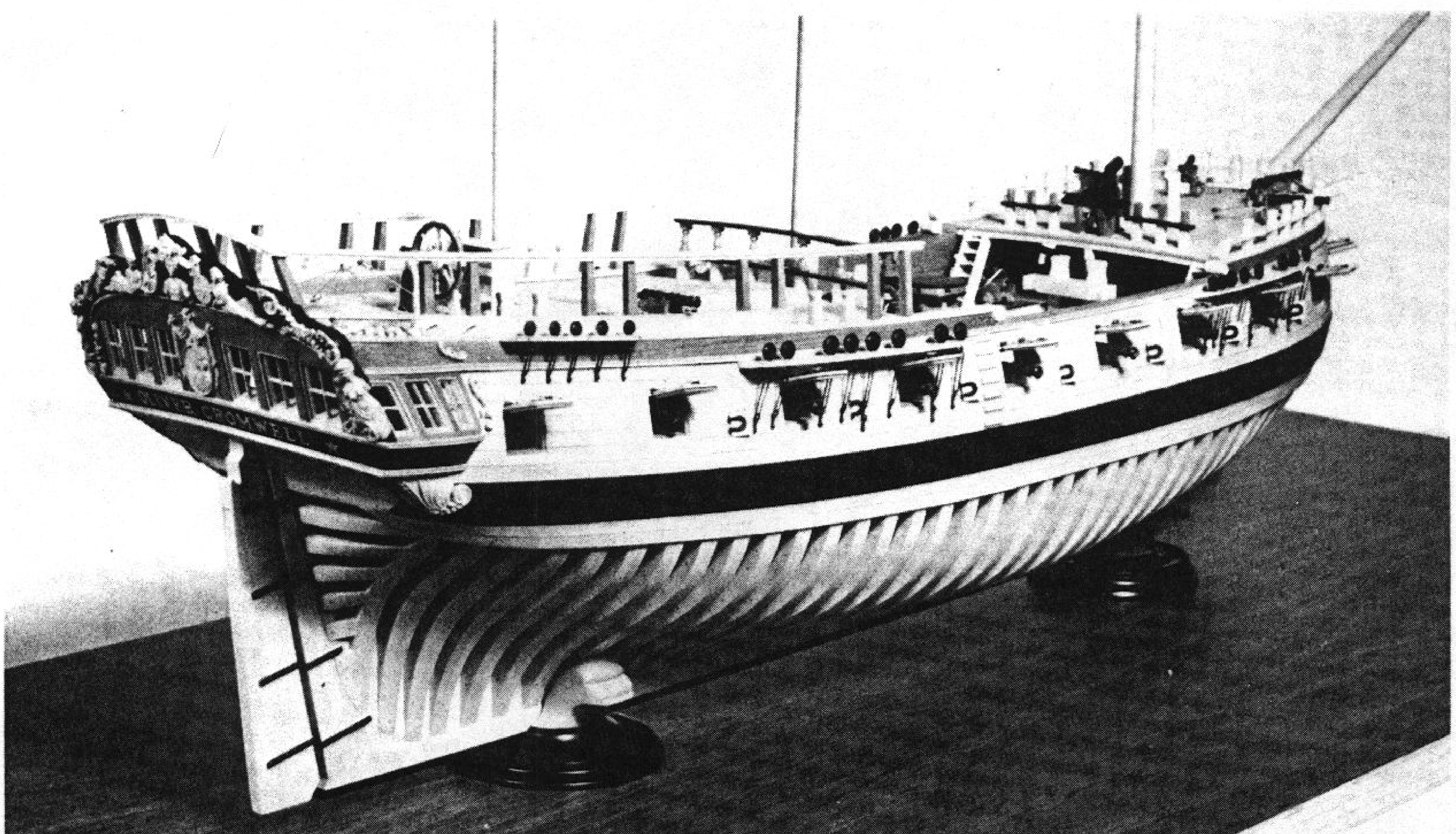
With the climatic finish to this story approaching, it would help to understand the influence that seasonal weather had on fleet movements. The hurricane season which lasts from June through to the end of November in the West Indies was a prime consideration. During the months of summer and autumn, naval operations in the Carribean were curtailed in much the way that armies in northern regions went into winter quarters. When *Beaver's Prize* reached St Lucia in October 1780 Admiral Rodney was at New York with the bulk of his fleet. He had left Commodore Hotham behind with a few ships of the line to safeguard the British position in the islands.

On 4 October *Endymion* and *Beaver's Prize* sailed from Carlisle Bay at Barbados with a convoy. On the 6th they spoke with *Andromeda* and *Laurel* who conveyed orders for *Endymion* to report to Commodore Hotham at the Carenage, St Lucia. Captain Carteret learned that he was to sail in company with *Andromeda* and *Laurel* to cruise 10–15 leagues to windward of Martinique, keeping the French under surveillance. *Beaver's Prize* was ordered to lead the convoy into the Carenage where she found the ships *Vengeance, Ajax, Montagu, Edgmont* and *Amazon* at anchor.

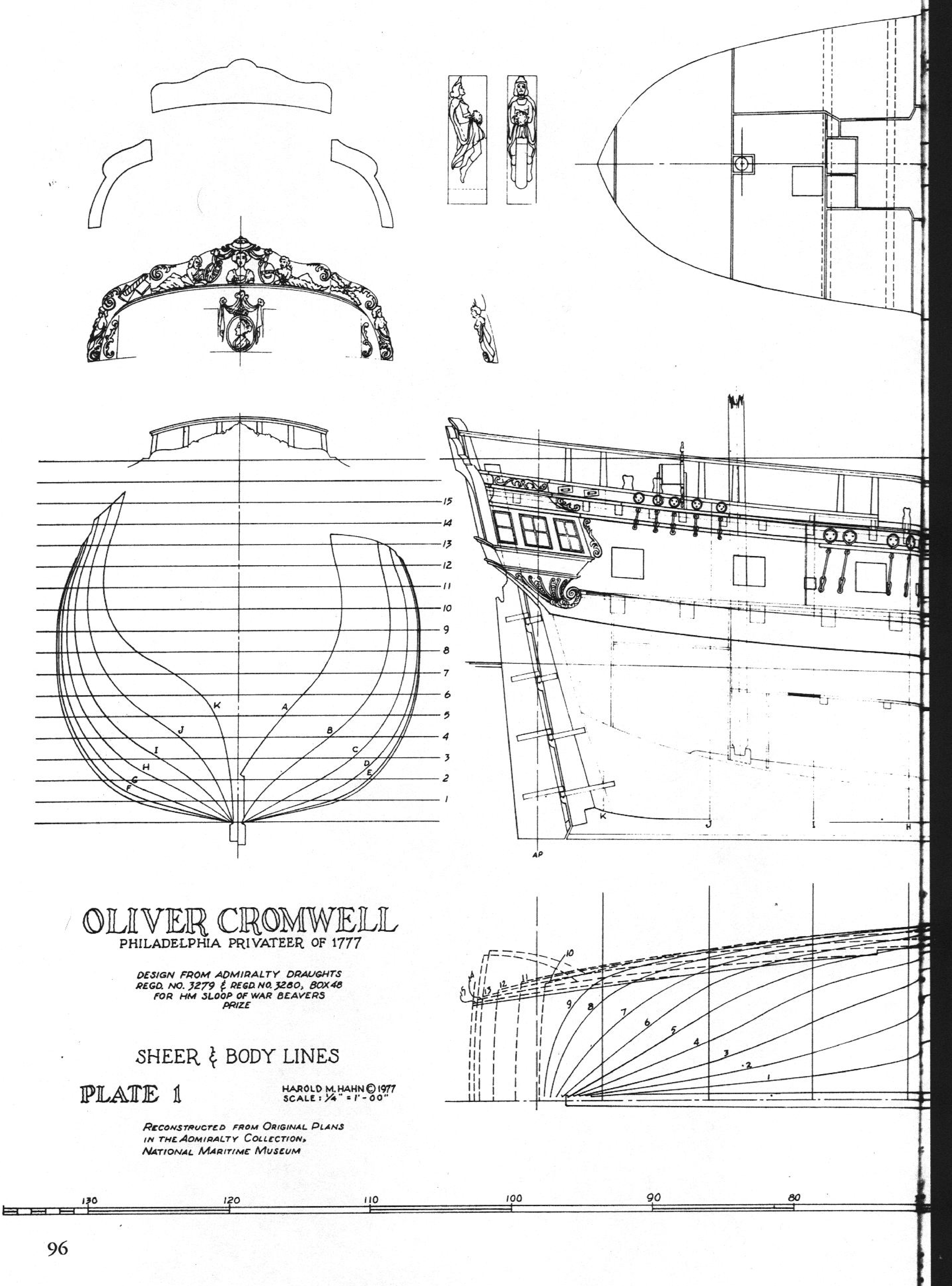
On 9 October *Beaver's Prize* sailed for Barbados with a convoy. On the 12th a terrible hurricane struck the Windward Islands. On St Lucia almost every house was unroofed and the tropical forests were destroyed. Four thousand people died on Barbados, and 9000 horses and cattle were destroyed. When Rodney returned to Barbados in December he was shocked to find

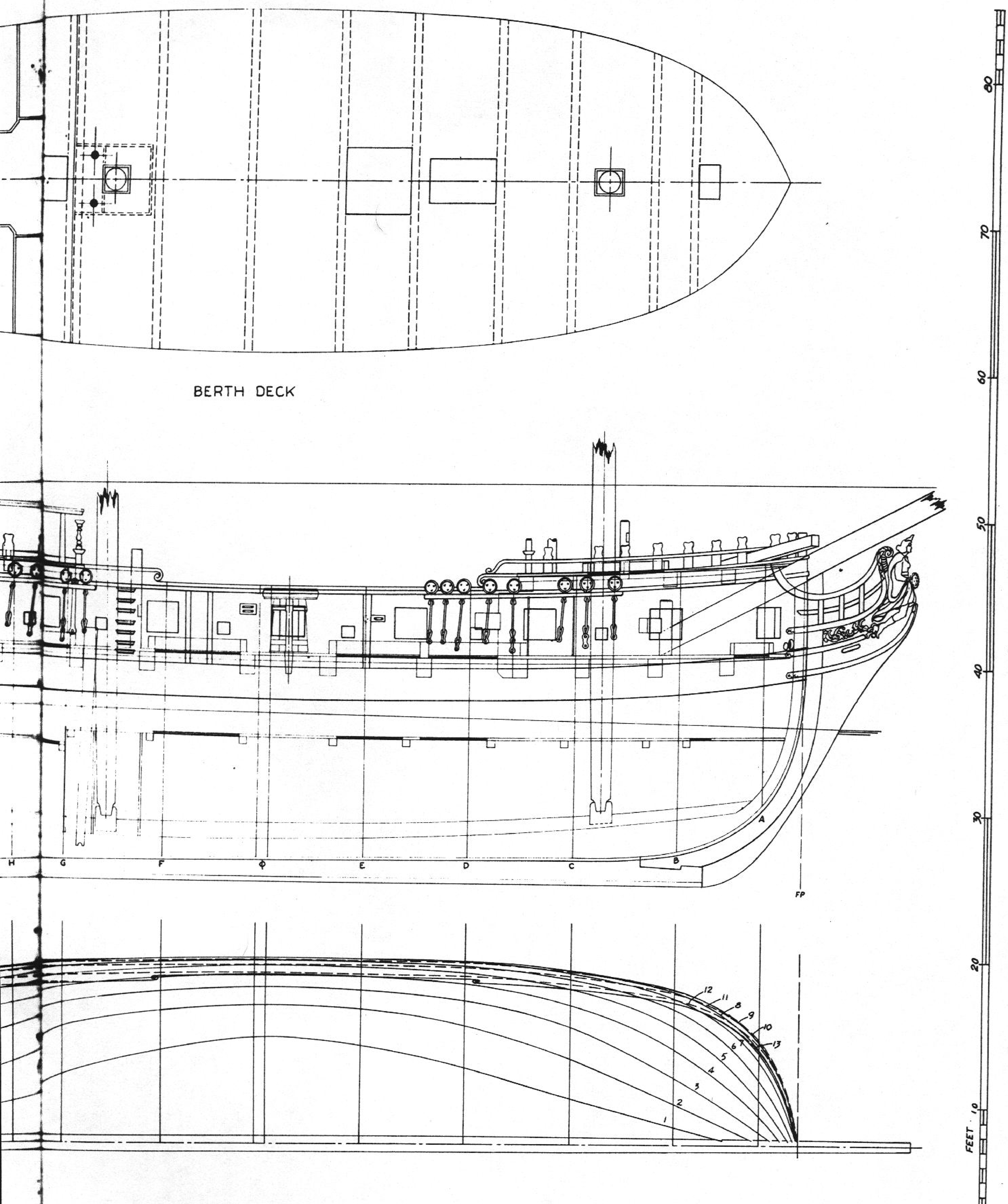


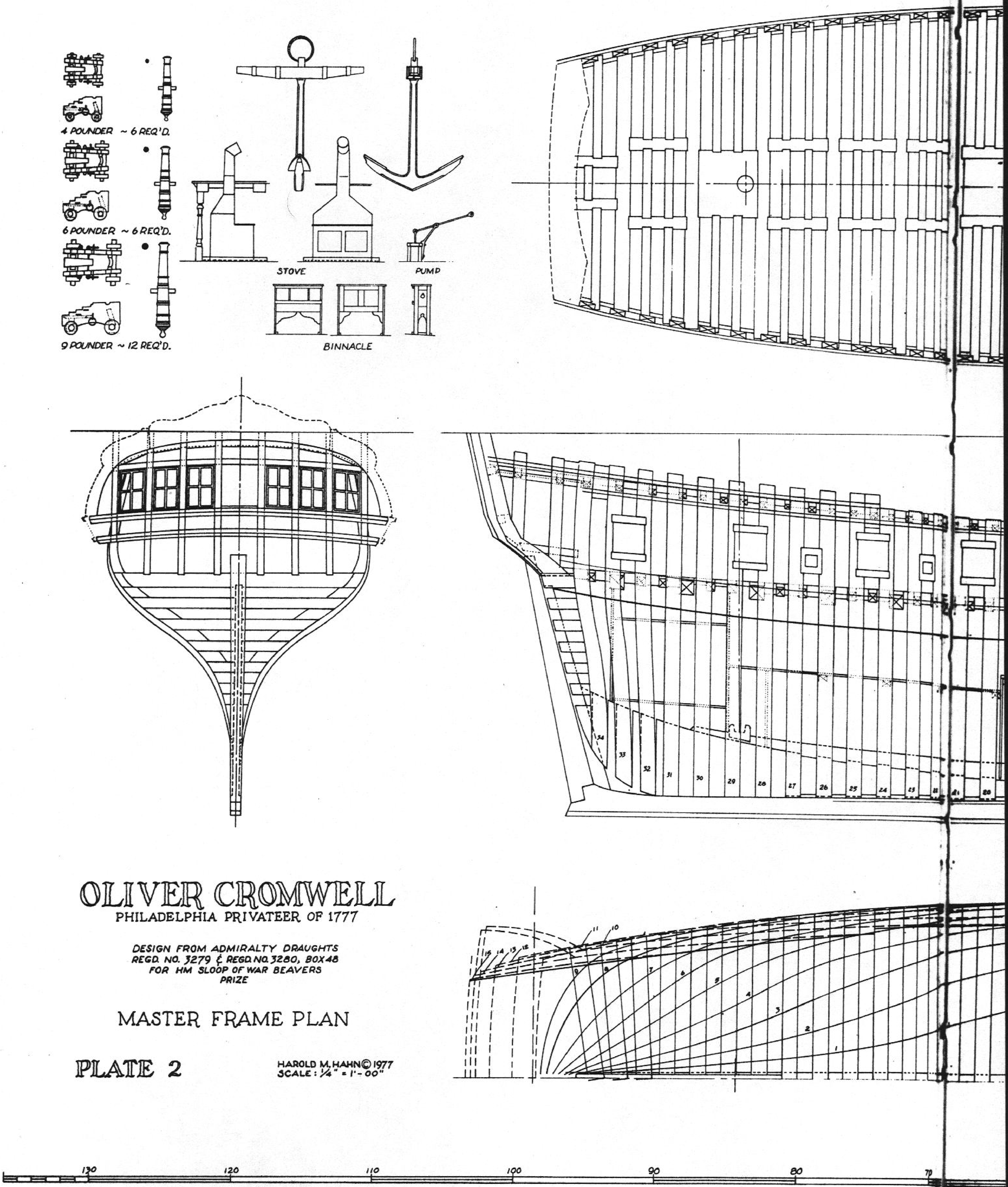
4.10

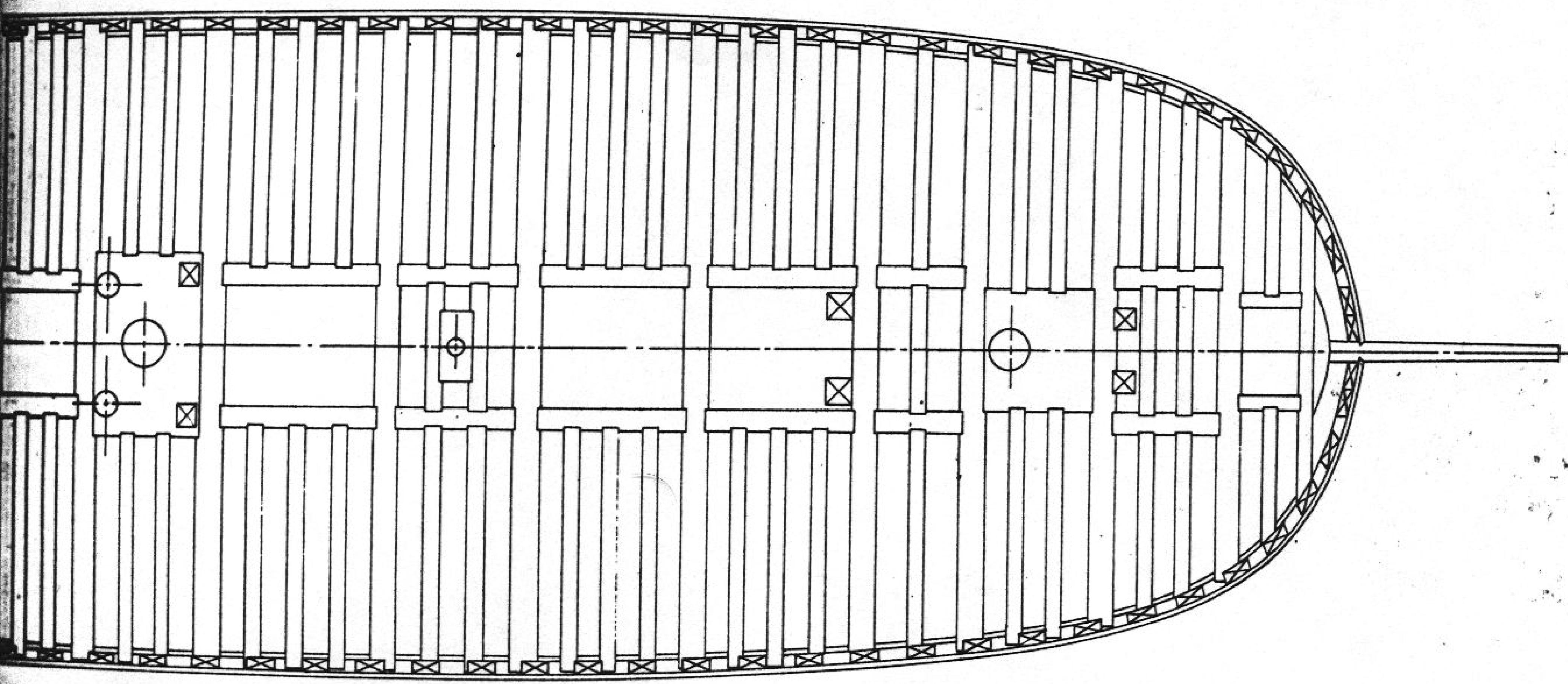


4.11

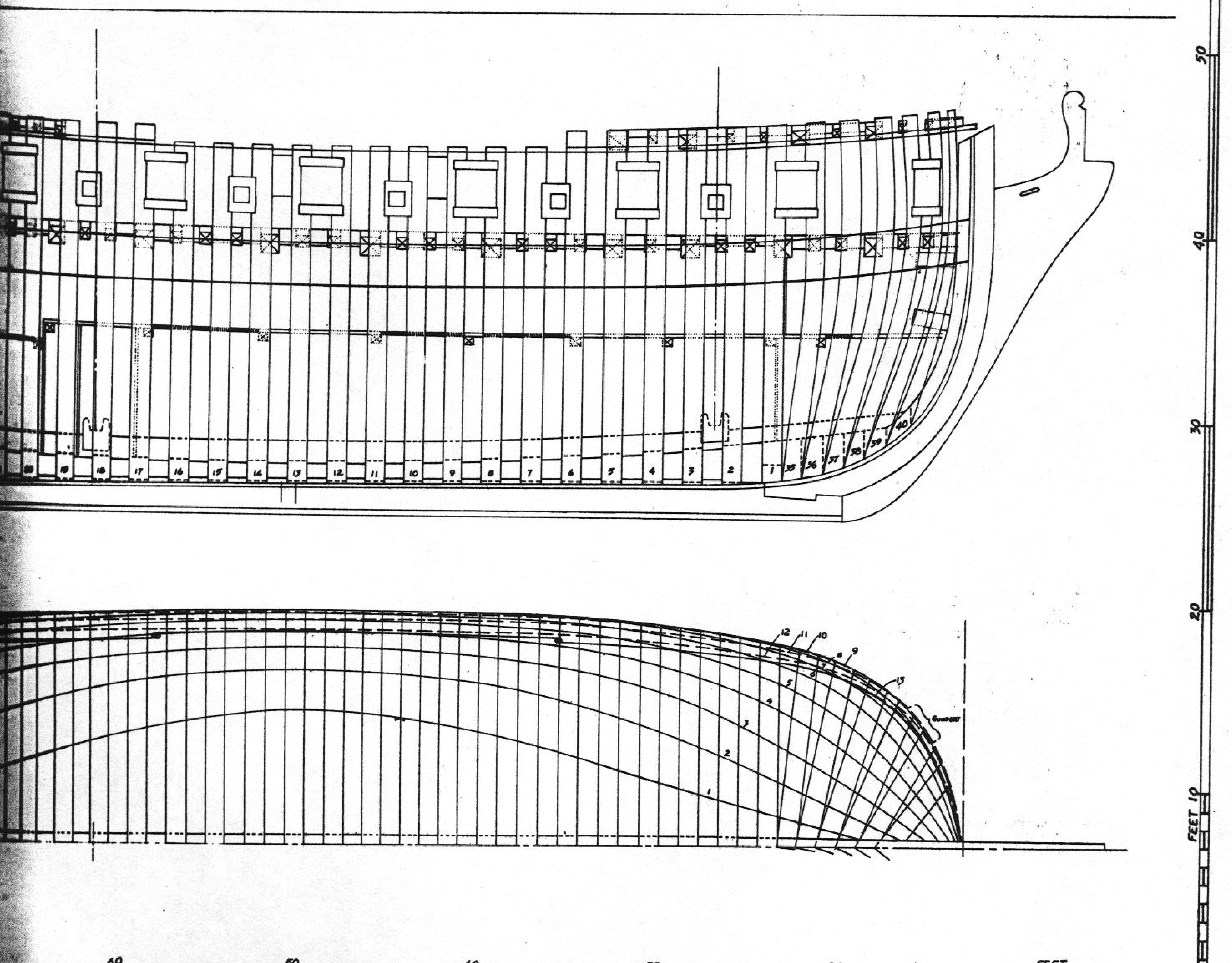

OLIVER CROMWELL
PHILADELPHIA PRIVATEER OF 1777
DESIGN FROM ADMIRALTY DRAUGHTS
REGD. NO. 3279 & REGD. NO. 3280, BOX 48
FOR HM SLOOP OF WAR BEAVERS
PRIZE
SHEER & BODY LINES
PLATE 1
HAROLD M. HAHN © 1977
SCALE: 1/4" = 1'-00"
RECONSTRUCTED FROM ORIGINAL PLANS
IN THE ADMIRALTY COLLECTION,
NATIONAL MARITIME MUSEUM
130
120
110
100
90
80


BERTH DECK
H G F Φ E D C B A
FP
1 2 3 4 5 6 7 8 9 10 11 12 13
80 70 60 50 40 30 20 10 FEET
60 50 40 30 20 10 FEET


4 POUNDER ~ 6 REQ'D.
6 POUNDER ~ 6 REQ'D.
9 POUNDER ~ 12 REQ'D.
STOVE
PUMP
BINNACLE
OLIVER CROMWELL
PHILADELPHIA PRIVATEER OF 1777
DESIGN FROM ADMIRALTY DRAUGHTS
REGD. NO. 3279 & REGD. NO. 3280, BOX 48
FOR HM SLOOP OF WAR BEAVERS
PRIZE
MASTER FRAME PLAN
PLATE 2
HARALD M. HAHN © 1977
SCALE : 1/4" = 1'-00"
130
120
110
100
90
80
70

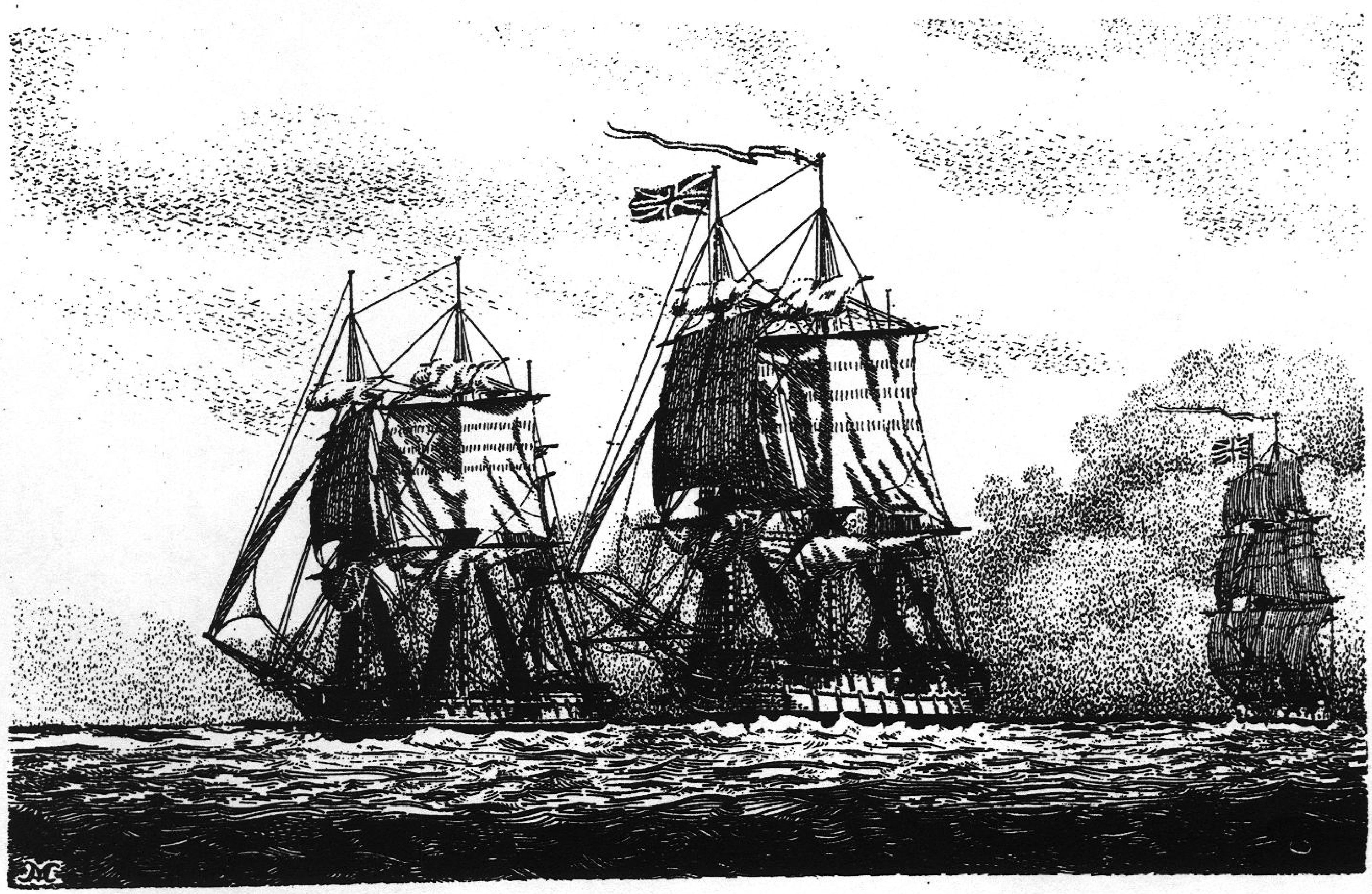


MAIN DECK FRAMING



CHAPTER 5

Continental Frigate *Confederacy* (36)

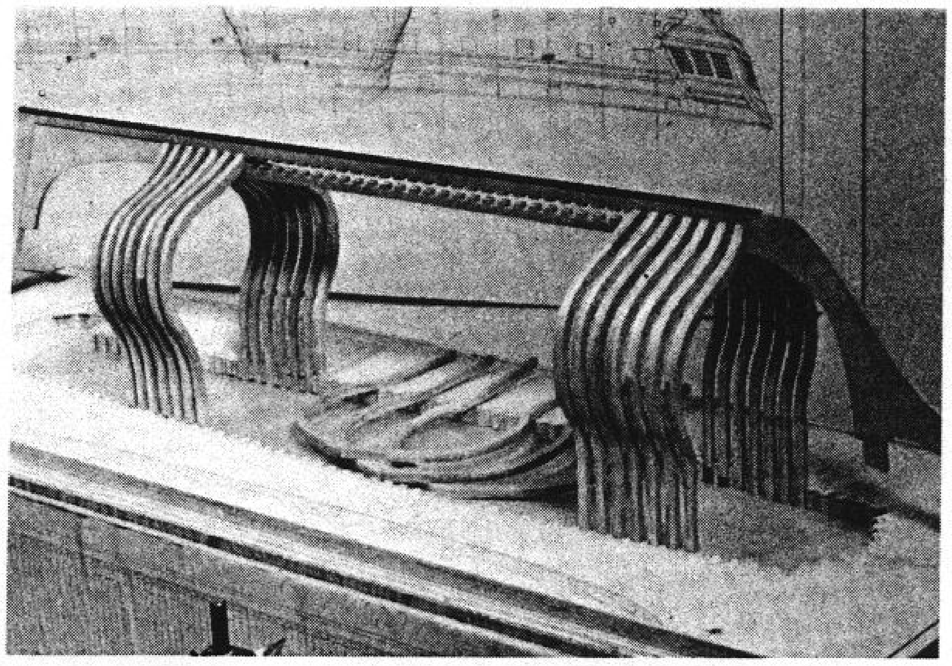


governor has in view is not accomplished
in ten days after your sailing from New
London, you are to hold yourself no longer
bound by his Orders, and if the business is
done in less time than ten days you will
immediately afterwards proceed to Sea and
govern yourself by the following
instructions: &c

The actual fact was that *Confederacy* was still far from ready to sail. The difficulty of recruiting an adequate crew, to say nothing of holding those who had already signed on, was a continuing problem. Financing pay for his officers and crew had to be shouldered by Captain Harding from his hard-earned prize money for which he would supposedly be reimbursed. As the weeks passed with the ship lying inactive at anchor, plans for her utilization changed. On 17 April the Marine Committee issued a new set of orders to Captain Harding. They were to be opened when *Confederacy* had reached a point 'clear of Montough (Montauk) point' at the east end of Long Island. They instructed him to sail to the Capes of Delaware and there apply for further orders. 'When you get within sight of the light House of Cape Henlopen you will hoist a pennant at your fore top mast head and a Jack at the main top mast head in order that you may (be) known from the Shore when they will send you a Pilot.' On reaching the road opposite Lewis Town, Harding was to make contact with the Committee and wait there unless he might 'have Opportunitys of taking some of the enemies Privateers which may appear in that time about the Capes'.

This cruise actually began on 1 May when *Confederacy* was finally able to sail from New London. After he had reached Delaware Bay and made his contact, Captain Harding received orders from the Marine Committee dated 2 June. He was to ally himself with Captain Samuel Tucker of the 24-gun *Boston*. Harding was to subordinate himself to Tucker as the senior officer even though *Confederacy* was the larger ship. The two ships were to cruise in company along the coast between the latitudes of 40 and 35 'to take, burn, sink or destroy as many of the enemys Ships or Vessels of every kind' as possible. In particular, the Marine Committee had received intelligence that British Privateers were cruising in latitude 36 waiting for an expected fleet of American merchant vessels bound from the West Indies to the ports of the Chesapeake Bay and Philadelphia.

On 6 June the merchant fleet was sighted with two British frigates in pursuit. When *Confederacy* and *Boston* appeared on the scene, the British ships retired and the merchant vessels were convoyed safely inside the Capes. Soon afterwards, what appeared to be one of the British frigates was sighted. Using the subterfuge of hoisting British colours, *Boston* and *Confederacy* managed to approach the stranger closely enough to force a surrender without a shot being fired. The prize was the *Pole* (24), commanded by Captain Maddock. On the same day, the 6-gun schooner, *Patsey* from St Kitts and the sloop *William* from Tortola were captured. Captain Tucker had *Confederacy* convoy the three prizes into port.



5.1

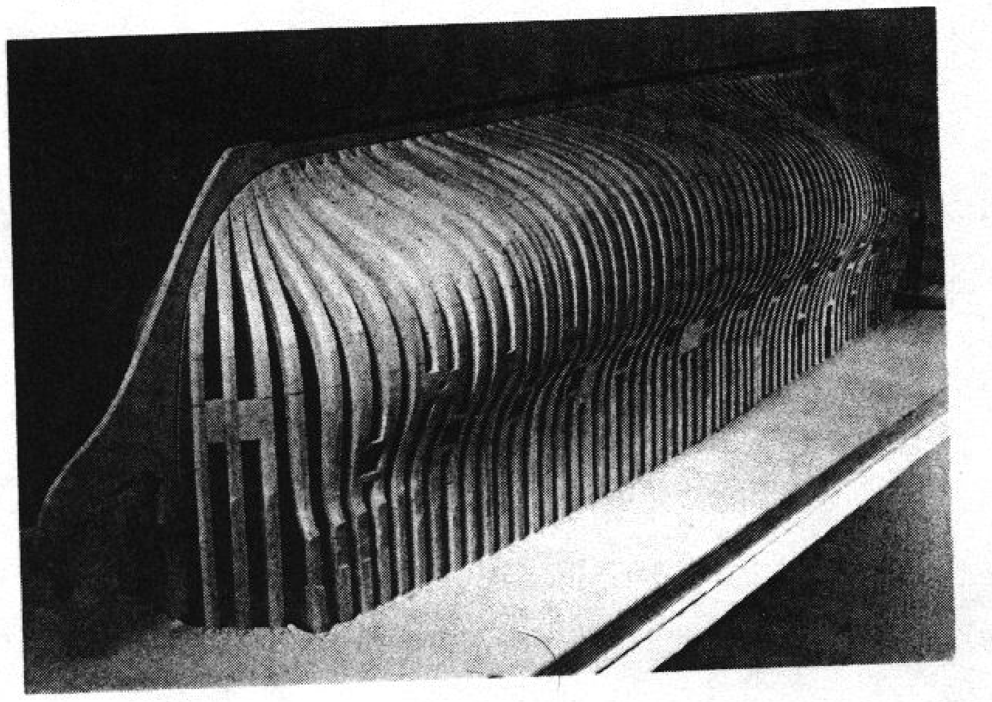
In orders dated 2 July Captain Harding received instructions to join the frigates *Deane* and *Boston* cruising off the Virginia Capes to support them against three British ships that had been reported in the area. Tide water Virginia had been harassed by British privateersmen with hit-and-run destruction of property on land and vessels along the coast. It was hoped that the presence of the Continental frigates would suppress this activity. A report from Richard Henry Lee dated 8 August advised that the depredations had ceased and two 'vessels of war' had been captured.

The Marine Committee next sent Captain Harding the following letter of instructions:

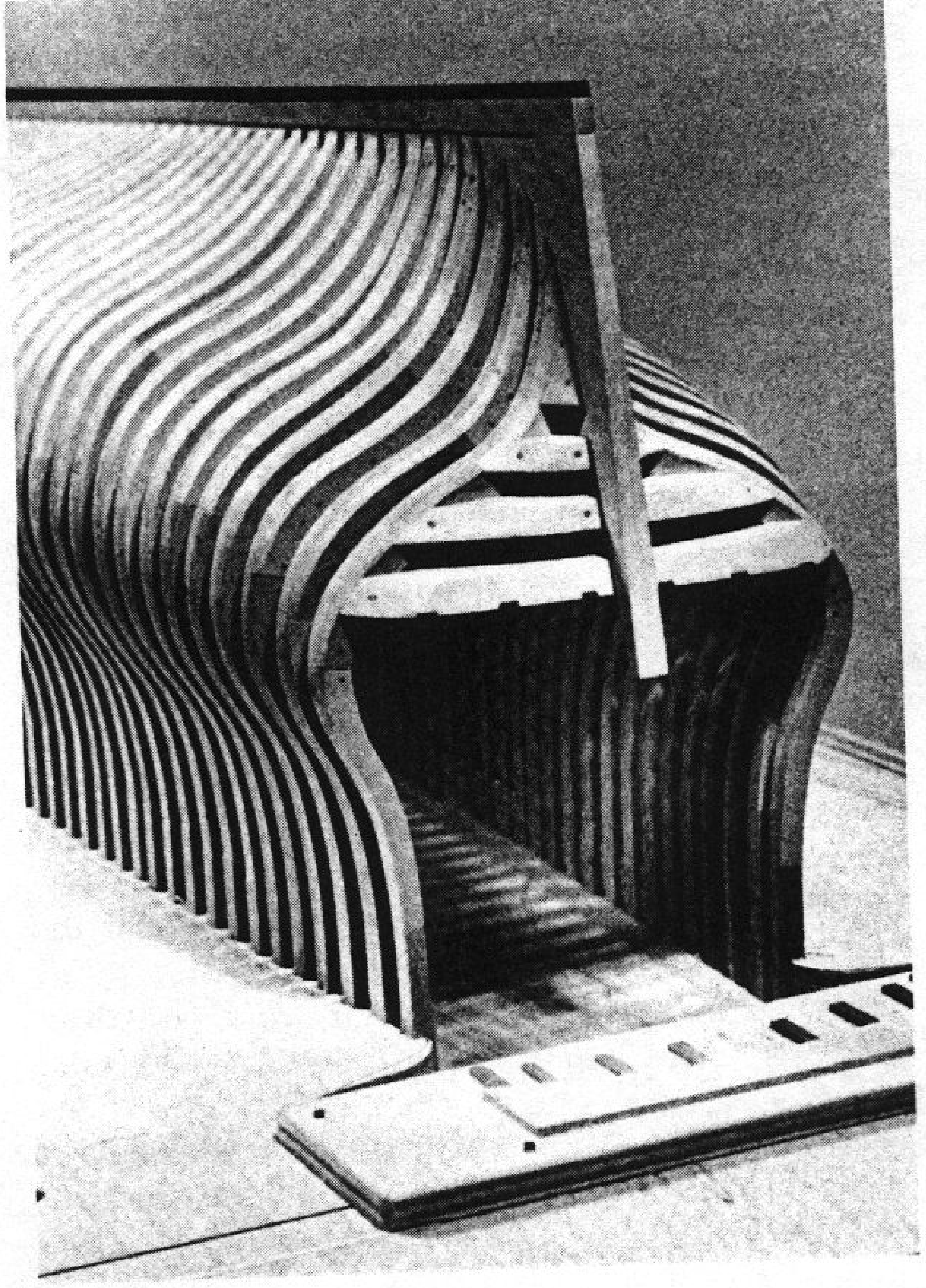
August 24th 1779

Sir,

You are hereby directed to sail with
the Continental frigate *Confederacy* on a
short cruize off the Capes of Delaware until
the 5th of September next, chusing such
Station as you shall think will be most
likely to fall in with the Brigantine Eagle
Captain John Ashmead belonging to the
United States which is daily expected at
this Port from the Island of St Eustatia and
has on board a Lading of much
consequence to the public. Should you
meet with this vessel you must convoy her
into the Bay so far as you may judge she
will be safe from Capture by the enemy



5.2



5.3

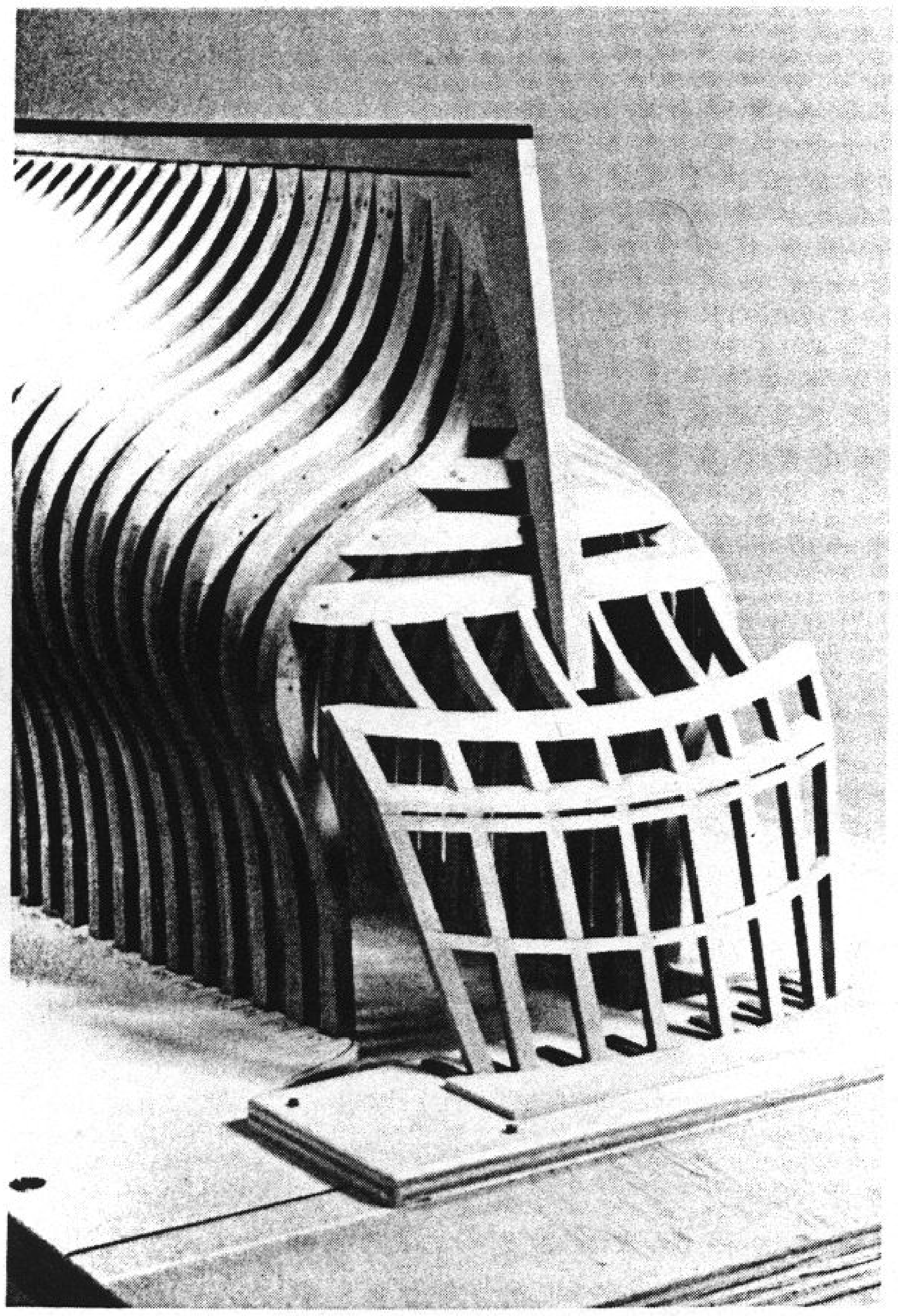
and afterward Cruize until the time above mentioned when you are to put into the Bay and call upon Major Henry Fisher at Lewis Town with whom will be lodged our further orders for your government. The Navy Board will deliver you a set of Signals whereby the Eagle will be made known to you, to which please to attend & wishing you Success.

We are Sir
Your Hble servants

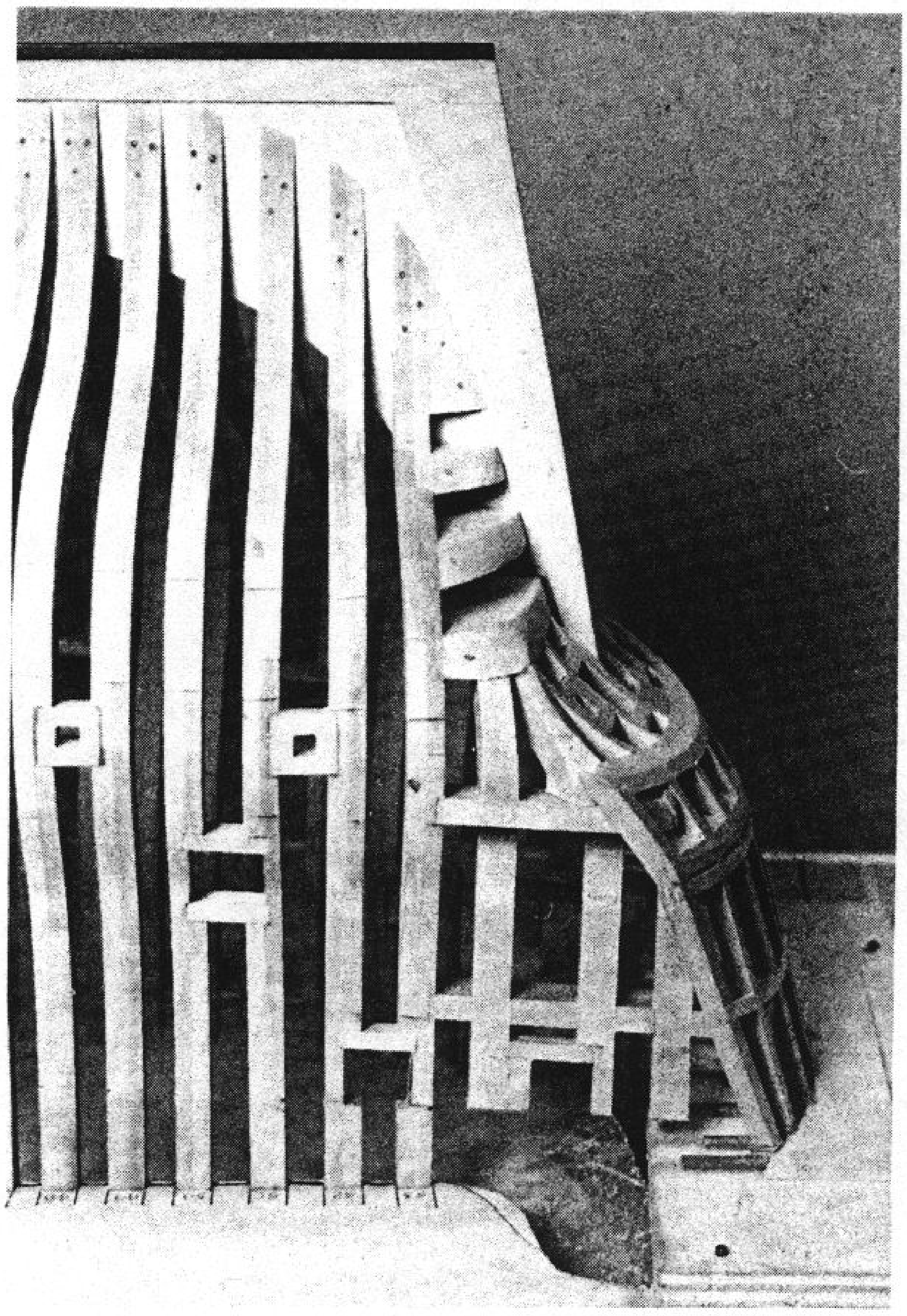
Confederacy successfully completed this mission of meeting and convoying the *Eagle* into the safety of Delaware Bay. Then on 5 September instructions were received through Major Fisher that the ship should be brought up the Bay to Chester on the Delaware River just south of Philadelphia. Here on the 17th, Captain Harding learned that he was to be given an important diplomatic mission. *Confederacy* was 'to carry His Excellency the sr. Gerard Minister Plenipotentiary of his most Christian Majesty and his Suit to France'. The frigate was to be prepared expressly for the comfort and convenience of the Minister and *Confederacy* was to sail at the earliest possible date. At the same time, a long letter was forwarded to Benjamin Franklin in France. The Marine Committee apologized for making Franklin responsible for handling the ship's affairs on arrival, but asked him to see that she was loaded with military stores for the return voyage. Also, they requested 'As it is probable that the Captain, Officers and Crew will stand in need of some Supplies of Clothing and (as they have wages due to them) a little money, we ask that you will Order them advances to be made, but with a sparing hand.'

The sailing date was delayed until 26 October as a result of the necessary preparations and the addition of distinguished names to the passenger list. On 17 October Captain Harding was notified that 'John Jay Esquire, his Secretary and Family along with John Adams and his family' were to be included. In the meantime, while lying off Chester, *Confederacy* was still undermanned and finding recruiting as difficult as ever. Captain Harding had made use of press-gang tactics with some success at New London. Here at Chester, a few enlistees were secured in this manner from the surrounding countryside and taken from merchant vessels coming up the river. However during Harding's absence, Third Lieutenant Stephen Gregory experienced an embarrassing rebuff.

When the Pennsylvania state brig *Delaware* came up the river with Captain John Barry in command, Lieutenant Gregory had the temerity to try stopping her to press some men. When his order was ignored, he had a gun fired, and sent a boat with two officers to the *Delaware*. When the boat's crew tried to board the brigantine, they were warned off by the boatswain. The two officers gave up their attempt at intimidation when they met with stiff resistance on board. When the boat had returned, another gun was fired from *Confederacy*. Captain Barry prepared to fire a



5.4

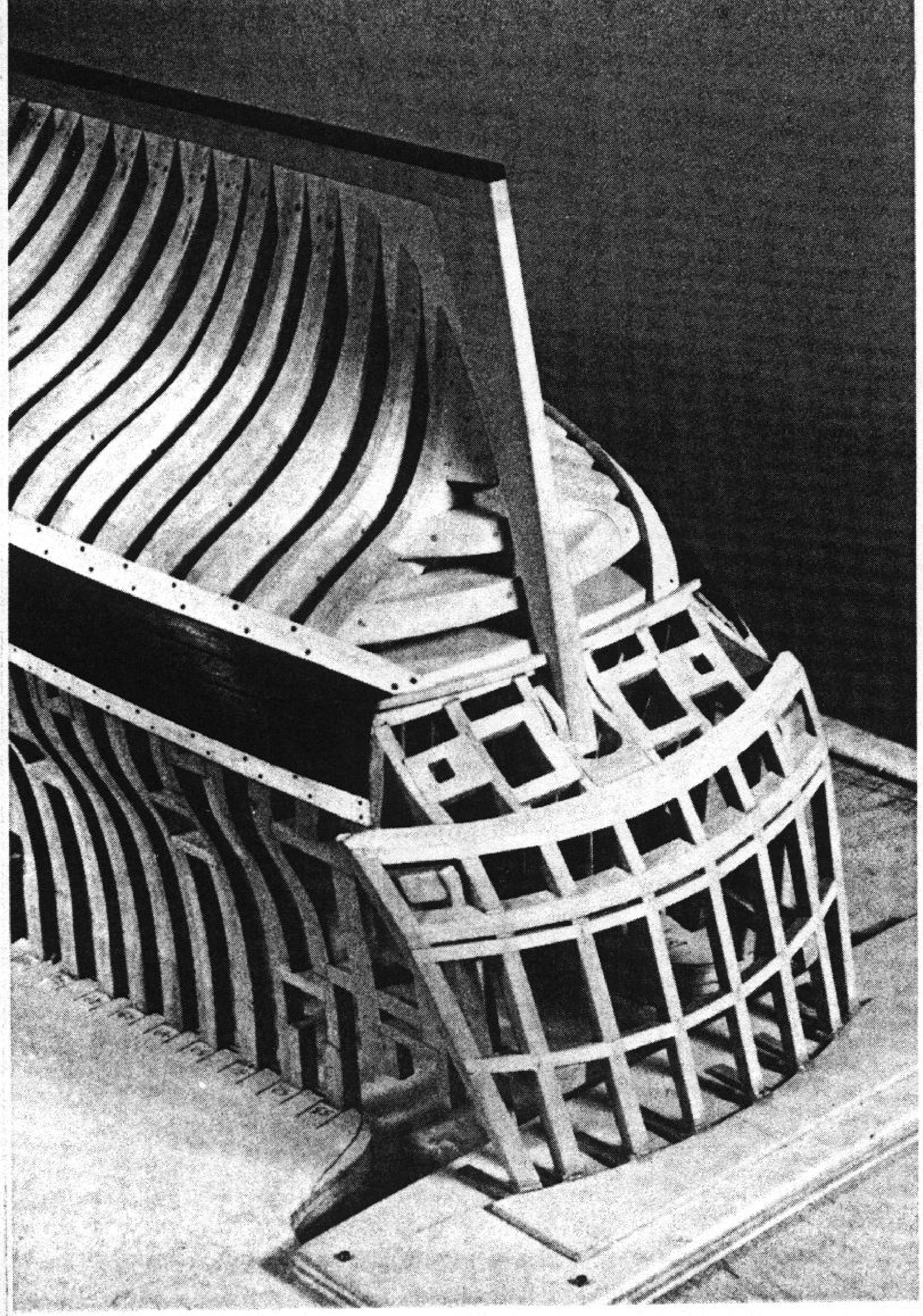


5.5

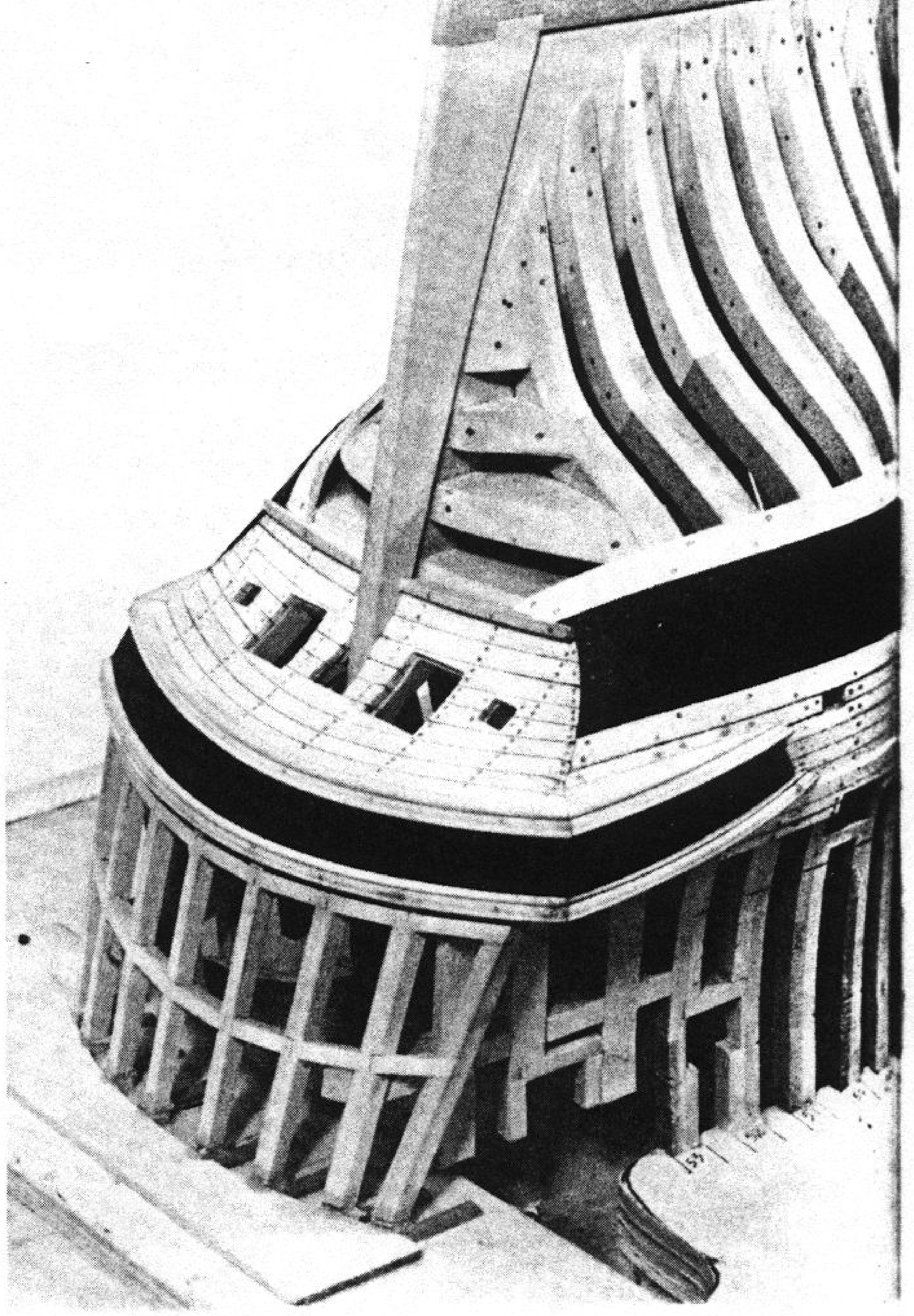
broadside from the *Delaware* in retaliation. At this point, Lieutenant Gregory became fully appraised of whom he was challenging and had the discretion to back down before the confrontation became more serious. Subsequently, a resolution was proposed in Congress which would have reprimanded Captain Harding for impressing seamen 'without permission first obtained from the Legislative or Executive authority of the State in which such ship or vessel may then be'. However, this resolution did not pass since the serious difficulties of recruitment were well-appreciated and impressment was still accepted as a necessary evil.

When *Confederacy* sailed on 26 October John Adams and his family were not among the passengers. They were thus spared a very unpleasant experience. For ten days the frigate sailed eastward into the Atlantic on what promised to be an uneventful voyage. Then on 7 November at five o'clock in the morning the passengers were rudely aroused by a crash on deck. The masts and bowsprit had snapped off and the ship lay at the mercy of high winds and a rough sea. Cutting away and clearing the wreckage away was hampered by the heavy rolling of the ship, but that work was completed by noon. The ship's master, who had been on deck at the time, described the conditions that had existed when the catastrophe occurred. They had been making about nine knots through a cross sea with considerable rolling, but he didn't feel that they had been carrying too much sail for the conditions. He and Second Lieutenant Vaughn who was the officer in charge suddenly noticed the rigging slacking. The watch was ordered into the shrouds with a view to correcting the condition but before anything could be done the masts were lost. Among the men who were injured was David McIntosh whose arm and hand were mashed to a pulp under one of the masts. Also suffering internal injuries, he died four days later. Lack of control over the movement of the ship was compounded when it was discovered that the rudder would not respond to the tiller. The head had been split and wrenched off. This was rectified by fastening chains to bolts fixed on either side of the rudder with ropes extending from the chains to reach the capstan through blocks on either side of the ship.

Confederacy lay helpless 1140 miles east of Cape Henlopen, 878 miles west of the Azores, and 1400 miles north of the French island of Martinique. John Jay and company were intended



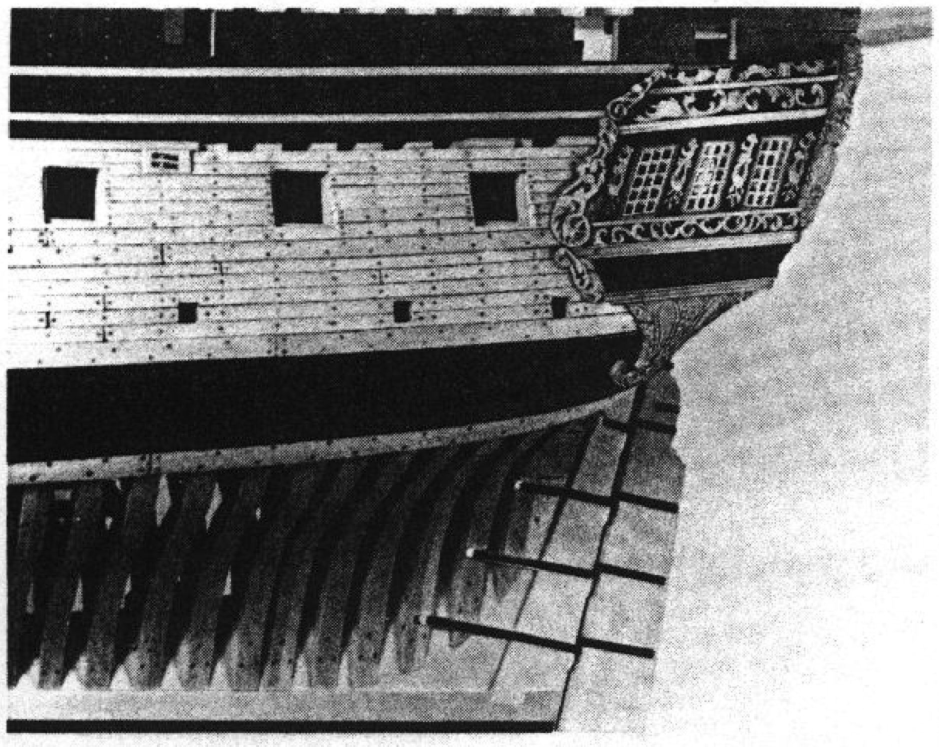
5.6



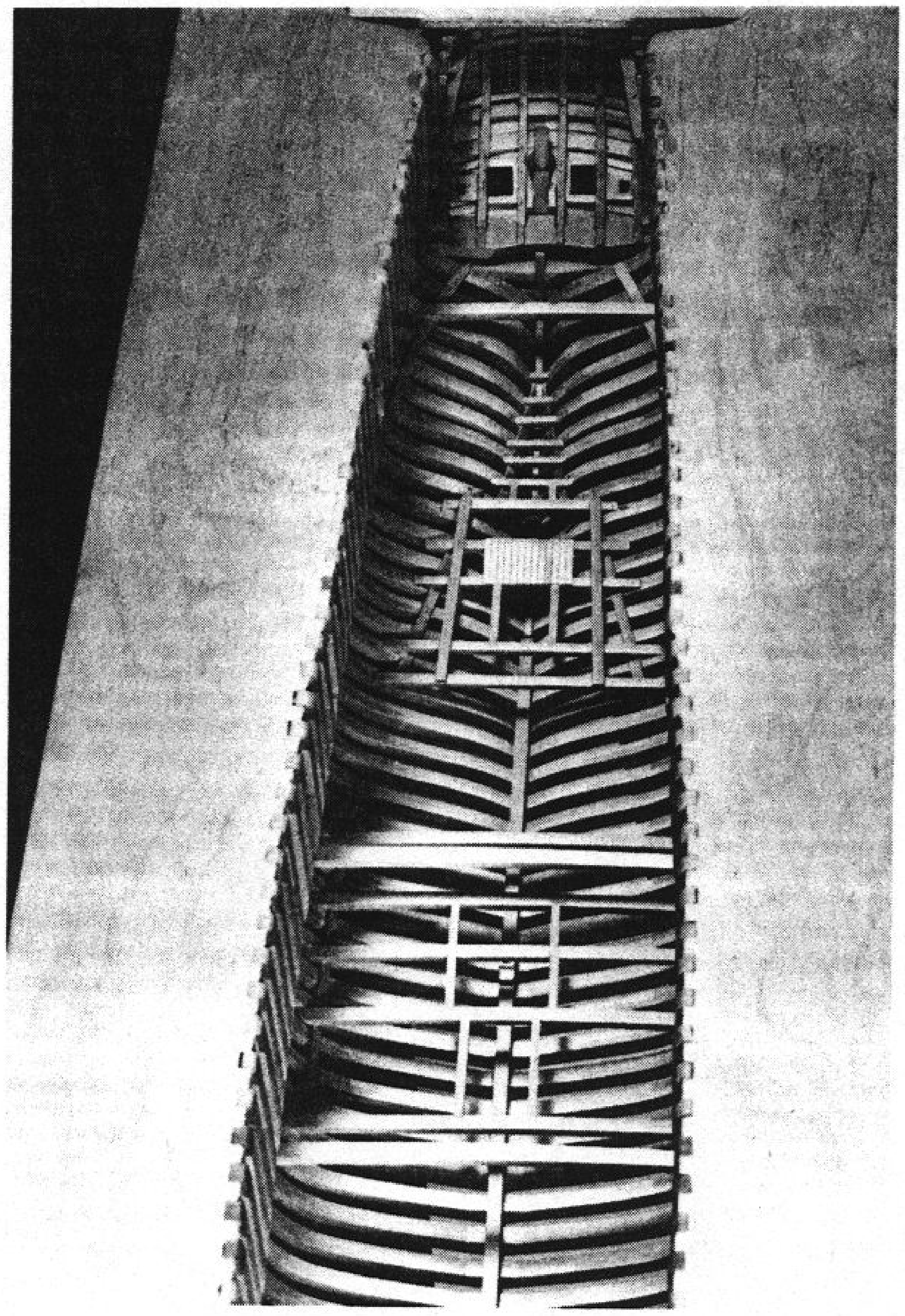
5.7

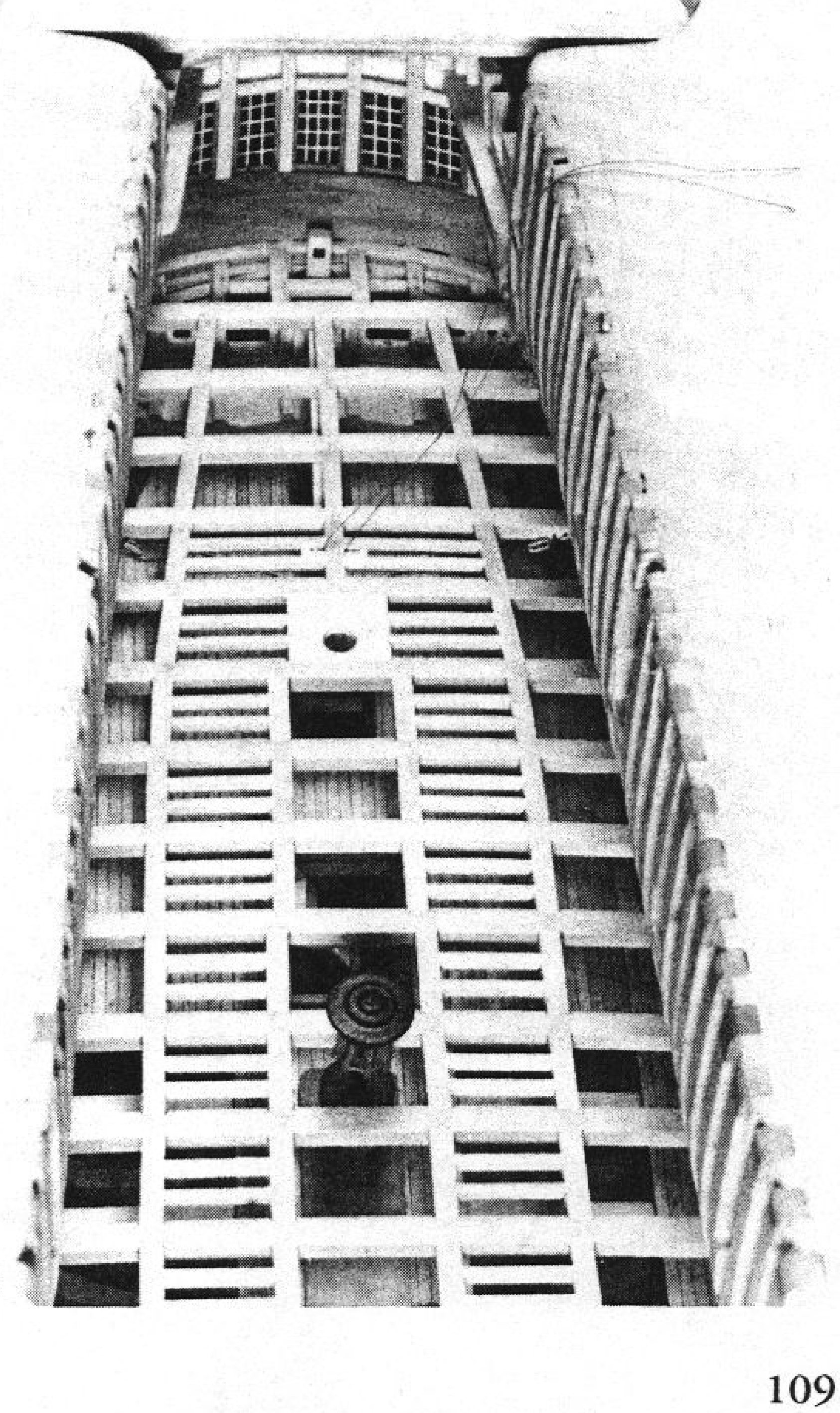
for Spain, Minister Gerard and his entourage were to be delivered to France. Captain Harding had found his authority as commander compromised by the Marine Committee with instructions that 'on your passage you are to consult with him (John Jay) and Mr Gerard and be governed by their Orders with respect to any occurrences which may happen and the port to which you are to proceed'. Such a drastic 'occurrence' as had actually taken place could hardly have been anticipated, but it left Harding at the mercy of the conflicting demands that his duties placed on him. The decision on what direction to take remained a moot point for more than two weeks while rough weather prevented a sound jury rig from being completed. In the meantime, the rudder which was the only means for providing some measure of control over the ship continued to be a serious problem. The steering ropes would chafe until they broke and allowed the rudder to swing against the hull. The danger of damage resulting from this was so great that bags full of oakum were hung in a position to cushion the blows until the rudder could be restrained. Before this step had been taken, damage was such that leakage in the stern had ruined the bread supply stored there.

By 23 November jury masts had been rigged and the weather had turned more favourable. It became necessary to come to a final decision on the proper course to take. The French passengers felt that with the Azores closer by they would be the most logical destination, and it would put them closer to France. Captain Harding, realizing that there were no suitable harbours nor any possibility of making major repairs to *Confederacy* in the Azores, preferred to set a course for Martinique with its French naval base. M Gerard was sceptical of this plan because he felt that with British-held islands both north and south of Martinique the danger of capture by Royal Navy warships prowling the seas was too great. Though John Jay was also anxious to reach his post in Spain, he naturally sympathized with Harding's need to safeguard his crew and ship from being lost and was prepared to support the Captain. At this point, the French Minister withdrew his objections but without giving the decision his approval.



5.8



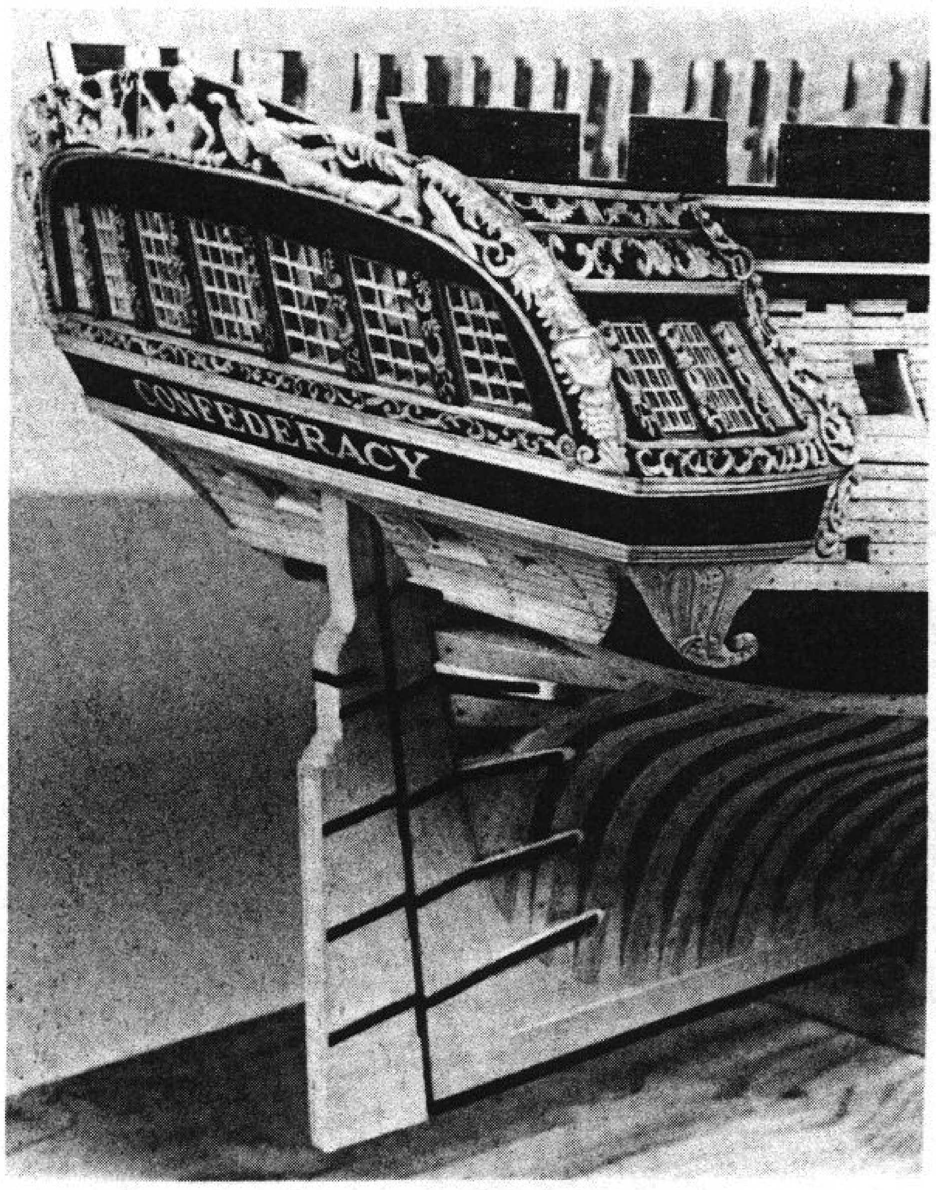


5.9
5.10

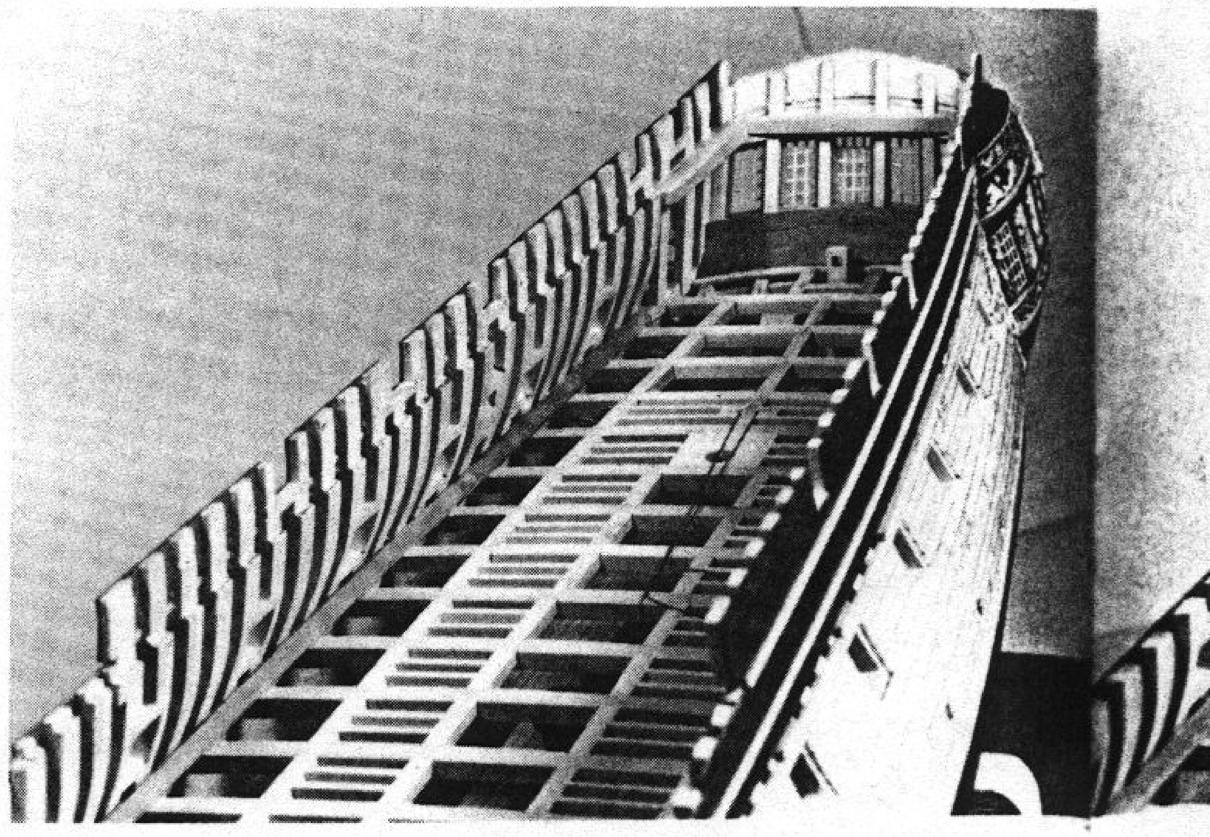
Favourable winds and a calm now helped the crippled *Confederacy* along her southerly course toward Martinique under the limitations of her jury rig. The greatest danger was that she should be sighted by a British warship before reaching the protection of a French harbour. The British naval base was on St Lucia just a dozen miles south of Martinique with the St Lucia Channel intervening. Early on 18 December *Confederacy* sailed through the Martinique Passage south of Dominica and around the north end of Martinique. Fort Royal, the French naval base was halfway down the coast but discretion and probably relief at finally reaching a safe harbour persuaded Captain Harding to enter the closer port of St Pierre. The thunder of cannon fire to the south that day was later learned to be the result of an engagement off Fort Royal during which a British Squadron had captured nine French merchant vessels out of convoy. If *Confederacy* had continued in that direction, she would also have been lost.

After fifty-three days at sea, most of which had been spent at great hazard and discomfort, it was with much relief that the officers and crew were able to relax in the security of St Pierre's harbour. They were welcomed by William Bingham who was the American navy agent on the island. Knowing the frigate's crew to be short of funds, John Jay alleviated their embarrassment with a contribution of 100 guineas from his own salary. The Marine commander, Captain Joseph Hardy, recorded many details of the lengthy sojourn at Martinique in his private journal.

On Wednesday the 22nd, four days after their arrival. Bingham, Gerard and Jay left at four in the morning for Fort Royal in *Confederacy's* barge. When they arrived, the governor, Marquis de Bouillé met with them and promised that every effort would be made to recondition the



5.11



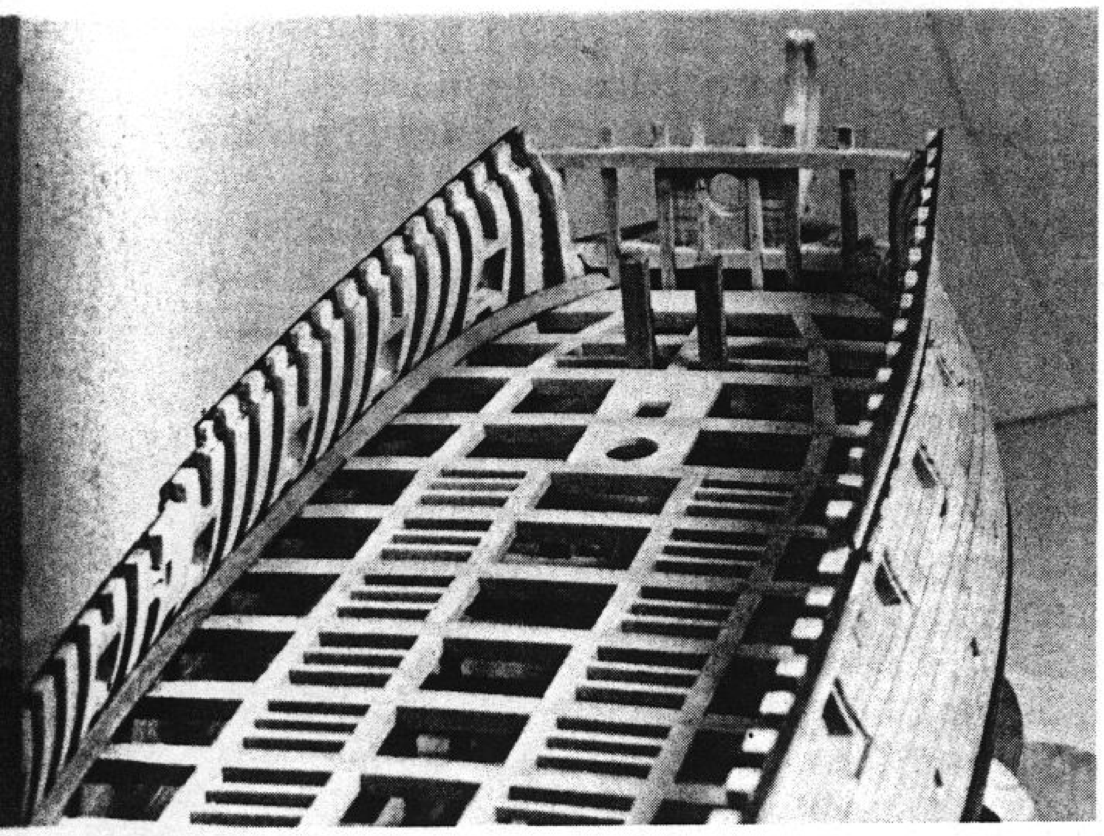
5.12

ship. However, it appeared that there would be some serious problems. *Confederacy* was most in need of the large masts and spars required for a ship of her size. Suitable timber for masts and spars was in short supply and although Admiral La Motte Piquet promised to give the repairs to *Confederacy* the same consideration he would to a French frigate, this did not really expedite the situation. Some alternatives were discussed. The thought of an attempt to return under the existing jury rig was dismissed as impractical. Her good fortune at avoiding capture on the long sail down to Martinique had already been overextended. Another possibility was to have masts and spars brought down from the mainland. John Langdon was contacted with this in view, but the request was cancelled when later on *Confederacy* managed to return on her own.

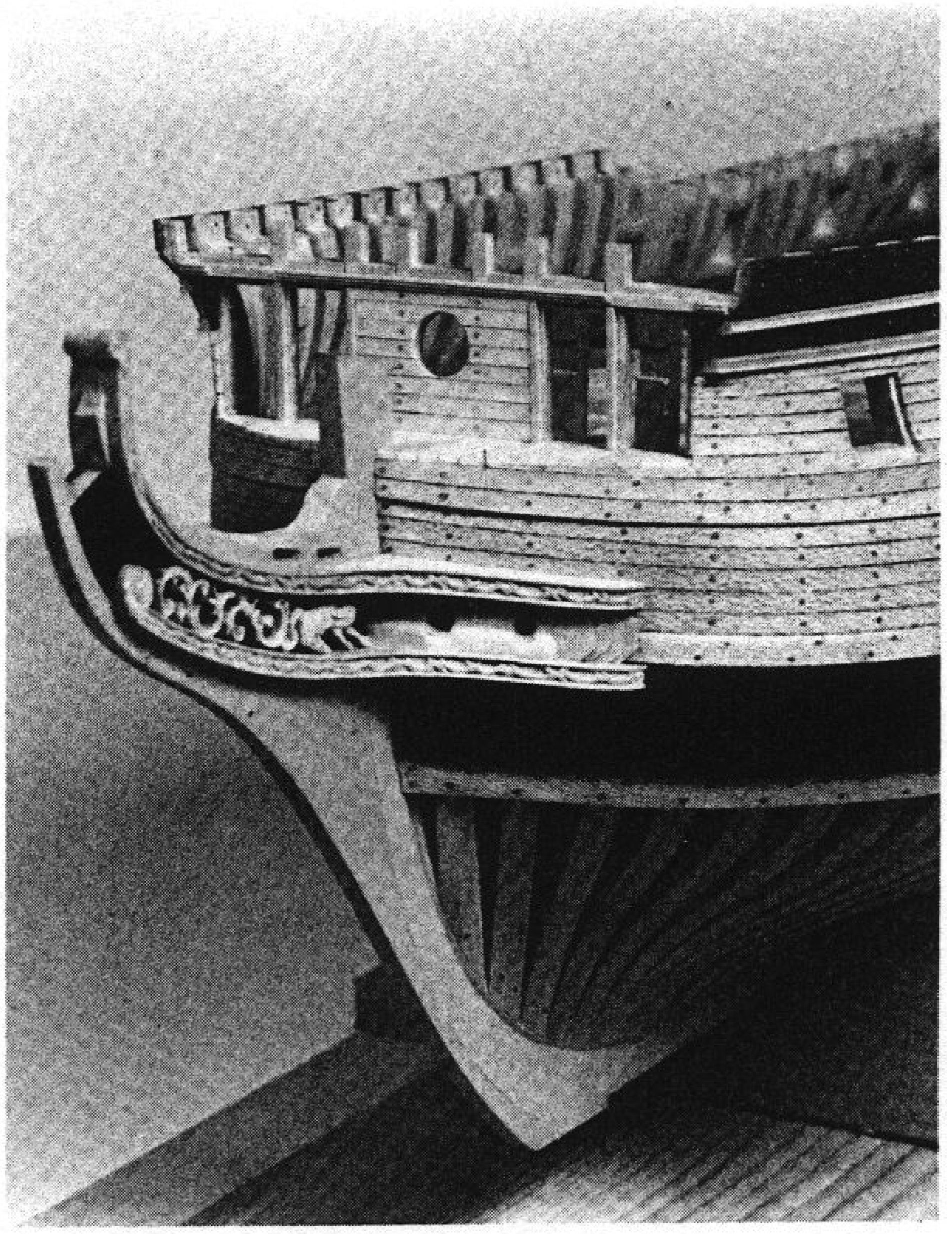
For a week, the officers were wined and dined at St Pierre and even afforded enjoyment in the performance of a play on the 23rd. The next day a duel was fought between Mr P and an acting lieutenant from a French frigate. Fortunately the combatants went unscathed and made up their differences in the end. Christmas Day was spent by the officers in an enjoyable fashion both on board and ashore. The next day at daybreak, keeping close to shore, *Confederacy* was sailed down to Fort Royal. She arrived at the entrance to the harbour by noon, but having to work in against the prevailing winds, it was eight in the evening before the anchor could be dropped. On the 27th a pilot came on board and directed the ship into the careenage which was 'a small Bason but deep where all the King's Ships heave down'. The following day, the French frigate *Aurore* left port carrying M Gerard, his companions and the John Jays on their way to Europe.

While the officers of *Confederacy* were enjoying the hospitality of Martinique and trying to collect the spars and other *matériel* needed to repair and refit the ship, the crew remained on board dismantling the jury rig and occupied with many other tasks required to refurbish and maintain the stricken frigate. As the days lengthened into weeks, discontent grew among the men of many nationalities. Captain Hardy demanded the return of three of his marines who had deserted and enlisted in the French service. They were brought back and placed in irons. Crew members who were permitted shore leave returned drunk and complained about their lot. There were some who claimed allegiance to England including men pressed into service from captured British privateers. They demanded to be sent to St Lucia in exchange for American prisoners held there. On 12 January an incipient mutiny was quelled when 'the Ringleaders were immediately confined in Irons hands and feet and some of the most obstropolous were Gagged'. The miscreants were released the next day on their promise of good behaviour. Provisions were made to stop liquor from being brought on board as that seemed to be at the root of the trouble.

Tropical fevers took their toll with men sent ashore to the hospital. Crowded conditions had been alleviated on 30 December when Admiral Piquet took 40 or 50 men of French origin and then borrowed an additional 30 sailors and



5.13



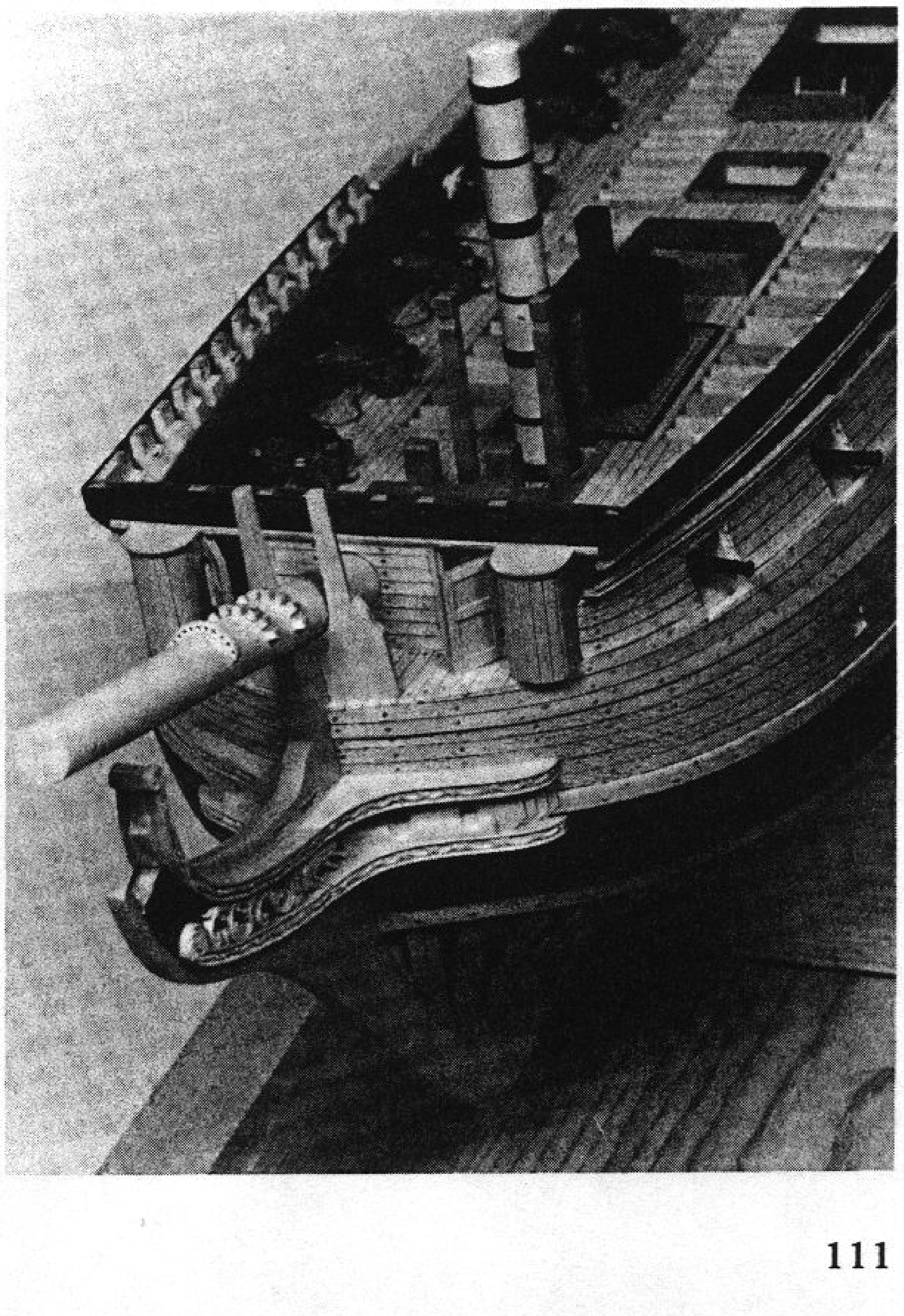
5.14

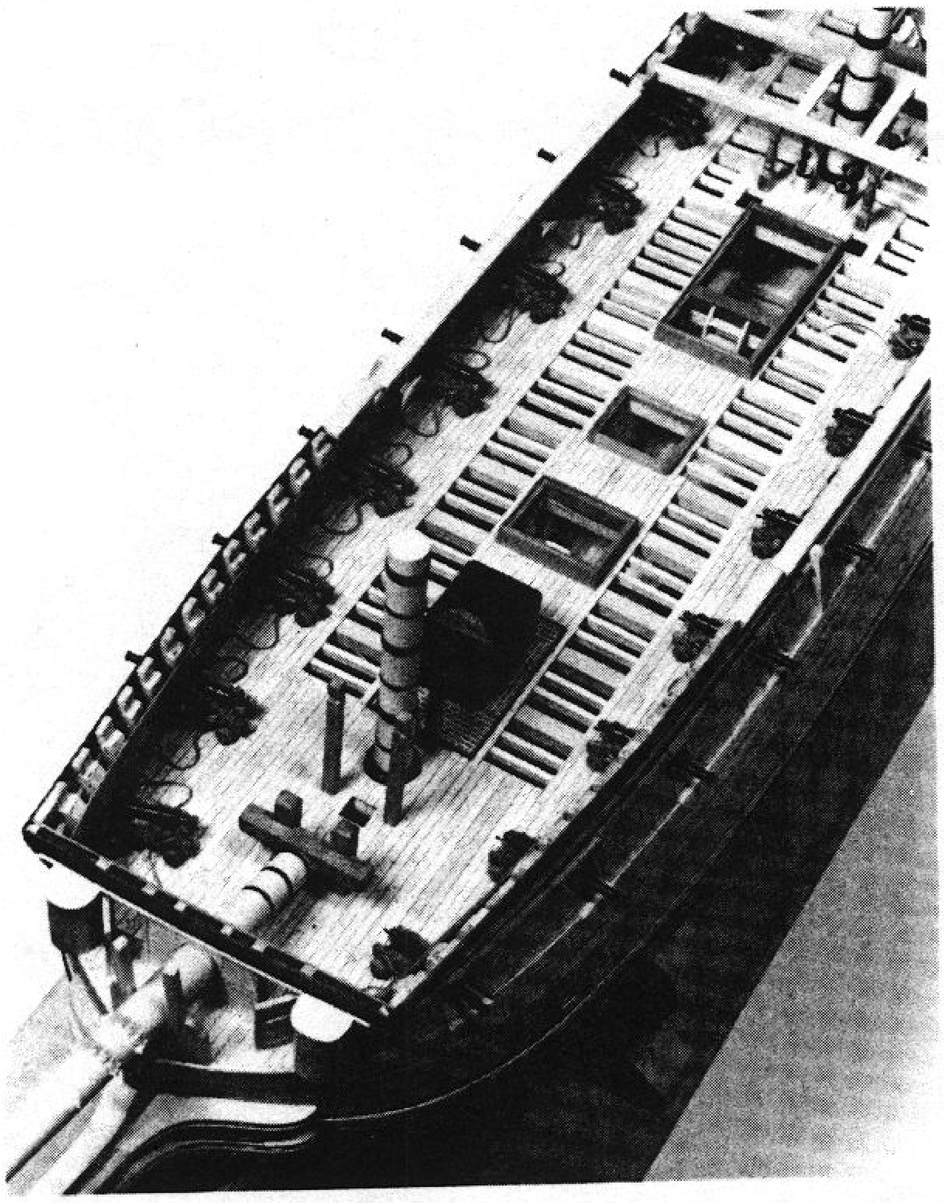
marines to flesh out his undermanned ships for a short cruise. There was an ongoing arrangement under flags of truce whereby captured men were exchanged between the French and British islands, but on 16 February six men in a watering party took the ship's pinnace and deserted to the English without waiting for such an exchange.

In spite of all these disruptions, progress was being made toward making *Confederacy* seaworthy. A variety of spars were acquired by twos and threes. Many were secured on frequent trips up to St Pierre. It was impossible to find masts of full size, so an assortment of spars was bound and fished together for expediency. What had originally been intended to serve as the mizen mast was built up still further to make the main mast. Use was made of the stubs left from the original masts and bowsprit. The mast from a sloop was modified to serve as the fore mast. French carpenters helped with the work on shore. After considerable frustration had been experienced in dealing with French bureaucracy in the person of the Intendant, sail cloth and rigging line was finally produced from naval stores as had originally been promised. At last during the first week in March, the ship was careened to scrape her bottom and pay it with white lead and tallow, her guns were brought back on board and the sails were bent to their stays and yards. *Confederacy* was ready to sail under an adequate if patchwork quilt of jury rigging.

There was continuous sparring between the French and British forces in the West Indies with their principal bases located so closely together. First, one would have the advantage with a large reinforcement of ships of the line and then the other. On 24 February an American who had

5.15





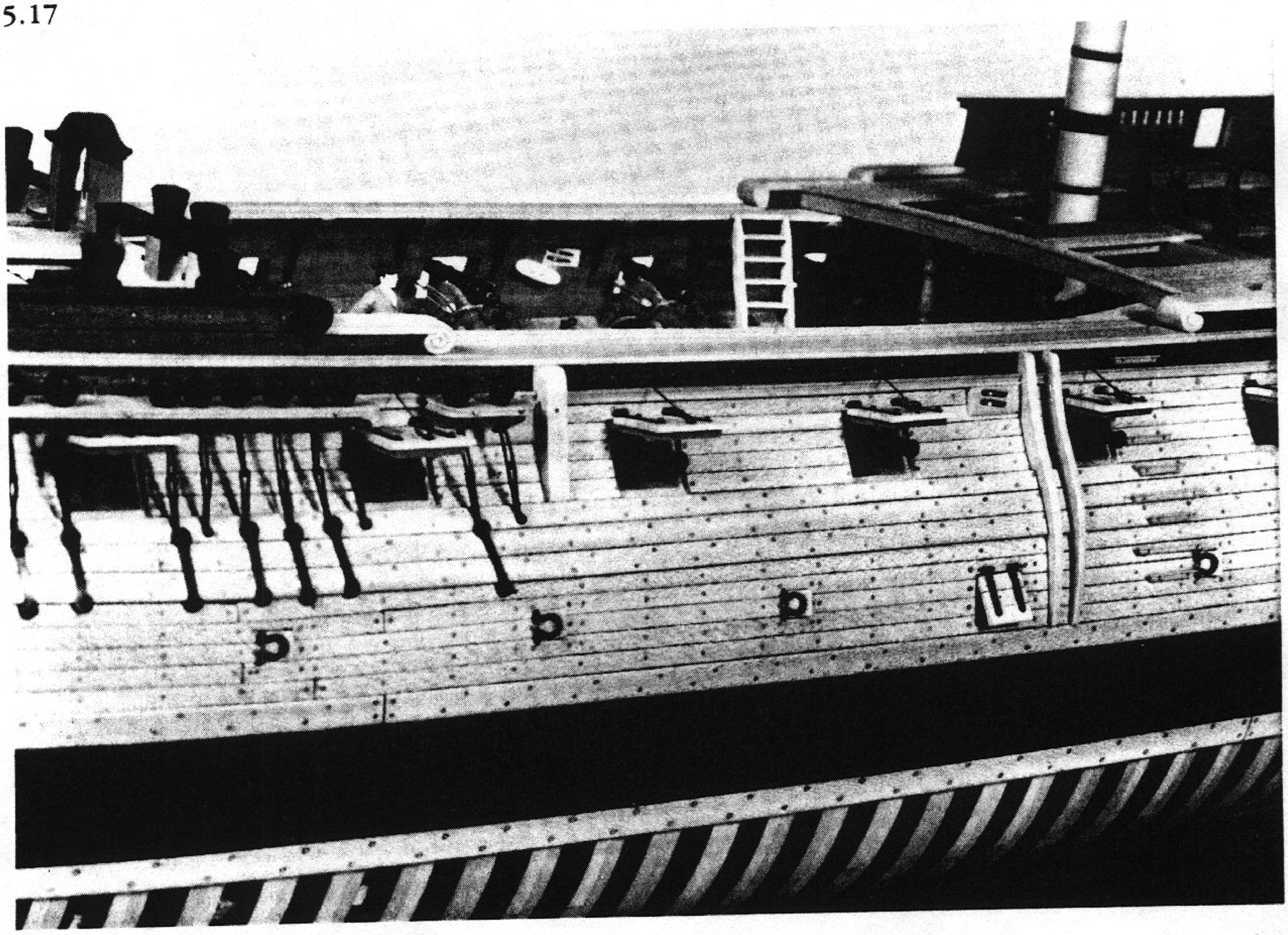
5.16

escaped from a British warship and brought to *Confederacy* reported that Admiral Rodney had arrived 'at Barbados with eight Sail of the Line'. Then a month later on 22 March Hardy noted in his journal that:

> the long expected Fleet appeared coming from the Northward having been joined by Admiral D'Grass making in the whole upwards of 25 Sail of the Line exclusive of 8 or 10 Frigates having under their convoy about 50 Sail of Transports, Merchantmen &c, amounting in the whole to upwards of 100 Sail making a very grand appearance.

The large fleet of battle ships sailed right on past Martinique to besiege the British on St Lucia. Two days later, Captain Harding set sail shortly after eleven in the morning with the intention of joining 'the French Fleet at Royal going on an Expedition Against the Island of St. Lucee'. At 12 .30, a boat brought a message from Mr Bingham to bring *Confederacy* back to St Pierre. There, it was learned that they had orders to return to America as soon as possible. It was just as well that the frigate did not join in the siege of St Lucia which failed in its purpose. The manoeuvring of the great French and British battle fleets reached a

5.17



stalemate that brought no decisive results that year.

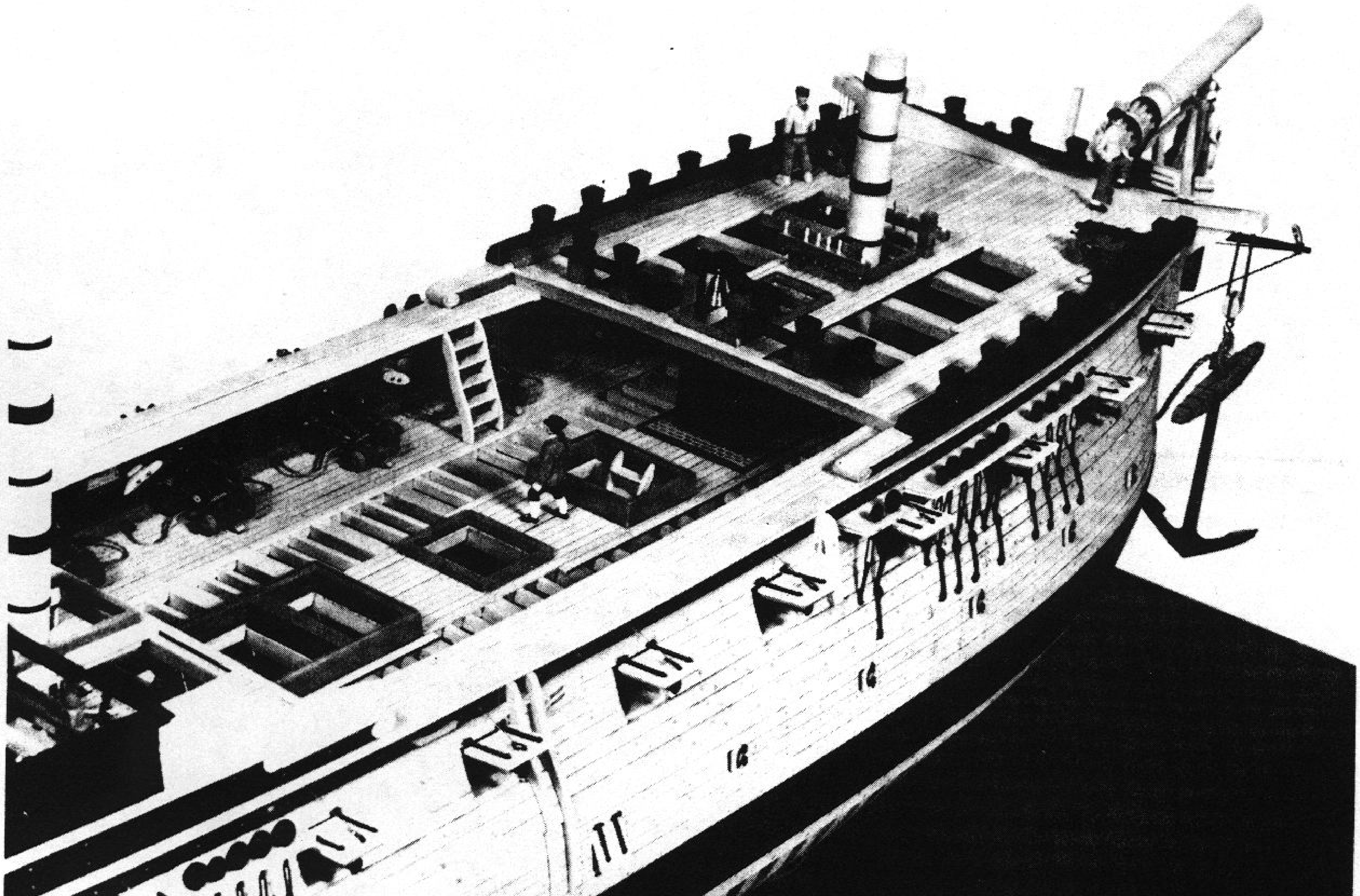
Final preparations for sailing continued for several days. On the 25th, the ship was heeled and 'boutoped' both sides. William Bingham, the navy agent, planned to return to America as a passenger. On the 28th, he sent on board 'a large quantity of Cocoa', and his baggage was delivered the next day. On Thursday, 30 March *Confederacy* sailed from St Pierre convoying three brigs, a schooner and a sloop on a northwest course. Ever-present misfortune showed up when two men were found to have come down with smallpox. They were isolated under 'an Awning over the Cutter on the Booms' in an attempt to prevent the disease from spreading to crew members who were not immune. On 3 March the ship passed around the west end of St Croix and bore north to pass the island of St Thomas into the open Atlantic. Two days later after chasing an elusive sail, 'the Main topmast (was) discovered to be badly sprung in two different places'. Captain Harding decided to strengthen the damaged mast by fishing it. The following two days were calm with no headway to be made in any case, and in that time, the repairs were made and the mast rerigged.

On Tuesday, 11 April George Reynolds, one of the men who had contracted smallpox, died. 'The other is perfectly recovered.' As the voyage continued 'the Sailmakers Mate died of a Dissentry', a marine died, and several more men came down with smallpox. The ship sailed so poorly under her makeshift rig that no more serious attempts were made to chase when strange sails were sighted. The destination on leaving Martinique had been Cape Henlopen. Reaching that 'haven' on 25 April, Harding sent the second lieutenant with six men in the yawl to secure a pilot at Lewistown. They disappeared in the heavy sea. It was not until two days later when the weather had moderated that a pilot came out to *Confederacy* to guide her up the bay and Delaware River to the Chester–Philadelphia area.

On 2 May with the ship barely arrived and in obvious need of extensive repairs, the Board of Admiralty was already making plans for her employment in the near future. *Confederacy* was to be 'fitted for the Sea with all possible expedition'. It was a different story almost three and a half months later on 14 August when F Lewis wrote to the President of Congress:

> It is with great concern that we inform Congress that it is impossible to proceed with any celerity in fitting the *Confederacy*

5.18



cleared his decks for action while the convoy hastened to gain the protection of the Capes when a second warship came in view. The first frigate was a two-decker, HMS *Roebuck* (44). The second one was the *Orpheus* (32). Without the support of the *Deane* and *Saratoga,* Captain Harding decided that resistance could only result in unnecessary loss of life against such odds. *Confederacy* was surrendered without firing a shot. The *Deane* appeared at Boston later in the month but *Saratoga* had apparently met with disaster on the voyage for she was never heard from again.

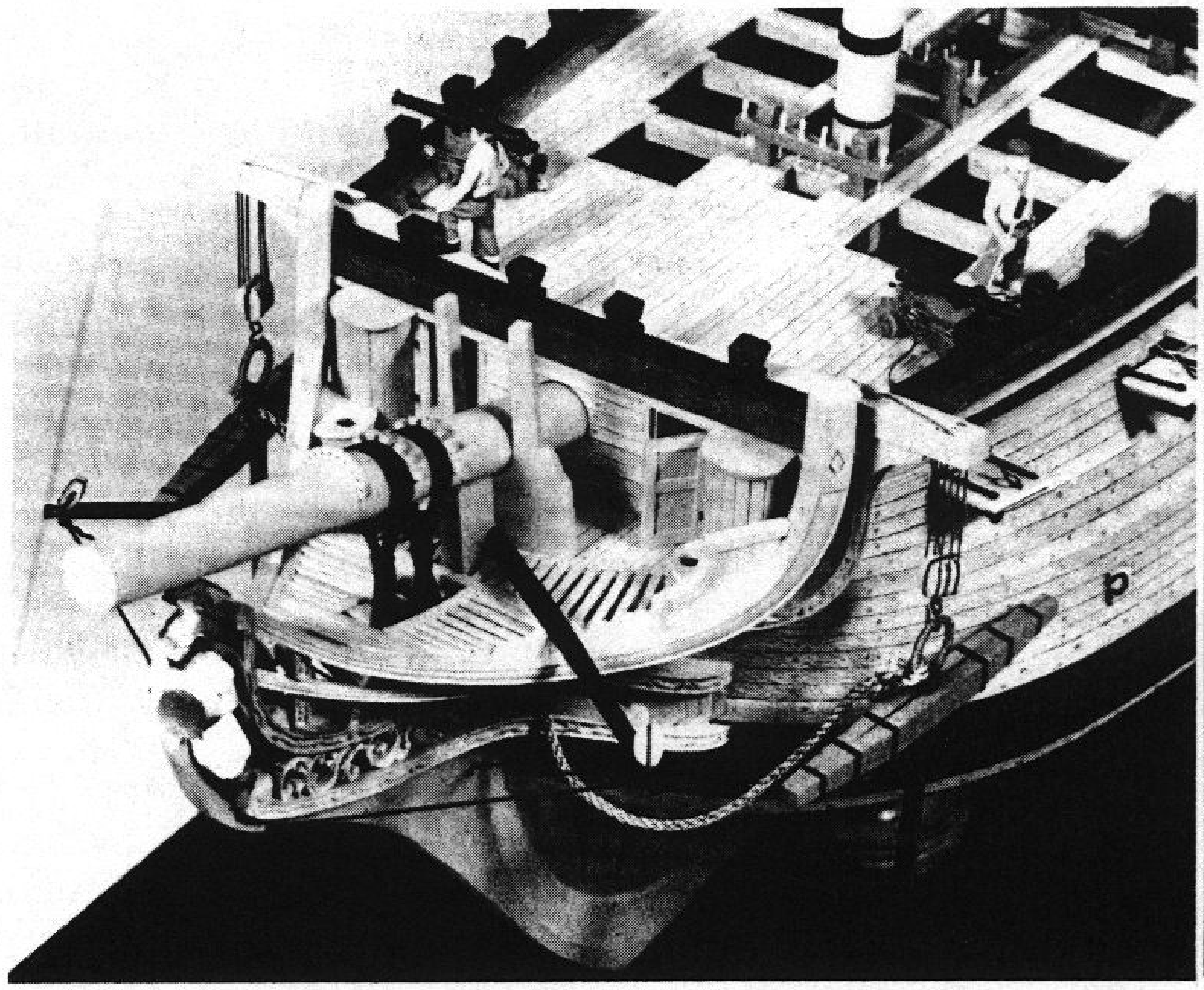
Confederacy was taken into New York as a prize. There, *Rivington's Royal Gazette* (21 April 1781) gave a number of particulars.

> Her invoice amounts to fifty thousand pounds, the cargo consists of sugar, cotton, indigo and a large quantity of clothing for Mr Washington's army . . . She is the largest ship ever to be employed by the Congress, whose navy is now reduced to three frigates viz, the *Alliance, Trumbull* and *Deane.*

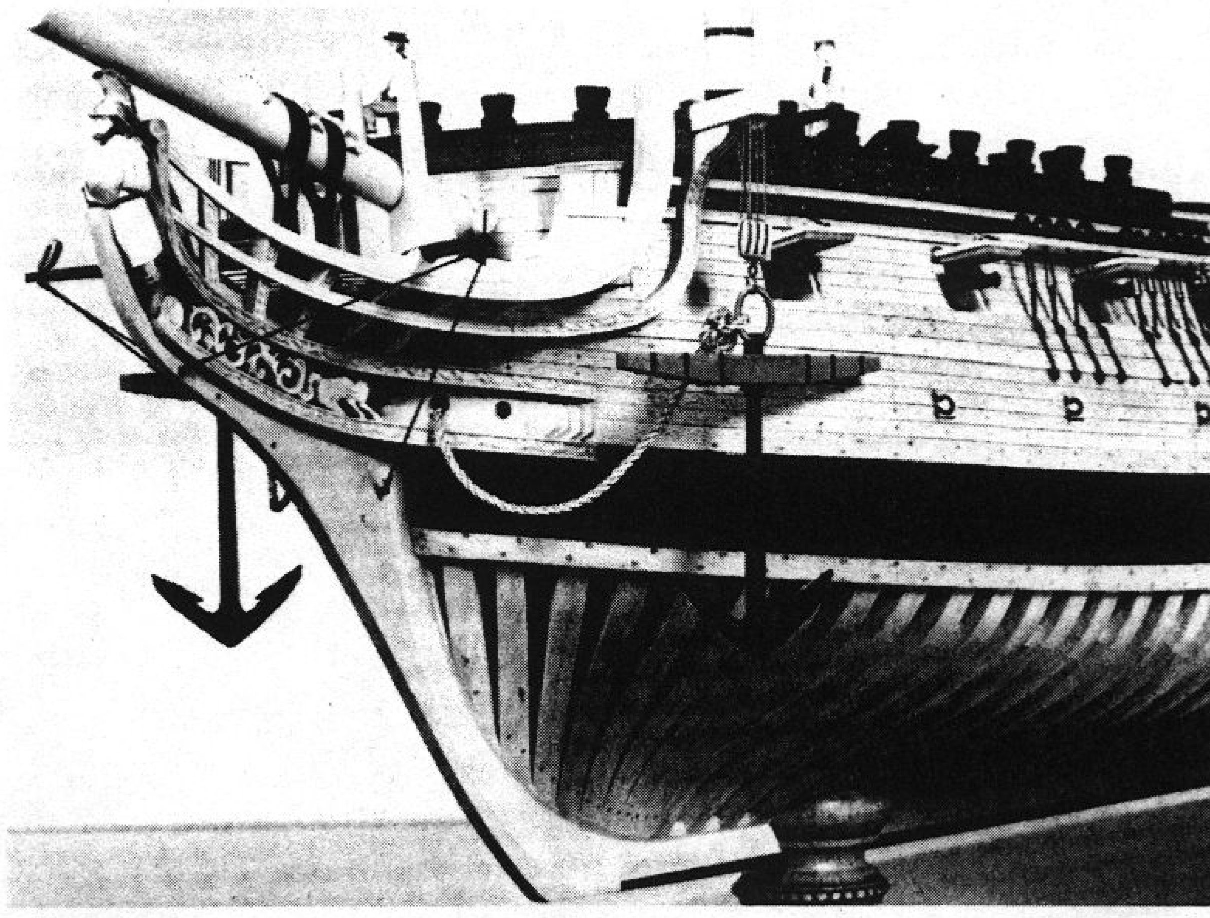
Several vessels from the convoy that *Confederacy* had been guarding had also been captured and brought into port. The ship's officers were paroled in New York but the crew was taken to the *Jersey* (prison ship).

From his flagship in New York harbour, Admiral Arbuthnot wrote a report to Philip Stephens in England.

> Royal Oak, off New York
> 20 April 1781
>
> Sir,
>
> I have great satisfaction in acquainting you that the Rebel Frigate *Confederacy* arrived at this port yesterday morning having been Captured off the Capes of the Delaware on the 14th instant by His Majesty's Ships the *Roebuck* and *Orpheus* (as appears by the inclosed Extract of a Letter from Captain Colpoys.)
>
> She was bound from Cape Francois to Philadelphia, commanded by a Mr Harding, and had on board Three Hundred Men at the time she was taken.
>
> The Rebels Have suffered a great loss in this ship, as she had a very considerable quantity of Cloathing for the Rebel Army, and West Indies produce.
>
> Her length is equal to that of our old Seventy Gun Ships, and will mount Twenty Eight, Eighteen Pounders on her Main



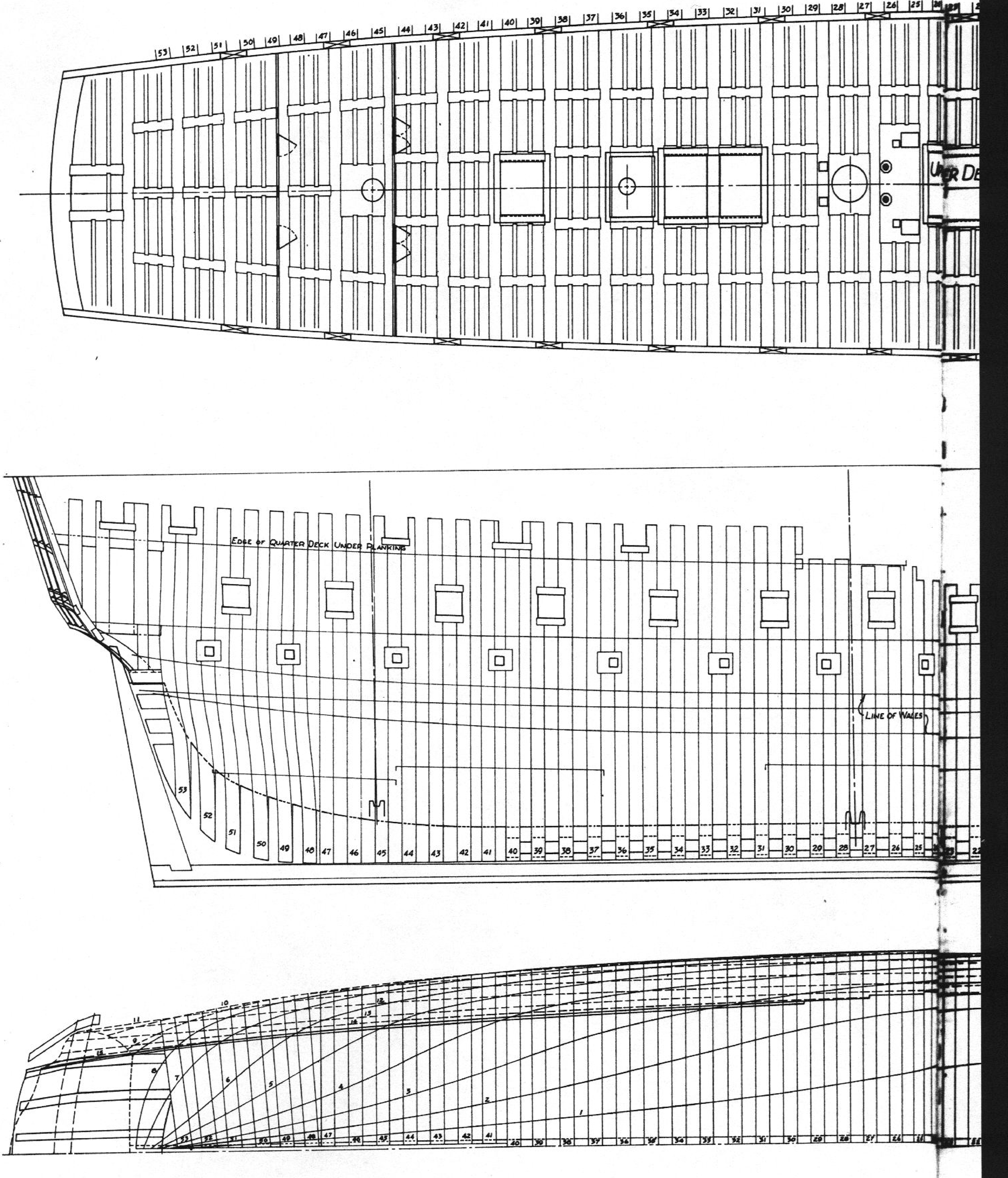
5.19

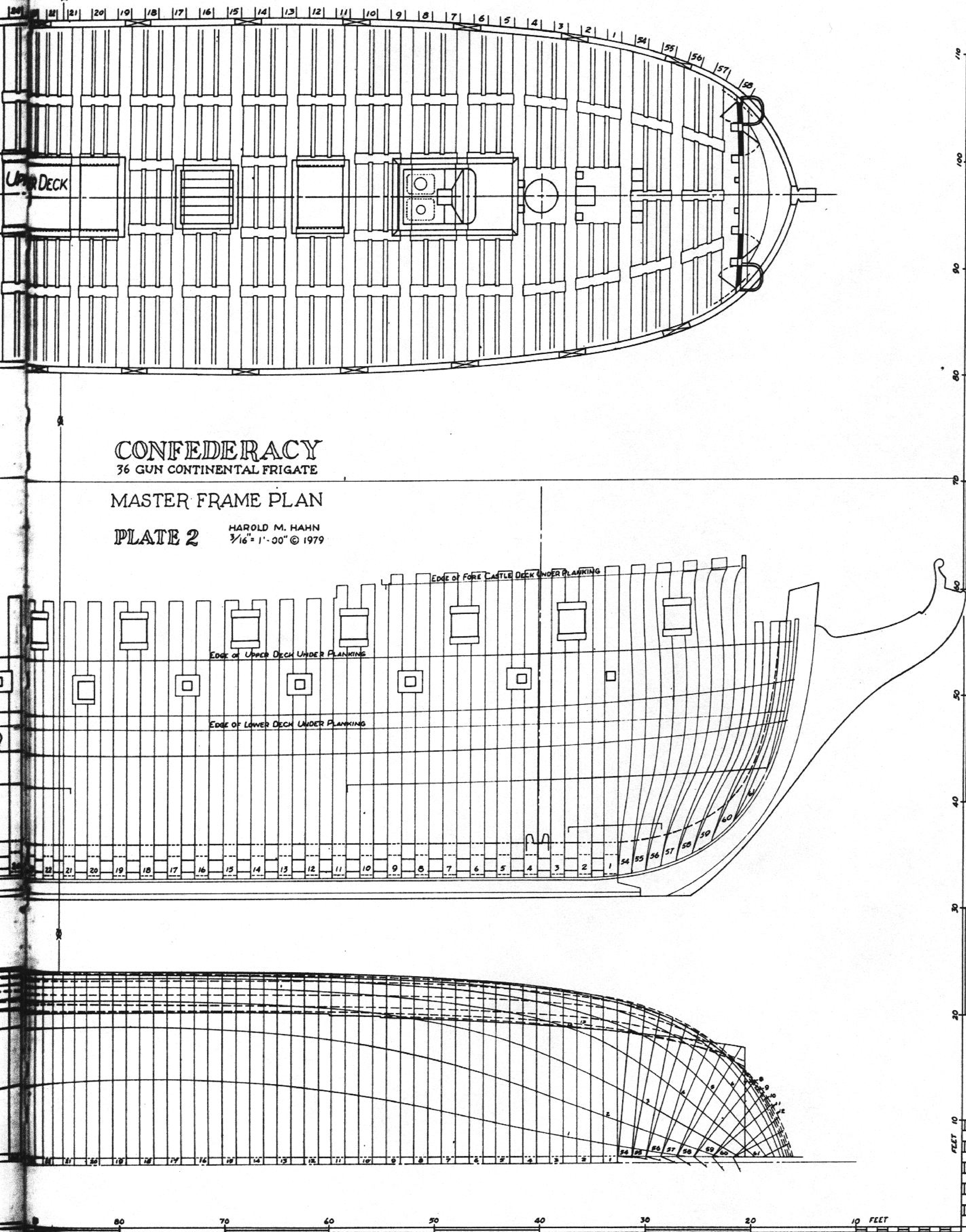


5.20

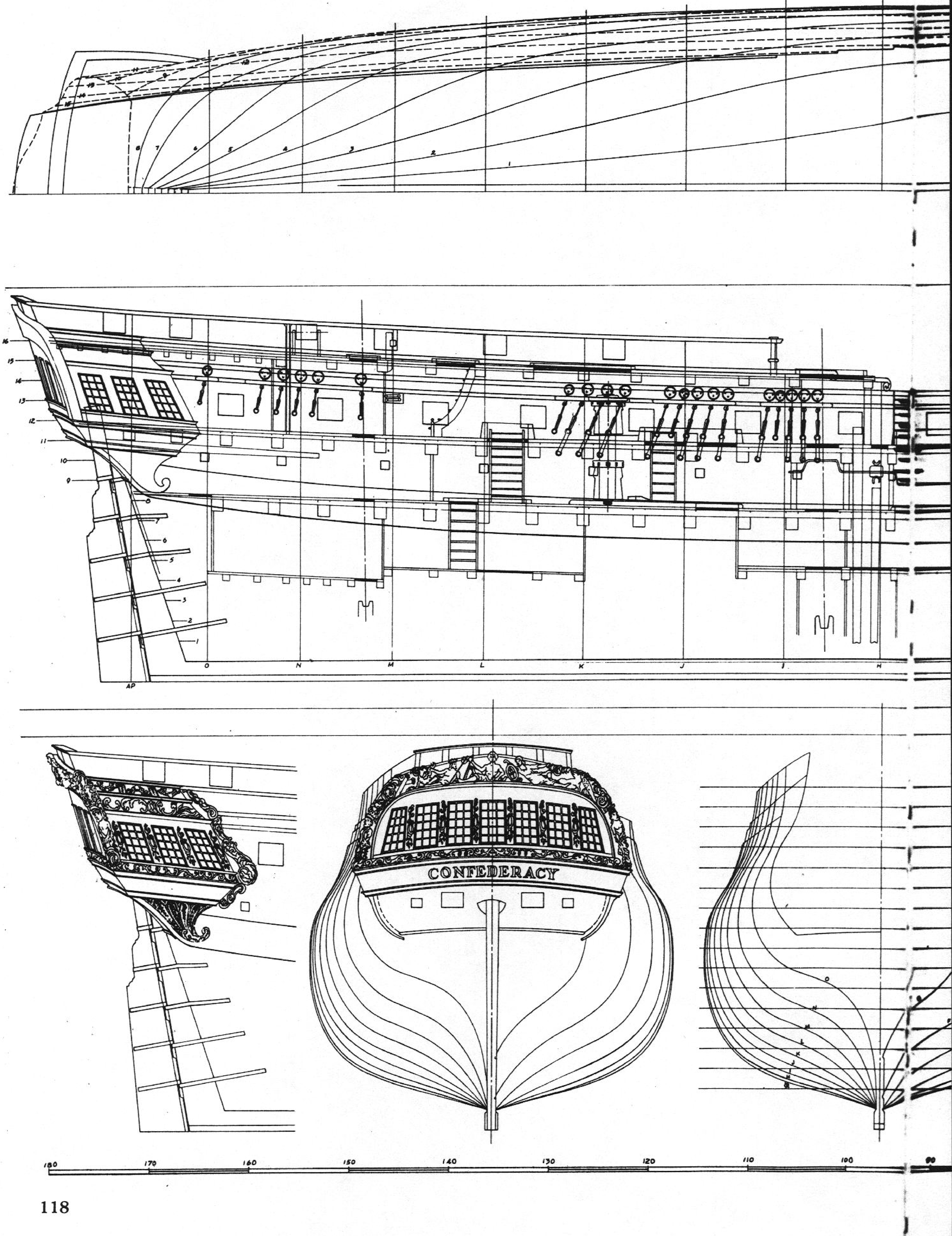
> Deck, is well constructed and proportioned and only two year old.
>
> I have the honor to be
> with much regard,
> Sir
> your most obedient and
> most humble Servant
> Mt Arbuthnot
>
> Philip Stephens Esquire

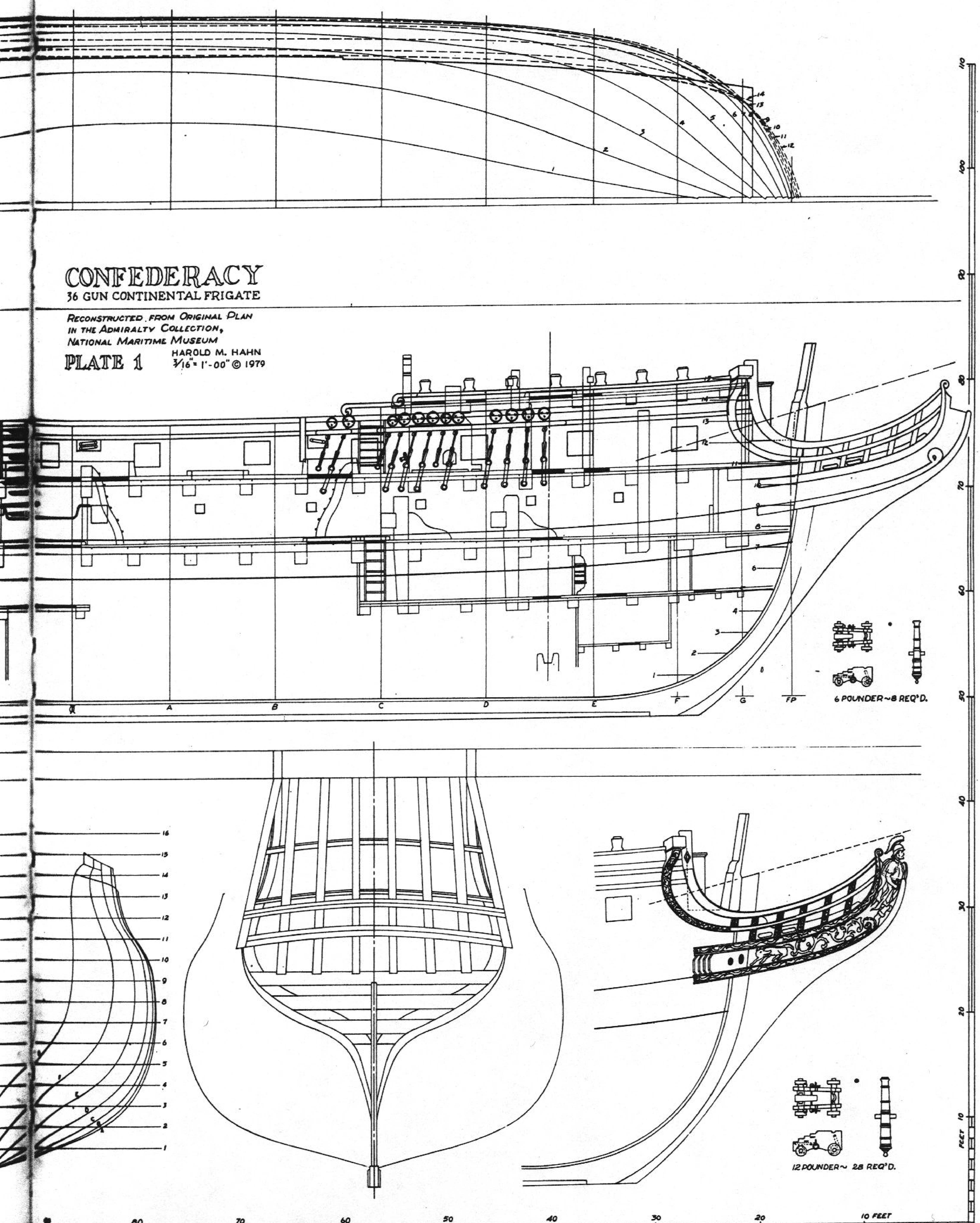
The value of the prize was of immediate concern to all those who expected to share in it. A

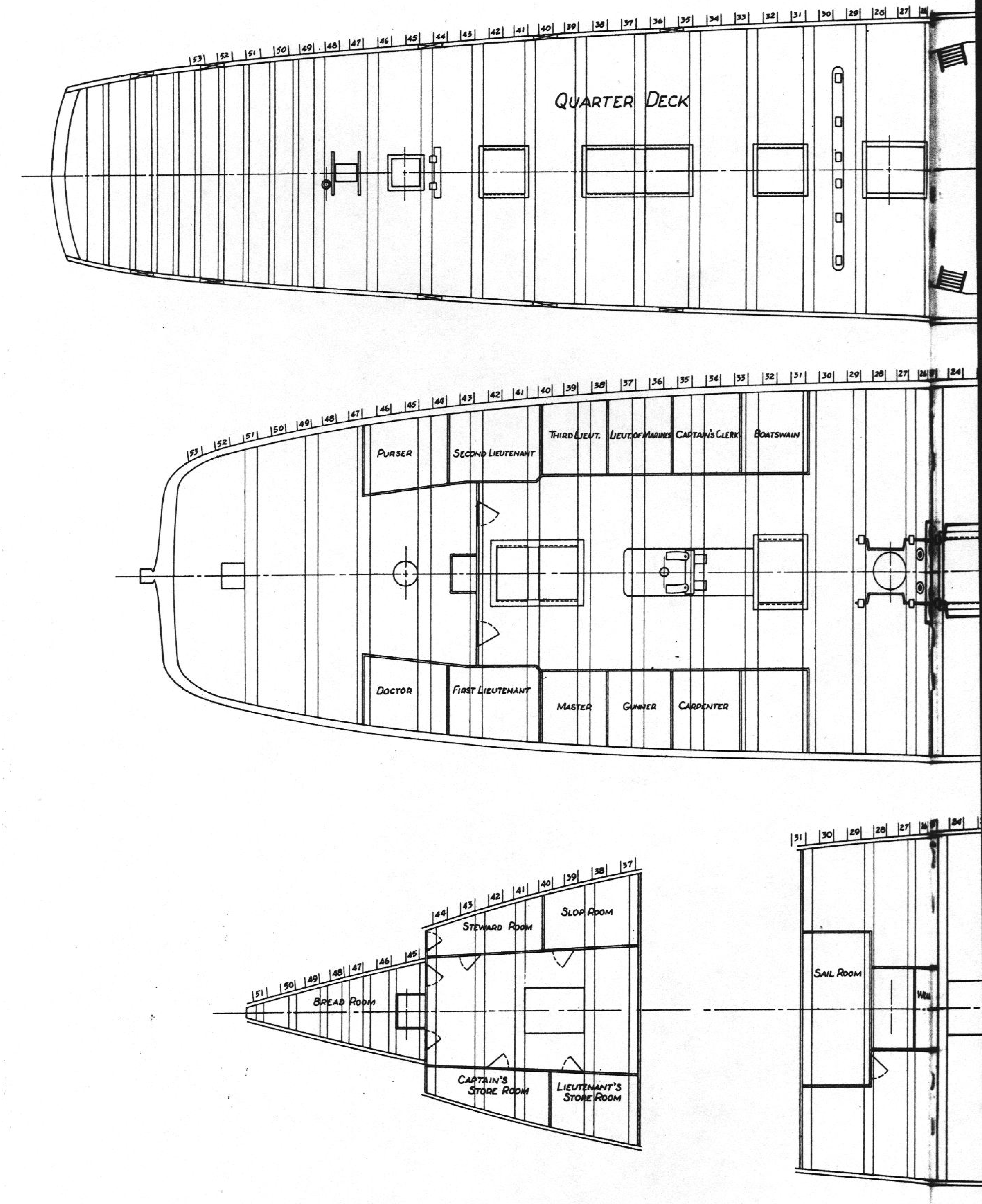

EDGE OF QUARTER DECK UNDER PLANKING
LINE OF WALES

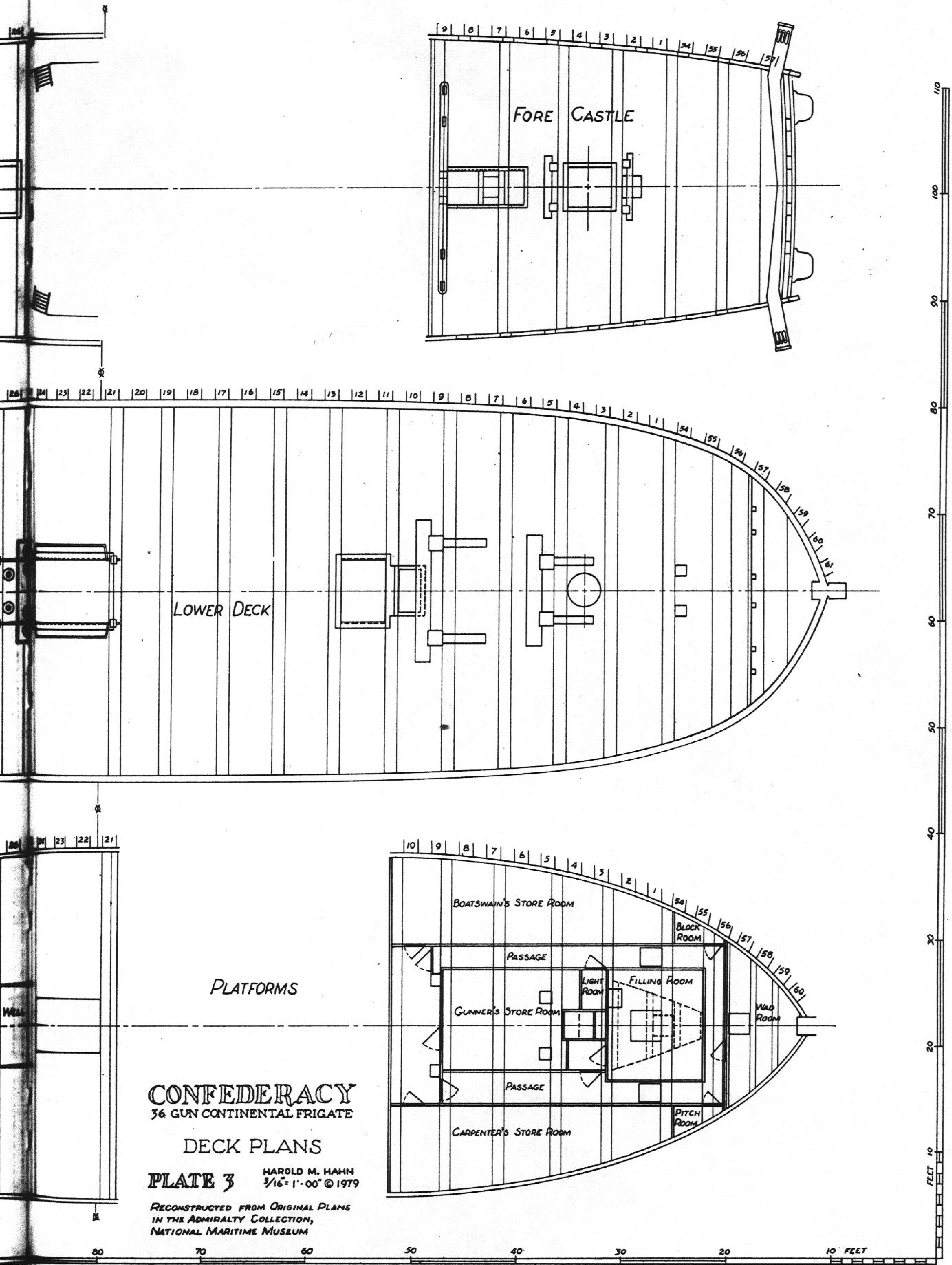


CONFEDERACY
36 GUN CONTINENTAL FRIGATE
MASTER FRAME PLAN
PLATE 2
HAROLD M. HAHN
3/16" = 1'-00" © 1979
UPPER DECK
EDGE OF FORE CASTLE DECK UNDER PLANKING
EDGE OF UPPER DECK UNDER PLANKING
EDGE OF LOWER DECK UNDER PLANKING
FEET

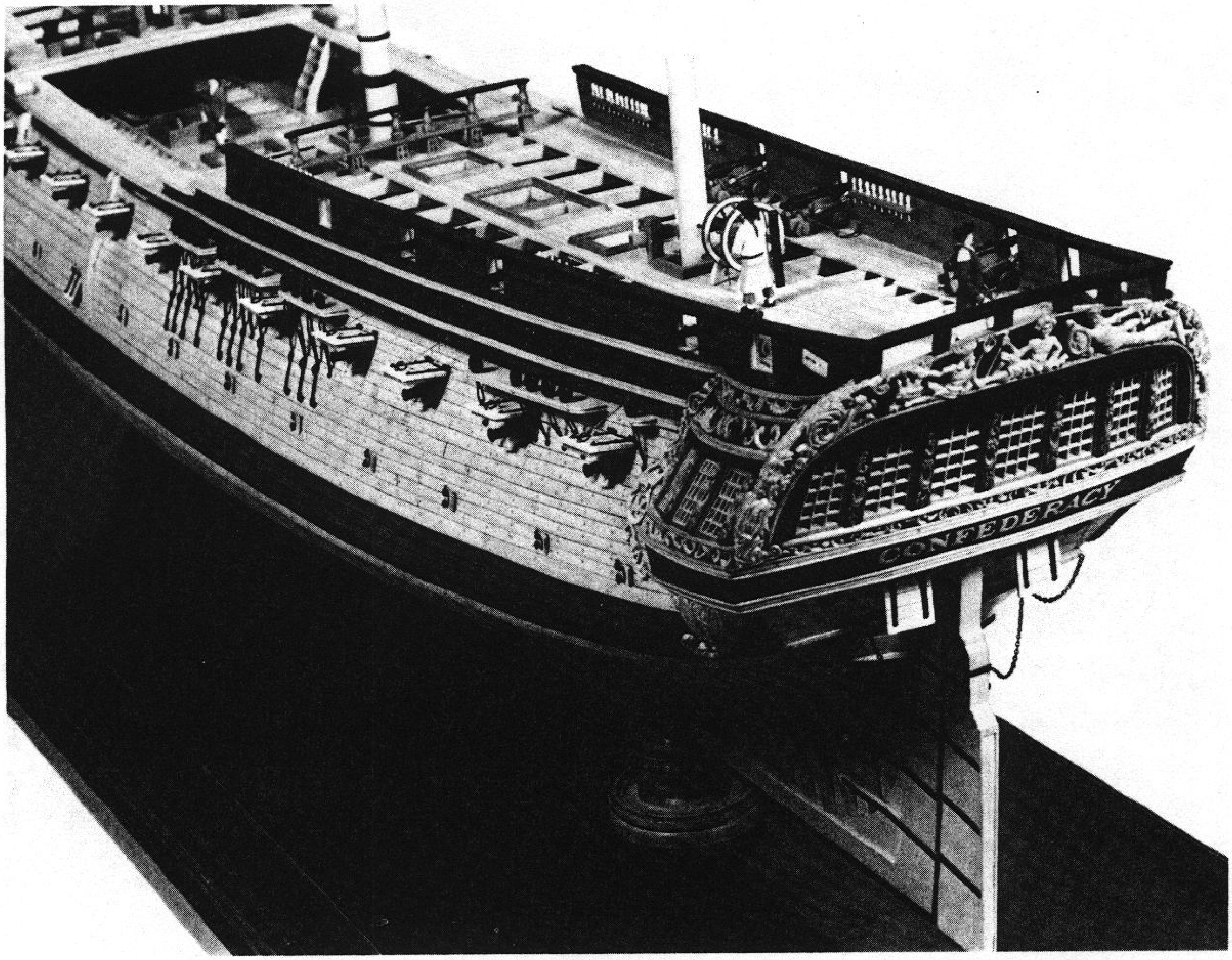

AP
O
N
M
L
K
J
I
H
CONFEDERACY
180
170
160
150
140
130
120
110
100


CONFEDERACY
36 GUN CONTINENTAL FRIGATE
RECONSTRUCTED FROM ORIGINAL PLAN
IN THE ADMIRALTY COLLECTION,
NATIONAL MARITIME MUSEUM
PLATE 1
HAROLD M. HAHN
3/16" = 1'-00" © 1979
6 POUNDER ~ 8 REQ'D.
12 POUNDER ~ 28 REQ'D.
10 FEET
FEET


QUARTER DECK
PURSER
SECOND LIEUTENANT
THIRD LIEUT.
LIEUT. OF MARINES
CAPTAIN'S CLERK
BOATSWAIN
DOCTOR
FIRST LIEUTENANT
MASTER
GUNNER
CARPENTER
STEWARD ROOM
SLOP ROOM
BREAD ROOM
CAPTAIN'S STORE ROOM
LIEUTENANT'S STORE ROOM
SAIL ROOM
180
170
160
150
140
130
120
110
100



FORE CASTLE
LOWER DECK
PLATFORMS
BOATSWAIN'S STORE ROOM
BLOCK ROOM
PASSAGE
LIGHT ROOM
FILLING ROOM
GUNNER'S STORE ROOM
WAD ROOM
PASSAGE
PITCH ROOM
CARPENTER'S STORE ROOM
CONFEDERACY
36 GUN CONTINENTAL FRIGATE
DECK PLANS
PLATE 3
HAROLD M. HAHN
3/16" = 1'-00" © 1979
RECONSTRUCTED FROM ORIGINAL PLANS
IN THE ADMIRALTY COLLECTION,
NATIONAL MARITIME MUSEUM
FEET



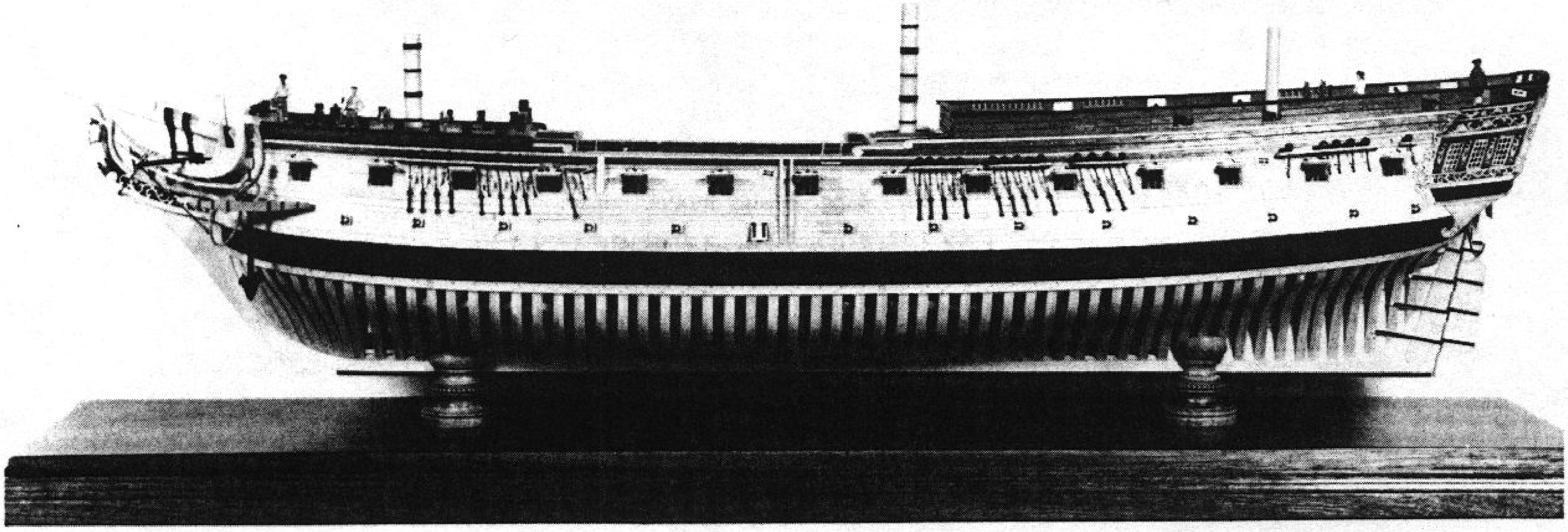
5.21

crank shafts for the chain pumps that are located on the lower deck just forward of the main mast. There is a rather gruesome note in Captain Hardy's journal relating to the operation of those pumps. On 31 December, newly arrived at Martinique, he wrote 'Working the Chain pumps this Evening one of the Men had his Arm caught between the Crank and Stantion which tore a great part of the Flesh off his Arm is feared it will cause an Amputation. He sent ashore immediatly to the Hospital.'

Photograph 5.11 is a quartering stern view of the hull after it had been cut loose from the jig and mounted in a work cradle. After the selection of the two points at which the hull was to be mounted on pedestals, holes had been drilled and tapped for machine screws through the keel and keelson at frame stations. The cradle supports had been fitted to the hull and located on the temporary base to suit. The model was then held securely in the cradle with screws inserted on the underside of the base. Photograph 5.12 is an interior view of the stern section. The cut ends of the frames have been dressed off to the sheer line under the cap rails. The frames have also been reduced by carving with a chisel to a suitable thickness for the quarter-deck bulwarks.

Confederacy was the first model that I built which was designed with a square beakhead. In my own case, I have found it difficult to visualize construction details of such a feature from the two-dimensional drawings, so I have tried to record the procedure here in pictures. Photograph 5.13 is perhaps the most revealing, and can probably speak for itself. It can be seen that the short deck of the beakhead is a couple of feet (full size) above the level of the gun-deck. This surface must be framed in within the area defined by the hawse pieces or, in the case of this model, the bow cant frames. What amounts to being the foremost beam of the forecastle deck is notched to take the vertical structural timbers for the face of the square beakhead. That framework is designed to provide four door openings and a hole for the bowsprit. Photograph 5.14 is the front view of the beakhead bulkhead at the same stage of development.

Photograph 5.15 shows the bulkhead com-



5.22

pleted with doors leading to the gun-deck, and the two semi-circular round houses. The round houses provide toilet facilities with privacy for the midshipmen and petty officers. Note how they are designed to overhang the edge of the beakhead deck. Many more features can be noted in this picture. The frames were ceiled over with Swiss pearwood after the gun-deck was planked. The bowsprit has been seated on top of the stem between a saddle of knightheads, through the beakhead to have its end confined by a heavy set of bitts. Bitts for the forecastle deck are in place, and the galley stove and cannon have been installed so that the forecastle beams can be set in place and its deck completed. Photograph 5.16 pictures the same stage of the model from a different angle. A glimpse of the chain pump can be had through the main hatch opening. Two suction pumps are located above on the gun-deck level and framing for the quarter-deck has been started. Cap rails have been added in the waist.

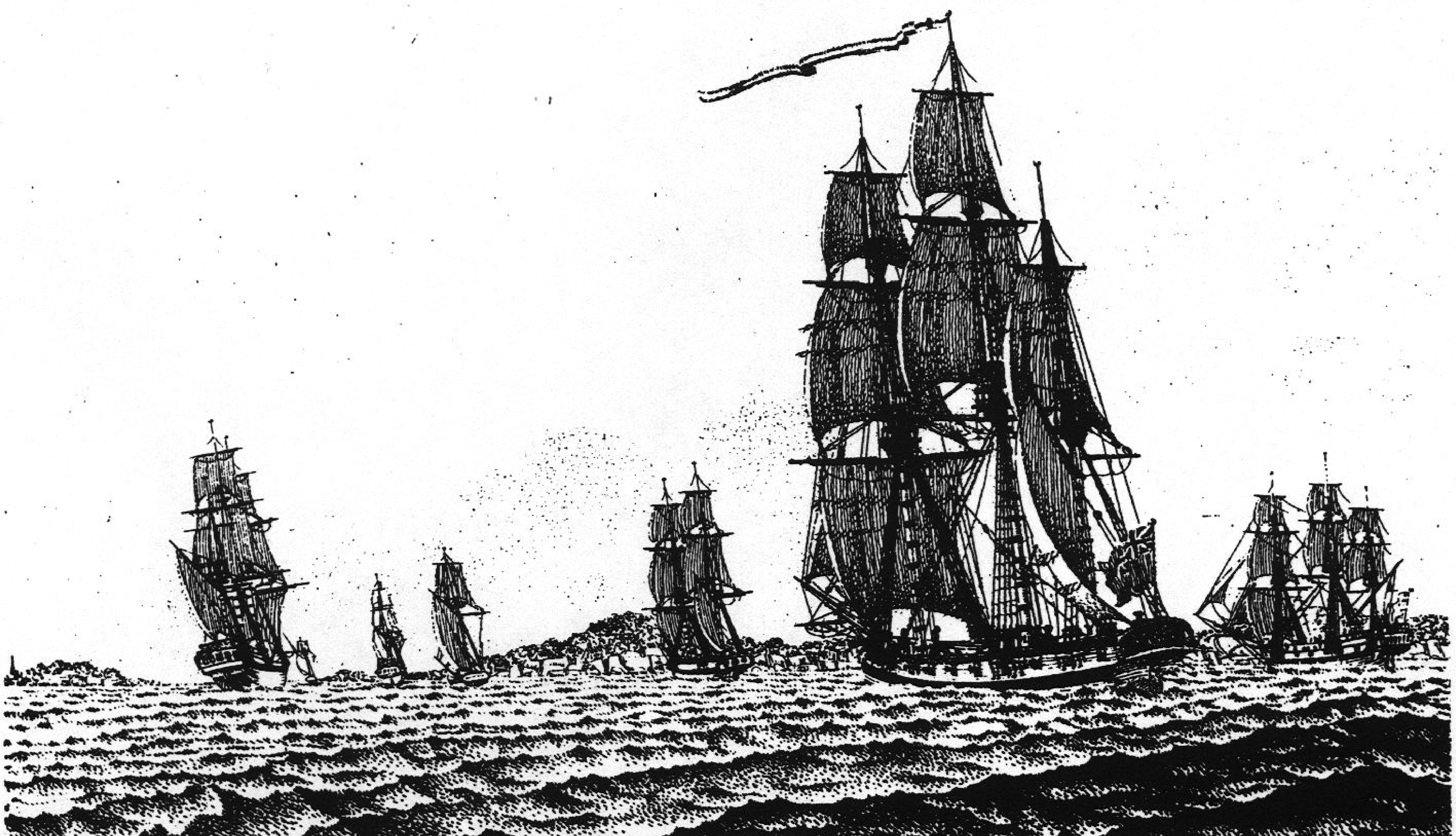
Even in the 3/16in per ft scale, the hull of *Confederacy* is 3ft long. I had a friend whose wife forced him to take up another hobby when the ship models he had made started to overwhelm their house. With this in mind, I had decided to complete *Confederacy* as a 'hull' model with the stub bowsprit and masts that appear in the photographs. The finished model as can be seen in photograph 5.17 has the gangways of planks resting on knees made of Swiss pearwood to match the ceiling. Channels have been fitted into spaces between sections of moulding that were left open when the hull was planked. The deadeyes, rails and forecastle bitts were made from ebony. The only paint used on the model was to colour the figurehead and the five figures on deck.

Photograph 5.18 offers another view of the finished model. Two six-pounder cannons are mounted on the forecastle. A number of modern books on the subject list *Confederacy* as a 32-gun ship. This is a ridiculous error in view of her unusually large size and the fact that all the contemporary records show she was designed for and did carry 36 guns. The initial survey at New York reported that *Confederacy* 'had on board when taken 28 No. 12 pounders and 8 No. sixes'. Six of the six-pounders were mounted on the quarter-deck. Since *Confederacy* was a large ship, I decided to carve the five figures which distributed on the decks give some concept of relative sizes.

Photographs 5.19 and 5.20 show the forecastle deck and the various components of the head structure. I fitted in seats of ease on either side inside the head rails adjacent to the round houses. The end of the stem with its figurehead and other decorative carvings is missing from the Admiralty drawing. That portion of the plan appears to have been torn out and the missing details have to be reconstructed. The one carving shown in the drawing between the cheeks appears to represent a female wolf. I have the impression that classical Greek and Roman literature and legend exercised considerable influence on the thought and philosophy of those days. I am inclined to identify this figure with the wolf that was supposed to have suckled Romulus and Remus. I added a scroll design of my own to fill the space leading to the figurehead. In his book *Shipcarvers of North America,* M V Brewington tells us that according to the records the figurehead on *Confederacy* was 'a warrior of the Greek Federation in breast plate and plumed helmet' carved by John Skillin.

While I didn't mast and rig my model, I am sure

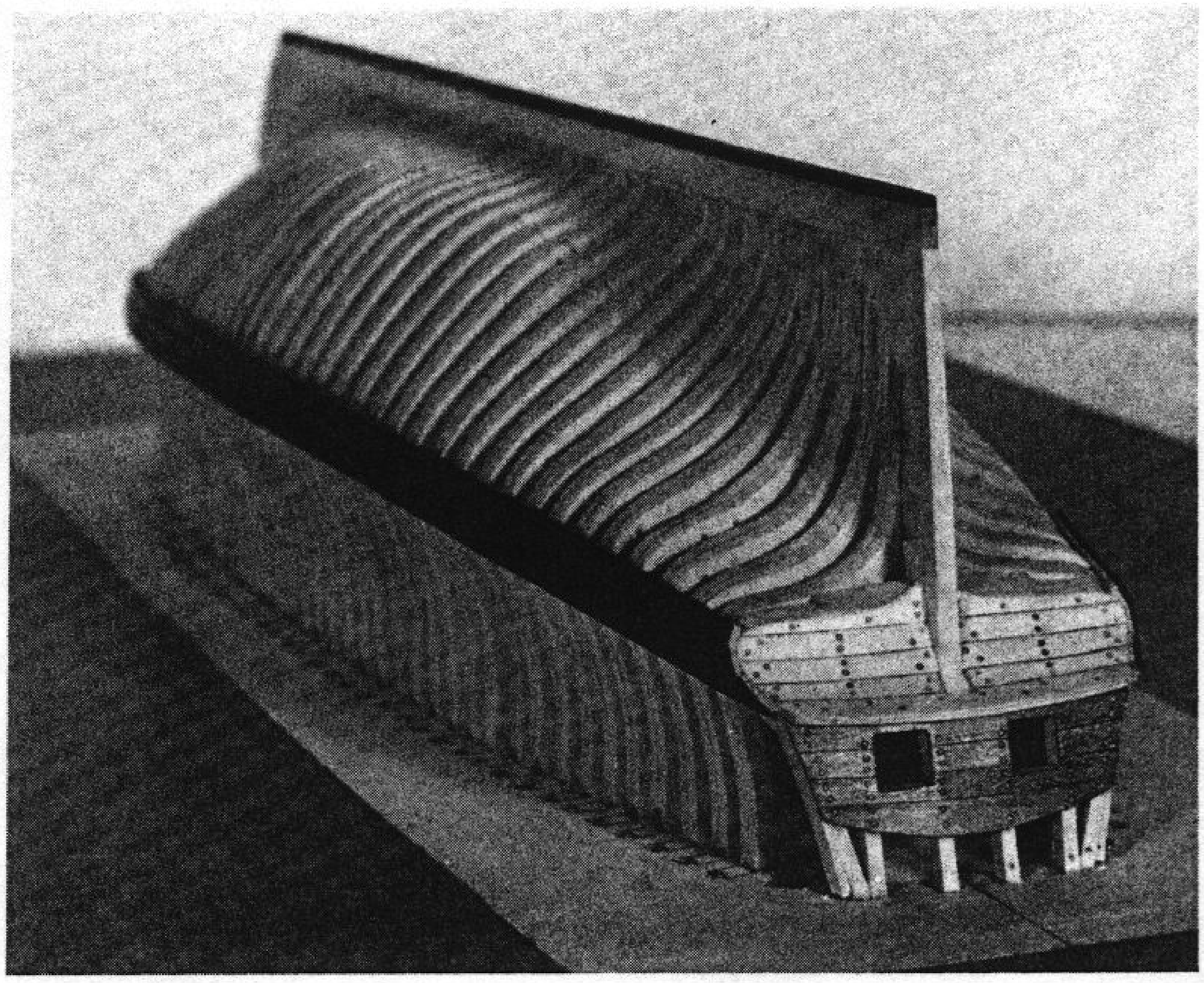
HMS *Pelican,* ex-*Frederick*



ique. He insisted with the sworn affidavits of passengers from *Saint Guillaume* that the seizure had been improper and that greedy crew members had been bribed with gold to substantiate Ardesoif's claims. In his response, Admiral Young firmly supported *Pelican's* action and advised that 'this Vessel will be Libelled and tryed in the Court of Vice Admiralty at Dominica – where the Parties claiming property therein may be heard in defence thereof and will undoubtedly have strict Justice done them'. He then went on the complain about the way the French islands supported and offered sanctuary to American privateers.

There are additional references to *Pelican's* activities in the Naval Documents books which by Volume 8 had progressed only to the end of May 1777. The temptation to accept those records as pertaining to the ship on my photostats was strong. The 1776 reference date fitted. There seemed to be some French associations which might account for the *Pelican* having been a French privateer. There was one serious discrepancy. *Pelican* was consistently referred to as a brigantine. Although the drawings showed a small ship which measured just 85ft 4¾in on the range of the deck, three masts were very much in evidence and the list of masts and spars on the deck plan drawing included a mizen mast.

In hopes of solving this dilemma, I wrote to William J Morgan, editor of the *Naval Documents* series. His reply set me on the right track, eliminated the 1776 *Pelican* brigantine from consideration, and presented me with a new avenue for research. I learned that *Pelican* on the

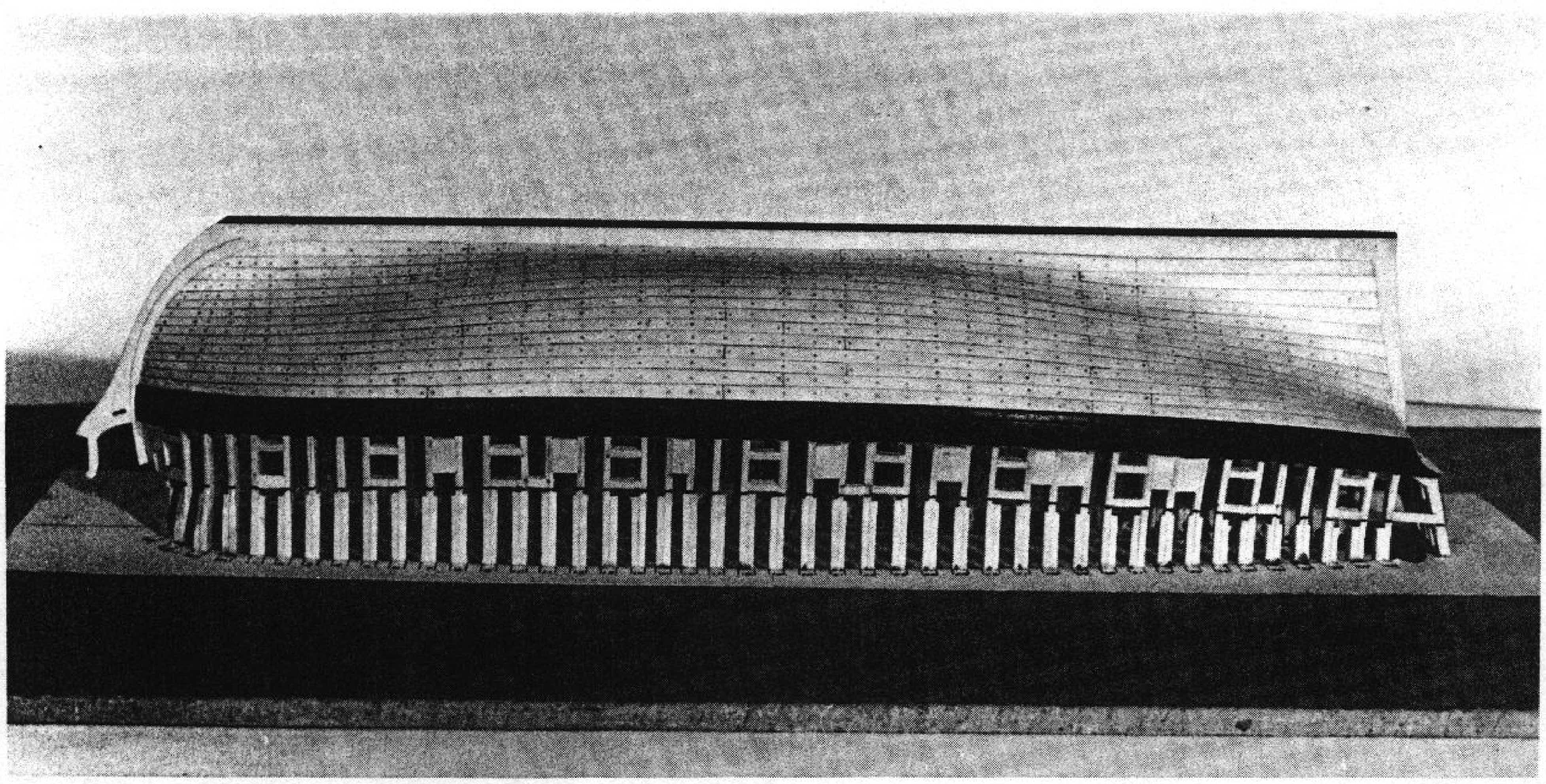


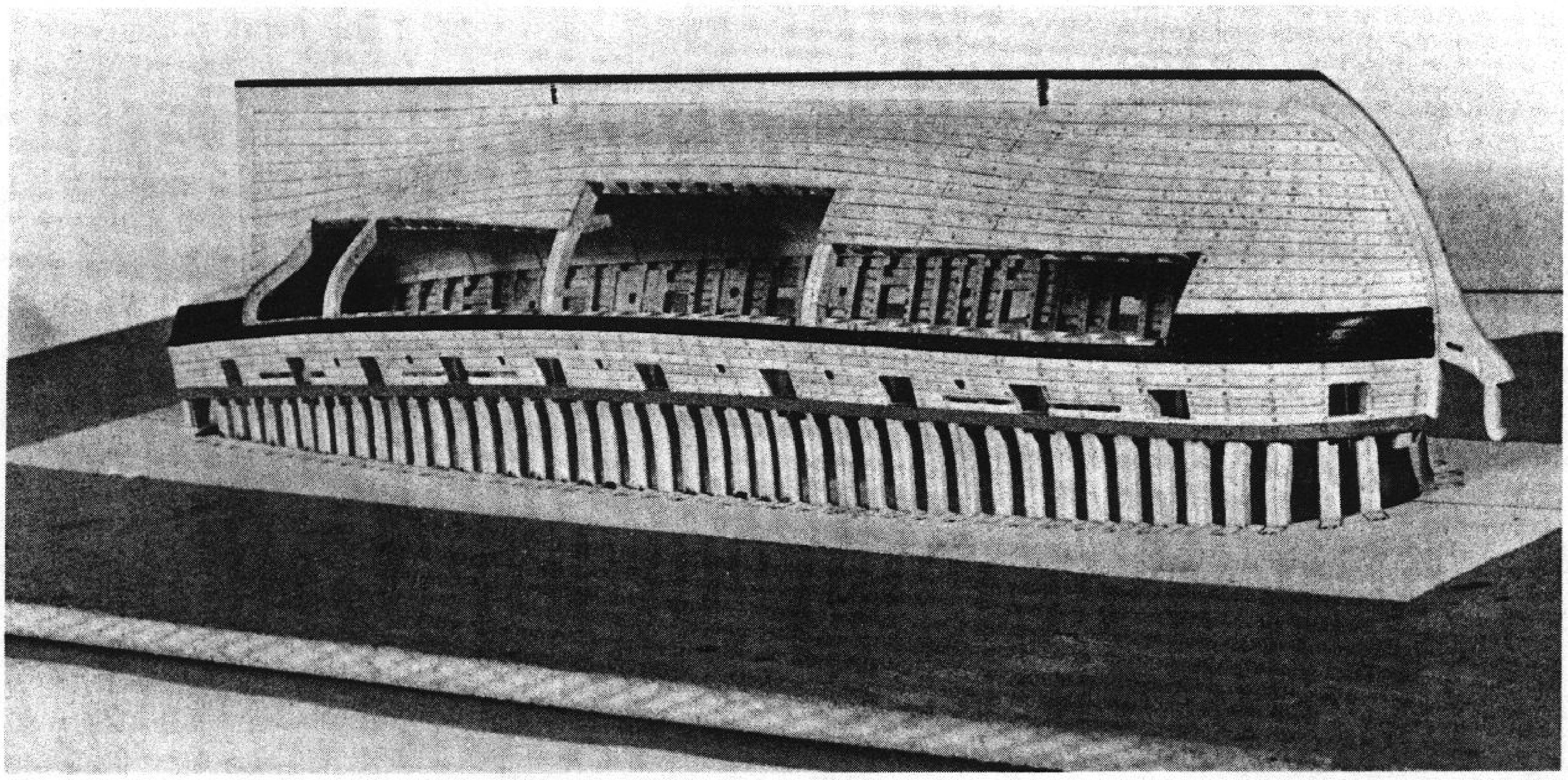
6.1

Admiralty draughts had been captured by HMS *Emerald* in August 1781, and so the date of the drawing had to be March 1782. I could only assume that the catalogue identification and the notations added to the drawings had resulted from a mistaken acceptance of the brigantine and its record as representing the ship in question.

The key to my search was the capture of the French privateer *Frederick* (Fredrick on the Admiralty draught) by HMS *Emerald*. I asked

6.2





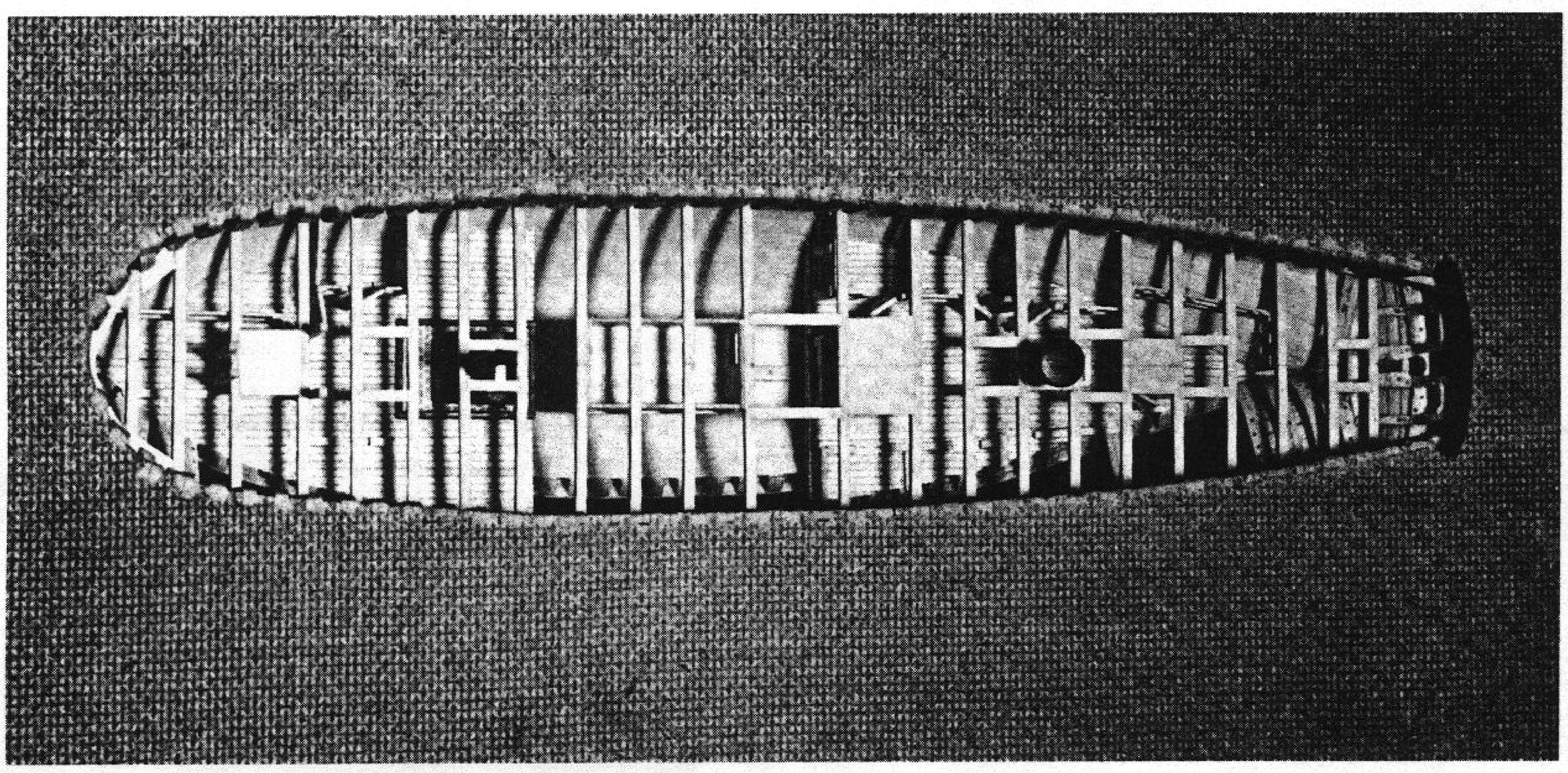
6.5

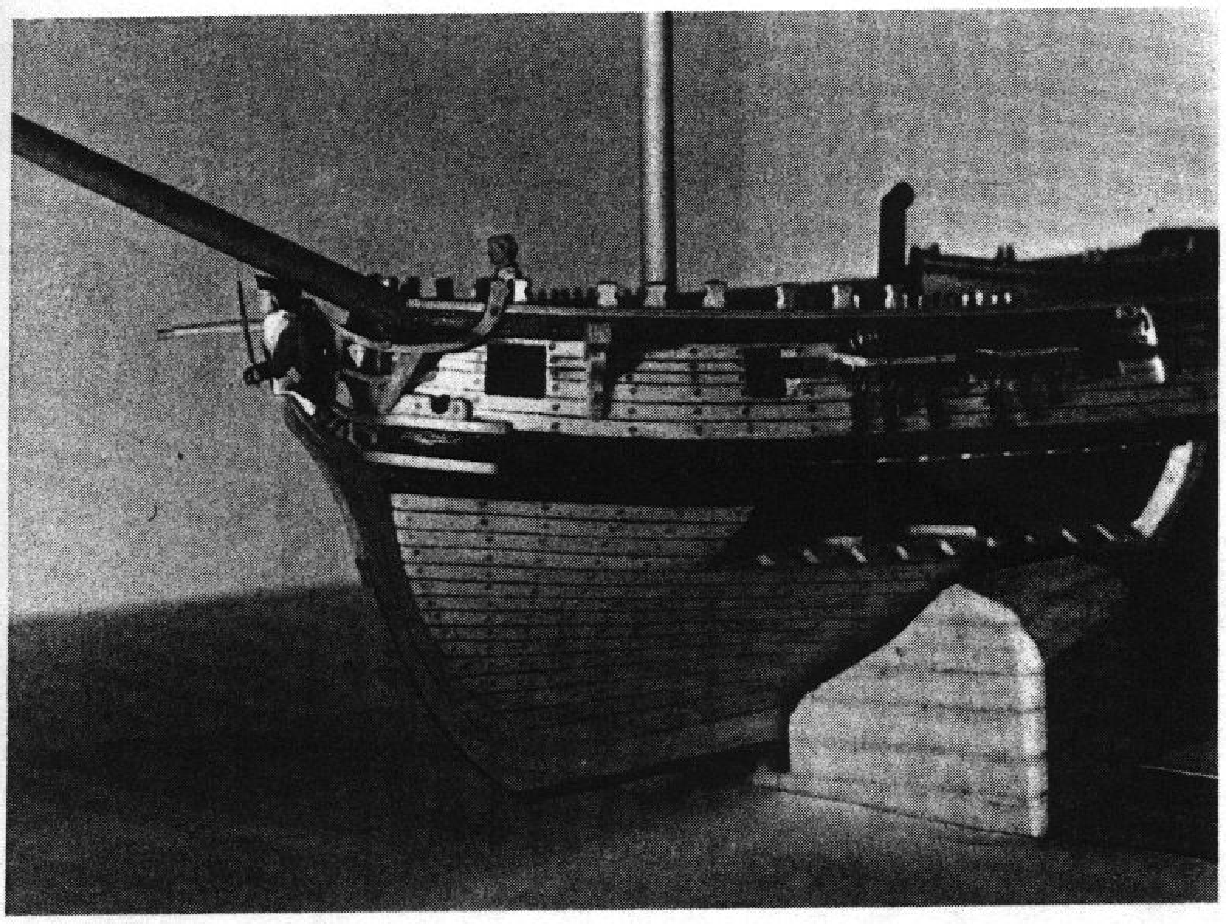
way. On the 19th, light breezes developed into squalls, and at 7.00 pm *Emerald's* jibboom was carried away. Apparently, a replacement was fitted quite readily. By Monday the 20th they were halfway across the Bay of Biscay and a meeting of Lieutenants was convened aboard *Brittania.* On Thursday, they passed Ushant which could be seen at 10.00 am about 7 – 8 leagues SEbE. The *Emerald's* log book records for the next two days are most significant to this story and worth quoting in full.

On Friday the 24th, their position was recorded with St Martin's Point on the island of Guernsey ESE 4 or 5 leagues. The log-book entry reads:

> First and Middle parts Light breezes and Clear with Calms, Latter part fresh breezes and Cloudy, at ½ past 4 AM the *Brittania* made our signal to Chace two Sail a head of us d^{o} made sail as did several other ships. At 7 the *Narcissous* brought too one of the Chace a Brig. fired the Bow Chace now and then as we Came up, at ½ past she began to fire her stern Chace which she continued until we got along side of her at

6.6





6.7

> ¼ past 11 when she struck. having fired at her 28 twelves and 56 Six Pounders Shotted. Hoisted out the Boats and Shifted the Prisoners. She Prov'd to be the *Frederick* french Ship Privateer of St Malone Mounting 16 Six pounders, eight of which she throw'd overboard during the Chace, at Noon the *Alarm* and *Crocodile* Boats came onboard to take out some of the Prisoners. Sent an Officer and party to take charge of the Prize.

The next day, with the fleet sailing northward, *Emerald* found herself three miles from Start Point on the south coast of England and the following activity was recorded:

> First part fresh breezes and Cloudy Middle and Latter parts fresh Gales and hard Rain, at ½ past 2 PM joined the Fleet as did the Prize sent onboard the *Valiant* & *Juno* 25 Prisoners. at 8 AM fir'd a Six Pounder at a Brig she Prov'd to be a Portuguese from London bound to Mederia. at 11 the *Brittania* made the Signal to Sail Large. Ansd do. Signal.

Frederick was taken into Plymouth where she lay inactive until the following March. A small, flush-decked ship, she did not make an impressive appearance as a warship but the Admiralty decided to press her into service as a sloop of war. On 13 March 1782 Captain Edward Pellew took command with Andrew Mackie as Master. She was fitted out and her lines taken off at the Plymouth Dock Yard that month. Around the middle of April the newly named *Pelican* began cruising out of Plymouth into the English Channel. On 24 April she captured a French privateer mounting 4 four-pounders, 10 swivels and crewed by 38 men.

On 28 April *Pelican* sailed into Roscoff Harbour firing at a brig, lugger and five merchantmen. In May she sailed from Plymouth in company with *Artois*. She anchored at Newlyn for several days and then at Falmouth from the 21st to the 24th. *Pelican* returned to Plymouth on 28 May and Captain Bowater replaced Pellew as commander.

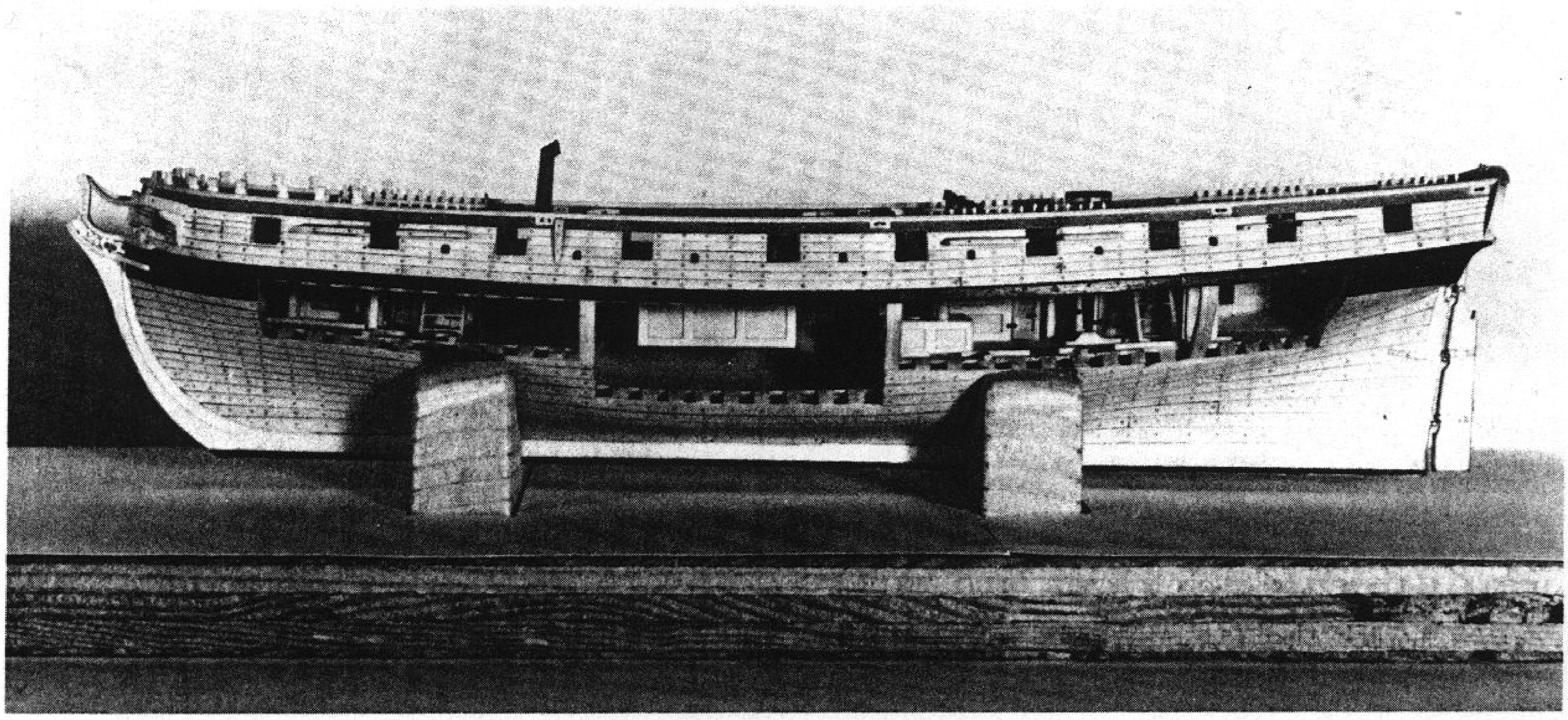
In June *Pelican* sailed round Start Point to Brixham and then up to Tor Bay. In the middle of the month she returned to Plymouth. On the 26th she moved into Plymouth Sound where a convoy was being assembled. On 5 July, *Pelican* sailed with the convoy of eighteen ships. They reached Carrickfergus, Ireland on the 11th. *Pelican* sailed to Moore Hole, Belfast Lough on the 25th to join a convoy which she escorted across the Irish Sea. She parted company on the 27th off Anglesey and returned to Moore Hole.

During the month of August it would appear that *Pelican* was patrolling the narrows of the North Channel on the lookout for enemy privateers. On the 5th she sailed across to Campbeltown in company with the cutter, *Lark*. Then on the 11th in company with *Lark* and *Fortune* she sailed down to Loch Ryan. They returned to Carrickfergus on the 16th. With *Seaford* added to the small squadron, they sailed up to Cushingden Bay and then across to Campbeltown by the 22nd. At the end of the month, *Lark* and *Pelican* returned to Carrickfergus.

On 18 September, *Pelican* sailed with *Lark* down to Carlingford Road. Then in the middle of October she escorted a transport and three tenders to Dublin Bay. From there the little convoy sailed to Barnpool, Plymouth, arriving on the 25th. Two days later *Pelican* sailed with a convoy for Spithead where she remained from 30 October until December. On 13 December *Pelican* in company with *Carysfort* sailed to Sheerness with a convoy of 50 sail.

Captain William Taylor replaced Bowater as *Pelican's* commander on 12 February 1783 and she moved from Sheerness to the Nore two days later. On 21 March peace was announced. At the end of the month, the little sloop of war sailed up the river to Deptford where she was paid off on 2 April 1783. *Pelican* was sold out of the service 1 May 1783 for £710.

HMS *Pelican's* career in the Royal Navy was short and unexceptional. Her inclusion in this book might be questioned because of this lack of significance. However, I can cite a number of reasons for my feelings that she is a subject well worth investigating both from the historical standpoint and for serious consideration by model builders. Although the American colonies



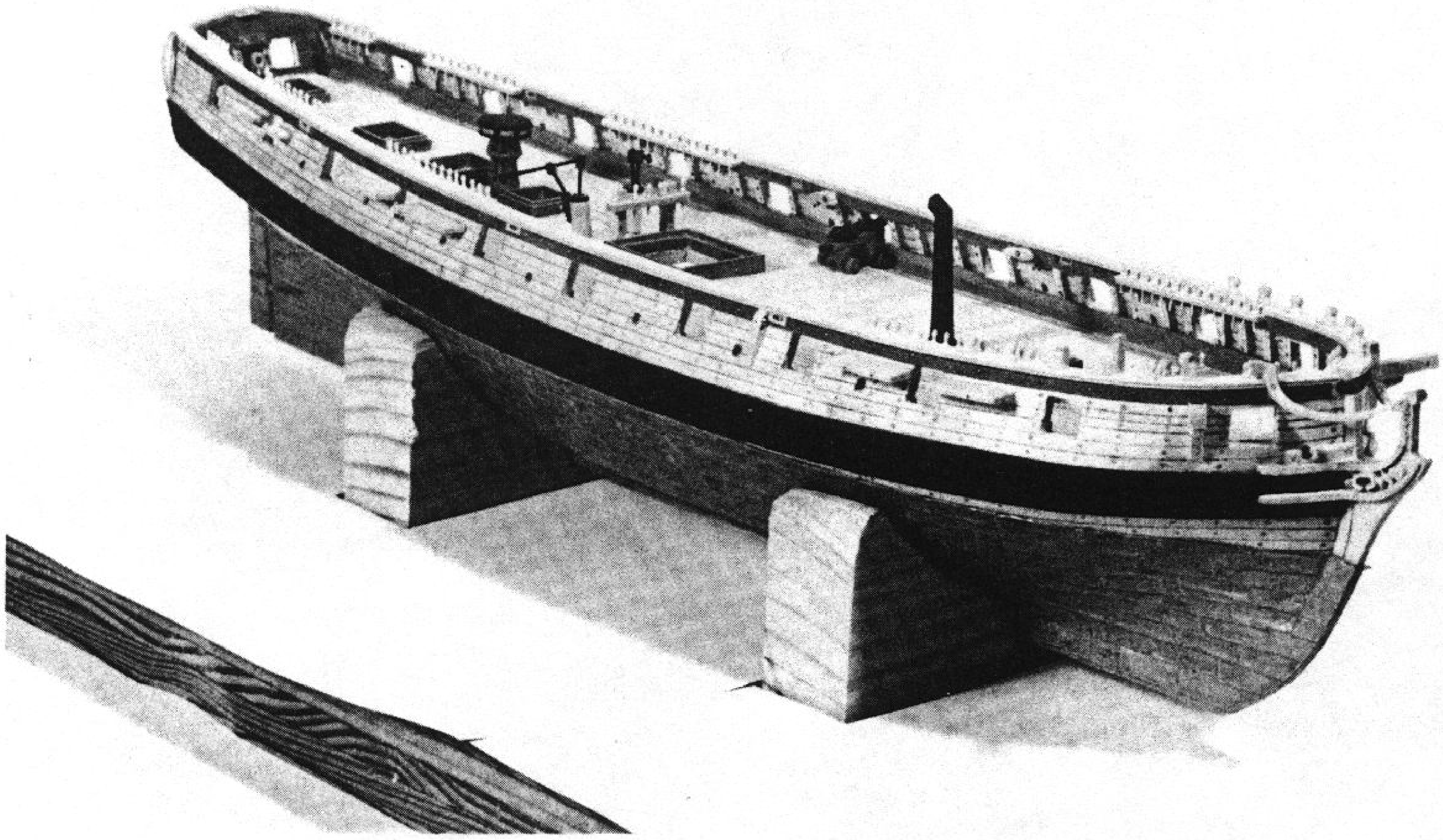
6.8

and England were the principals in the drama, France, Spain and Holland also became involved before the final curtain fell on the American Revolution. *Pelican,* ex-*Frederick* is but a nominal acknowledgement of this extended theatre of operations. The French design of *Frederick* is quite distinctive when compared with the full-bodied, English/American models presented in this book. Her very sharp lines anticipate the Baltimore Clipper type that came to the fore several decades later.

Frederick's body lines at the mid-section reveal a very distinctive hull design with a sharp curve at the low bilge line and an almost straight rise to a second strong curve at the waterline which is topped off with a pronounced tumblehome of the bulwarks. I think it would be reasonable to assume that the ship was built expressly for a career in privateering. The sharp lines indicate the intent to provide for fast-sailing qualities. French design was generally considered superior to British models, but the Royal Navy was ahead of the French in sheathing hulls with copper. As a result, British ships exhibited superior sailing qualities to their French opponents on several occasions during the American Revolution. It was noted when *Frederick* was captured in 1781 that she was copper-bottomed. This probably makes her one of the first French ships to receive that treatment. It also reinforces the theory that she was built with special planning for a privateering career. Smuggling of valuable cargoes in her limited capacity might have been an alternative, but she could never have served adequately as a prosaic merchantman.

There are other features evident on the Admiralty draught which give the design a special character when it is compared with the others in this book. It is the only three-masted ship with a flush deck. All three masts are shown perpendicular to the waterline. When the upper masts are added, this actually gives them the appearance of having a forward rake. Extra, small deadeyes on the channels provide stays for supplementary support of the topmasts. Another feature which seems to be typical of Continental European ships is the triple block mounted on the channel in place of a deadeye for the foremost shrouds of the fore and main masts. The stem is shaped to curve back above the wales, continuing the tumblehome of the bulwarks. The sternpost extends above the deck to provide a pintle and gudgeon for additional rudder support. The whelps of the capstan project to a lesser radius than would be expected on a British design. Amidships, a sail room is suspended from the deck beams.

HMS *Pelican* was very small for a full-rigged ship. With her 85ft 4¾in length on the range of deck, 23ft 6in extreme breadth, and 9ft 4in depth in the hold, she was rated at 204-37/94 Burthen in Tons. One source gives almost identical specifications for Lieutenant Ardesoif's brigantine. This may be an unusual coincidence or, although the source states that there were no plans extant for the brigantine, it could possibly reflect the incorrect identification of that vessel with information taken from the drawings of the ex-*Frederick.* This points up the fact that identification of lesser known vessels – either by names that were commonly duplicated or by previous research which may have been misdirected – should be regarded with caution. I have several times been tempted to take such information on



6.9

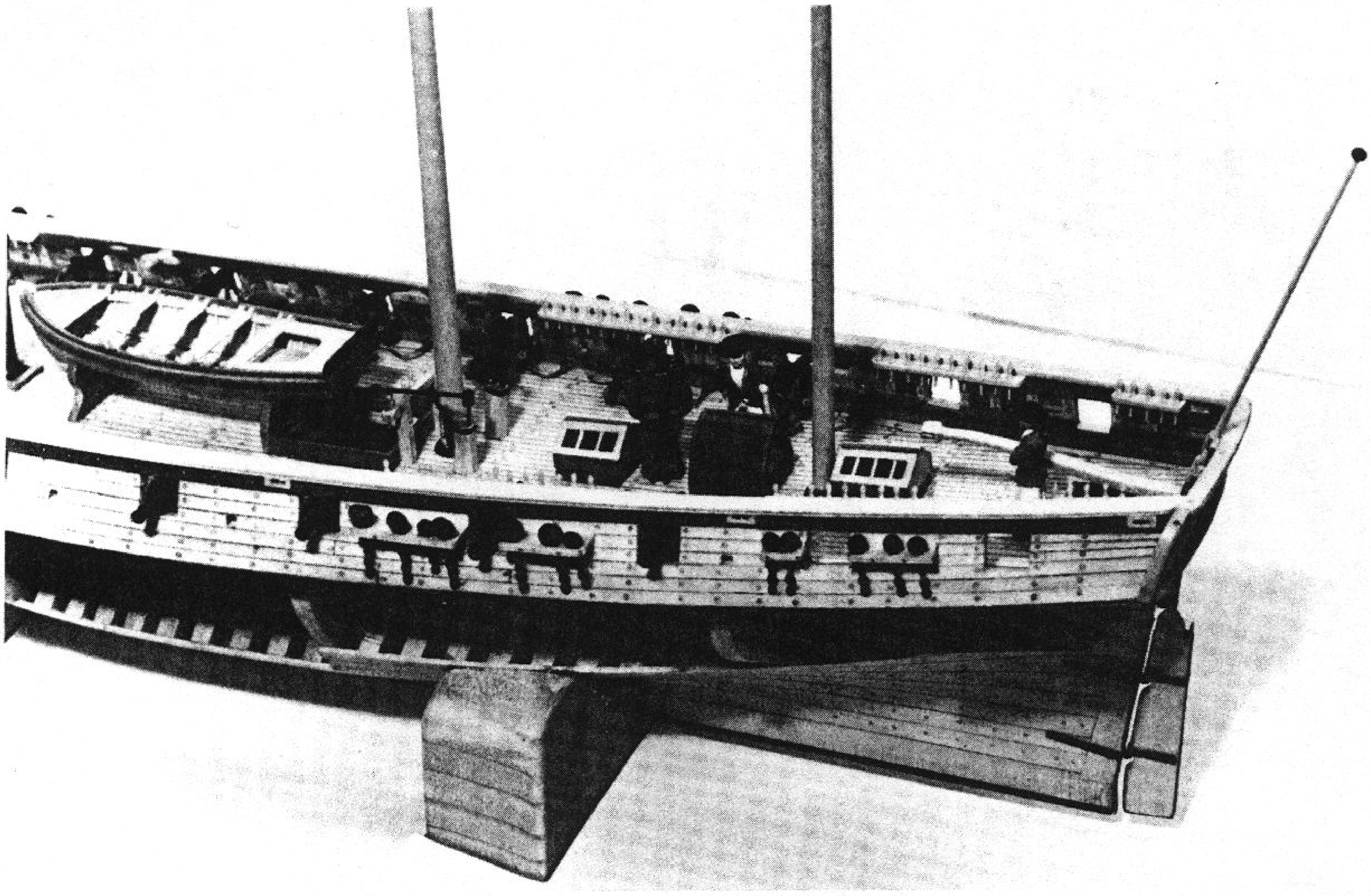
face value only to be disillusioned when the true facts were uncovered. This has taught me to take nothing for granted that lacks genuine corroboration and also that the actual facts are so often more intriguing than the mistaken information.

Pelican's original name took several forms in the records. 'Frederick' is most commonly encountered, but the Admiralty draught spelled it 'Fredrick', and *Brittania's* log book refers to 'Frederique'. I would like to trace the origin of the name to Frederick the Great, but have no evidence to support this belief. However, there is the feeling that use of this masculine name when considered with the career intended for the ship indicates connotations of a martial nature. The drawing does not depict the figurehead, but I decided that a man of military bearing would be most appropriate.

When I designed the framing of the hull for my model, I found that the gun ports could be located between frame extensions with just a little juggling of the two foot room-and-space pattern that I chose to work with. Because of the sharp lines and shallow draft of the hull, I decided to use cant frames with now hawse piece at the bow except for two that mount on either side of the stem and frame an opening in which the bow sprit rests on the stem. The pronounced tumblehome of the bulwarks would, I think, make for an awkward structure to be added to a carved hull model, but the work becomes quite routine as part of a plank-on-frame design.

I had become so accustomed to building eighteenth-century ships with round tucks at the stern with transoms to fill in the space aft of the fashion pieces that I drew them in on the original plan for framing my model. It wasn't until I had assembled the cant frames with the aftermost deadwood that I realised there was no way that a round tuck could be produced from the sharp lines of the hull. Photograph 6.1 clearly shows how the hull lines converge at the corner where the wing transom and sternpost meet. Small filler blocks were added to the surface of the wing transom and sides of the deadwood such that when they had been properly shaped, they would provide fastening surfaces for the hull planks in that area. Then when the planks were added, the result was a square tuck with a curved counter.

While planning to build my model of *Pelican,* I decided that I wanted to repeat the treatment that had been accorded my model of the schooner *Halifax* with one side cut away to expose the below-decks arrangement. The other side would be finished complete including the copper sheathing and set into water simulated by a sheet of plastic. The Admiralty drawing which gave details of the lower platform arrangements included a number of features that were of par-



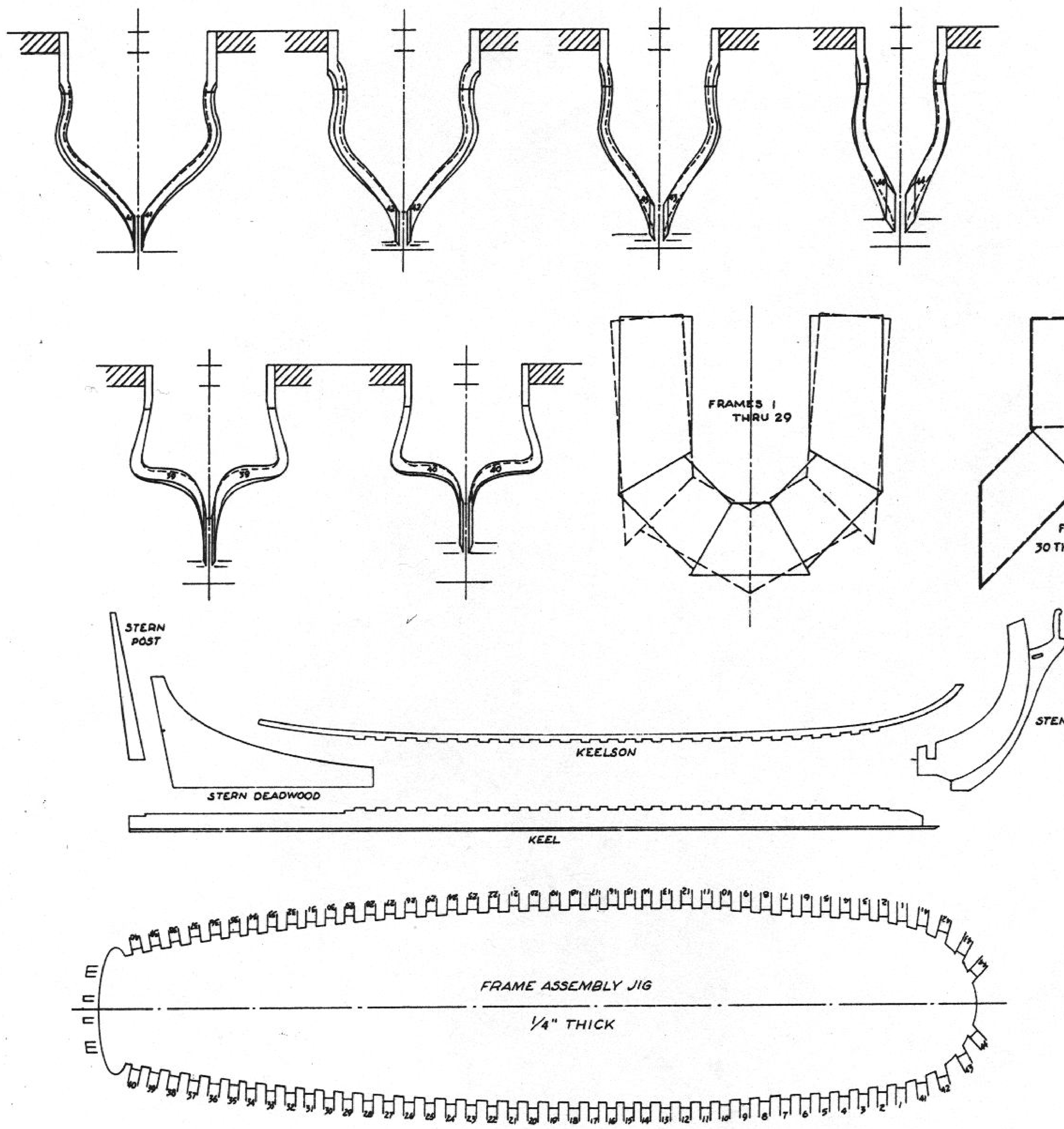
6.10

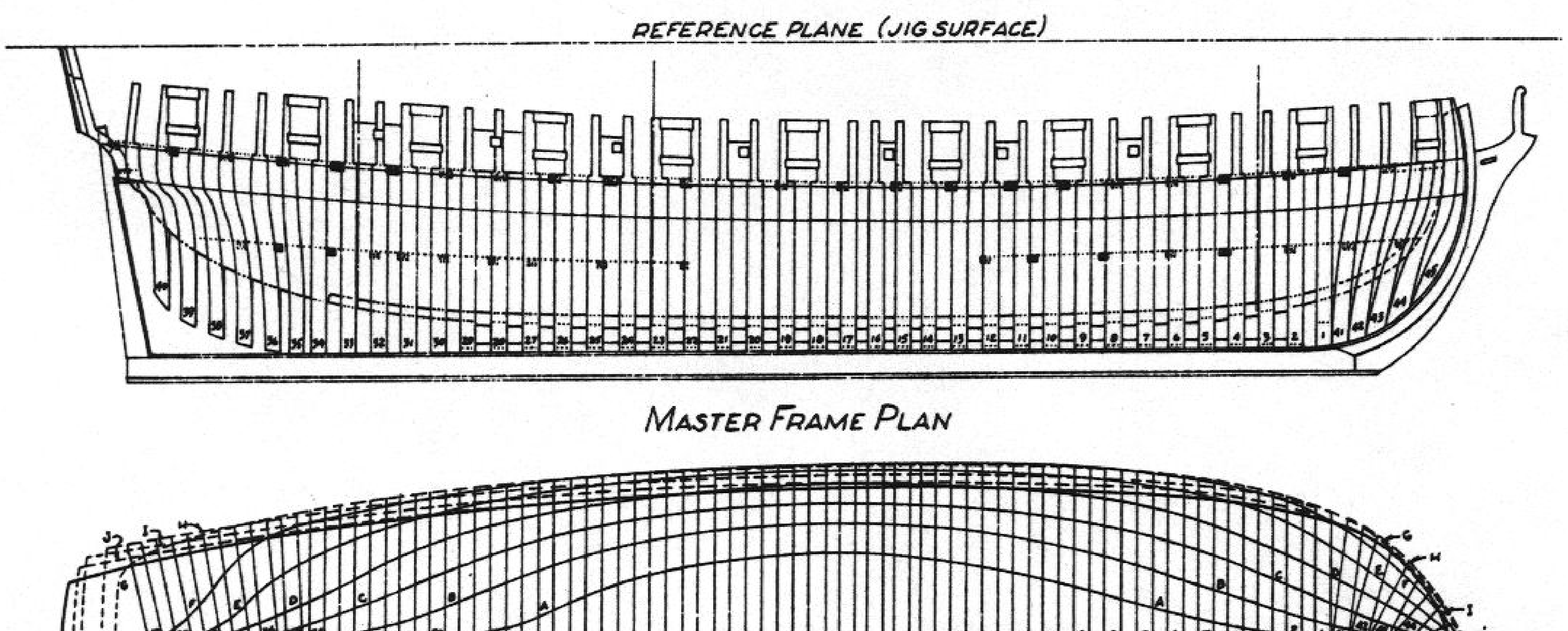
ticular interest. Photograph 6.2 shows the starboard side planked up to and including the wales. It also pictures the frames after they had been thinned down for bulwark stanchions, the gunport sills fitted, and miscellaneous filler blocks between stanchions to provide for hawse holes, oar port openings, and points where sheaves were to be set into the bulwarks for tack, sheet and brace ropes. Photograph 6.3 shows planking on the same side completed up to the sheer line under the cap rails. Holes had been cut through for the oar ports. Note the slots left in the planking into which the channels were to be fitted. The water line had been marked as a guide for cementing on the copper plates of the sheathing.

The port side had to be cut away to expose the interior to view. However, I first ceiled in the frames, installed the beams for the fore and after platforms, and decked them over as shown in photograph 6.4. The frames on the outside of the port side were marked where the cutouts were to be made and the hull planked up to those lines. By this time, the hull structure was quite stable and the sections of frame material could be sawed out with a miniature keyhole saw without any concern for distortion or loss of strength in the model. I left three of the frames intact to show the contours as much as to provide support for the open section. As photographs 6.4 and 6.5 show, the locations of cabin partitions were marked in pencil on the ceiling and deck. Mast steps previously mounted on the keelson can be seen through the deck openings.

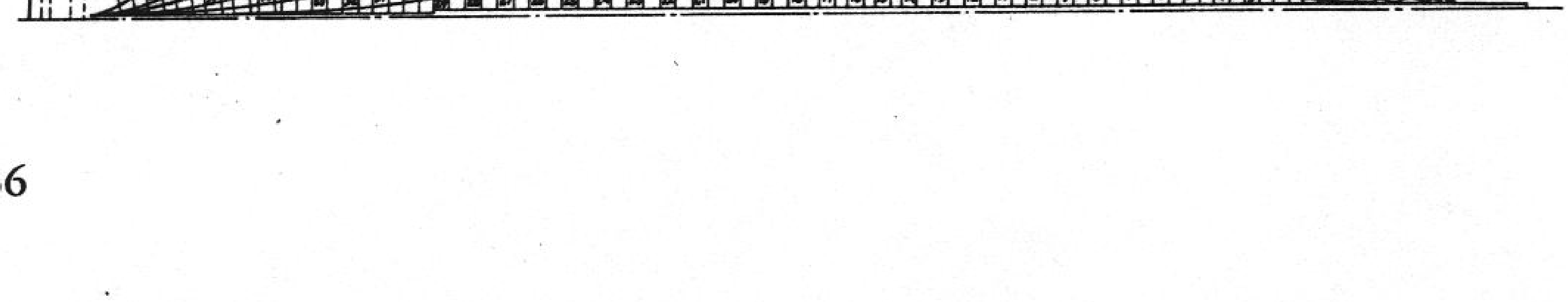
The next step was to install the cabin partitions with their doors on the starboard side. On the cut-away port side, the corresponding areas were just outlined with strips of wood so that partitions would not obscure the view into the hull. Other features that had to be installed at that point were the pivot socket for the capstan spindle which extends down to the after platform, the well housing for the pumps and main mast, the galley stove and provision for the bitts that extend down to the fore platform. Then the upper deck could be framed in as shown in photograph 6.6. While the beams just forward of the main hatch were being fitted, the sail room was assembled and fastened to the beams from which it is suspended.

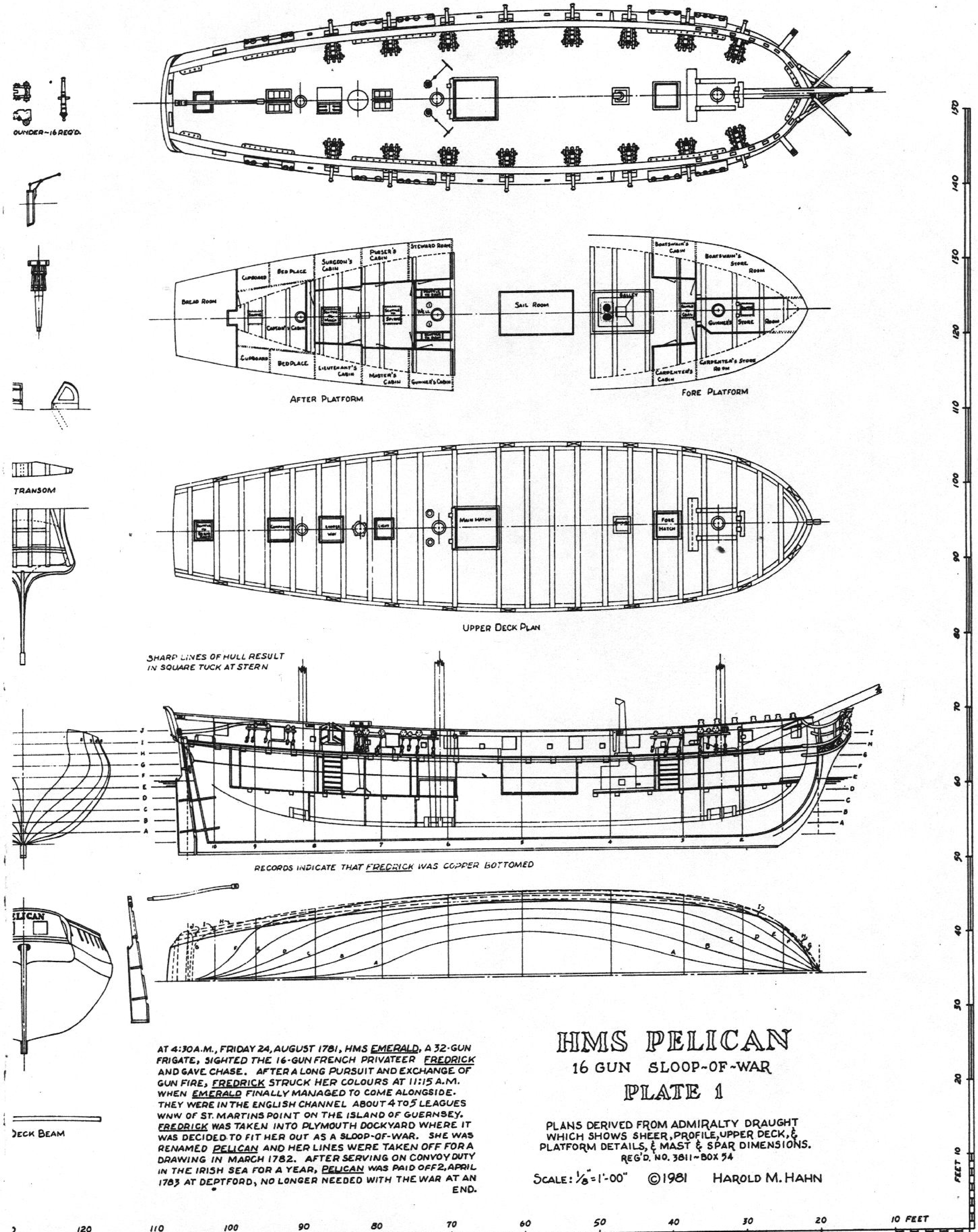
I chose to do all this interior work while the model was still attached to the frame jig, although it could just as well have been done after it had been cut loose. However, it was easier to cement the copper plates of the starboard side with the hull held securely on the jig, so there was no question as to when that operation should be completed. Also, before cutting *Pelican* loose from the jig, I drilled and tapped the two holes at frame stations right through the keel, frame





MASTER FRAME PLAN





AT 4:30 A.M., FRIDAY 24, AUGUST 1781, HMS EMERALD, A 32-GUN FRIGATE, SIGHTED THE 16-GUN FRENCH PRIVATEER FREDRICK AND GAVE CHASE. AFTER A LONG PURSUIT AND EXCHANGE OF GUN FIRE, FREDRICK STRUCK HER COLOURS AT 11:15 A.M. WHEN EMERALD FINALLY MANAGED TO COME ALONGSIDE. THEY WERE IN THE ENGLISH CHANNEL ABOUT 4 TO 5 LEAGUES WNW OF ST. MARTINS POINT ON THE ISLAND OF GUERNSEY. FREDRICK WAS TAKEN INTO PLYMOUTH DOCKYARD WHERE IT WAS DECIDED TO FIT HER OUT AS A SLOOP-OF-WAR. SHE WAS RENAMED PELICAN AND HER LINES WERE TAKEN OFF FOR A DRAWING IN MARCH 1782. AFTER SERVING ON CONVOY DUTY IN THE IRISH SEA FOR A YEAR, PELICAN WAS PAID OFF 2, APRIL 1783 AT DEPTFORD, NO LONGER NEEDED WITH THE WAR AT AN END.

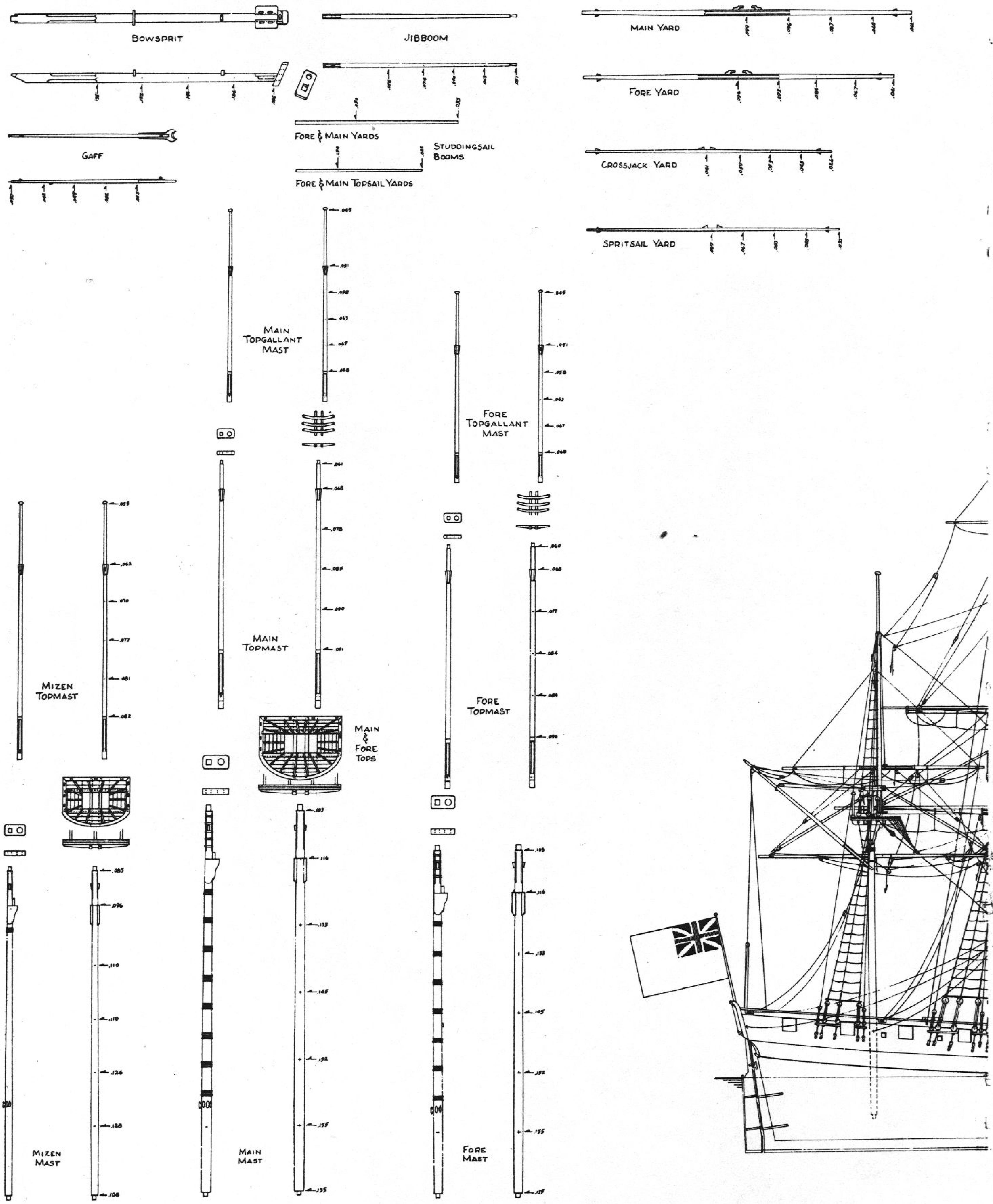
HMS PELICAN

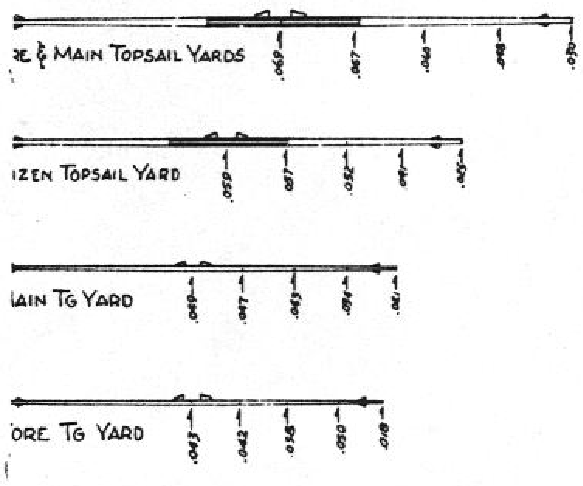
16 GUN SLOOP-OF-WAR

PLATE 1

PLANS DERIVED FROM ADMIRALTY DRAUGHT WHICH SHOWS SHEER, PROFILE, UPPER DECK, & PLATFORM DETAILS, & MAST & SPAR DIMENSIONS.
REG'D. NO. 3811~BOX 54

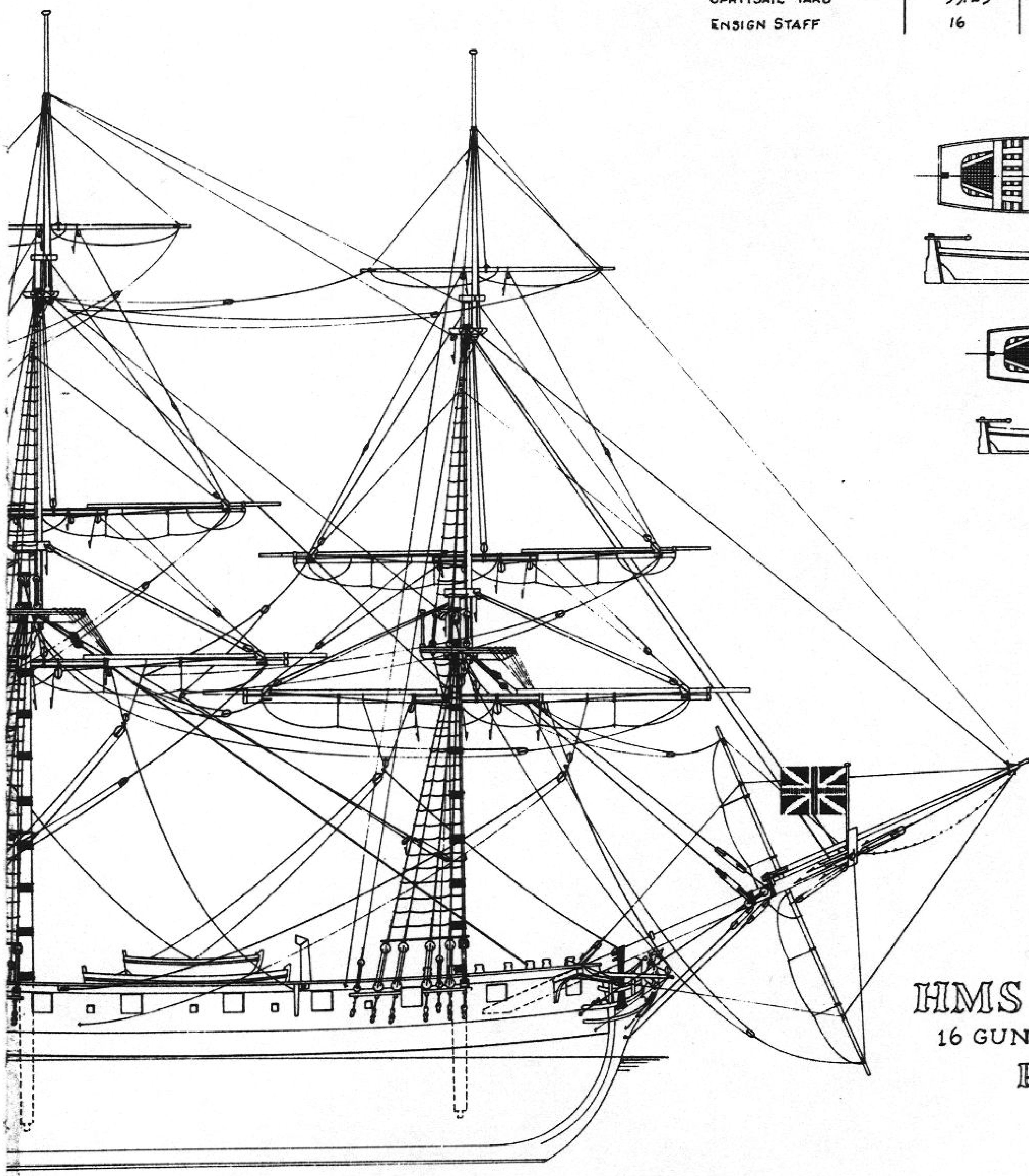
SCALE: 1/8" = 1'-00"   ©1981   HAROLD M. HAHN

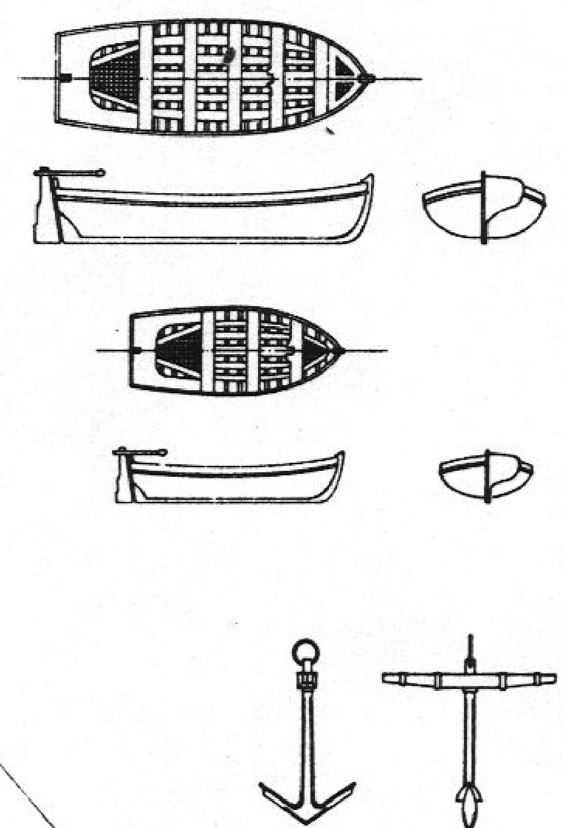

BOWSPRIT
JIBBOOM
MAIN YARD
FORE YARD
GAFF
FORE & MAIN YARDS
STUDDINGSAIL BOOMS
FORE & MAIN TOPSAIL YARDS
CROSSJACK YARD
SPRITSAIL YARD
MAIN TOPGALLANT MAST
FORE TOPGALLANT MAST
MIZEN TOPMAST
MAIN TOPMAST
FORE TOPMAST
MAIN & FORE TOPS
MIZEN MAST
MAIN MAST
FORE MAST



MAST & SPAR DIMENSIONS FROM ADMIRALTY DRAUGHT 3811/54

	LENGTH		DIAMETER	
	FEET	TO SCALE (")	INCHES	TO SCALE (")
MAIN MAST	50.5	6 5/16	14 7/8	.155
" TOPMAST	32.5	4 1/16	8 3/4	.091
" GALL^T MAST TO HOUNDS	17.83	2.23	6 1/2	.068
HEAD	7.25	.91		
FORE MAST	45.33	5.67	14 7/8	.155
" TOPMAST	31.91	4.	8 5/8	.090
" GALL^T MAST TO HOUNDS	17.83	2.23	6 1/2	.068
HEAD	7.17	.90		
MIZEN MAST	42.83	5.35	12 1/4	.128
" TOPMAST TO HOUNDS	25.17	3.15	7 7/8	.082
HEAD	8.0	1.		
BOWSPRIT	35.67	4.46	14 7/8	.155
JIB BOOM	25.25	3.16	7 1/4	.076
MAIN YARD	43.17	5.4	9 1/2	.099
" TOPSAIL YARD	33.5	4 3/16	6 5/8	.069
" GALL^T YARD	23.33	2.92	4 3/4	.049
FORE YARD	40.83	5.1	9 1/4	.096
" TOPSAIL YARD	33.5	4 3/16	6 5/8	.069
" GALL^T YARD	22.17	2.77	4 1/8	.043
CROSSJACK YARD	32.5	4 1/16	5 7/8	.061
MIZEN TOPSAIL YARD	27.09	3.39	5 5/8	.059
" GAFF	20.5	2 9/16	5 1/8	.053
SPRITSAIL YARD	33.25	4.15	6 5/8	.069
ENSIGN STAFF	16	2.	4 1/8	.043





HMS PELICAN

16 GUN SLOOP-OF-WAR

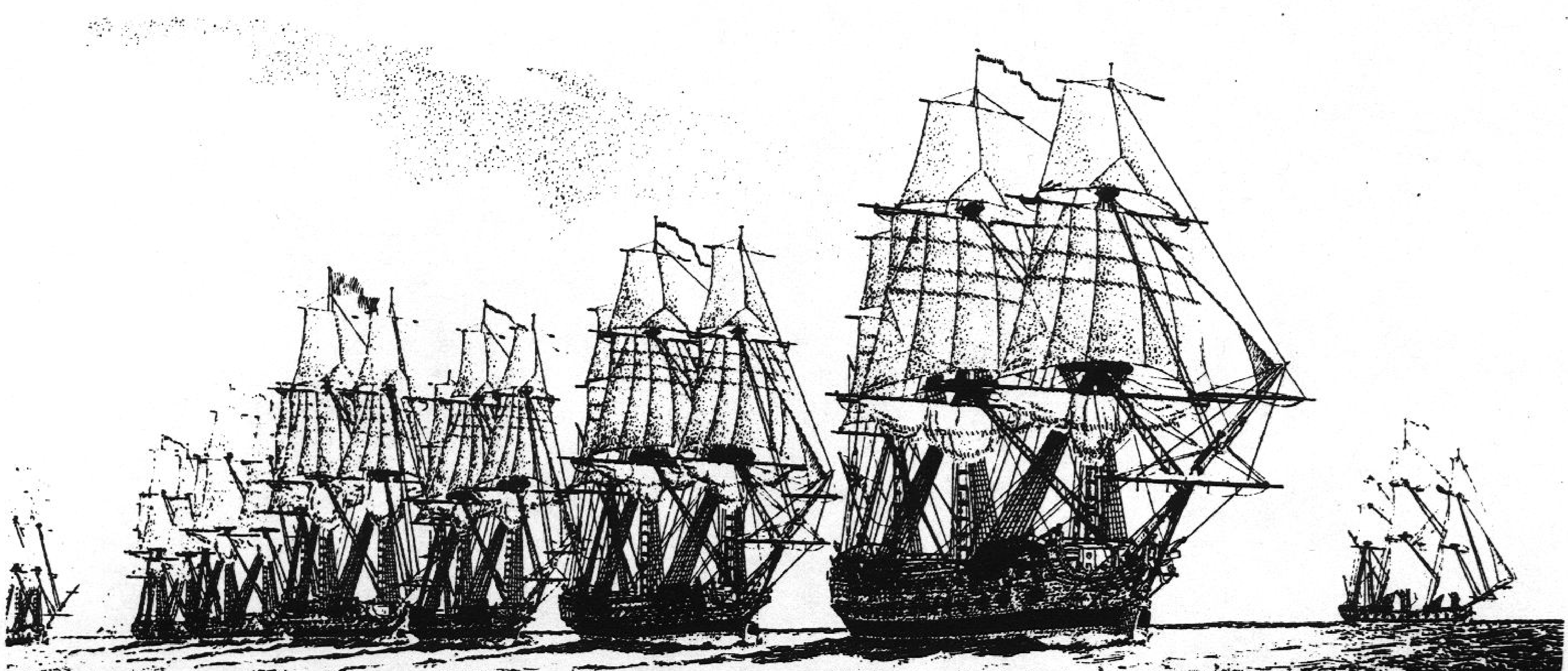
PLATE 3

MASTING
&
RIGGING

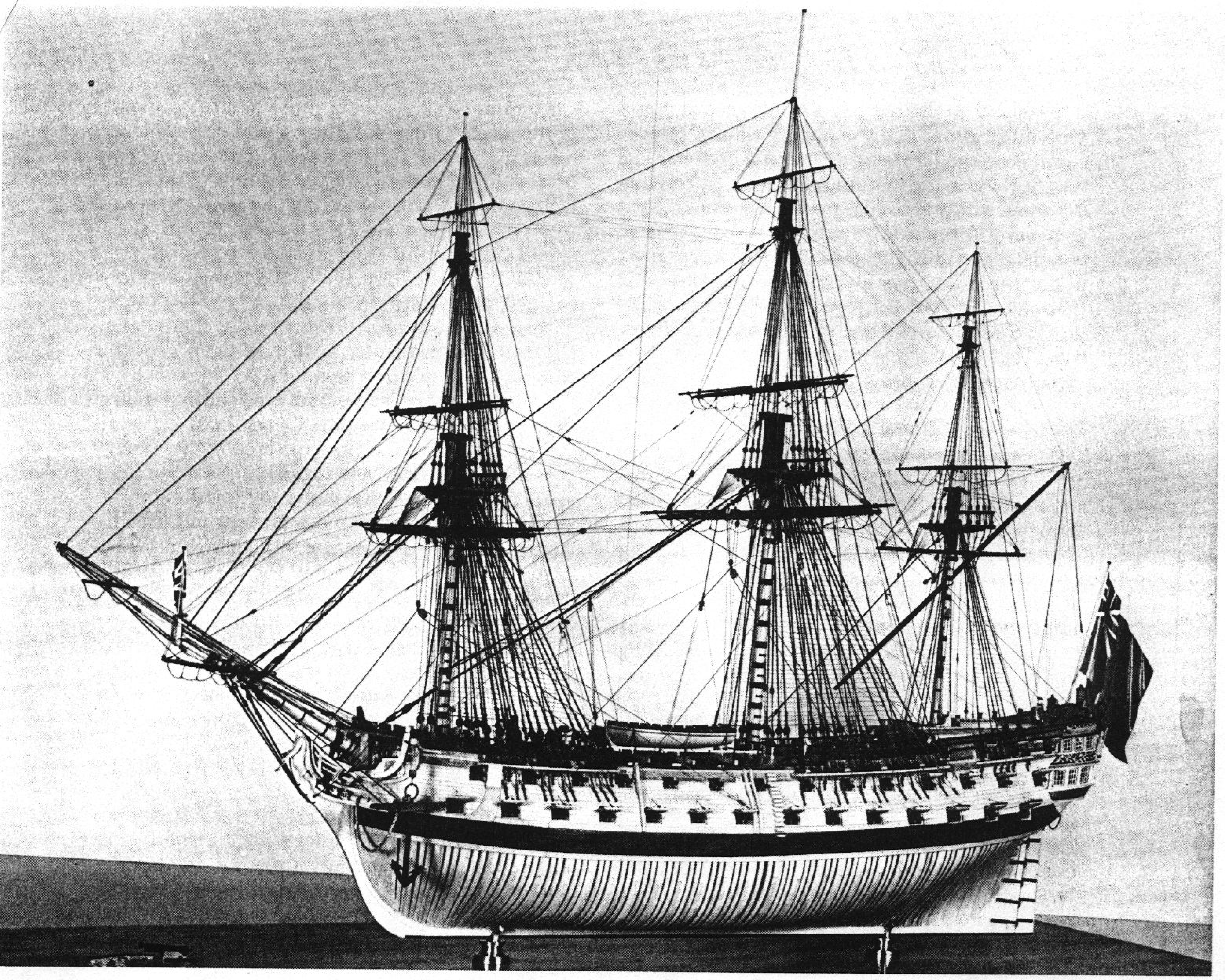
SCALE: 1/8" = 1'-00"   ©1981   HAROLD M. HAHN

CHAPTER 7

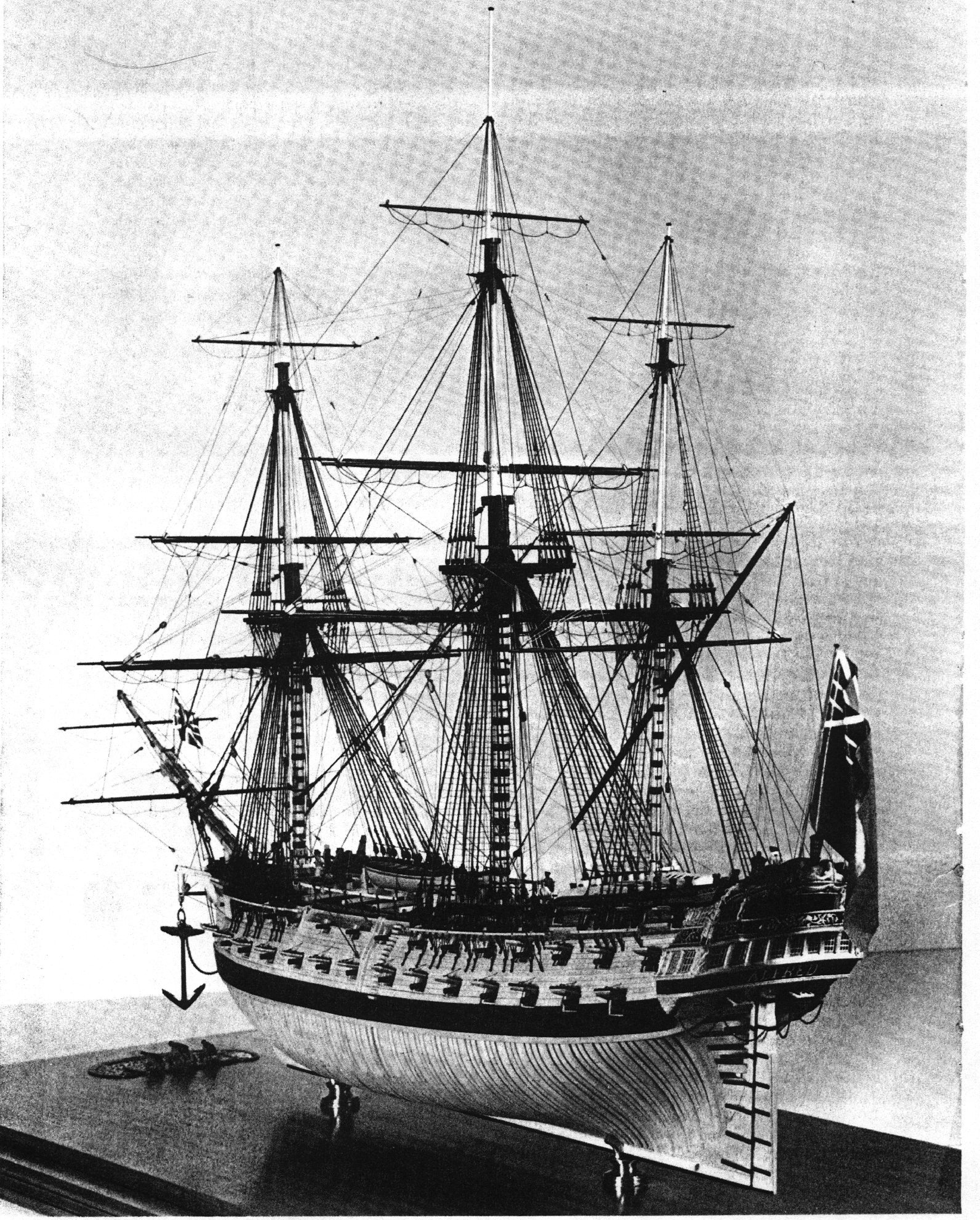
HMS *Alfred* (74)

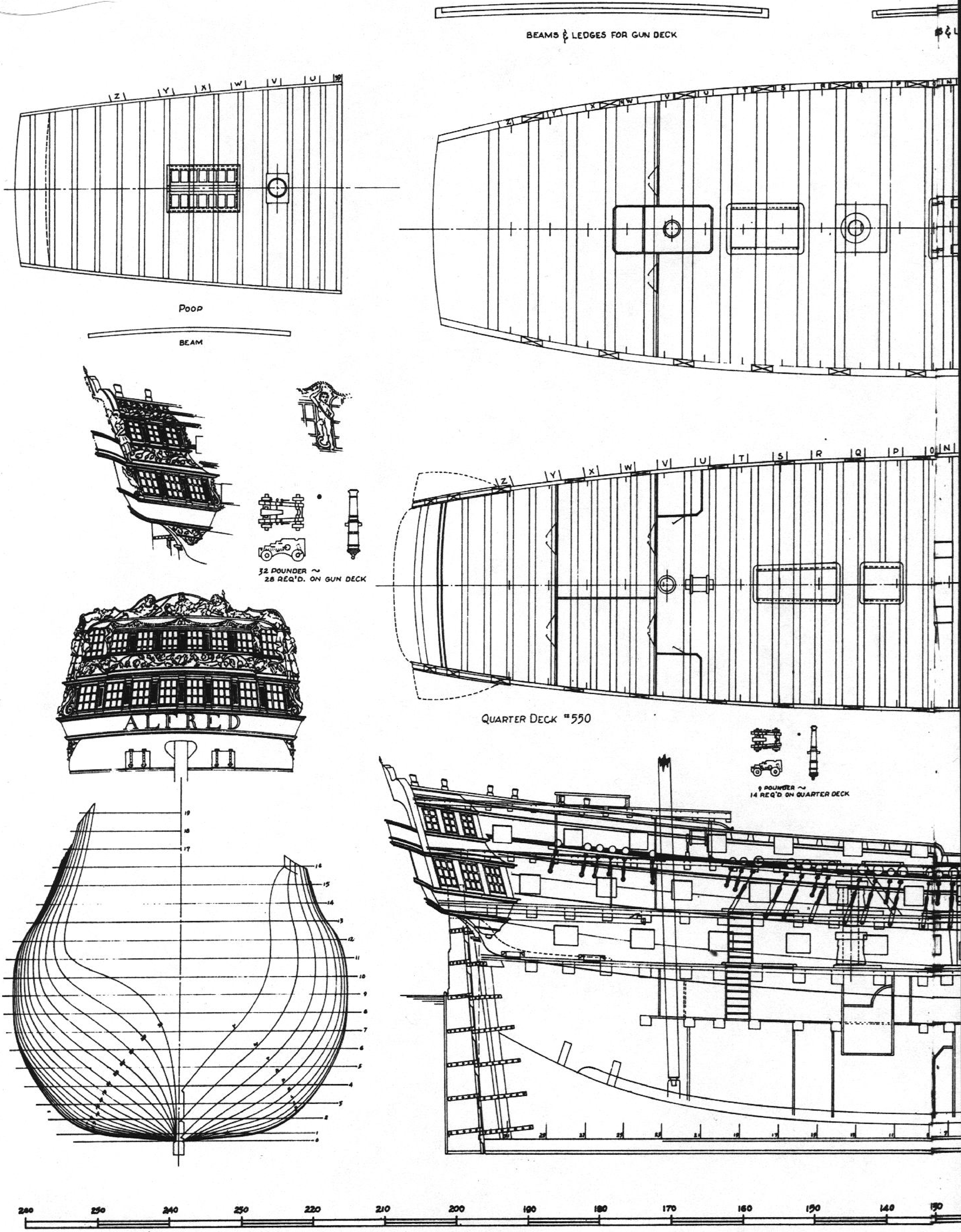


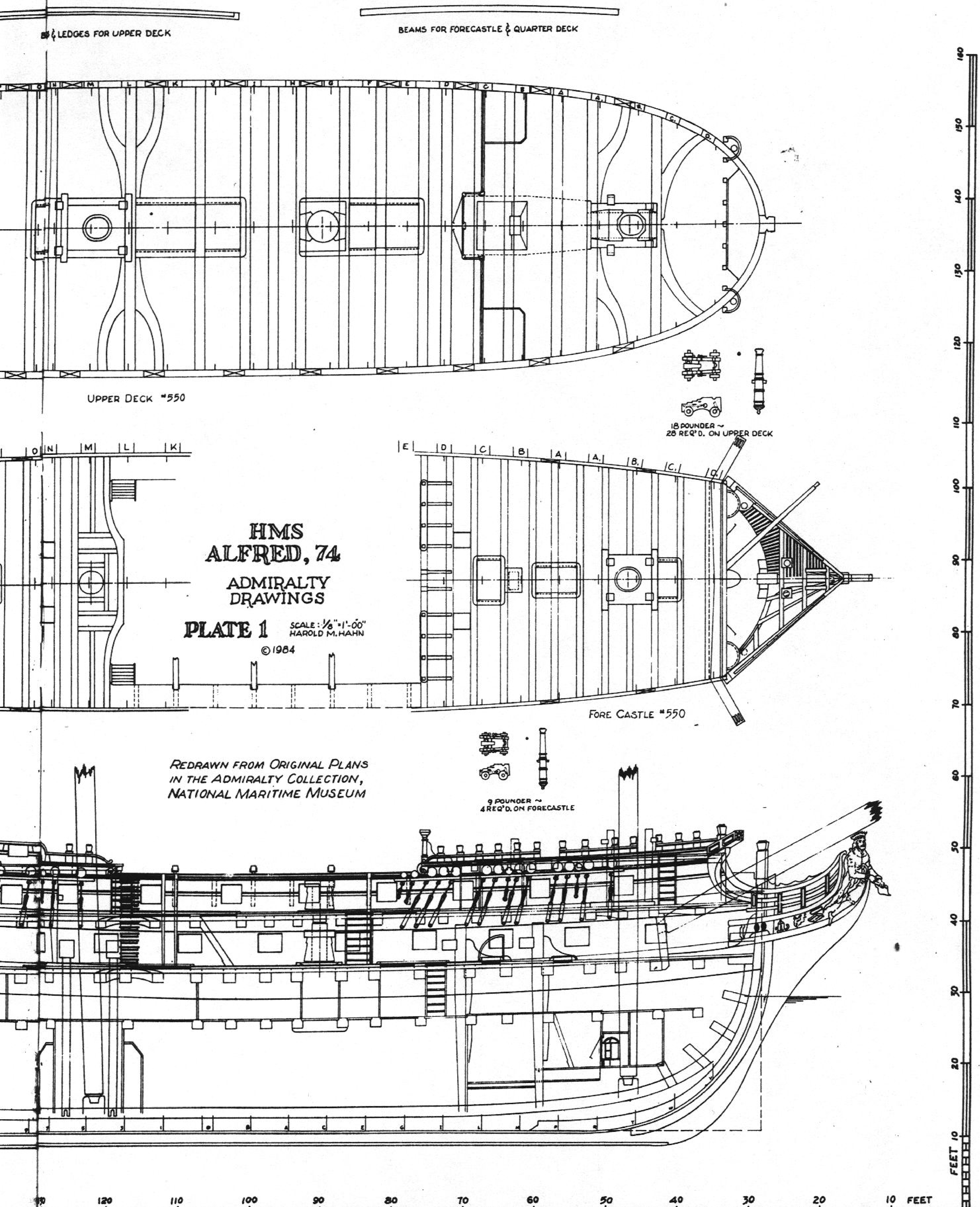
HMS Alfred (74)



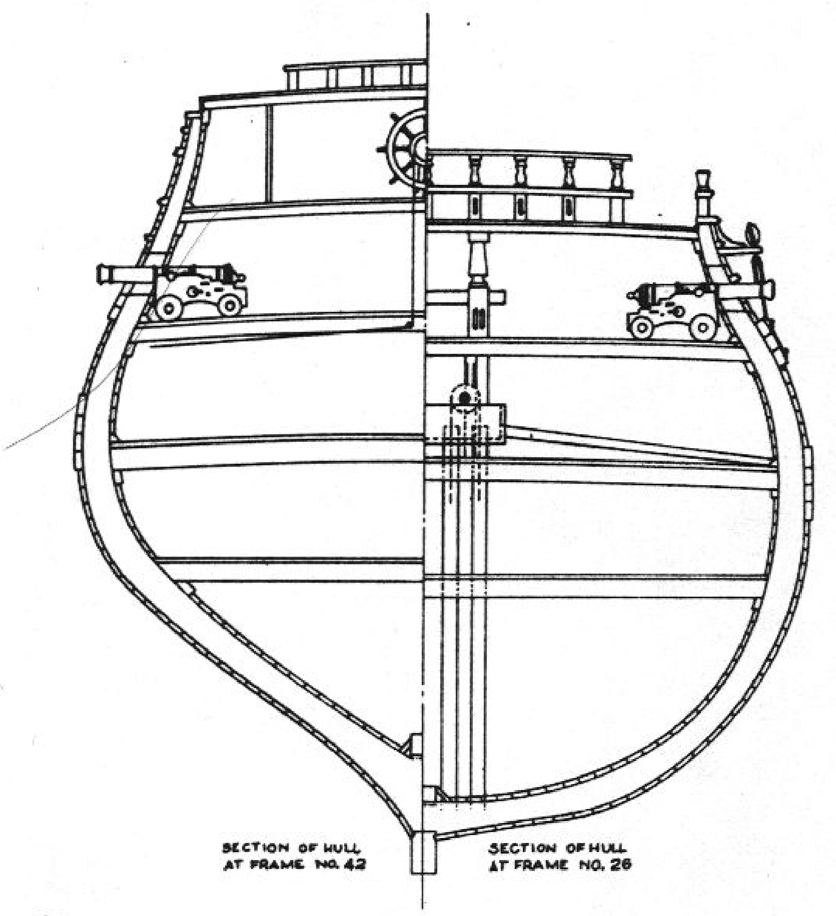
AM at 7 the *Richmonds* Sig^{l} to Chace SW Out all Reefs Topsails at 10 the *Richmond* m^{d} the Sig^{l} for a Strange Fleet in the NW Quarter D^{o} Sig^{l} m^{d} to prepare for Action D^{o} sig^{l} m^{d} for the Line Ahead at 2 Cables Length Dist. D^{o} sett all Sail Counted 24 Line Battle Ships & two Frigates of the Enemy.(noon) Mod. & Clear w^{r} ½ past Mir. Sig^{l} m^{d} to form the Line Ahead one Cable Dist at 1 Sig^{l} for Line Ahead ½ Cable Dist ¼ past 1 Sig^{l} to form the Line East & West veered Ship ½ past 1 D^{o} to haul the Wind Close to Starboard ¾ past Sig^{l} for the Commander in the third part to make more Sail at 2 Sig^{l} to Alter the Course to port ¼ past to make more Sail in the Line ¾ past to form the Line 2 Cables Length Dist at 3 Sig^{l} for the fleet to Veer & preserve the Line on the other T^{k} ¼ past 3 Sig^{l} for the Commander of the Second part to make more Sail ½ past 3 Sig^{l} to Enggadge & to alter the Course to Starboard at 4 Sig^{l} to Engadge our Opponent in the Line ¼ past 4 Sig^{l} for the Line Ahead one Cable Dist D^{o} Sig^{l} for Battle & Close Action D^{o} Centre began the Engadgement & soon after the Van which Continued very Warm until ½ past 6 Sig^{l} for the Line hauld D^{n} & the Sig^{l} for Battle & close action still Flying when the Adm^{l} & part of the Rear Division began to fire, but at a Great Distance at this Time their being seven of the Enemy's Rear Ships Extended Astern of our Line ¼ past 7 Sig^{l} for Battle hauled Down & the Sig^{l} for the Line Ahead ½ Cable Distance ½ past 7 Adm^{l} Hood Tk^{d} as did the *Invincible, Belliquin* & us at 9 tk after the Adm^{l} & Stood into the Line at 10 the *Solebay* haild us & Delivered a Message from the Admiral Requesting we Should keep in the Line According to Sig^{l} that he did not Intend to Engadge the Enemy in the Night, but at Day Light in the Morning Should Engadge much Closer than this Day.

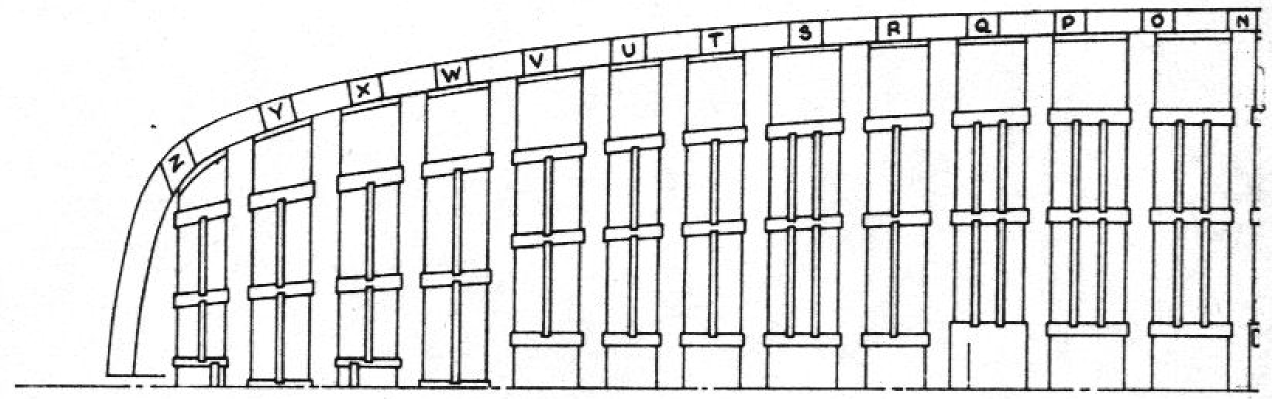


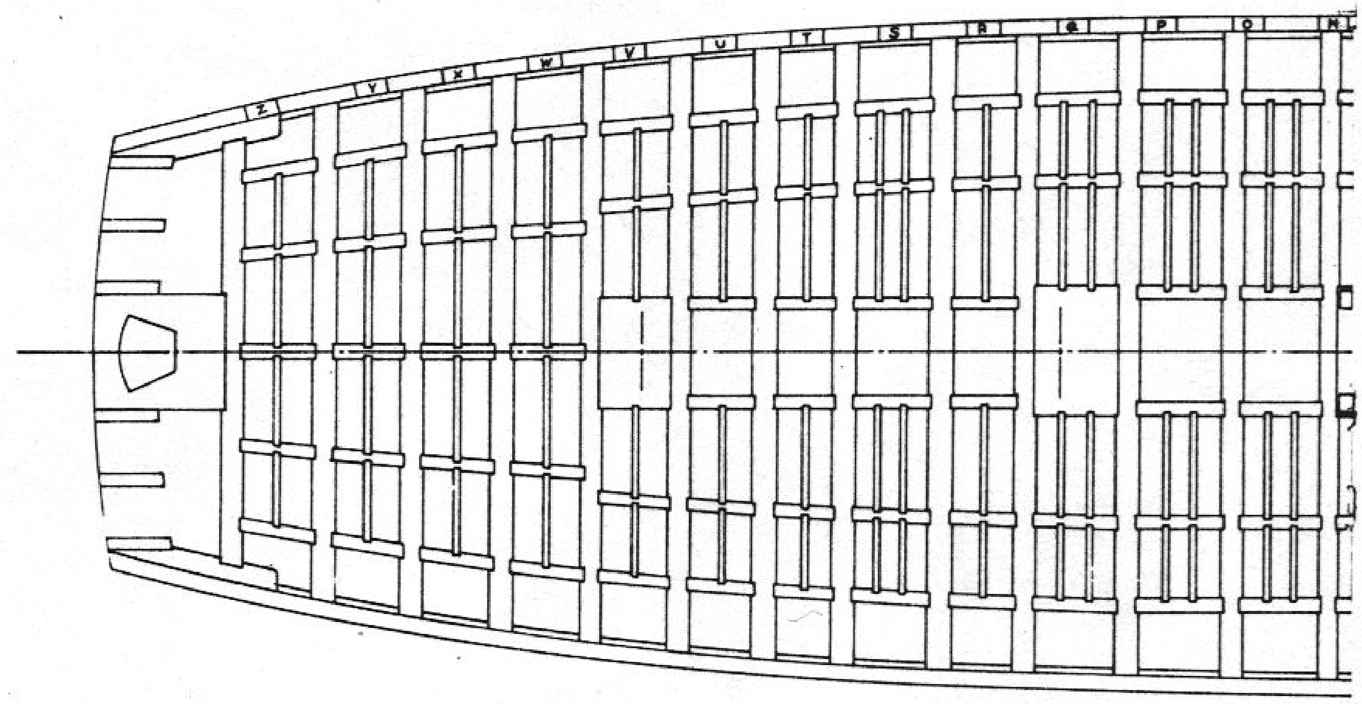

BEAMS & LEDGES FOR GUN DECK
POOP
BEAM
32 POUNDER ~
28 REQ'D. ON GUN DECK
ALFRED
QUARTER DECK #550
9 POUNDER ~
14 REQ'D ON QUARTER DECK

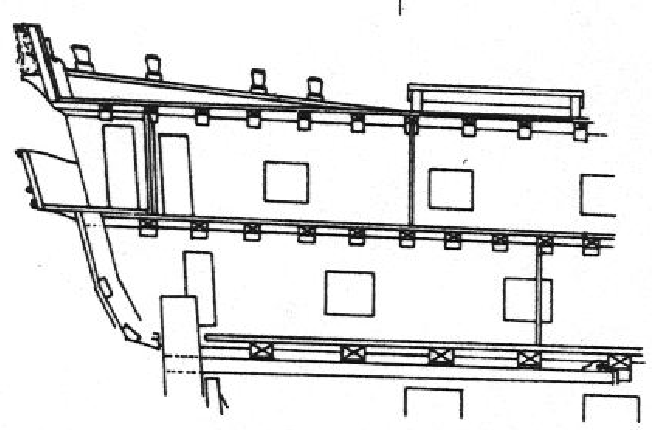


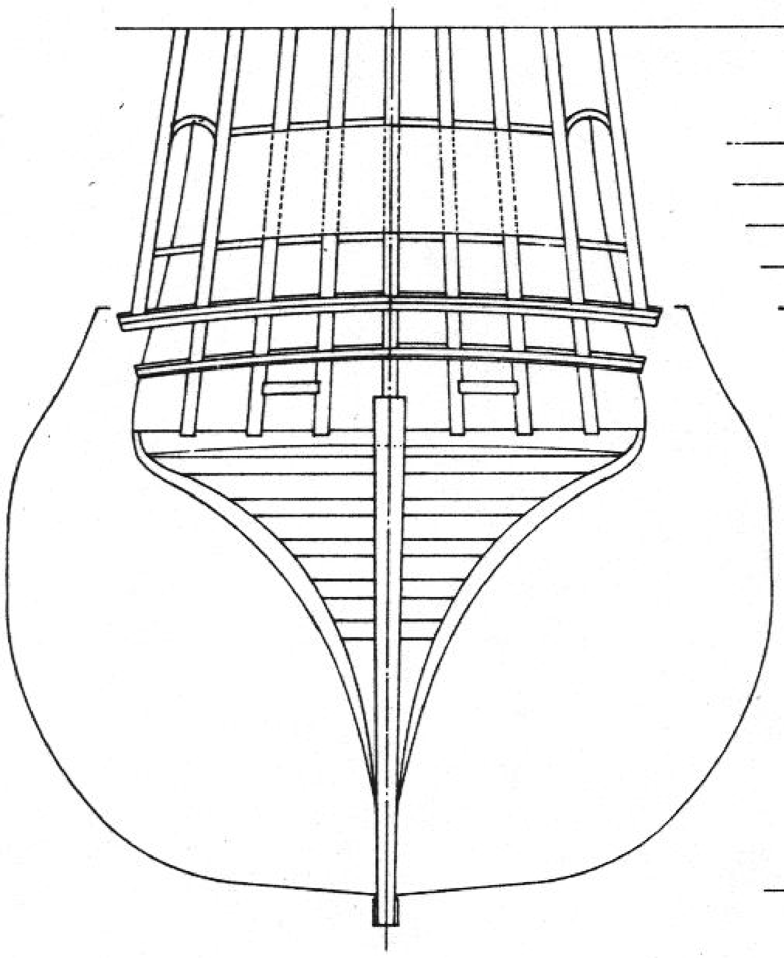
LEDGES FOR UPPER DECK
BEAMS FOR FORECASTLE & QUARTER DECK
UPPER DECK #550
18 POUNDER ~
28 REQ'D. ON UPPER DECK
HMS
ALFRED, 74
ADMIRALTY
DRAWINGS
PLATE 1
SCALE: 1/8"=1'-0"
HAROLD M. HAHN
©1984
FORE CASTLE #550
REDRAWN FROM ORIGINAL PLANS
IN THE ADMIRALTY COLLECTION,
NATIONAL MARITIME MUSEUM
9 POUNDER ~
4 REQ'D. ON FORECASTLE
120 110 100 90 80 70 60 50 40 30 20 10 FEET

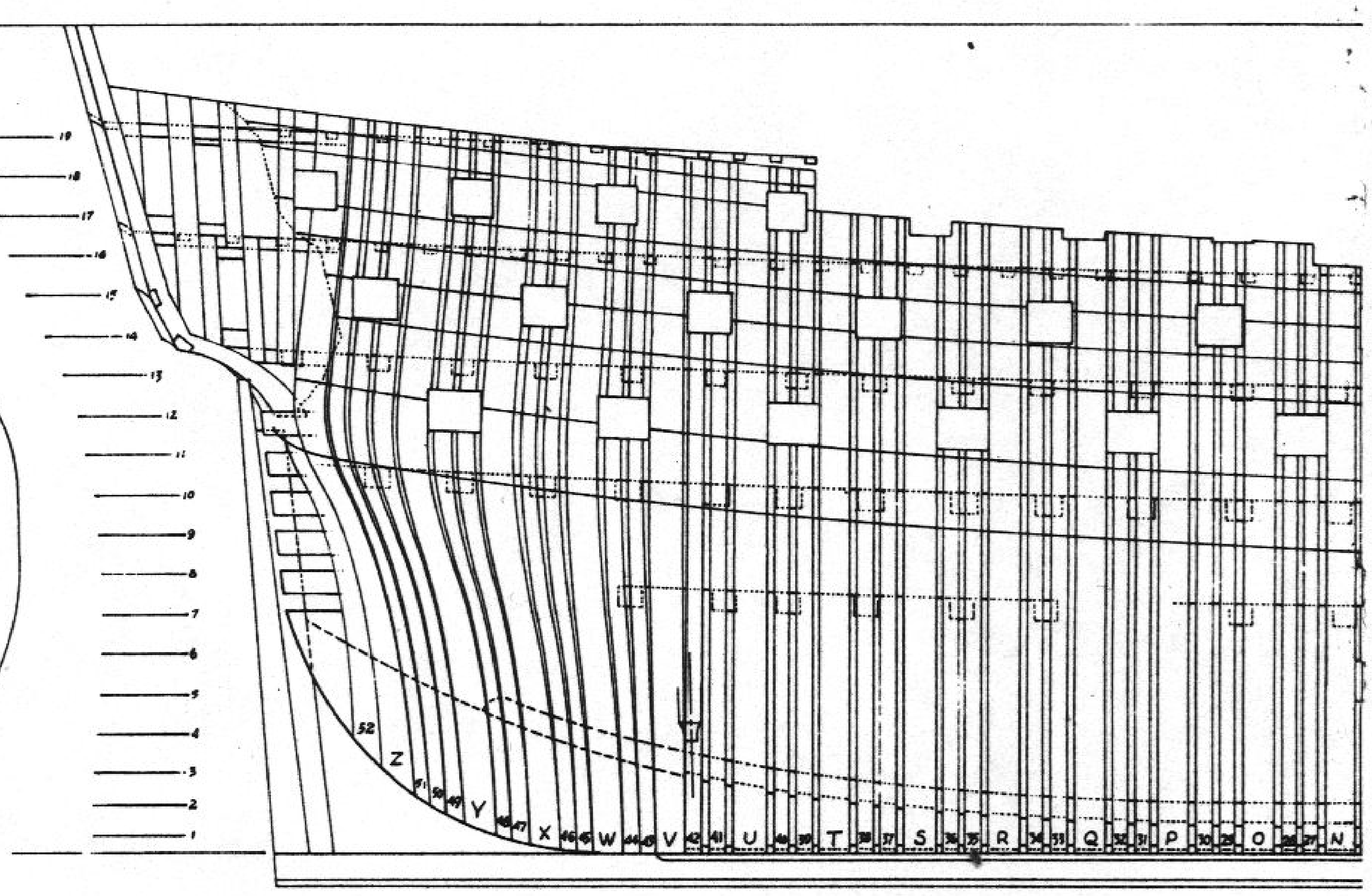

SECTION OF HULL AT FRAME NO. 42
SECTION OF HULL AT FRAME NO. 26

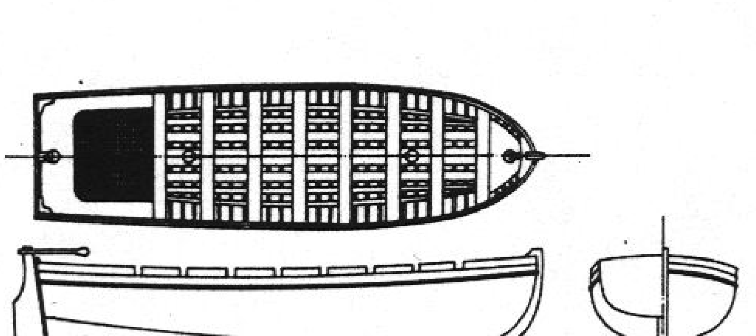

Z Y X W V U T S R Q P O N


Z Y X W V U T S R Q P O N

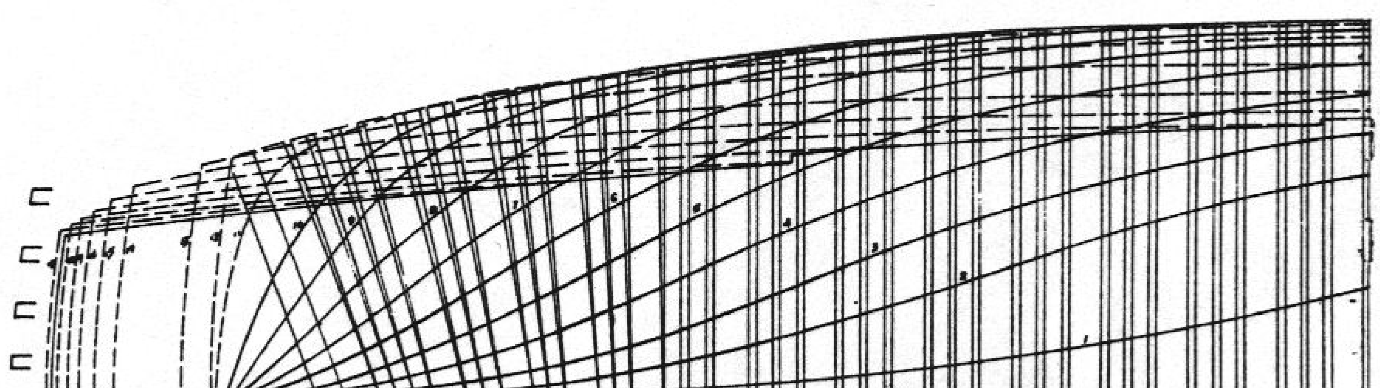


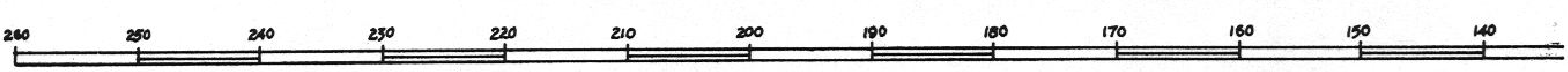


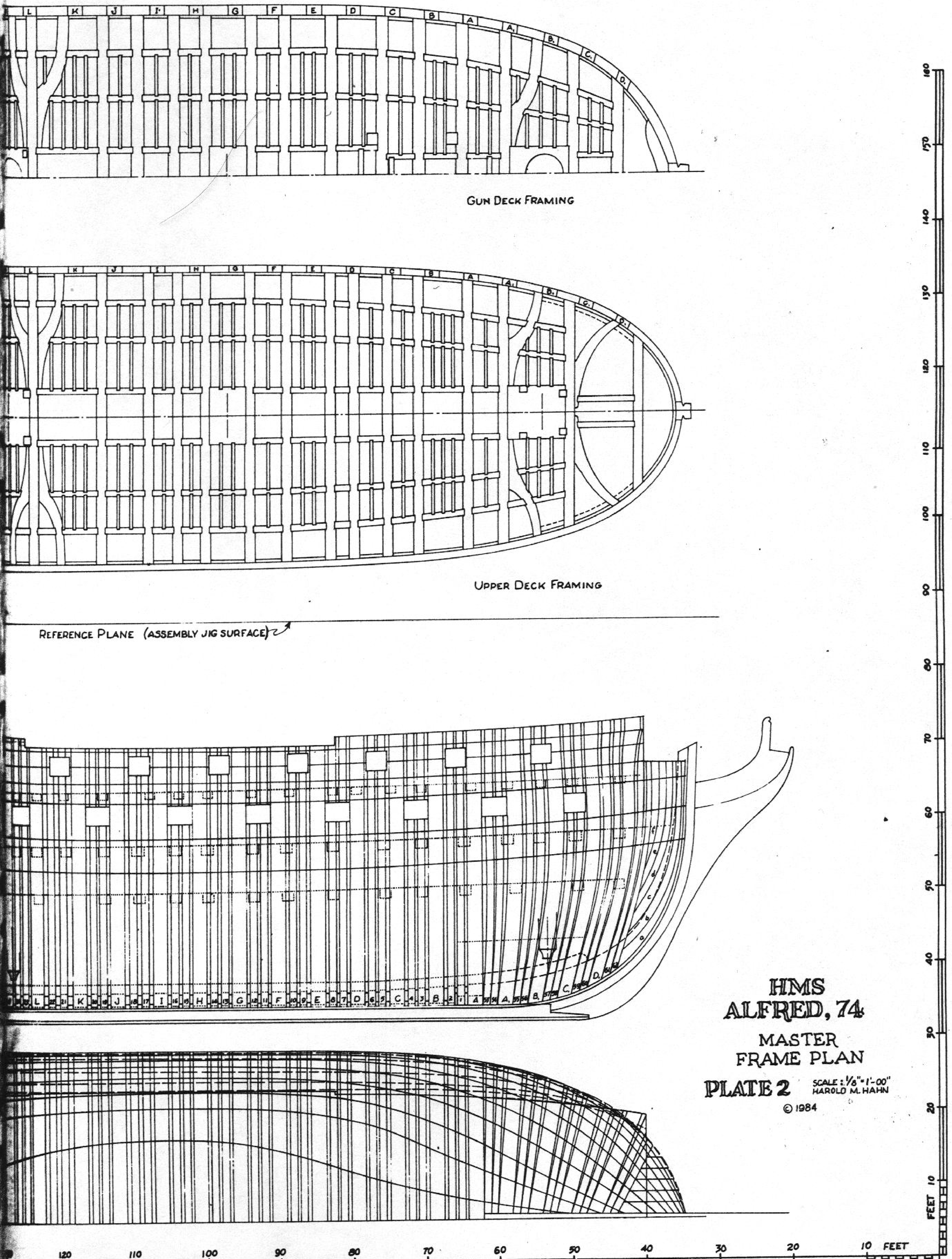

19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
52 Z Y X W V U T S R Q P O N



31' LAUNCH



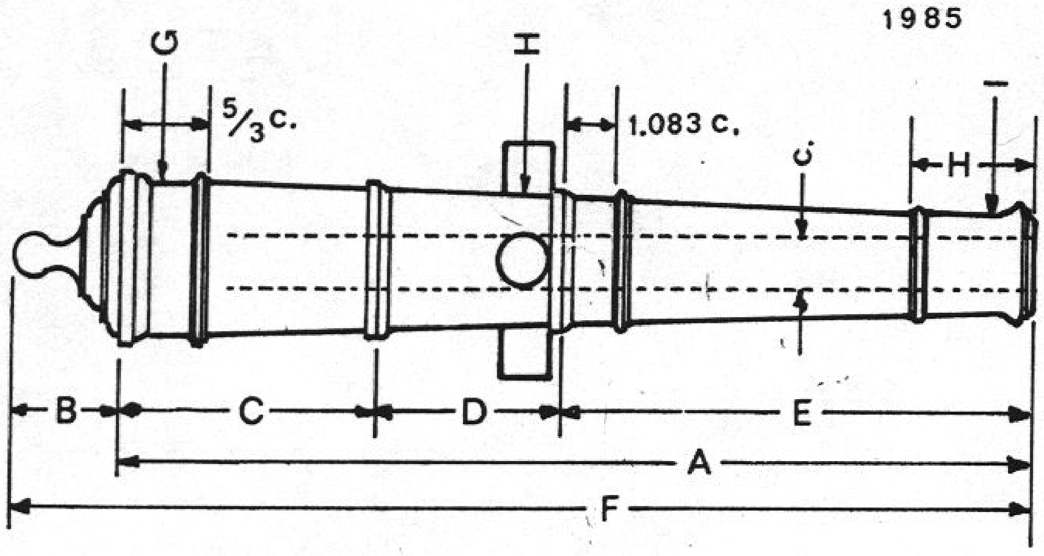

260 250 240 230 220 210 200 190 180 170 160 150 140


GUN DECK FRAMING
UPPER DECK FRAMING
REFERENCE PLANE (ASSEMBLY JIG SURFACE)
HMS
ALFRED, 74
MASTER
FRAME PLAN
PLATE 2
SCALE: 1/8"=1'-00"
HAROLD M. HAHN
© 1984
FEET

DESIGN OF EIGHTEENTH CENTURY NAVAL GUNS FOR SHIP MODELS

Harold M Hahn

1985



c. = Caliber (")

A = c. x Length to Caliber Ratio

B = $2\frac{1}{4}$ x c.

C = $\frac{2}{7}$ x A

D = ($\frac{1}{7}$ x A)+c.

E = ($\frac{4}{7}$ x A) − c.

F = A+B

Legitimate Diameters

G = $2\frac{3}{4}$ c.

H = $2\frac{1}{4}$ c.

I = $1\frac{3}{4}$ c.

Trunnion diameter = c.
Extension = c.

Double Fortified Dia.

G = 3 c.

H = $2\frac{3}{8}$ c.

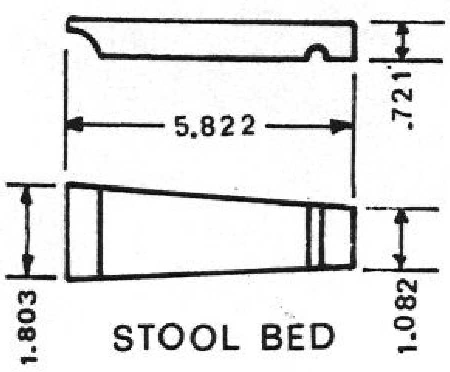
I = $1\frac{7}{8}$ c.

WEIGHT	4pdr.	6pdr.	9pdr.	12pdr.	18pdr.	24pdr.	32pdr.	42pdr.
CALIBER c.	3.053"	3.494"	4.000"	4.403"	5.040"	5.547"	6.105"	6.684"

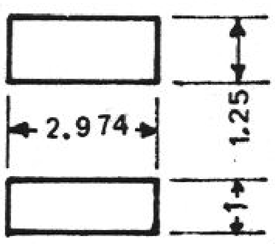
CONSTANTS

CALIBER (inches) x SCALE

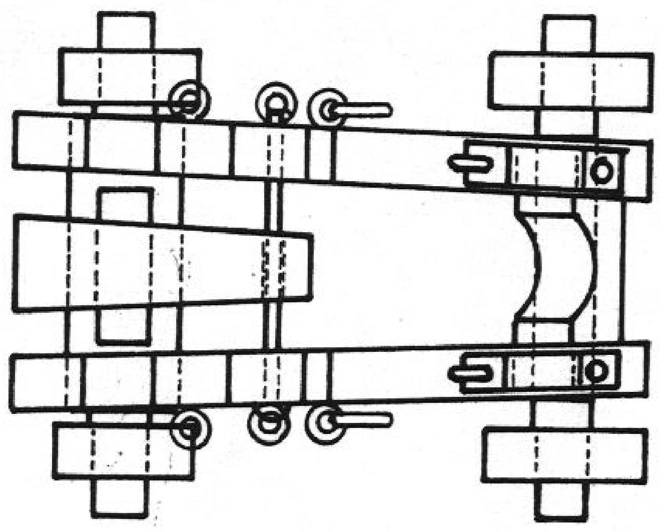
	1/96	1/64	1/48
4	.03180	.04770	.06359
6	.03640	.05460	.07279
9	.04166	.06249	.08332
12	.04586	.06879	.09171
18	.05249	.07874	.10498
24	.05777	.08666	.11554
32	.06359	.09539	.12717
42	.06962	.10443	.13923

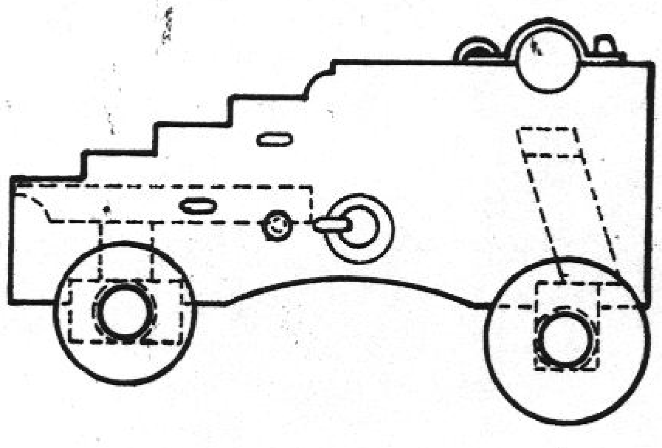


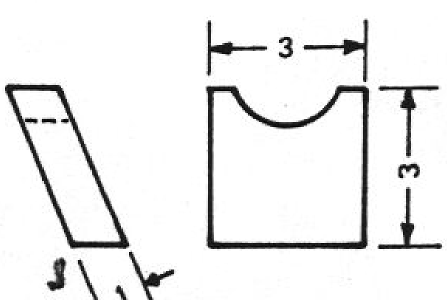
STOOL BED



BOLSTER





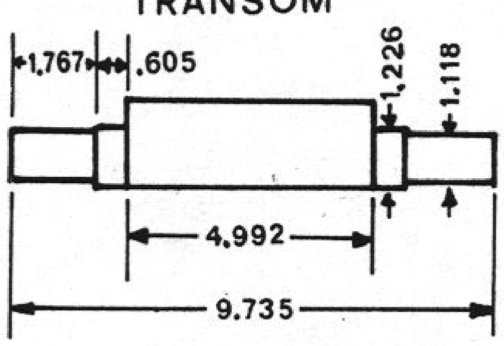


TRANSOM

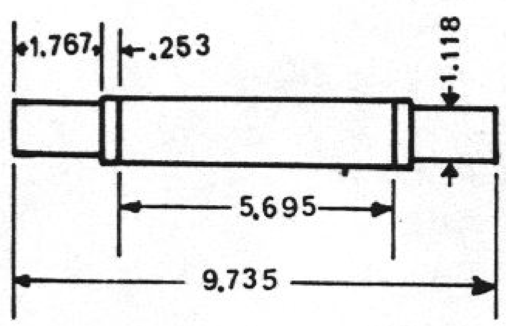
Dimensions on Carriage Details Proportionate to Caliber −Model Dimension = CONSTANT x Detail Dimension

Example: BRACKET Length 9pdr. 1/4 per ft. (1/48)

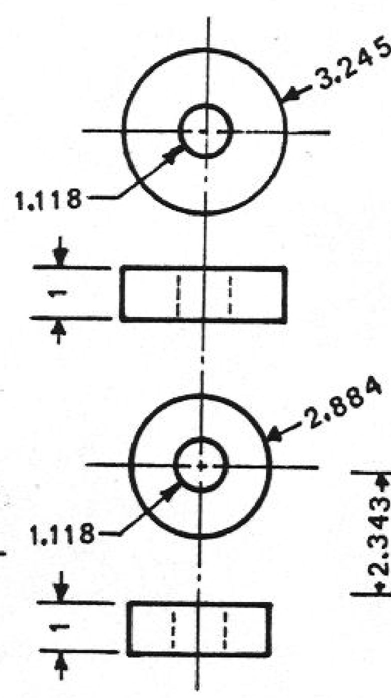
.08332 x 12.522 = 1.043"



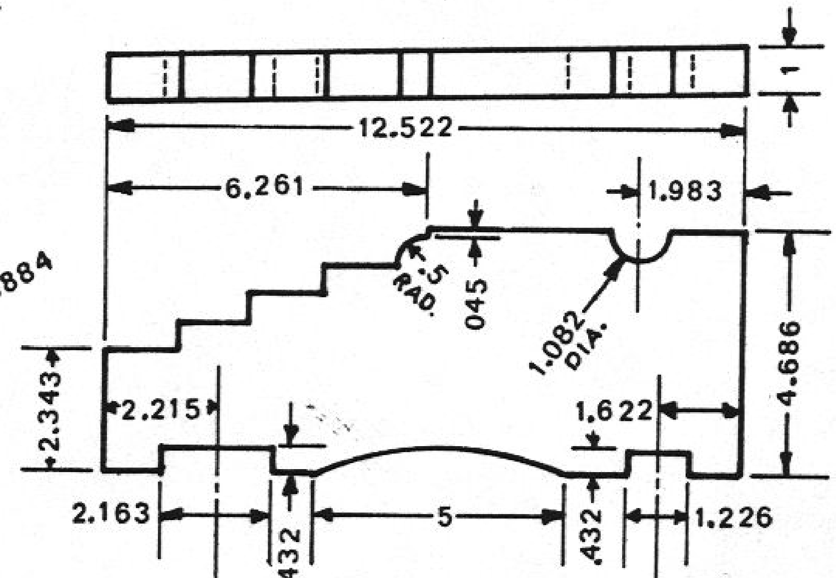
FORE AXTREE



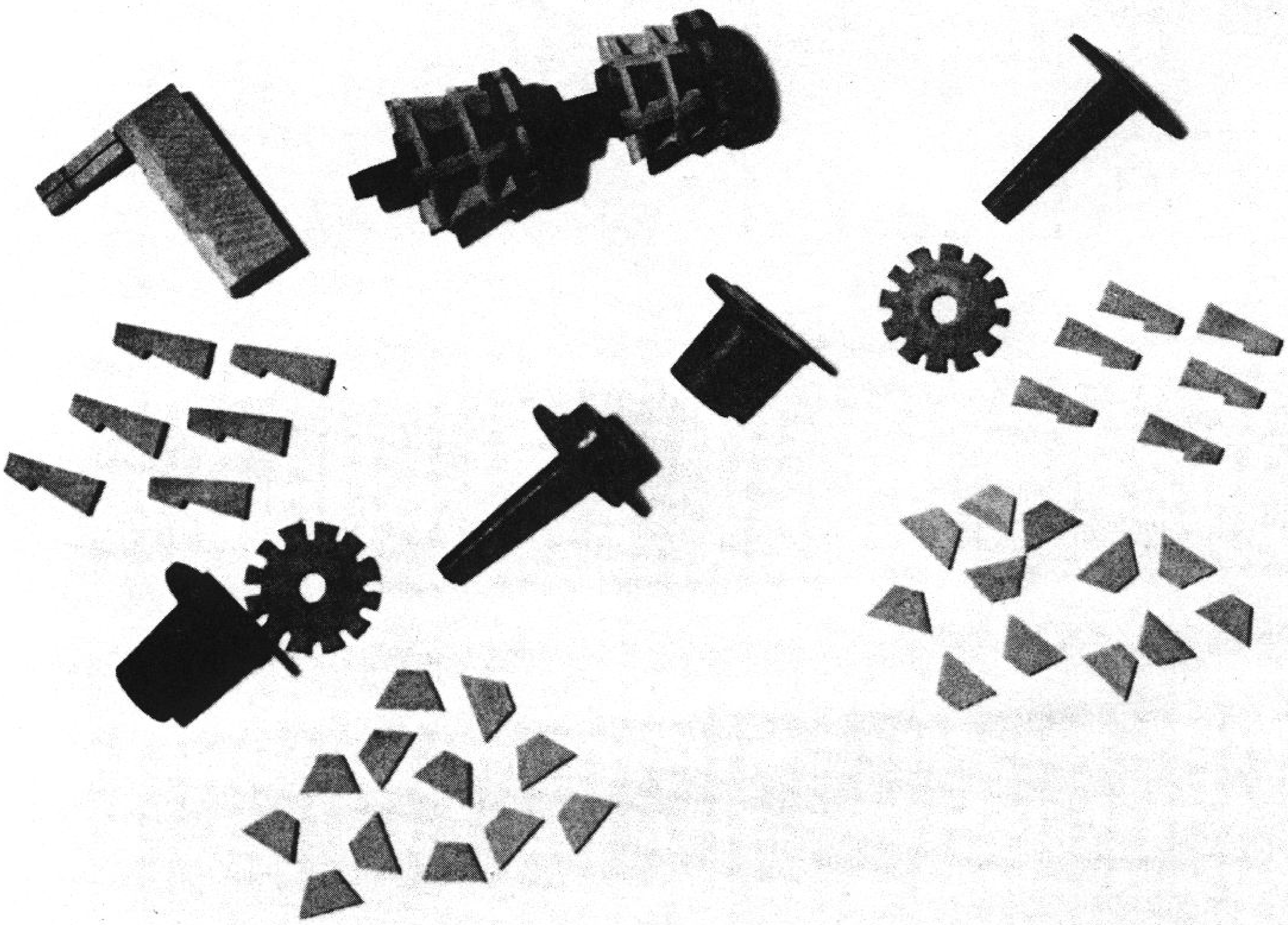
HIND AXTREE



TRUCKS



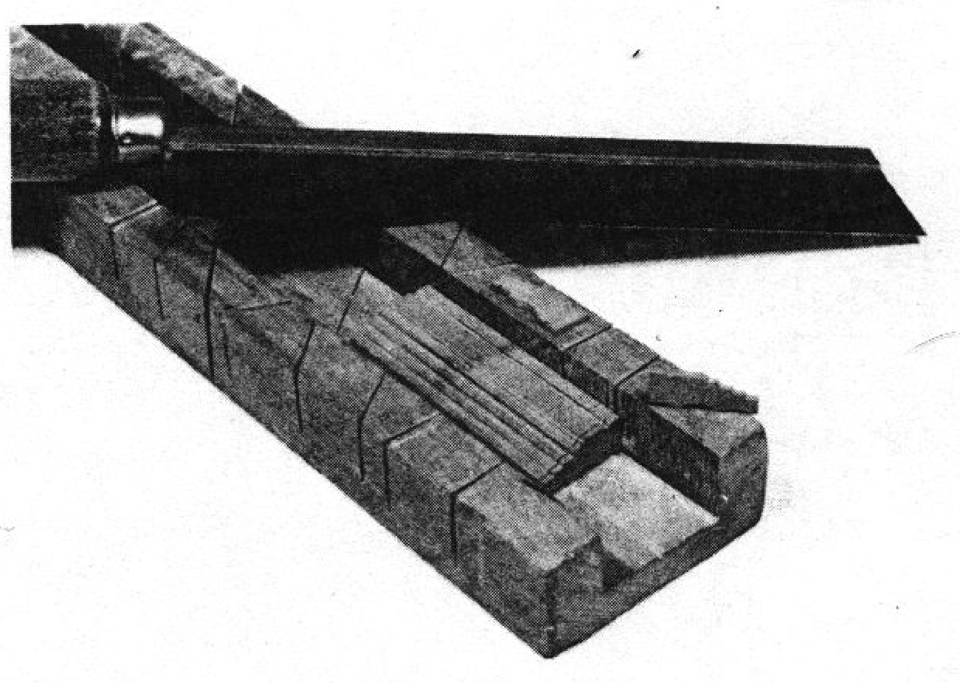
BRACKET



12.1

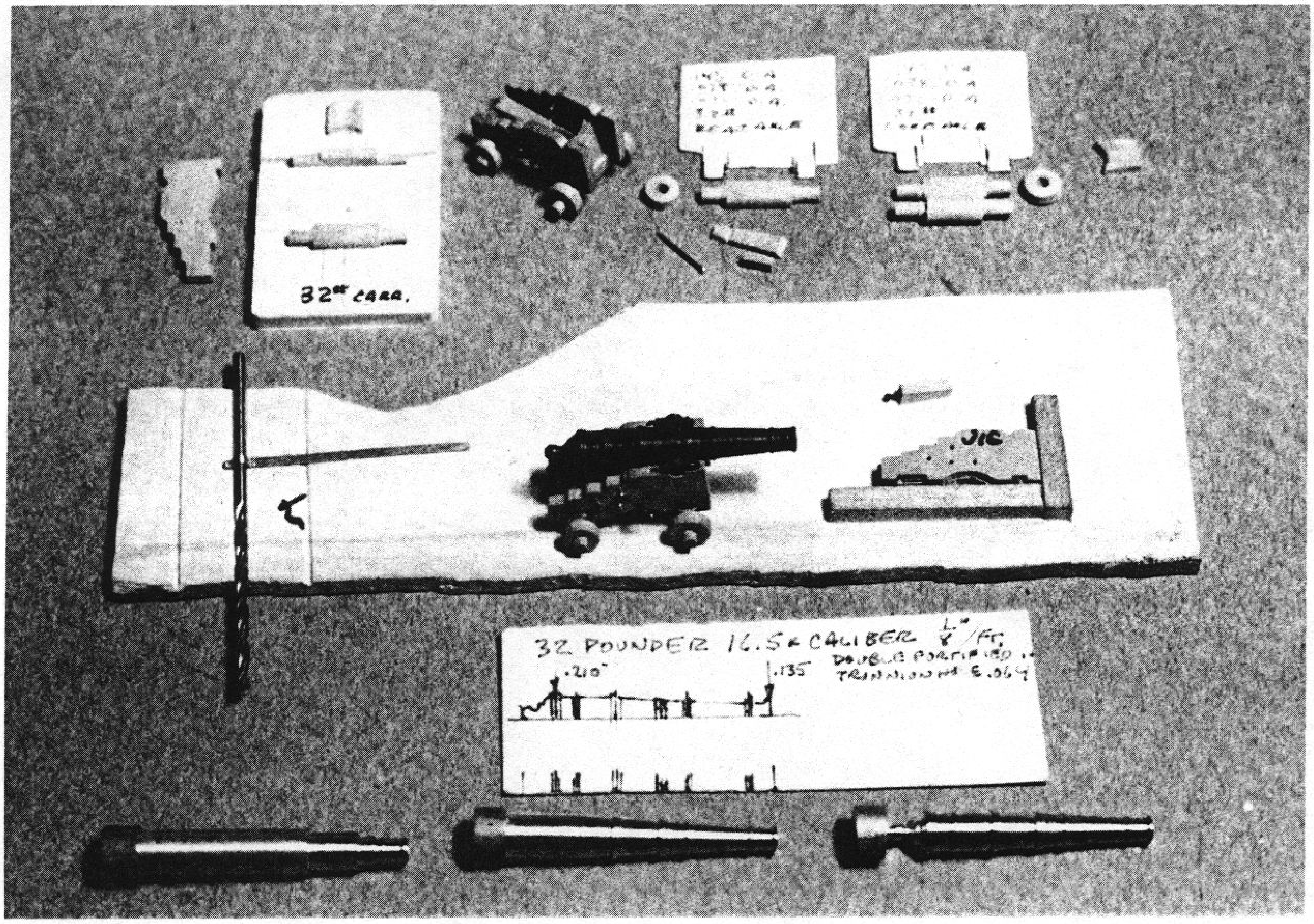
7½ ft long, while the four 9-pounders on the forecastle were 8½ ft long. According to Brewington's article, the length ratio was based on the 'A' dimension shown on my work sheet. Assuming the lengths given above to be overall dimensions, the cascabel length 'B' must be subtracted before the length-to-calibre ratio can be calculated. The results if this is applied to *Alfred's* cannon assigns a ratio of 16½:1 to the 32-pounders, 19:1 to the 18-pounders, 20¼:1 to the 9-pounders on the quarter-deck, and 23¼:1 to the 9-pounders on the forecastle.

If it can be assumed that a larger ratio – i.e. longer bore, resulted in greater accuracy, these figures make sense. The 32-pounders on the gun deck were meant to be used in broadsides that would batter the opponent at close range. The larger ratio would make the 18-pounders on the upper deck effective at a greater range. Even more so the 9-pounders on the quarter deck and those on the forecastle known as bowchasers would have been the most accurate at long range. There are of course other factors to be considered in selecting a length-to-calibre ratio. A small sloop of war with narrow beam would have to sacrifice some accuracy to accommodate a practical length of cannon. A larger ratio would also mean a heavier cannon which could be a reason for limiting the ratio for the 32-pounders.



12.2

Use of my work sheet to design cannon for the most part should be self-evident, but a few comments might be in order. Dimension 'B' based on 2¼ times the calibre appears to be longer than shown on some illustrations, but I am used to it

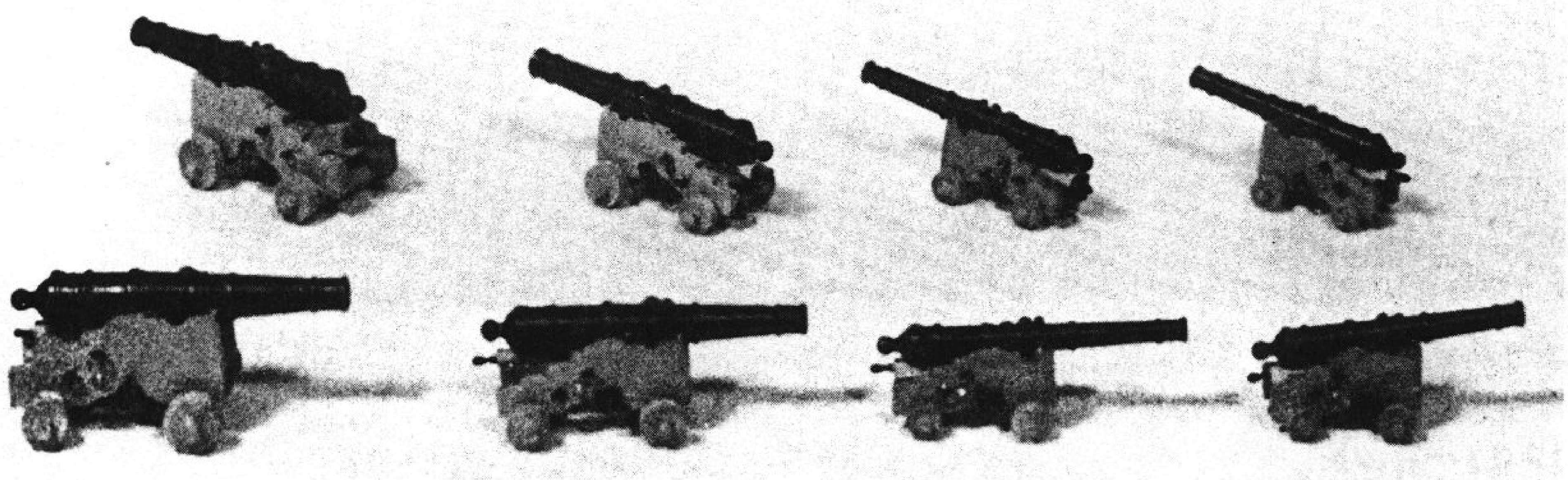


12.3

and favour it over a stubbier cascabel. Formulas for the Legitimate (standard) and Double Fortified diameters are given, but the Bastard (lightweight) sizes are not included, The example used to calculate the bracket length for the gun carriage should clarify the significance of the table of constants and the dimensions that appear with each part. If the constant related to the scale and calibre of the cannon is set up as multiplier on a pocket calculator, the dimensions can all be determined in short order. There is one discrepancy which doesn't worry me greatly. The proportion of 1.082 assigned to the diameter of the trunnion hole on the bracket does not match the calibre diameter of the trunnion, but then perhaps some clearance was desirable and in any case the difference is insignificant in small scale.

Photograph 12.3 pictures the various parts used to make up the 32-pounder cannon for *Alfred.* It will serve to illustrate the methods I used to produce those parts. Photograph 12.2 illustrates the description of my system for mass-producing the brackets for gun carriages in duplicate form. A strip was cut off from Swiss pear-wood board 8in wide, across the grain and finished to a rectangular section with one side .796in wide in the direction of the grain and .298in thick. Those dimensions being the length and height calculated for a 32-pounder bracket in the ⅛in per ft scale of the model. The circular saw was set up on my Unimat and the 8in strip was progressively slotted until it was shaped to the profile of the bracket in its cross-section. The half-round trunnion hole was first located with a saw slot to depth and then shaped with a round Swiss file. The quarter round 'ovolo' on the top step was squared off by the saw and then rounded by hand. The curved excavation on the bottom was slotted to a depth in its centre and then filed to shape.

I have a long, home-made mitre box made of hard maple which has been slotted at various angles with a razor-saw for a number of special purposes. One right-hand and left-hand pair of slots are angled to match the angles to which gun carriage brackets are set. When pieces are sawed off from the prepared strip at those angles, the notches for trunnions and axletrees (sometimes called Axtrees) will be perpendicular to the axis of the barrel and make a good fit with the mating parts. I set a properly spaced pin into the bottom surface of the mitre box to act as a stop so that



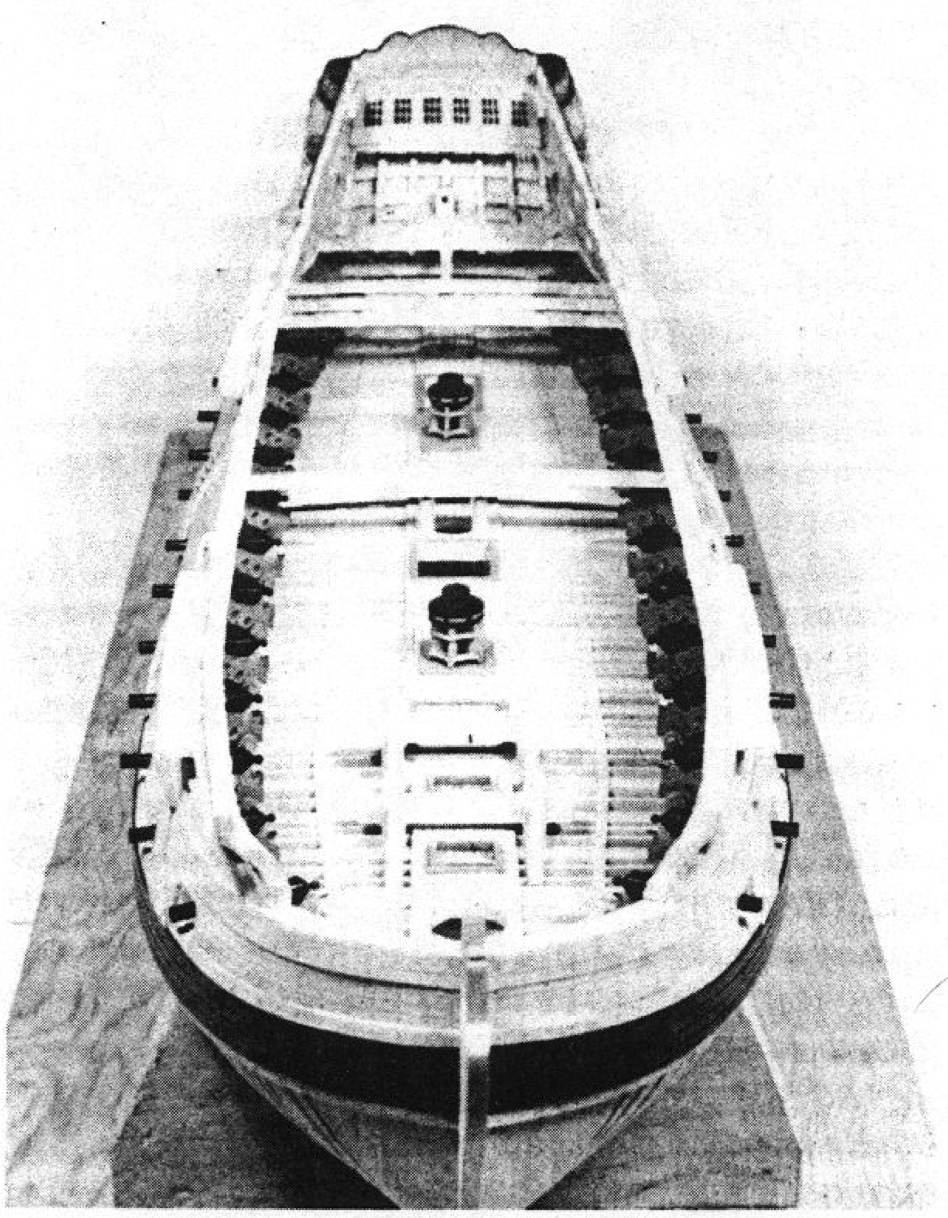
12.4

the brackets will be sawed off uniformly to the correct thickness. Since there are 28 right-hand and 28 left-hand brackets required to make up the 32-pounders for *Alfred,* it can be appreciated how the procedure described above pays off.

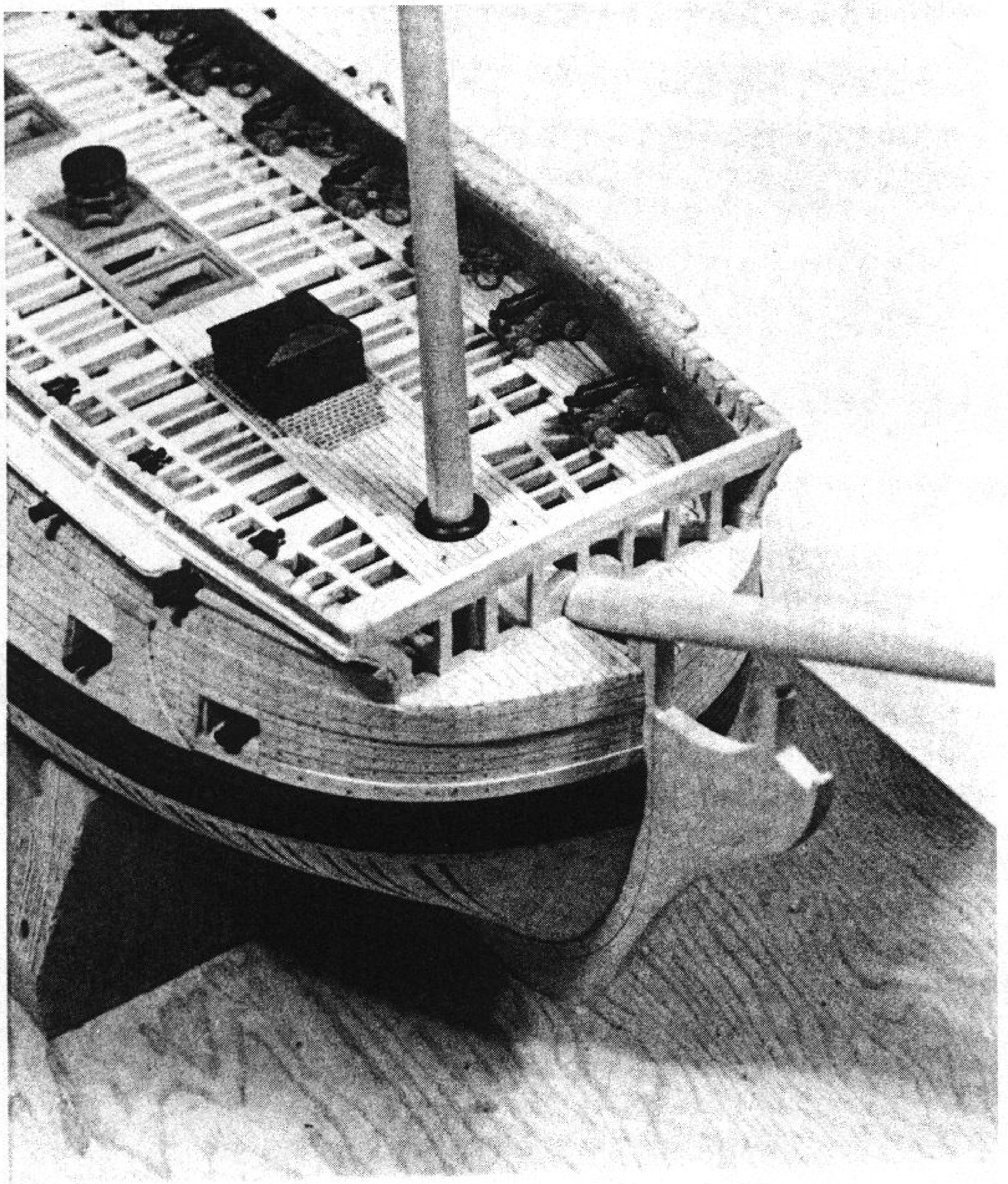
The brackets all need to be drilled through the side for two eyebolts (loops), the bed bolt which supports the front end of the stool bed, and the eyebolts that carry the breeching rings. There is a simple fixture shown in photograph 12.3 which uses a jig to ensure that the holes will be located uniformly in all of the brackets. The holes are first located and drilled through a piece marked jig in the picture which is simply an extra bracket piece. Two wood strips were glued to the base so that a bracket with the jig on top could be held securely in the corner as shown while the holes in the jig served to guide the drill. This simple device made it possible to drill the holes in the 56 brackets quickly and accurately.

The next parts required for the gun carriages are the axletrees. Wherever parts are a combination of round and rectangular sections, I usually turn them on my Unimat first. The section that is to be squared off is turned to a diameter large enough to include the finished shape which is subsequently carved or filed to the final size. Where many duplicate pieces are needed, I make a cardboard pattern or measuring piece that can be held up to the work piece by hand as it is being turned. The patterns used for the two axletree designs can be seen in photograph 12.3. They are marked for identification and the turning diameters, and will be saved for possible future use. Under the fore axle pattern, a finished axletree can be seen and with it the piece as it was turned.

The turning operation was completed in two steps. After the working stock had been turned to a practical diameter, the Unimat cross slide dial was marked with a pen at settings where the three diameters would be produced. The sizes would be duplicated as long as backlash in the lead screw was taken up at each setting. Whenever pieces smaller than ¼ in diameter are turned in my Unimat, I find that the Jacobs chuck is the most convenient way to hold them. With the stock extended somewhat greater from the jaws



12.5

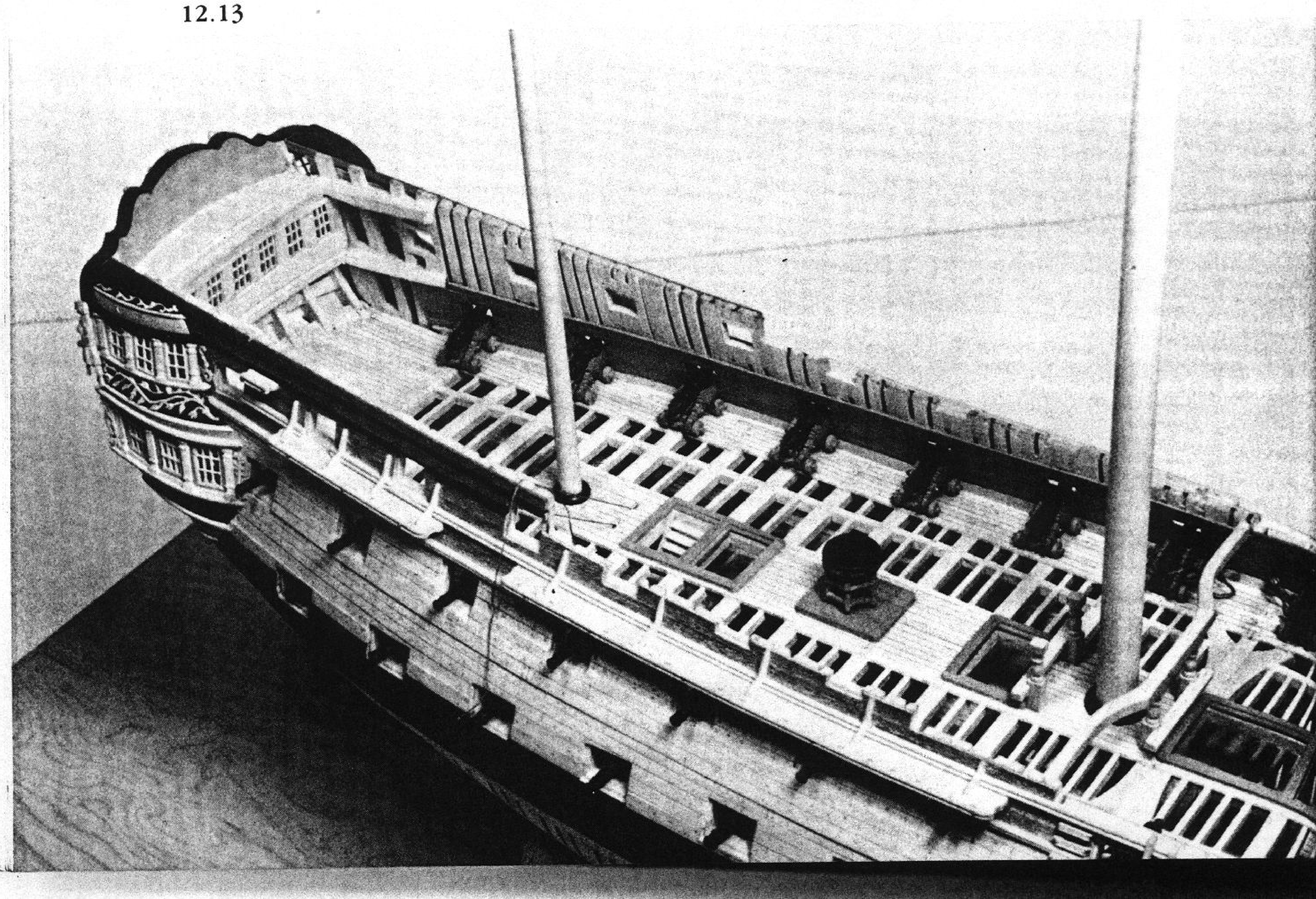


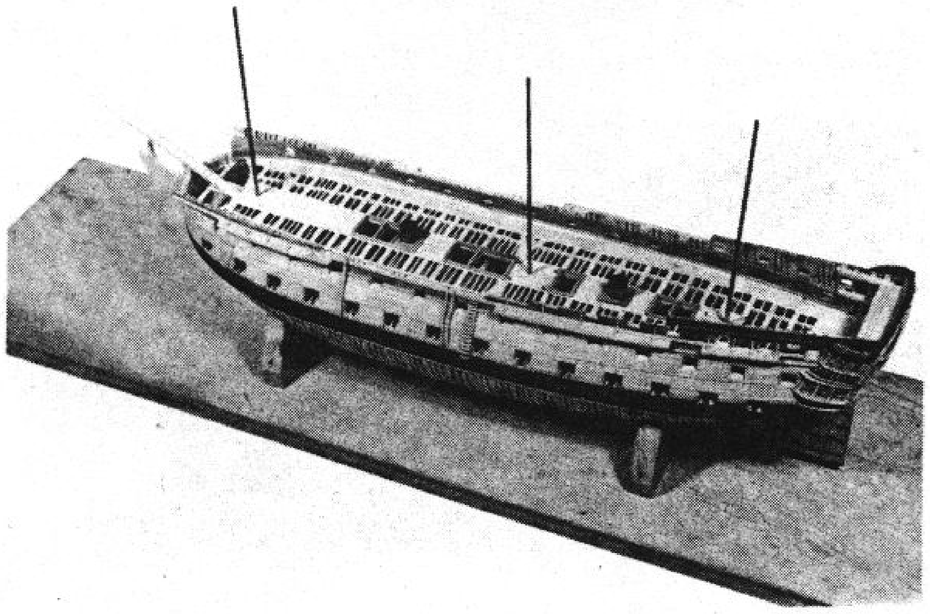
12.12

extending down through the upper deck framing into its socket. Once the alignment has been fixed, the bowsprit can be removed and easily replaced as necessary during subsequent operations. The deck planking has been completed insofar as the model is concerned, and the bulwarks have been ceiled in up to the forecastle deck level.

This was also the time to fix the mast alignment. As described earlier, mast steps had been fastened to the top of the keelson. The ⅛in holes in them had been located from the framing plans. I like to use the upper deck on a model to set up the mast positions with a close fit. In this process the masts must be set perpendicular as viewed from either end of the hull and to the correct rake fore-and-aft. I start by locating the centres in relation to the upper-deck framing. At those points, ⅛in holes are drilled through for ⅛in brass rods which can seat themselves in the mast steps. With those rods in place, their rake can be checked against the plan requirements. Any errors uncovered in this first step can be corrected by adjusting the location of the holes in the upper deck when they are enlarged to fit the actual masts. Photograph 12.9 shows the brass rod set in the foremast position. Photograph 12.10 shows the model with all three brass rods in place. It can also be noted that the capstan barrels on the upper-deck have been fitted through the deck into the tops of the gun-deck units.

12.13



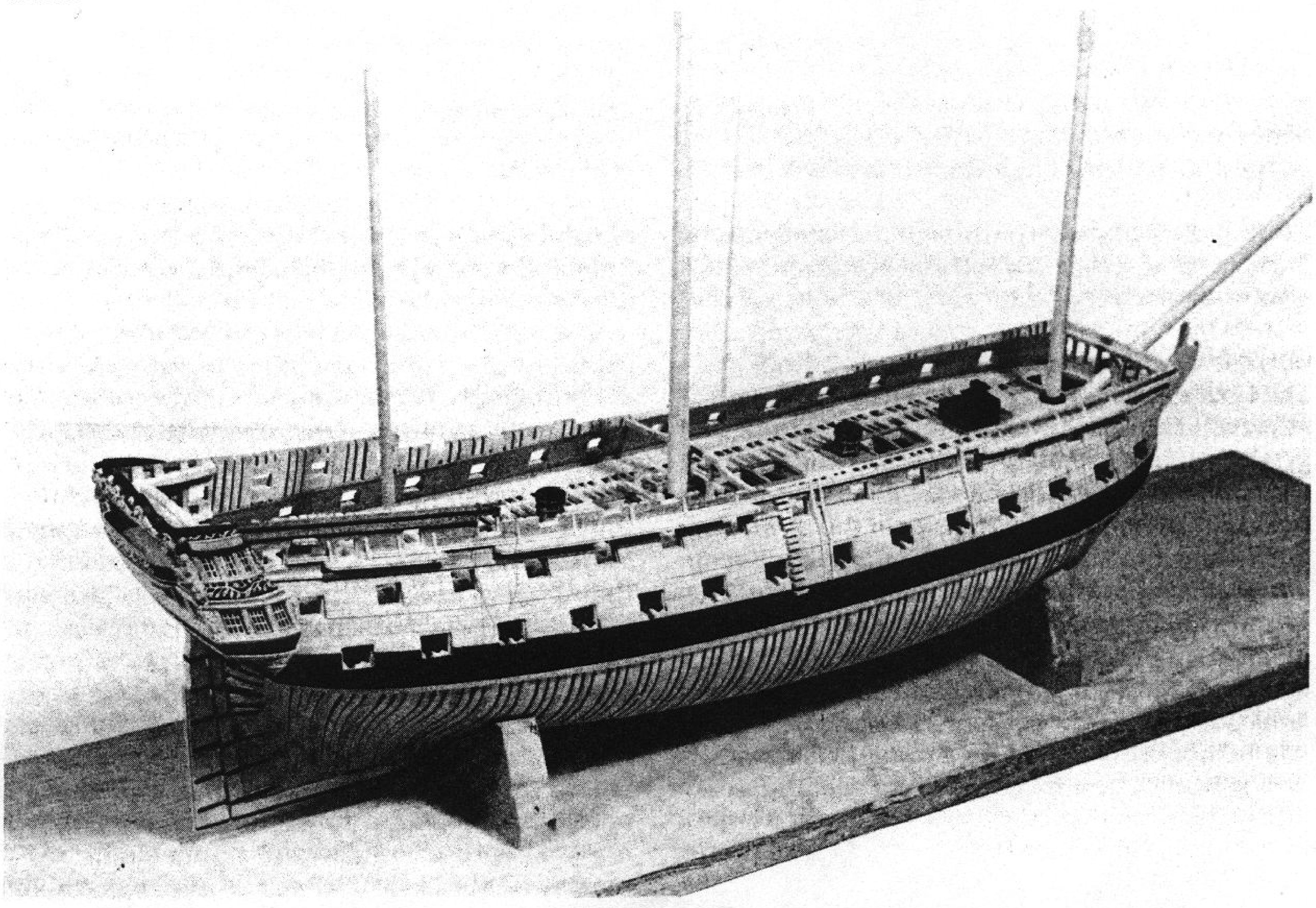


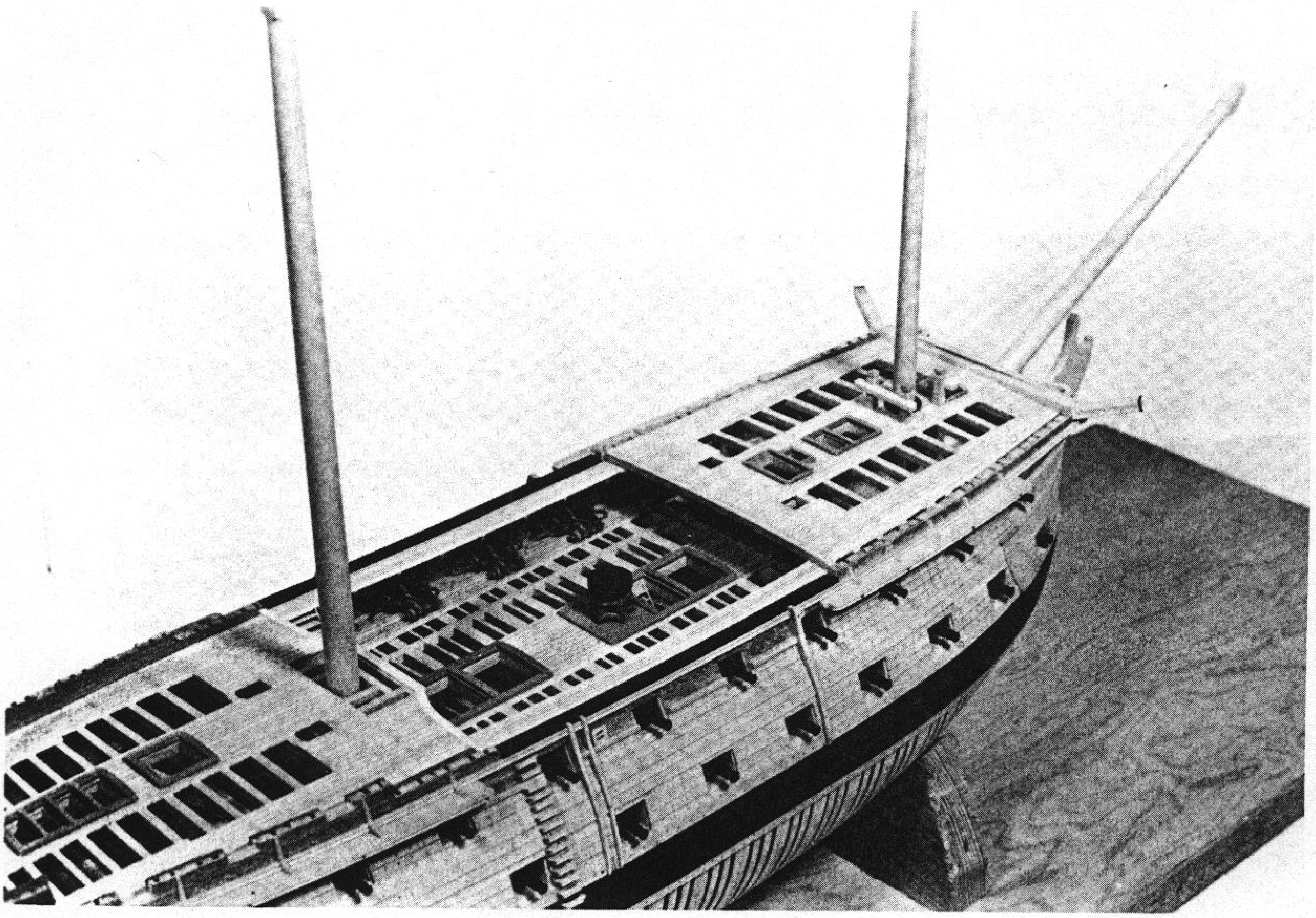
12.10

about control of the depth to feed the tool and then back off to finish the rings on the barrel, but I find that a routine procedure is soon established. When as in the case of *Alfred,* a large number of cannon are required, the routine produces uniform results. A cardboard pattern well identified and dimensioned was prepared to be held up to the piece as it was turned. It will be preserved for possible future use. When the tapered section of gun barrel was finished, the Unimat head stock was returned to its normal position parallel to the ways. Then the third step in the process completed the turning operation. Before roughing down the cascabel section, I polished the barrel with fine steel wool. The sharp pointed tool was used to shape the hind end of the cannon as much as possible without having it break off. Swiss files were used to shape the neck of the ball, and the round ball itself formed using a sharp-edged flat file until it did actually part from the bar.

A hole was drilled through the barrel for the trunnion with the same drill that was used to bore the muzzle. I use a block of wood with a tapered V-notch to hold the piece square with the drill. A punch mark must be made to guide the drill point. There may be some dispute as to whether the barrel should be hung with the trunnion in the middle of the diameter or 'by the thirds'. I can't see that it makes much difference in small scale. A special drill jig would be required to drill the hole off centre. I try to centre the hole, but without a jig to guide the drill the results are not always perfect. I turn the brass trunnion pieces with a slight taper so that they will have a light force fit in the hole. The first couple of attempts might result in loose fits, but once again I find that a feeling for the job soon develops to produce the desired results. Although the brass

12.11



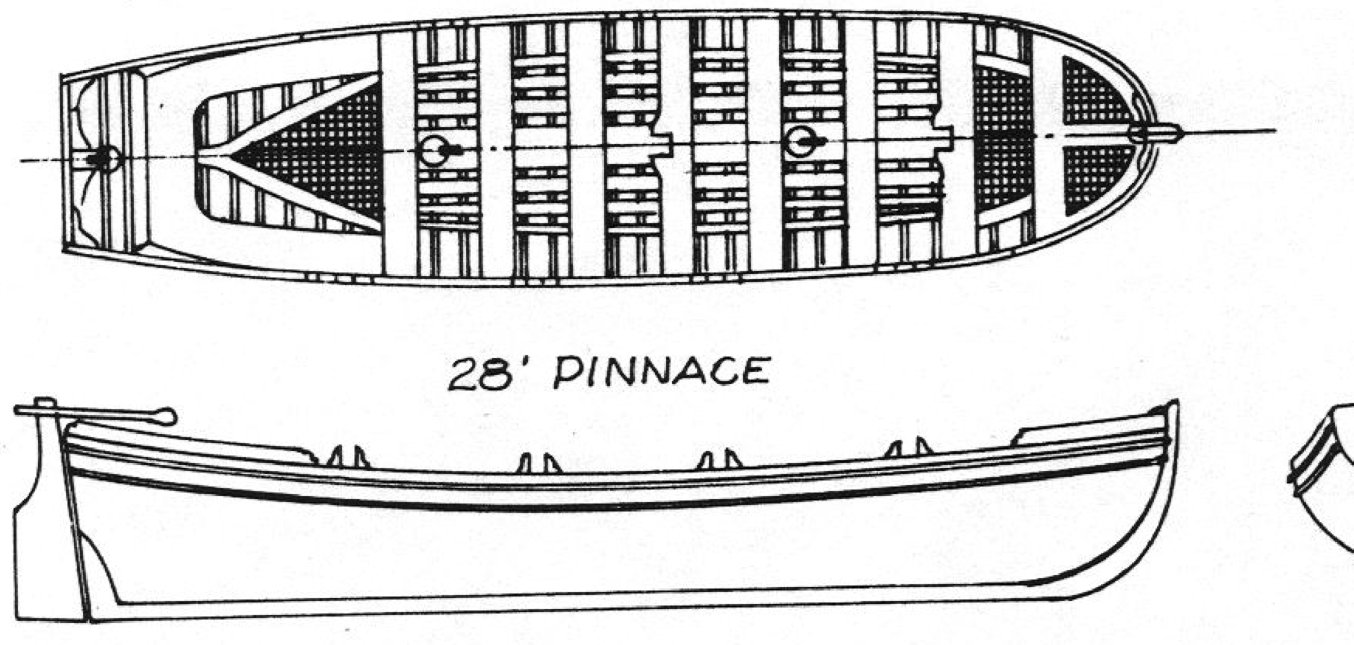


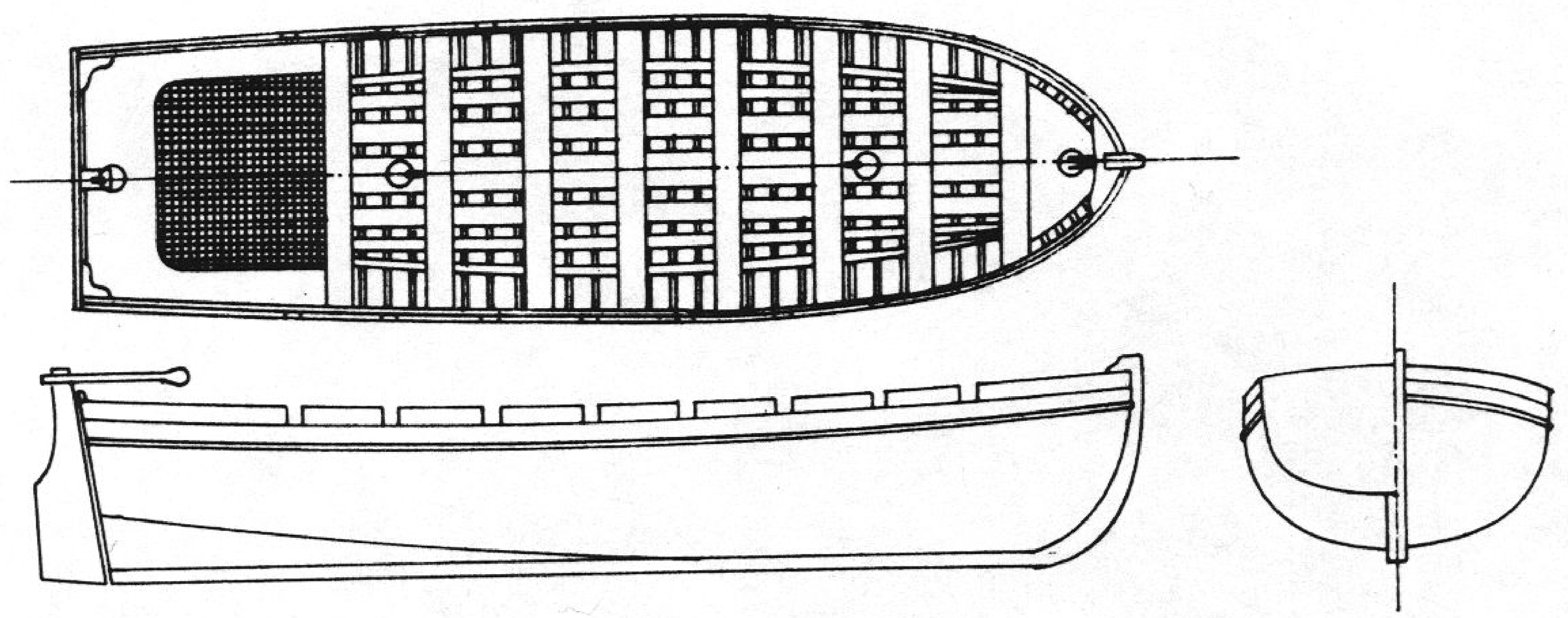
13.1

evident in photograph 13.3, I like to build the case with its permanent base and fitted pedestals. This reduces the hazards of handling the model after the masting and rigging work has made it more susceptible to damage. Since the case construction has no direct bearing on progress with the model, its description will be reserved for the final chapter. The altered background in the pictures is to be explained by the fact that the hull was temporarily mounted on the permanent base when photographs 13.3 and 13.4 were taken. Twelve capstan bars were made and glued into the head of the capstan in the waist. According to information found in Steel's book on naval architecture, the bars for *Alfred* should be 12½ ft long. It can be seen that this pretty well fills the working space. This assembly would make subsequent rigging operations in the waist difficult to accomplish, so it has not yet been glued to the top of the capstan mounted on the gun deck.

The forecastle deck has been finished with its cap rails, timberheads, bitts, monkey rails, belfry, Charley Noble and four long 9-pounders plus a couple of hatch gratings. The monkey rails through which the many timberheads pass pose a special problem for which I have worked out my own solution. It may seem that the method I use requires a lot of extra work with the many pieces involved, but in the end it offers good control of the results and simplifies the job. The first step is to locate and drill holes for pegs on the cap rails where the timberheads are to be installed. Then short pieces are turned with pegs to fit the drilled holes. A section is turned with the pegs that is long enough to support the monkey rail and with a diameter great enough to be shaped down to the required square. When those pieces have been glued into the cap rails and the tops properly evened off to fair up, the sections of monkey rail are made and glued on. Next, the centres of the timberheads are marked off and drilled through the monkey rails for pegs. The timberheads are then completed by turning and shaping pieces with pegs to fit the holes through the monkey rails. I use a drill press setup to drill all the holes. If I tried to drill the holes with hand-held tools, the work would be tedious, and I fear, produce inaccurate results.

The belfry shown on the plans as a two-post affair braced with knees and having a simple cover rather than the fancy four-post design that might be expected. The plans also detail an unusual feature in the knees used to support the posts for the rails across the break in the forecastle deck. Moving to the after half of the hull, photograph 13.4 taken at the same time shows





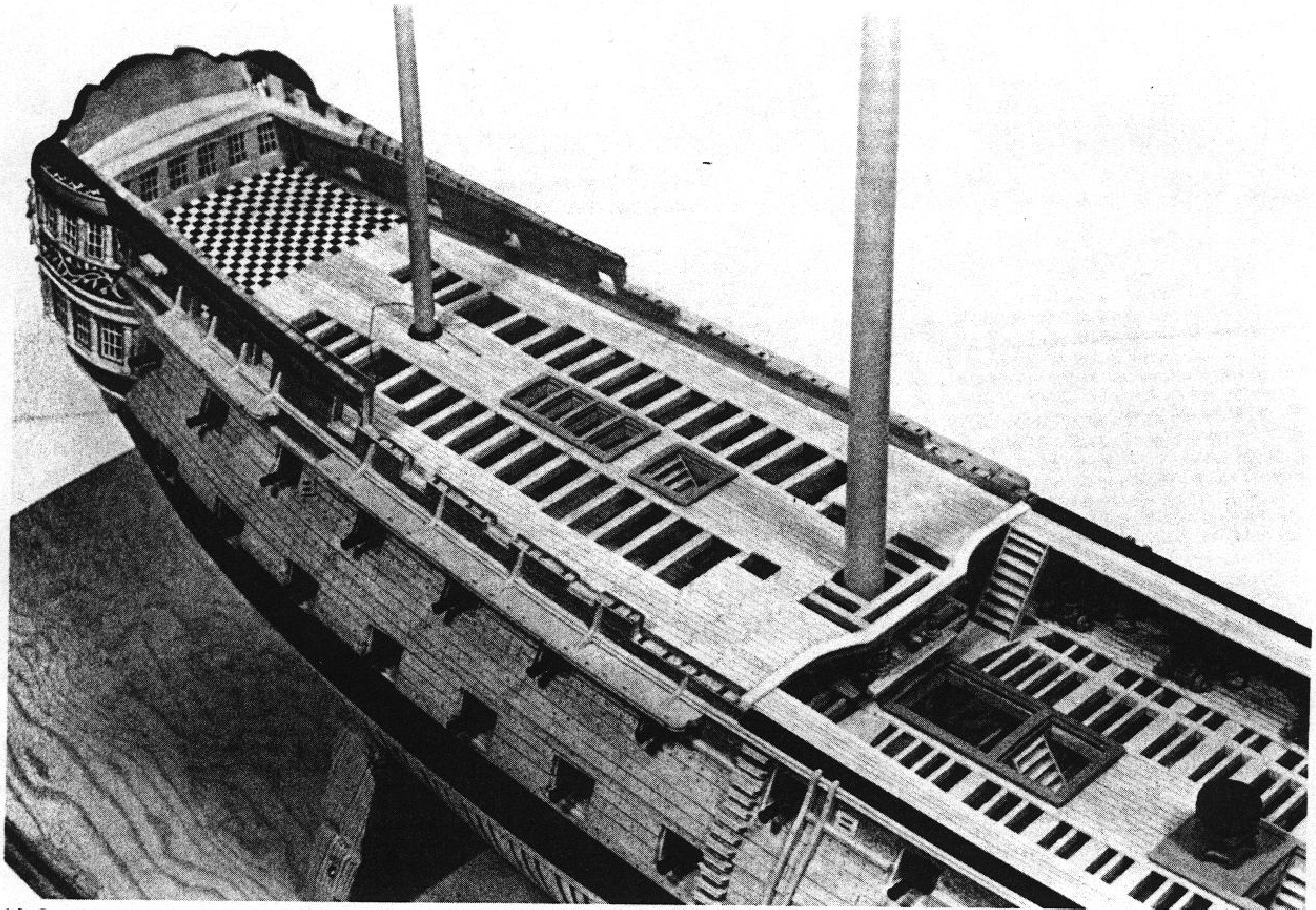
31' LAUNCH

the rails finished as far as was possible at this stage of construction. The fourteen 9-pounders on the quarter-deck complete the armament of 74 cannon. A guard rail has been installed around the ladder-way. Some illustrations I have seen indicate that the hatch gratings should not be separated by dividers on the deck beams, but I decided to leave them as shown in the picture.

During the period when *Alfred* was built, there were no permanent beams across the waist. The gangways were supported by knees or angles fastened to the bulwarks. Provision for the storage of ship's boats was made as shown in photograph 13.5. U-shaped brackets set into the edge of the gangway on either side held booms that spanned the open waist to carry the boats. I located the brackets at the ends of gangway knees drilled to receive the bracket pins.

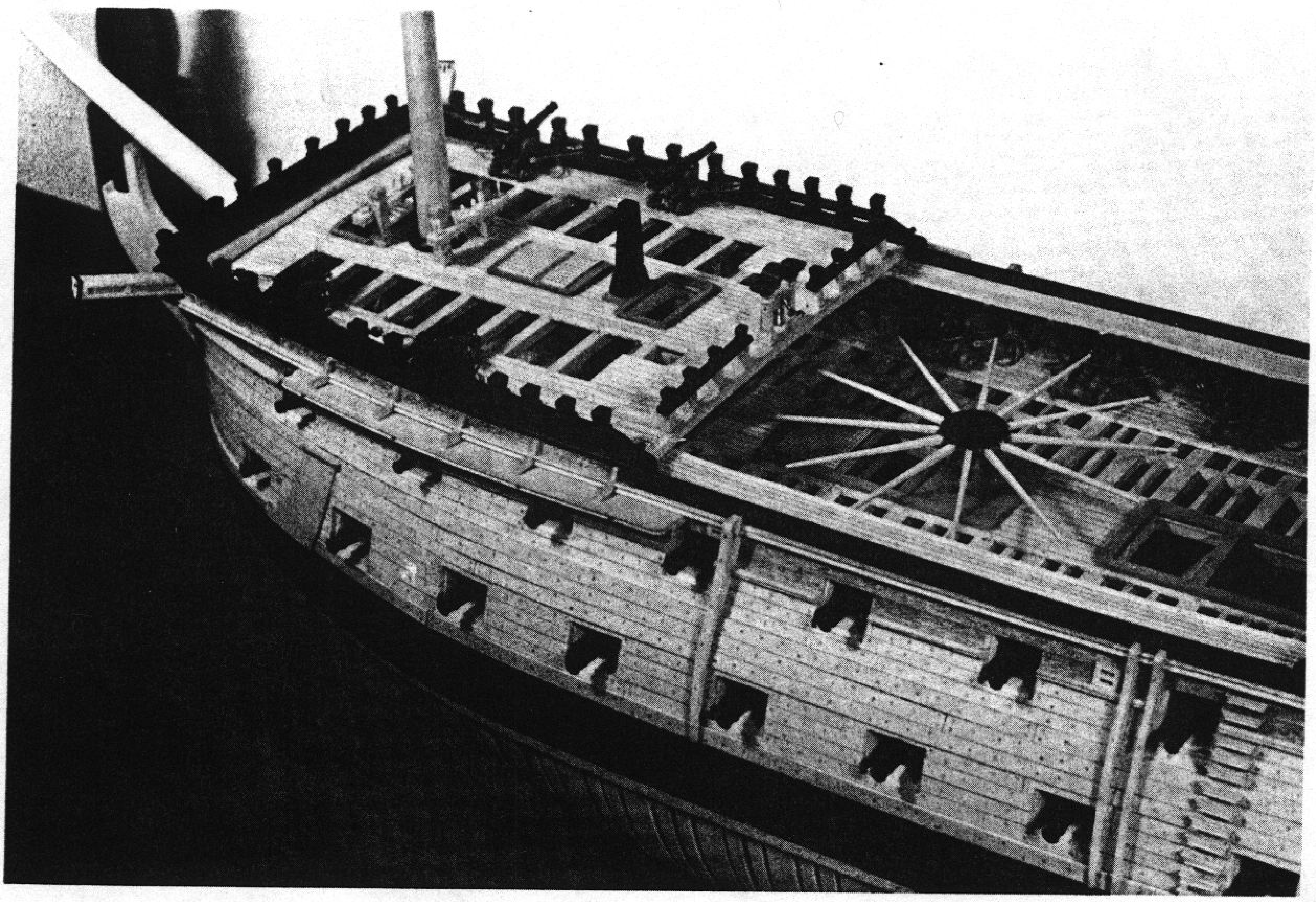
The Boat Establishment for 1771 called for a 74-gun ship to carry six boats. I didn't intend to make that many small boats for my model of *Alfred,* but decided to include the two largest sizes which are represented by a 31ft launch and a 28ft pinnace. I cannot claim to possess any expertise in the design and construction of ship's boats, but have depended on a set of Harold Underhill's drawings for the necessary information. So far as I can judge, the details on those drawings are suitable to my needs and I do not know of any better source.

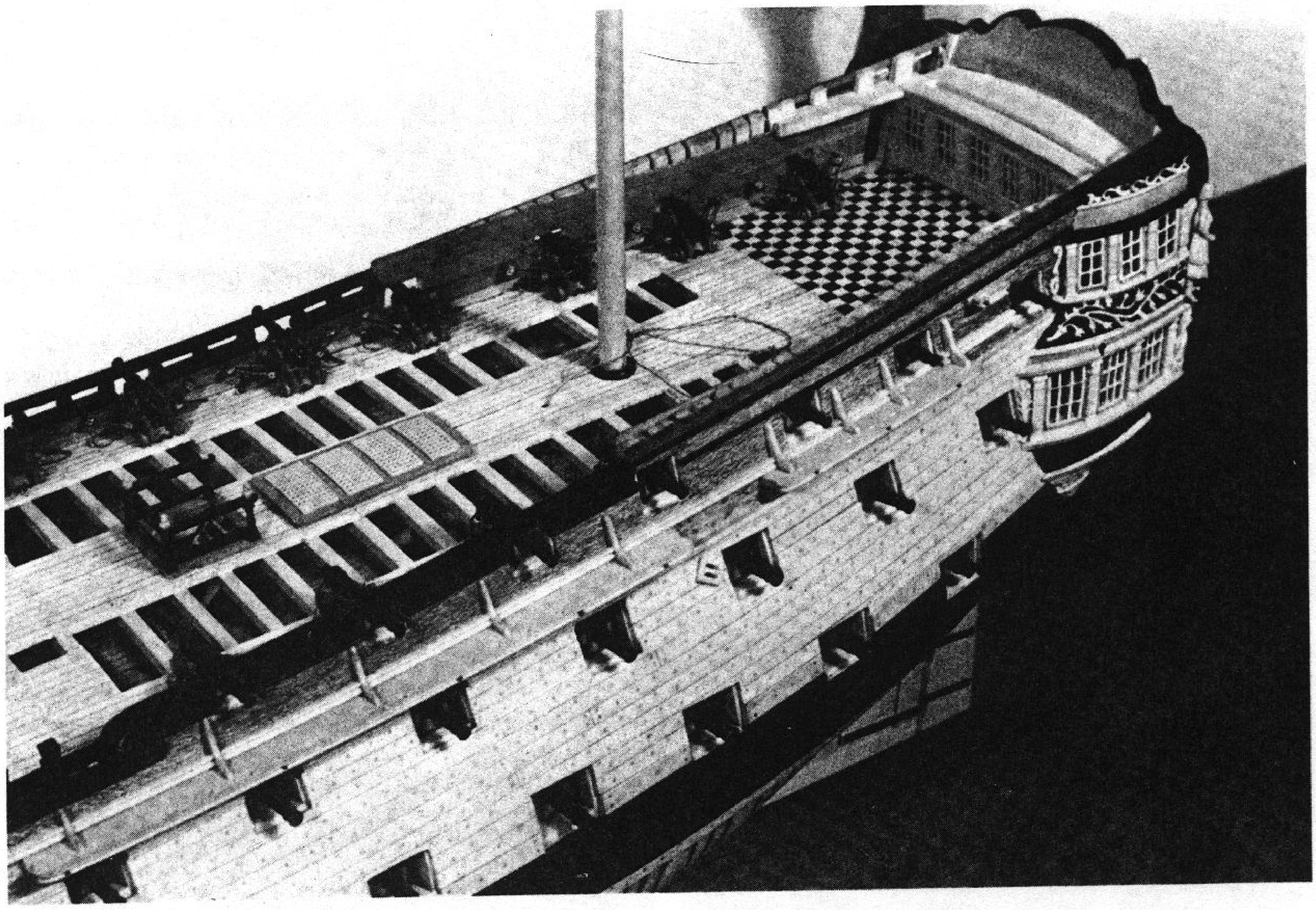
As in the case of the capstan in the waist with its twelve bars, permanent installation of the ship's boats on their booms would make it virtually impossible to complete the rigging in that area. It was time to fix the arrangements of those items, but they would have to be removable until the model was complete. This made it necessary to make the booms, chocks and boats a self-



13.2

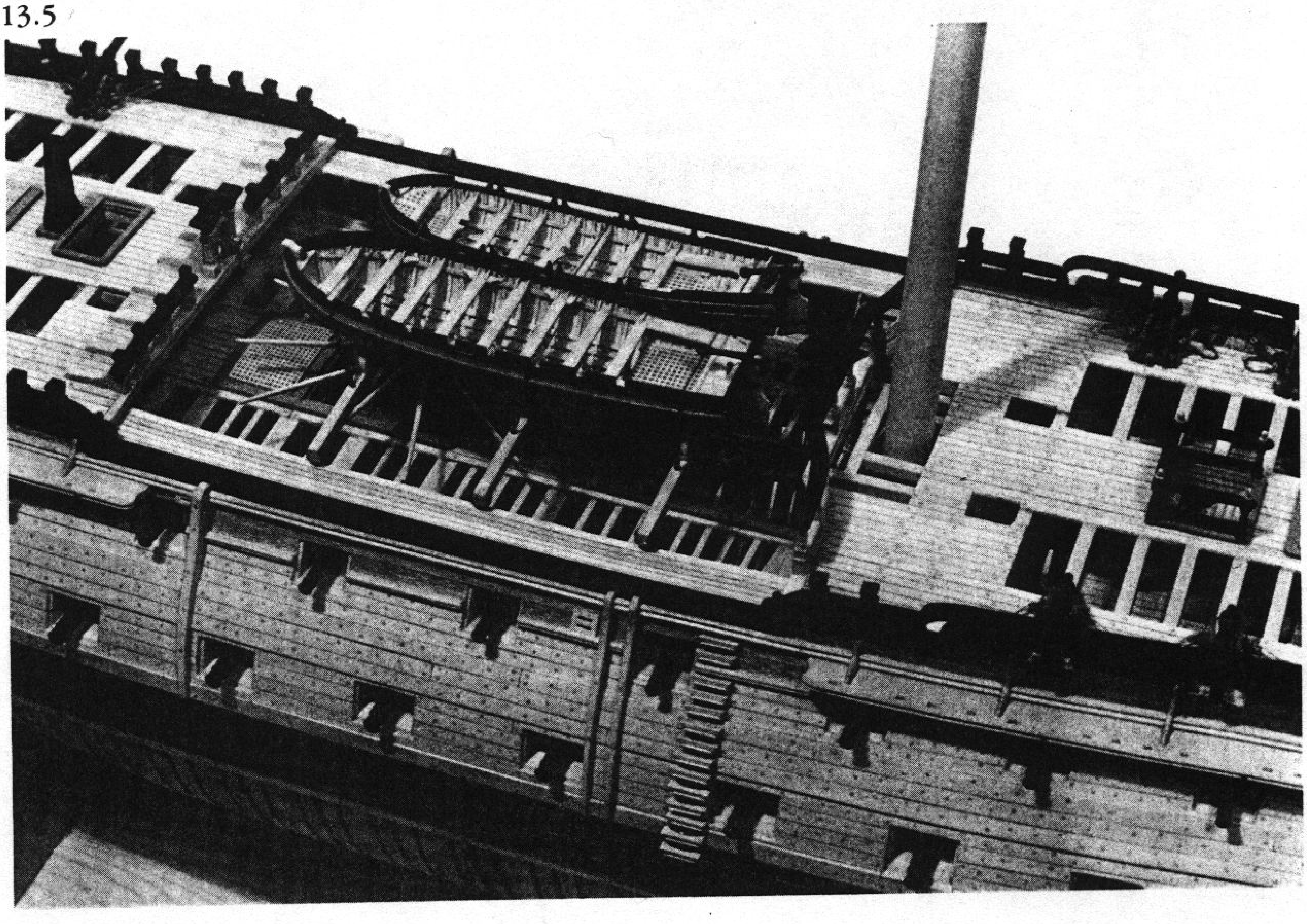
13.3



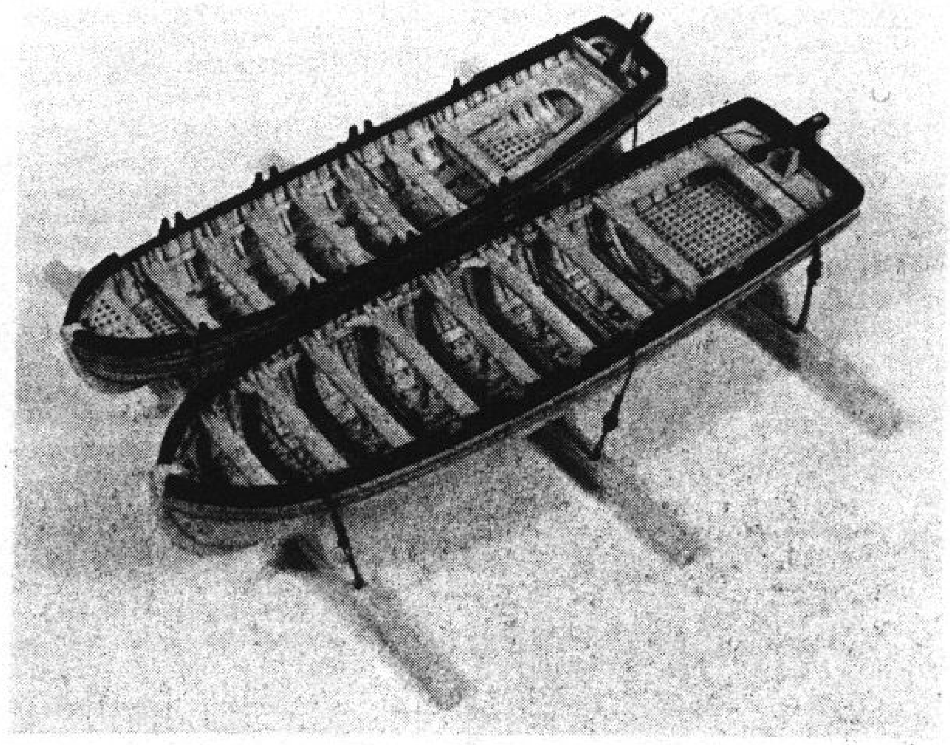


13.4

13.5



contained unit. This included the tie-down ropes which would be awkward to rig once the fore sheets and main tacks were in place. With the booms fixed in place in their brackets on the model, chocks were fitted and epoxy glued to the booms, and then the boats were glued to the chocks. The tie-down ropes were rigged and then the unitized assembly could be removed as shown in photograph 13.6 to be stored separately until needed.

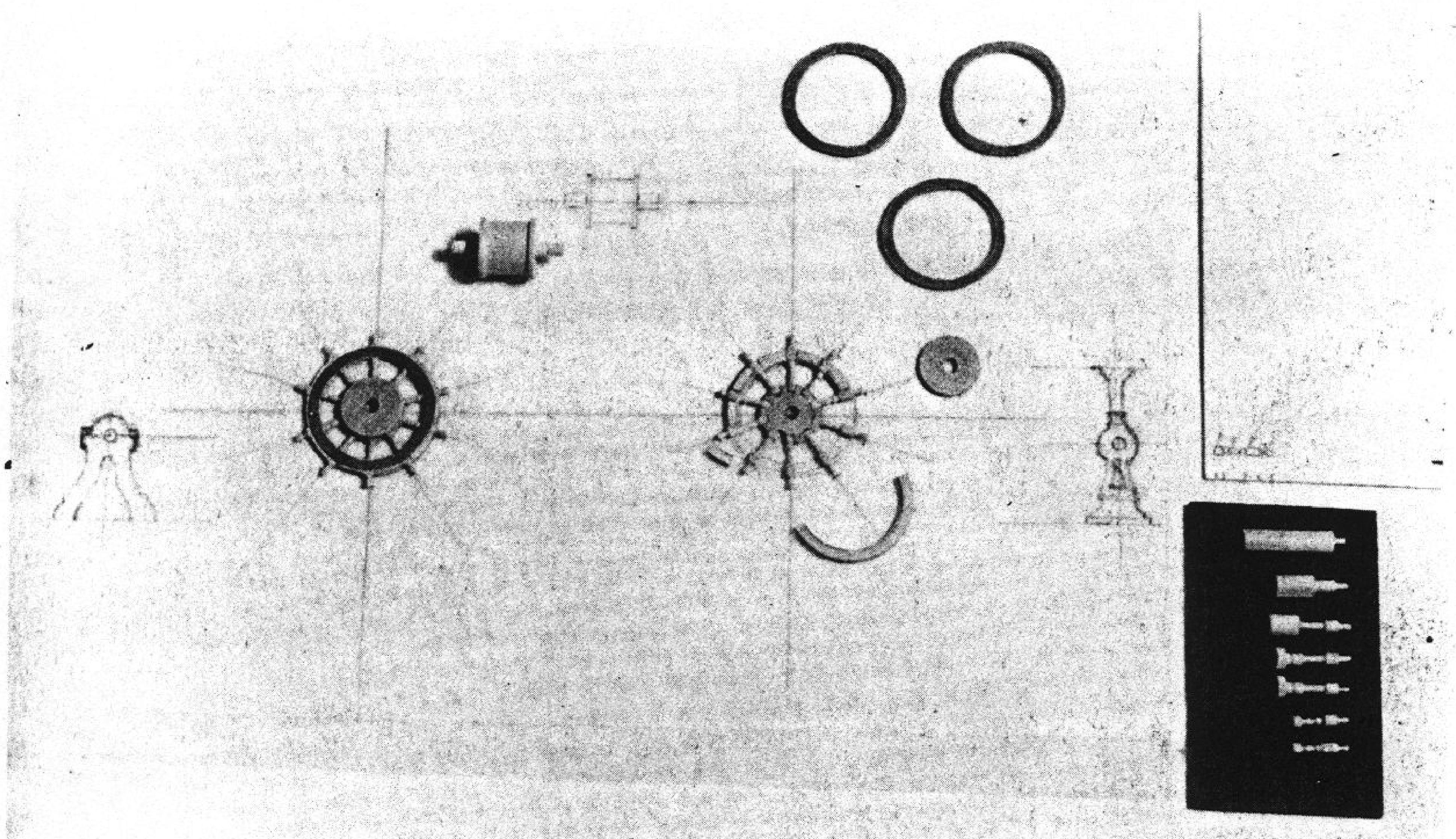


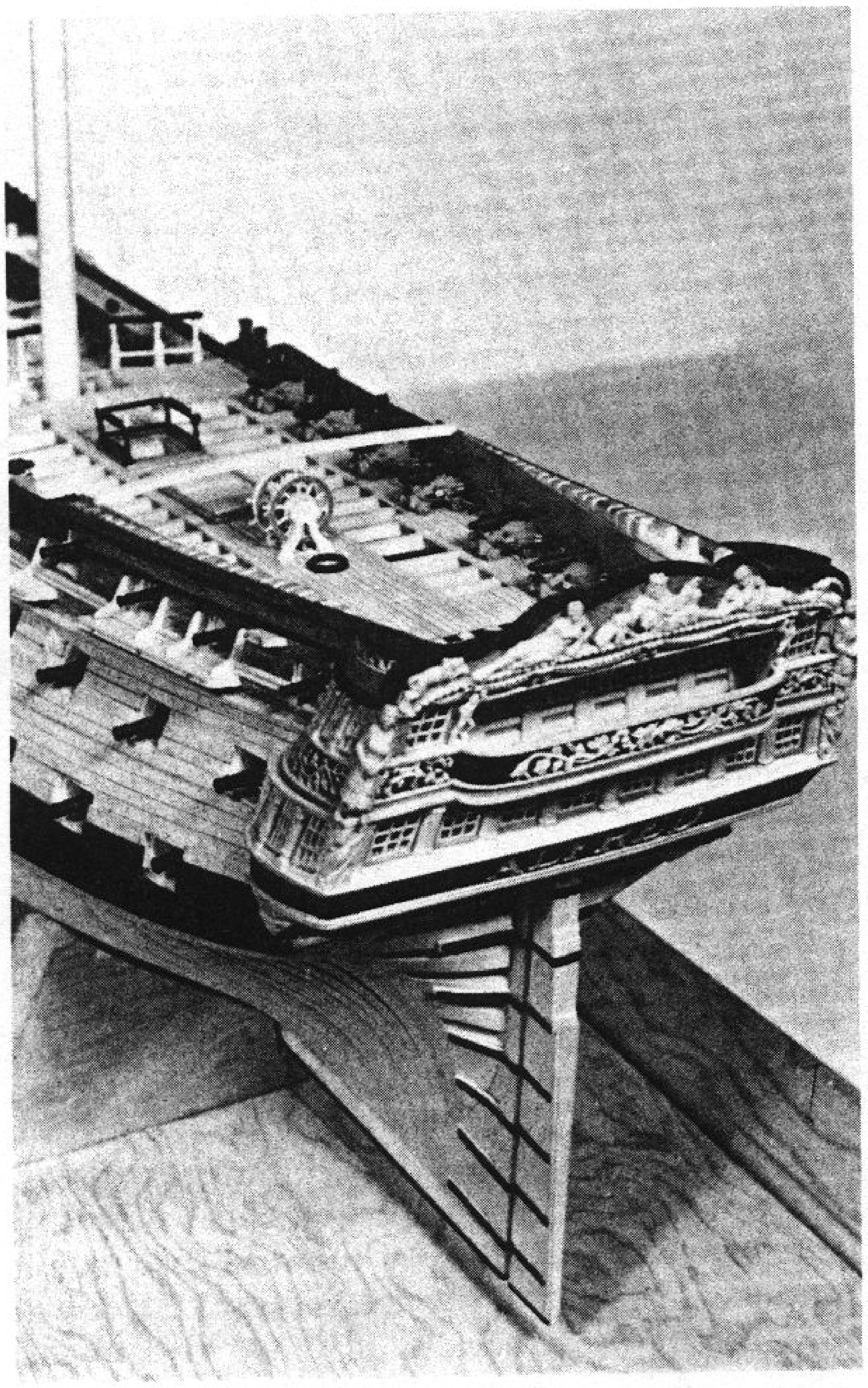
13.6

Before work on the poop could be started, it was necessary to make the double steering wheel and mount it on the quarter-deck. I have found in the literature several suggested methods for constructing steering wheels, but none that I considered to be practical, especially in the small ⅛in per ft scale of my *Alfred* model. Photograph 13.7 offers the procedure that I have used successfully for some time now. I decided to build *Alfred's* wheel with ten spokes. In preparation, I took a piece of heavy white mat board and taped some tracing paper to it. As can be seen, I then laid out the various elements of the steering wheel including layouts for each of the two spoked wheels. Twenty spokes were turned up plus the series of samples located on the dark background. Each spoke was 5/16in long. Taking the manila card that I use for templates, I drew the design on a small piece and marked the edge at the points where the turnings were to change diameters. Two lengths were to be turned to a .035in diameter and then shaped with Swiss files to the finished designs. The other two lengths, turned to a .055in diameter, were to be squared up to suit the hub and rim.

The samples at the lower right in the picture will serve as a guide to those lacking experience in turning small items like this. I started with a length of boxwood turned to a uniform diameter that wouldn't deflect under the cuts I meant to take. The two positions of the tool that would produce the required diameters were established and marked on the cross slide dial of my Unimat.

13.7



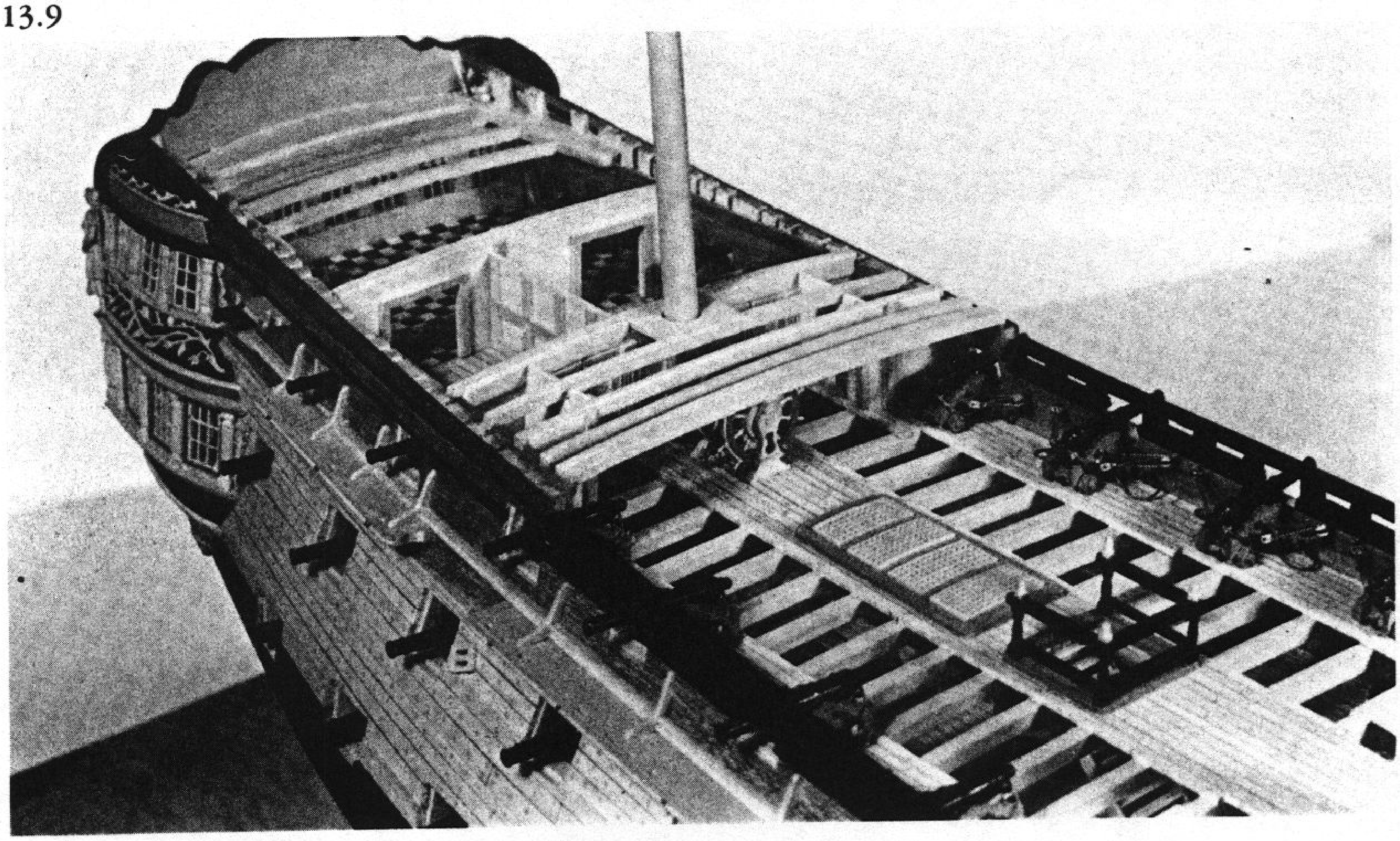


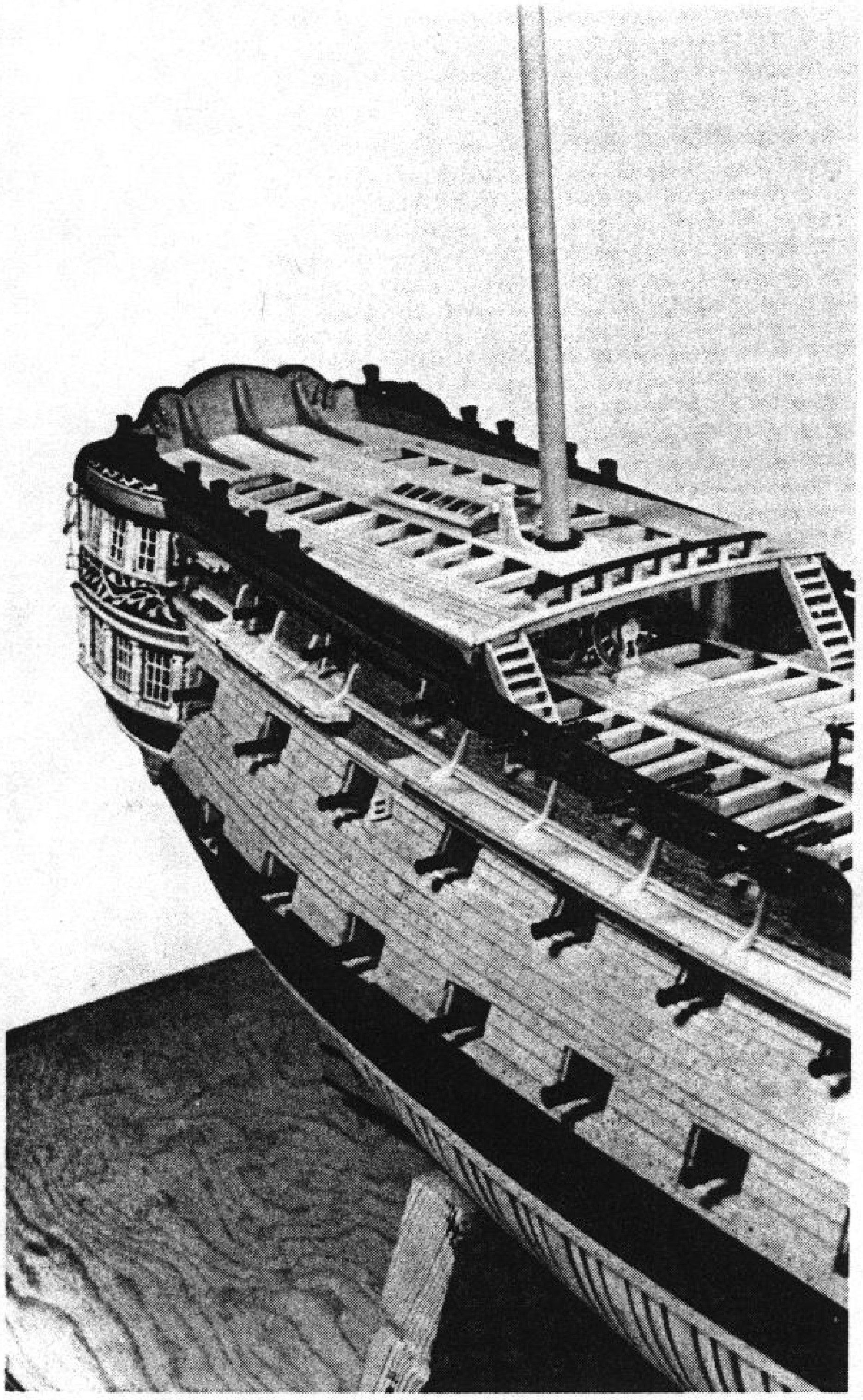
13.8

The sample at the top has had .035in handle diameter turned. In the second step, the .055in diameter was turned beyond the point where it was to be reduced to the .035in size. The tool was then moved back to what would be the shoulder under the rim of the wheel and fed into the smaller diameter. That size was turned in the third sample over to what would correspond to the hub diameter. It is best in turning small diameters like this to do it in a single pass from a sturdy diameter that will not deflect under the cut. The fourth step was to turn the second .055in diameter and mark the cut-off point with a light groove. Each step in the turning was established of course by holding the marked template up to the piece in the lathe. Again, conserving the strength of the turning, the handle at the end was the first section shaped with a file. A finger under the rotating piece was used to support it against cautiously applied pressure from the file. Then, working from right to left, the second turned section was shaped after which the spoke could be cut off at the groove with a fine tooth saw. Finally photograph 13.7 shows the .055in diameter rim and hub lengths filed to square sections.

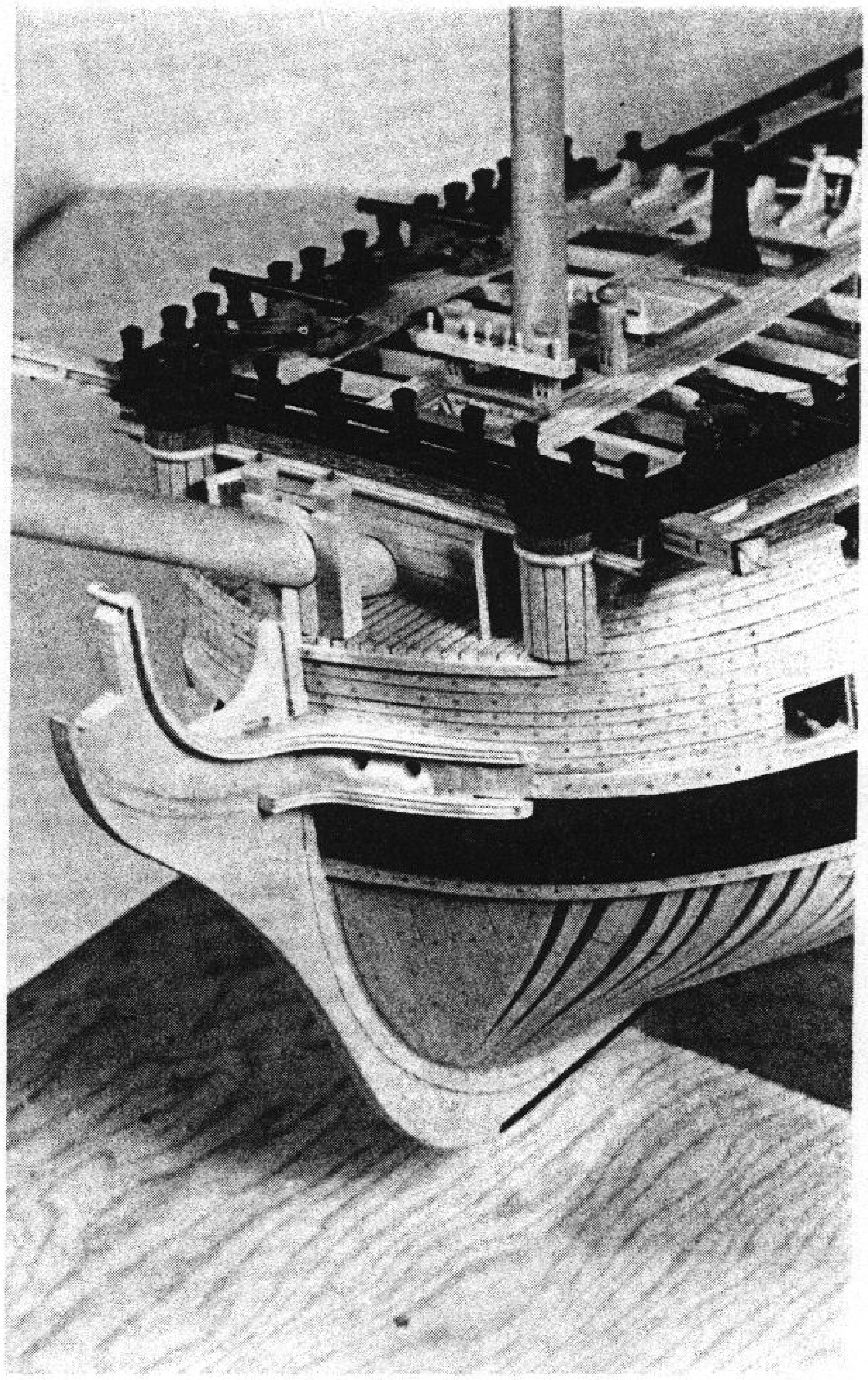
The two layouts in photograph 13.7 show the wheels in various stages of assembly. At the right, can be seen the hub that was cut from a boxwood turning with a thickness of .035in. The hole was drilled to fit the axle of the drum on which the wheels would be mounted. The edge was marked

13.9





13.10

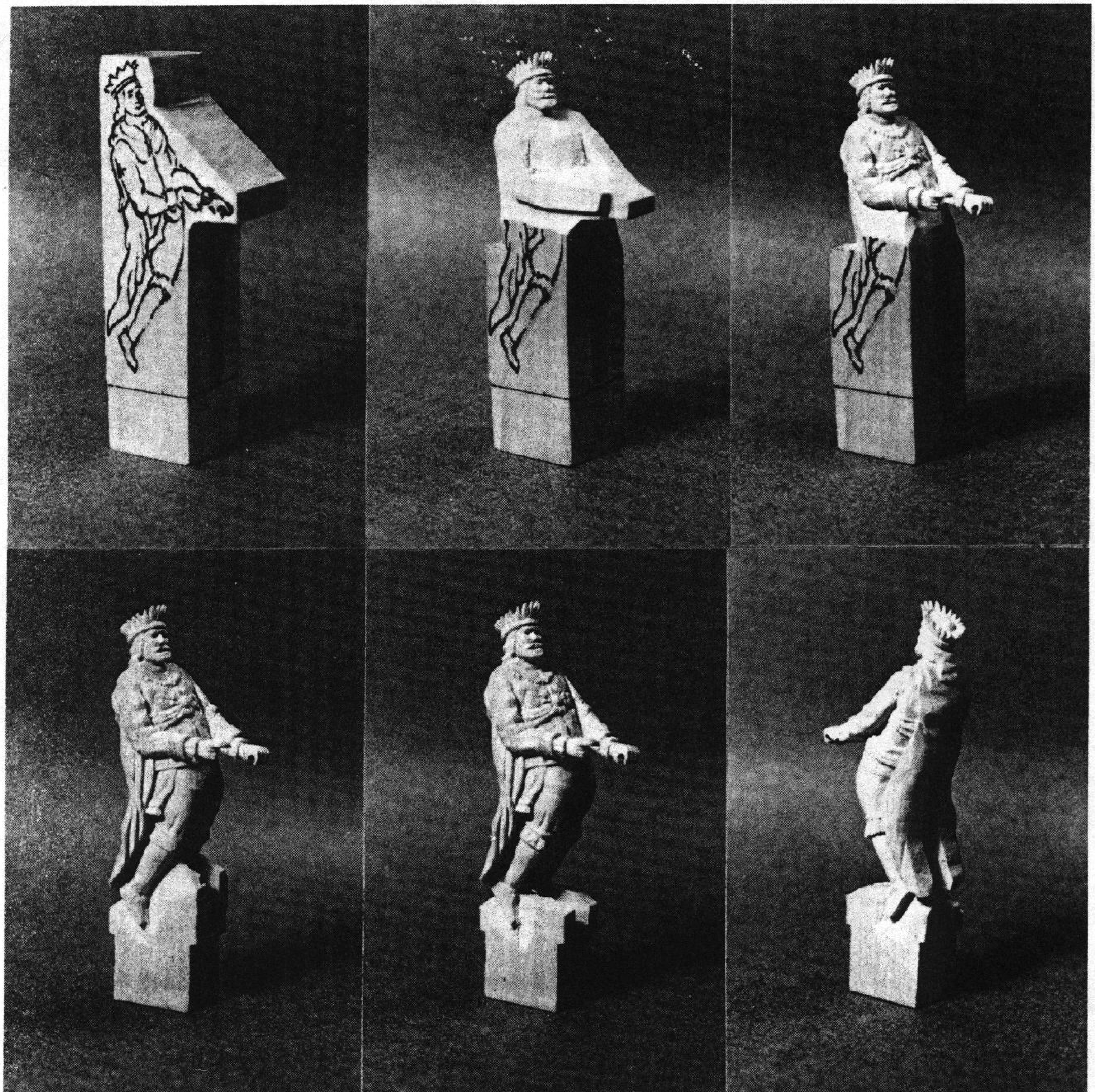


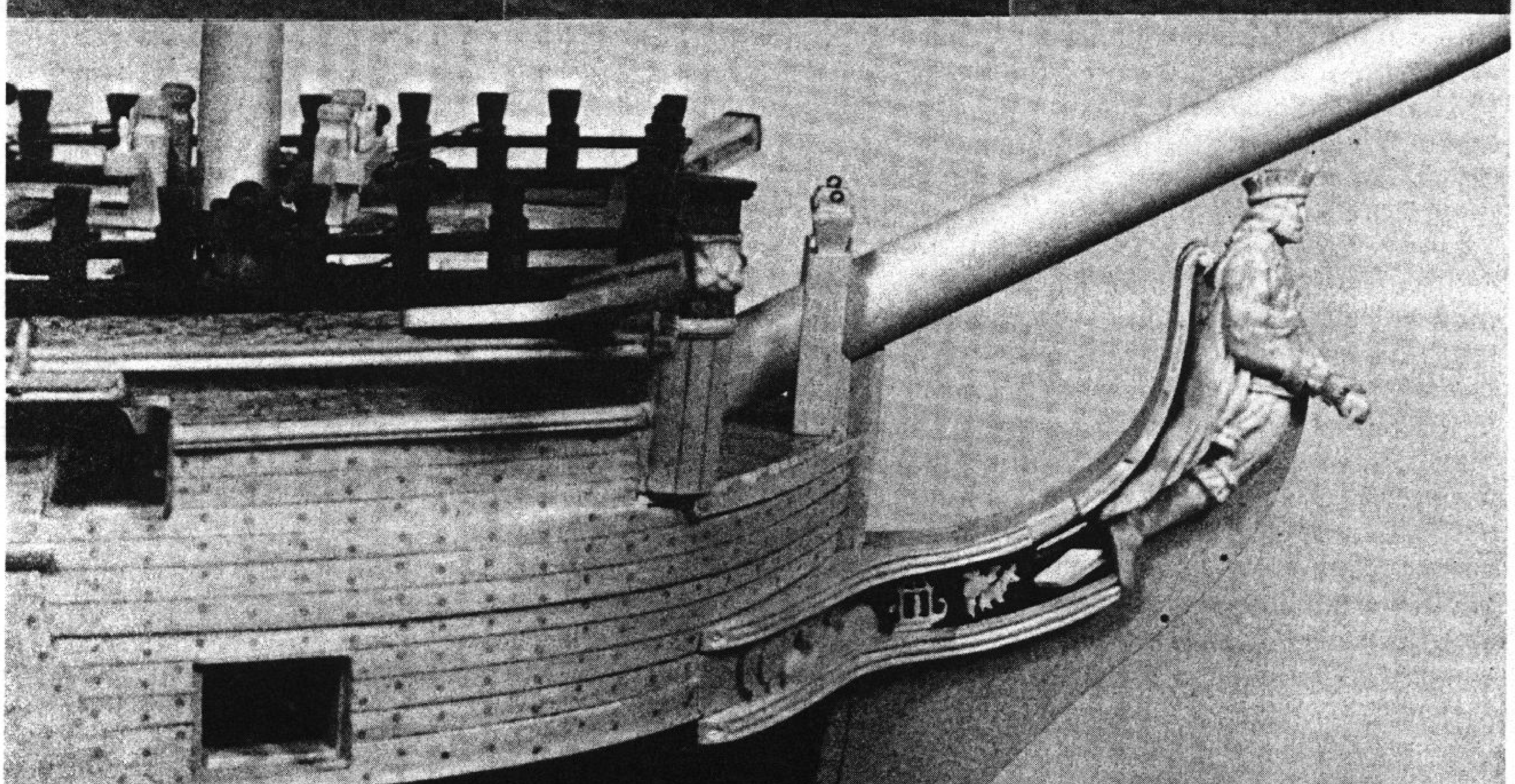
13.11

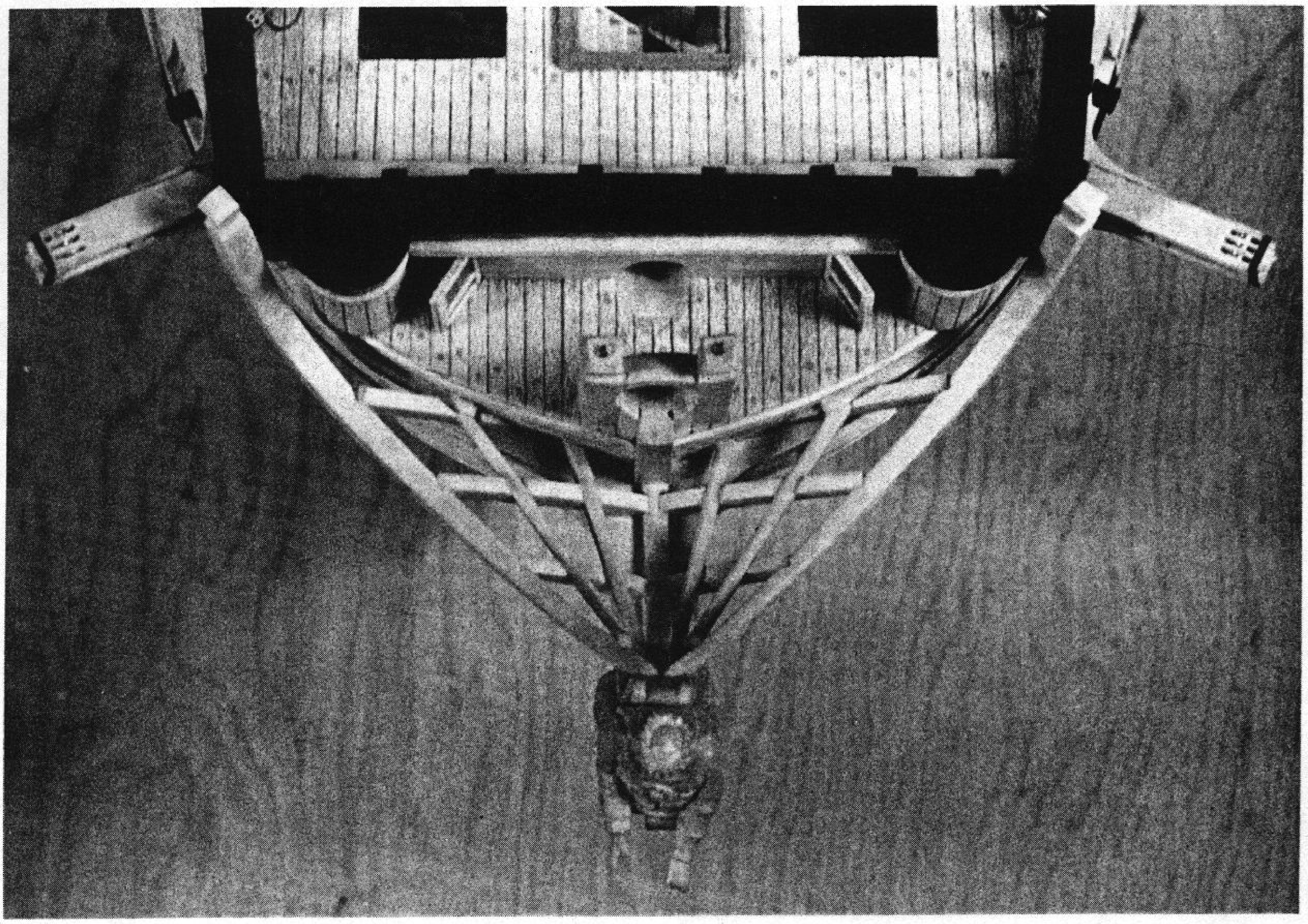
off and notched out to fit the inner ends of the spokes as required by the layout. The notched hub was cemented to the tracing paper with a touch of Titebond glue. Then the ten spokes were glued into the notches, positioned on the layout lines and flat on the tracing paper. A ring of boxwood, .035in thick, was sawed out to the inside and outside rim diameters. By means of a single-edged razor blade, that ring was cut into segments that were trimmed to fit and glued to the spokes as shown.

I used Swiss pearwood to finish the rims for the interest of colour contrast. Making a sandwich of thin pieces cemented together with rubber cement and mounted on a piece of scrap for support, I sawed out the four rings shown in the picture. The left-hand assembly has had one of the rings glued onto the rim as well as a second, covering hub piece. The resulting assembly was quite strong., For the most part, the tracing paper could be peeled off the back side. Whatever remained was removed easily by rubbing the wheel on some fine garnet paper. Each wheel was then finished by gluing a ring of Swiss pearwood on that second side. Although the rings were thin to start with, I found it necessary to avoid a bulky appearance by rubbing the wheels on the fine abrasive until the pearwood rings were only .010in thick. The barrel on which the wheels were to be mounted can be seen in photograph 13.7 as it was designed and turned from boxwood. The axles were made long enough to reach through the wheel assemblies and the bearing holes of the brackets used to support the steering wheel assembly on the quarter deck. The uncovered hub surface of each wheel was glued to the end of the drum on either side.

I designed the mounting brackets as shown in the picture. They were cut from boxwood. Wanting to be sure that the wheel unit wouldn't come adrift on the quarter deck, I fitted short, pointed ends of lill pins into the feet of the brackets. Holes were located and drilled in the deck to receive the pins, glue was touched to the bottoms of the brackets and the wheel unit was fixed permanently in place. The tiller ropes came up through holes in the deck that were located one at either end of the drum and on opposite sides. Each was







13.14

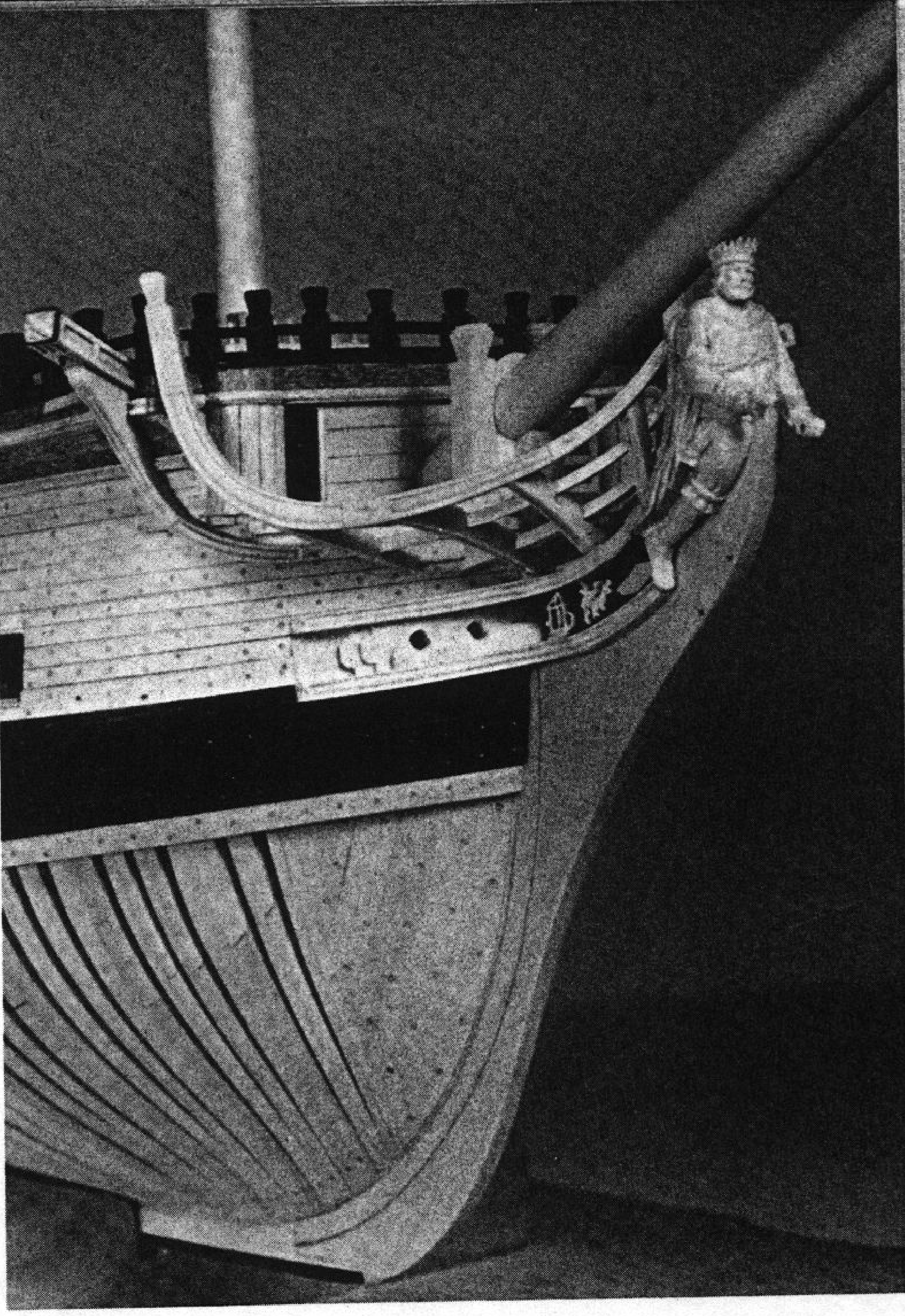
building the stern of a model. It related directly to my method for framing models on jigs. In response to that article, one correspondent, who apparently assumed me to be an expert on all phases of model construction, asked if I was going to follow up with an in-depth description of how to handle the complicated process of building the head on a model. I shall try to satisfy that request by describing how I did the work on my model of *Alfred.* This will leave me open to criticism and correction by more knowledgeable ship modellers, but the responsibility can't be avoided.

At the end of the last chapter, photograph 12.12 showed the framing of the beakhead bulkhead. Photograph 13.11 shows that structure fully developed and the head in its initial phases of construction. The face of the bulkhead which was covered with planks and a moulding had to be reconstructed since its design did not appear on the plans. Contemporary models show that this area could well have been finished with elaborate decorations. However, being without a specific example to follow, I tried simply to make it a suitable continuation of the general hull design. Two small doors are provided for their openings. The two 'houses of easement' provide private toilet facilities for privileged ranks. They are also called 'round houses' although actually being just half-round. Until I worked it out by studying the references, I found the term 'round house' confusing. Wanting to take the word 'round' literally, it was some time before I realized that it could define a variety of ship-board structures. It is also applied to the cabin space under the poop deck.

With the face of the beakhead bulkhead finished, knightheads were installed on either side of the bowsprit. Filler blocks were glued in between the knightheads and the stem, and a collar was shaped and glued to the knightheads on the top of the bowsprit. When I drew up the plans for my model, I thought a knee would be required on top of the stem as shown to provide a slot for the gammoning. A review of a large-scale photostat of the Admiralty drawing showed me to be in error. What I had thought to be one of the stem decorations on my small-scale plan proved to be a slot in the stem below the hair bracket. The knee will be missing from later pictures of the model, but it shows here how easy it is to be led astray.

Work on the head described so far has been relatively simple. It is not the sort of thing that has model builders tearing their hair out. That is yet to come. The novice ship modeller studying the side-view plan of a ship may wonder what could be so difficult about producing the various elements of the head. In drawing form, the work might appear to be a straightforward case of duplicating the shapes. It is not until one tries to translate the two-dimensional design into the actual three dimensions of the forms that the problems are fully realized. Though some modellers may have found an easy answer, I have yet to perfect a complete solution, but have worked out a few procedures that do help.

Making the cheeks and brackets that join them and extend on up the stem is not one of the more difficult operations. What looks like a single piece on the drawing is actually made up of two parts. The upper and lower cheeks as seen in photograph 13.11 were made to the same form. Pieces of boxwood thicker than the finished cheeks were meant to be were shaped to an easy curve, concave on what was to be the top surface. Then the contour required to fit the cheek against the hull and stem was determined by cutting out a cardboard template. The outline of the cheek was transferred to the boxwood pieces and sawn out. The carving was done before the cheeks were glued to the hull. The hair bracket that extends from the upper cheek was a relatively simple piece to make, with special care taken to blend the curve and carved surface smoothly with the cheek. With the cheeks in place, holes were drilled for the anchor hawsers and the bolster pieces added. Obviously, the work should be done with attention to symmetry of the pieces on both sides of the stem.

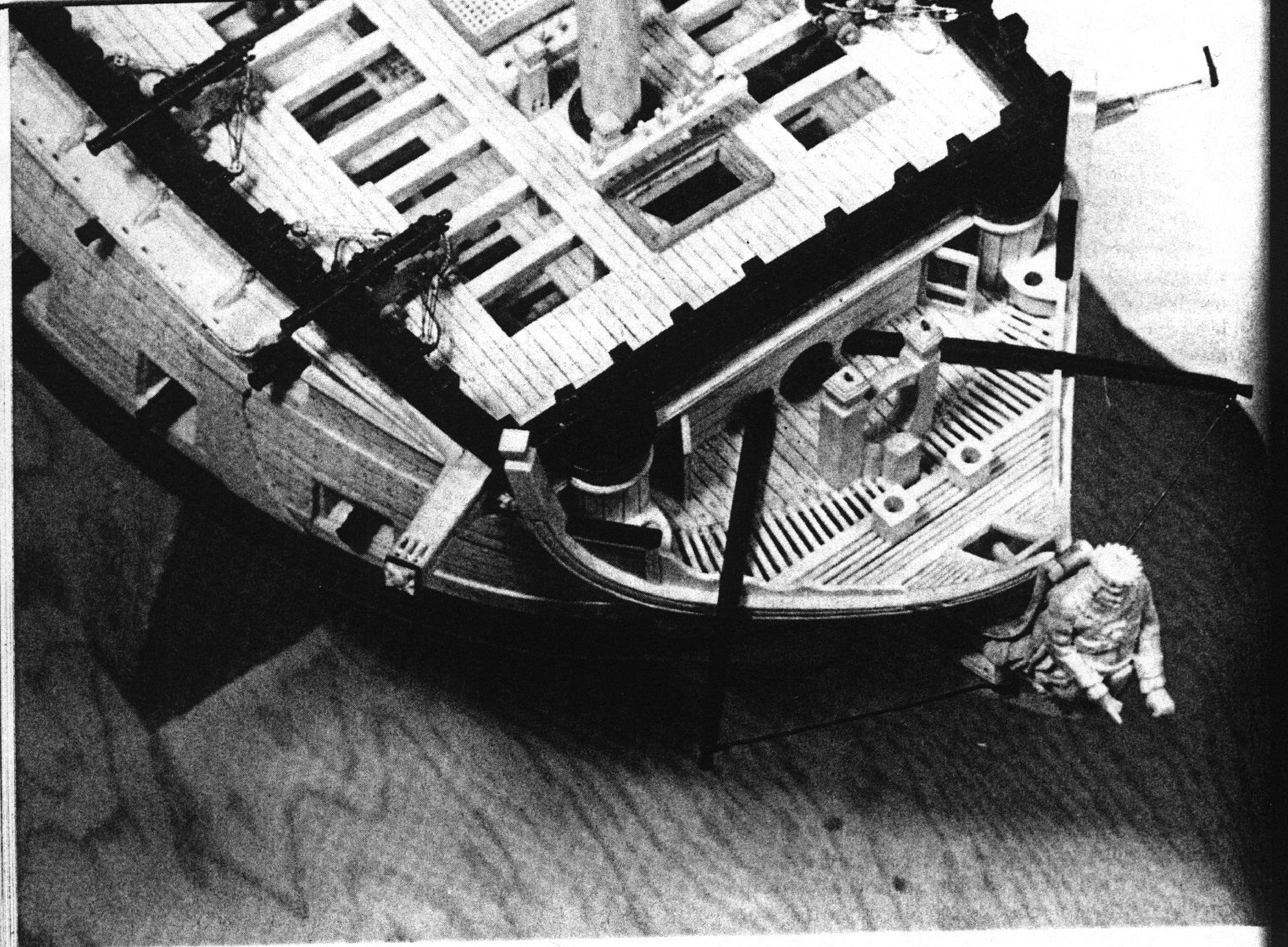


13.15

My next project was to carve a figurehead for *Alfred.* I decided to postpone the extensions of the lower cheeks since the location of the figurehead's feet would govern their length. In Chapter 4 there is a series of photographs picturing the process of carving a figurehead for the model of *Oliver Cromwell.* Although it is repetitious, I felt that since *Alfred* is the featured subject of this book, similar treatment of the figurehead was in order. It also gives me an opportunity to comment on the problems of interpreting the details shown on an Admiralty drawing when a miniature sculpture is to be created. In drawing up my plans for the model, I tried to duplicate the essential shapes of the carvings as shown. When it came time to actually produce them, I found that certain modifications would have to be made.

Poor King Alfred's figure on the drawing had become a very uncomfortable if not impossible pose to hold. The legs were swung back of necessity to suit the figure to the shape of the stem. However, the torso and head were turned sharply to the right in an awkward position that I decided was the draughtsman's attempt to show the character of the figure more clearly. The figure as I carved it faces mostly to the front. Another problem that the original draughtsmen did not take into account is the fact that bobstays will pass right between the extended hands of the figure. I hadn't really considered that condition, but fortunately had left space between the hands in line with the stem. The figure is holding the rolled end of a manuscript in his left hand with a length hanging free. I will carve that detail and add it after the bobstays have been rigged to be sure there is no interference. The hole in the hand which is intended to clasp the manuscript was located and drilled when progress on the carving had reached the stage shown in the second frame of 13.12. Drilling beforehand through a husky section of wood avoided the danger of splitting the piece after the carving had been refined to the finished size.

HMS *Alfred*'s log book tells us that her head was damaged in a collision with *Le Nymph* as the fleet approached St Kitts and they 'Hoisted the figure-

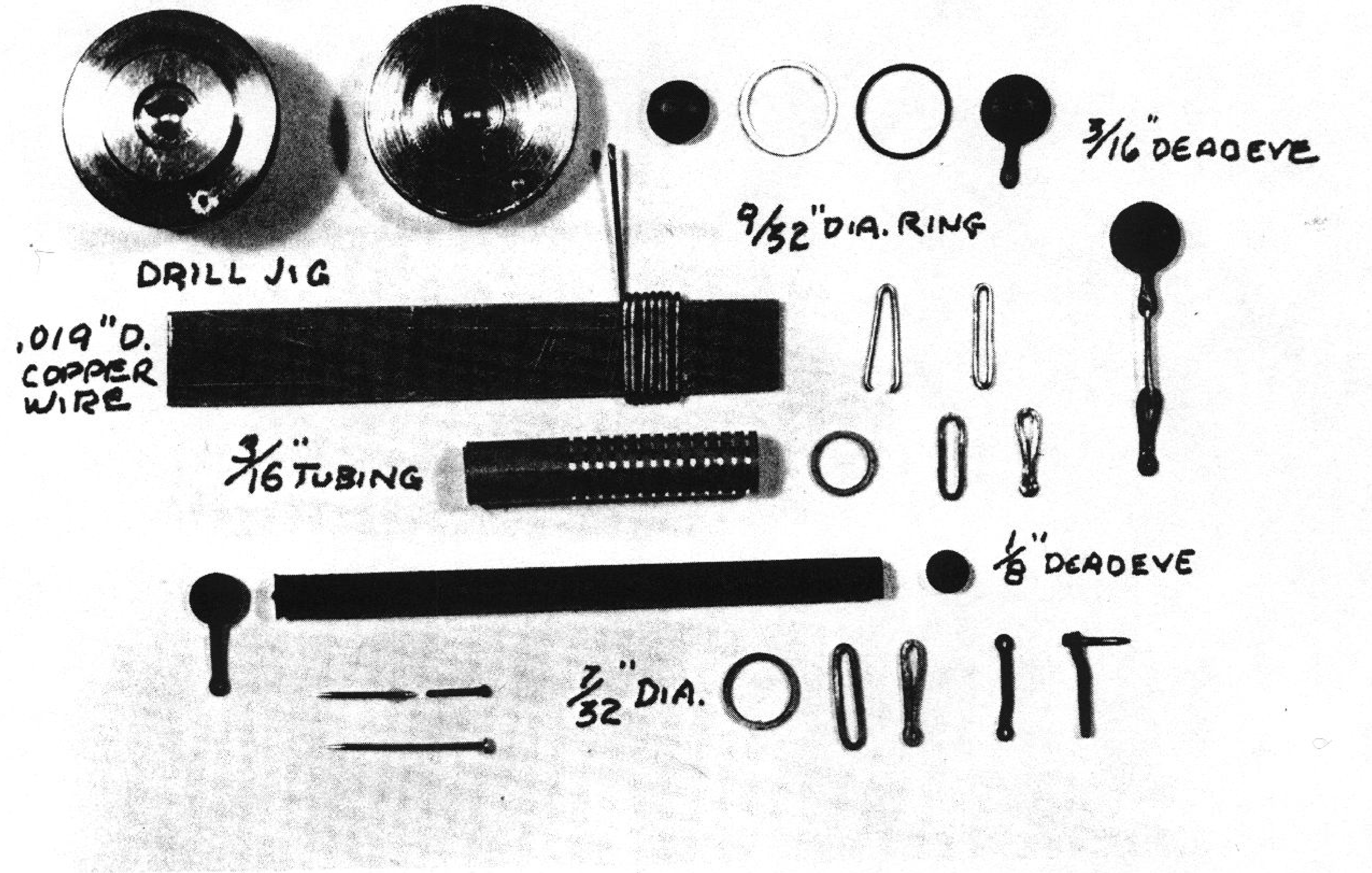


13.16

head on board'. There is no reason to believe that this was not the figure shown on the Admiralty drawing. One wonders how well King Alfred survived that accident. I had a nice piece of lemonwood that I decided to use for carving my figurehead. In appearance and general consistency, the wood seemed to be equal to boxwood. However while progressing with the carving, I found that the parallel fibres tended to crumble apart in a manner that I had not experienced with boxwood. This caused some anxious moments, but I managed to complete the carving satisfactorily. The block of lemonwood was cut to a length of 2⅜in which included an ample section at the bottom end to be held in a vice. The design of the figure was drawn in ink on one side. The slot required for the legs to straddle the stem was carefully marked off, drilled and sawn out. Large excess sections of the block were then cut away as can be seen in the first frame of composite photograph 13.12.

The initial drawing on the block was necessary obviously to determine the limits of the carving. However as with any two-dimensional representation, it soon becomes more of a handicap than a help in developing the figure. Although one hates to lose its guidance, the sooner the drawing is eliminated, the sooner its inhibiting effect is overcome in the creation of a three-dimensional object. As with all my figure carvings, I worked from the head down until as in the last two pictures a minimum of wood was left connecting the feet to the holding block. This was finally cut through to free the figure. Carving a figurehead is an exacting challenge, so I was pleased and relieved to find that when King Alfred was seated on the stem of the model, his crown cleared the bowsprit by the correct space.

In addition to depicting the various steps in the process of carving the figurehead for HMS *Alfred,* composite photograph 13.12 pictures the supplementary carvings on the stem located between the cheeks. They are certainly not the usual decorative features that one expects to find here, but are my interpretation of what is shown on the Admiralty drawing. As mentioned earlier, King Alfred was credited with promoting the educational process in England as well as being



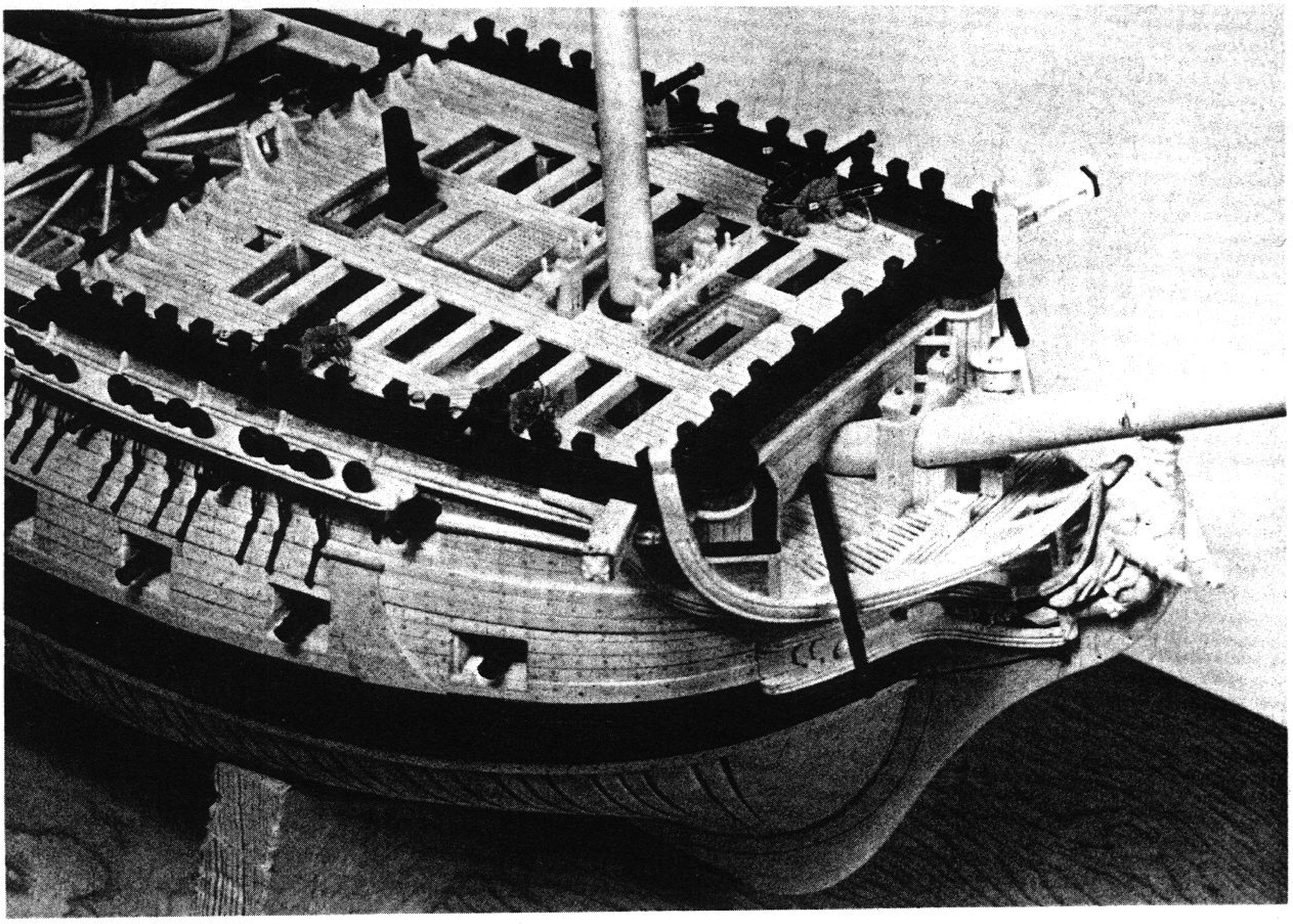
14.1

greater than the space allowed in the jig. Thus with a light pressure maintained until the holes had been drilled the blank could be held securely in position. With the Unimat carriage properly positioned under the drill, the three holes could be drilled indexing from one to the next by simply rotating the jig in the loosely confining jaws of the vice. Fortunately, this work progressed more rapidly than the telling since there were a great many deadeyes required for *Alfred.*

Furnishing strops and chains for the deadeyes can be facilitated by using the methods illustrated in photograph 14.1. The basis is the use of brass tubing to make rings. This tubing is available in hobby shops and I have also found it in hardware stores. It ranges in diameter from 1/16in up to ½in in increments of 1/32in. The uniform wall thickness of 1/64in would be 1½in in scale size on the model of *Alfred.* I have acquired the full range of sizes which is easy to store since the tubes telescope together. I cut rings off this tubing on my Unimat. In the picture a length of 3/16in diameter tubing is shown with evenly spaced grooves made by the lathe tool. The spacing of .030in was achieved by making a ¾ turn of the feed screw hand wheel to locate each successive groove. A jeweller's saw .012in thick was used to cut off the rings which then had a nearly square section after the resulting burr was rubbed off on fine garnet paper. The saw teeth were loaded with beeswax to lubricate the cut and keep the brass chips from building up in the gullets of the teeth.

The brass tubing as purchased is a hard-drawn material, so the rings as cut off are stiff and would not bend easily to the required shapes. They need to be annealed. This is easily accomplished by stringing them on a length of wire which is then fastened up like a clothes line. A candle flame is sufficient to heat the rings cherry red if they are spaced apart on the wire and the flame is moved along under them. After the rings have been annealed, I rub off the carbon residue from the flame and chemically blacken them. The steps followed to strop a 3/16in shroud deadeye for *Alfred's* fore and main channels can be seen at the top of the photograph. The annealed and blackened 9/32in diameter ring was squeezed in around the deadeye and crimped together at the bottom with a pair of pliers. At the same time, a drill shank held in a pin vice for convenience was used to form the hole for the chain link.

One advantageous feature of this system is the fact that only one link in the chain needs to be



14.2

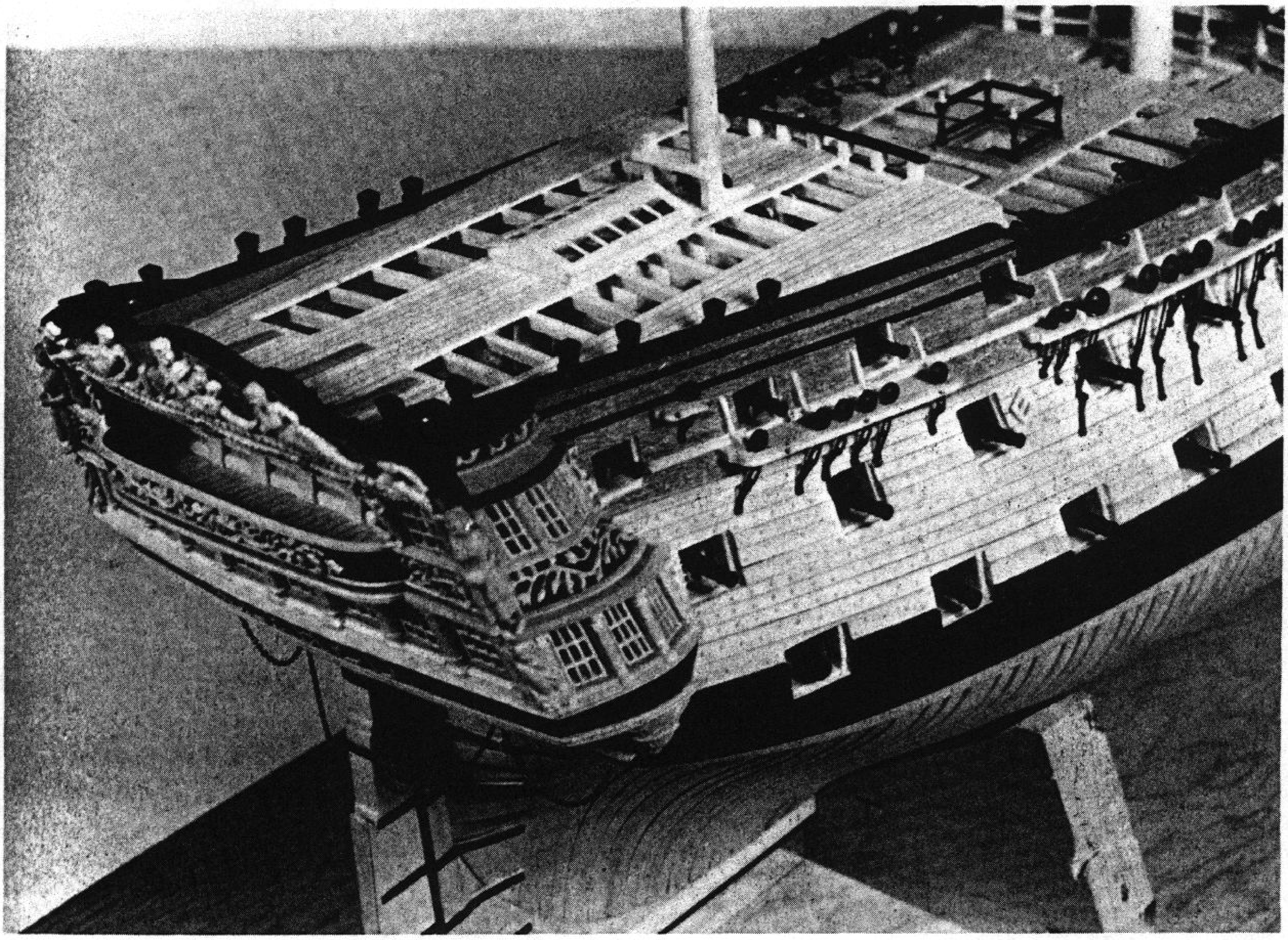
soldered. Those links were formed by winding copper wire around a strip of copper plate as shown. The resulting coil was slipped off the strip and snipped into individual links. The first time I made them, I cut the links on the side and wound up with unsightly solder joints. This brought the realization that the logical location for the joint was on the end. The next link in the chain was produced from 3/16in diameter tubing. It was completely formed before being chemically blackened. The two links were assembled with the stropped deadeye and oriented so that the copper wire link could be soft-soldered.

Strength of the joint is not an important consideration on the model since there will not be any appreciable tension on the chain as on a full-size ship. The end of the second link is meant to be fastened to the hull, but in the case of the fore- and main-shroud deadeyes, the connection will be strengthened with a plate and bolted to the chain wales. Those plates were formed from 7/32in diameter rings formed progressively as shown in the photograph with the upper end offset to cover the end of the second link. In each instance, the ring size was selected by trial and error until the best combination was determined.

I use modified lill pins to fasten the chains to the hull. The ½ in pin seen in the picture has its head reduced by filing and then is cut off to a point with a file. The pointed shank ends are saved since they can be utilized in a variety of ways.

A description appeared in Chapter 10 on how I made and fitted the channels to the hull. Subsequent to that stage of the model construction, I decided that the shapes of the channels would have to be modified. I realized from a study of photographs that the deadeyes for the aftermost topmast stays and the topgallant stays were stepped back closer to the hull on the fore and main channels of 74-gun ship models. There is no indication of this condition on the Admiralty drawing which shows an edge view of the channels without a line to suggest a break in the contour. Before mounting the deadeyes and chains, I decided to alter the channels to suit the arrangement observed on other models. When those corrections had been made, I was ready to install the deadeyes and their chains.

With the covering strips pulled away from the channels on their pins, the deadeyes were set into the notches in the channels with the chains dangling below. Titebond glue was touched to



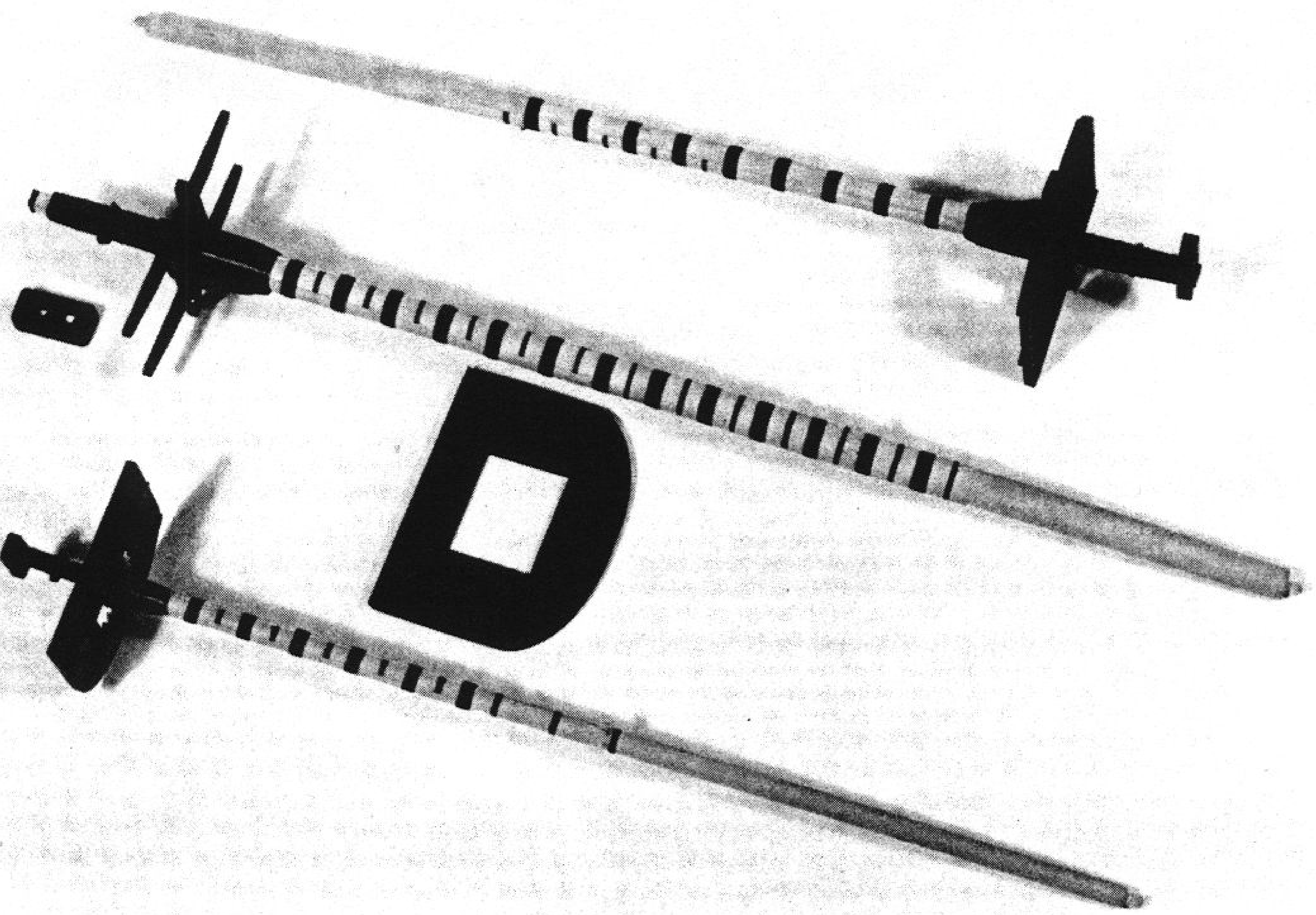
14.3

the edges of the channels, and the covering strips were pressed into place for permanent assembly. Then with a sharp-pointed scriber inserted through the lower hole in the second link, the chain attached to each deadeye was drawn down, lined up with its respective masthead, and a mark was punched in the hull with the scriber point. A no 75 drill was used for holes to take the modified lill pins. In the cases of topmast stays and mizen shrouds, just one pin hole was required. However for the fore and main shrouds after the pin had been pressed into the chain wale through the plate and the lower end of the second link, it was necessary to align the plate and locate a hole to fasten its lower end.

The deadeyes as installed on the fore channel can be observed in photograph 14.2. Note that the foremost shroud deadeye has an abbreviated chain to avoid interference with the anchor bill board which will extend up to the edge of the channel. Photograph 14.3 clearly shows the stepped back modification that was made to the main channel. The stool provided for the mizen topmost stay doesn't appear on the Admiralty drawing, but it seems to be a standard feature on models. Also to be seen is the chain which was meant to be used in controlling movement of the rudder in the event of damage. I frankly admit to adding this detail for its decorative value.

The masting of *Alfred* really began in Chapter 12 when it became necessary to establish the deck openings before they became inaccessible. At that time the basic forms for the three lower masts and the bowsprit were turned in boxwood. Those four pieces now have to be developed into finished form. Steel's book affords formulas that enable us to determine the mast dimensions as well as all the components that go to make up the tops and caps at the mast heads. Also very conveniently for this immediate project is the fact that there are two folding sheets with the book that show in detail the construction of masts, bowsprit and main yard of a 74-gun ship.

There is a table in Steel of mast and spar sizes for a 1799 ton, 74-gun ship. This tabulation cannot be used for the model of *Alfred* whose tonnage was calculated at just $1638^{37}/_{94}$. The mast and spar sizes will all have to be calculated by means of the formulas given in this book. It is interesting to consider that all of the masts, spars and their various components derive their dimensions from just two basic hull sizes. The length



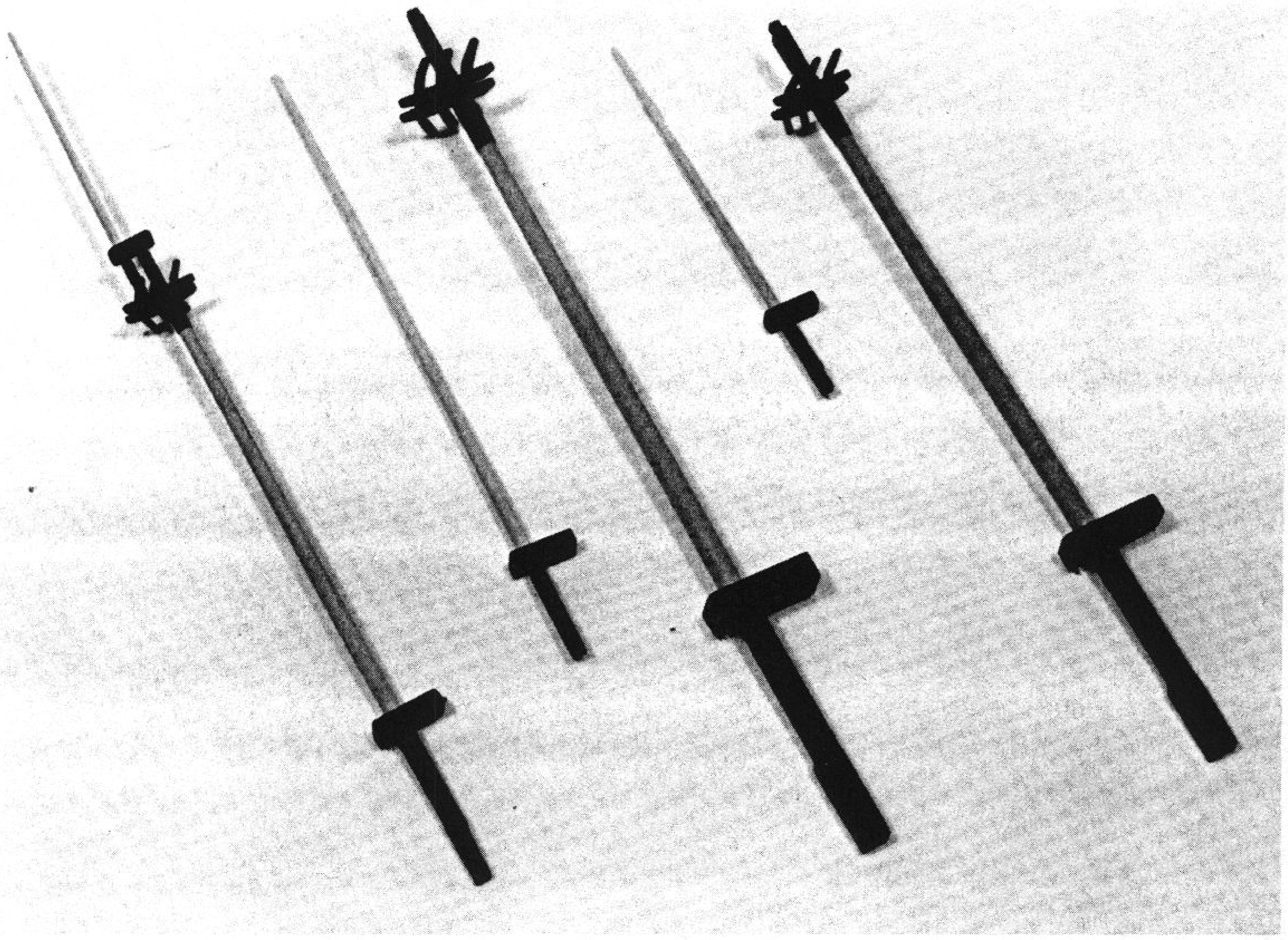
14.4

of the lower or gun deck added to the extreme breadth with the sum divided by two determines the length of the main mast. All other sizes are in proportion to that length. The dimensions recorded on the Admiralty drawing for *Alfred* are: 169ft length of the gun deck and 46ft 11ins extreme breadth. This results in a length of 108ft for the main mast.

The length of the fore mast is specified to be $^{8}/_{9}$ of the main mast. The mizen is to be $^{6}/_{7}$ of the main mast in length. The bowsprit length is listed as $^{3}/_{5}$ of the main mast. The mast diameters at the partners are determined as 1in for every yard of length. Thus the maximum diameter of the main mast is calculated to be 36in. The bowsprit is specified as being 2in smaller than the main mast or 34in for *Alfred.* A long list of formulas could be appended, but suffice it to say that the sizes of all the spars are determined proportionate to the main mast which as shown above was derived from the two basic hull dimensions. There are also ratios of diameters at quarter lengths that establish how the masts and spars will be tapered. I have included those calculated sizes on my plans for the individual spars.

When I turned up the blanks for the three masts and the bowsprit the calculated diameters were finished to size but the mast heads and outer end of the bowsprit were left with stock to be worked down when it came time to do so. Photograph 14.4 shows the three masts after they had been reworked to their final configuration. Schooners and small sloops generally had single-piece masts made from a tree. Ships of greater size requiring proportionally larger masts made it necessary to build up masts and large spars from a number of pieces. The illustrative plates with Steel's book show this to have been a complicated job of fitting to ensure that the resulting unit would be sound. There are not likely to be many model builders who would want to duplicate this process, but the built-up masts presented a certain external appearance with their hoops and wooldings that must be shown if the model is to look like an authentic replica.

After the body of the built-up mast was fitted together, it was secured with iron hoops. Cheeks extending down from the hounds at the mast head were hollowed out and fitted on either side, partially covering the hoops. The front fish was added in similar fashion. The main mast in the middle of photograph 14.4 is resting with its front fish down out of view. All the hoops are visible except where partially covered by the port-side cheek. The fore mast at the top of the picture is positioned with the front fish up and the hoops are concealed down to the end of the cheek. The first time I made built-up masts for a model, I decided that there was no point in making hollowed-out cheeks and front fishes to



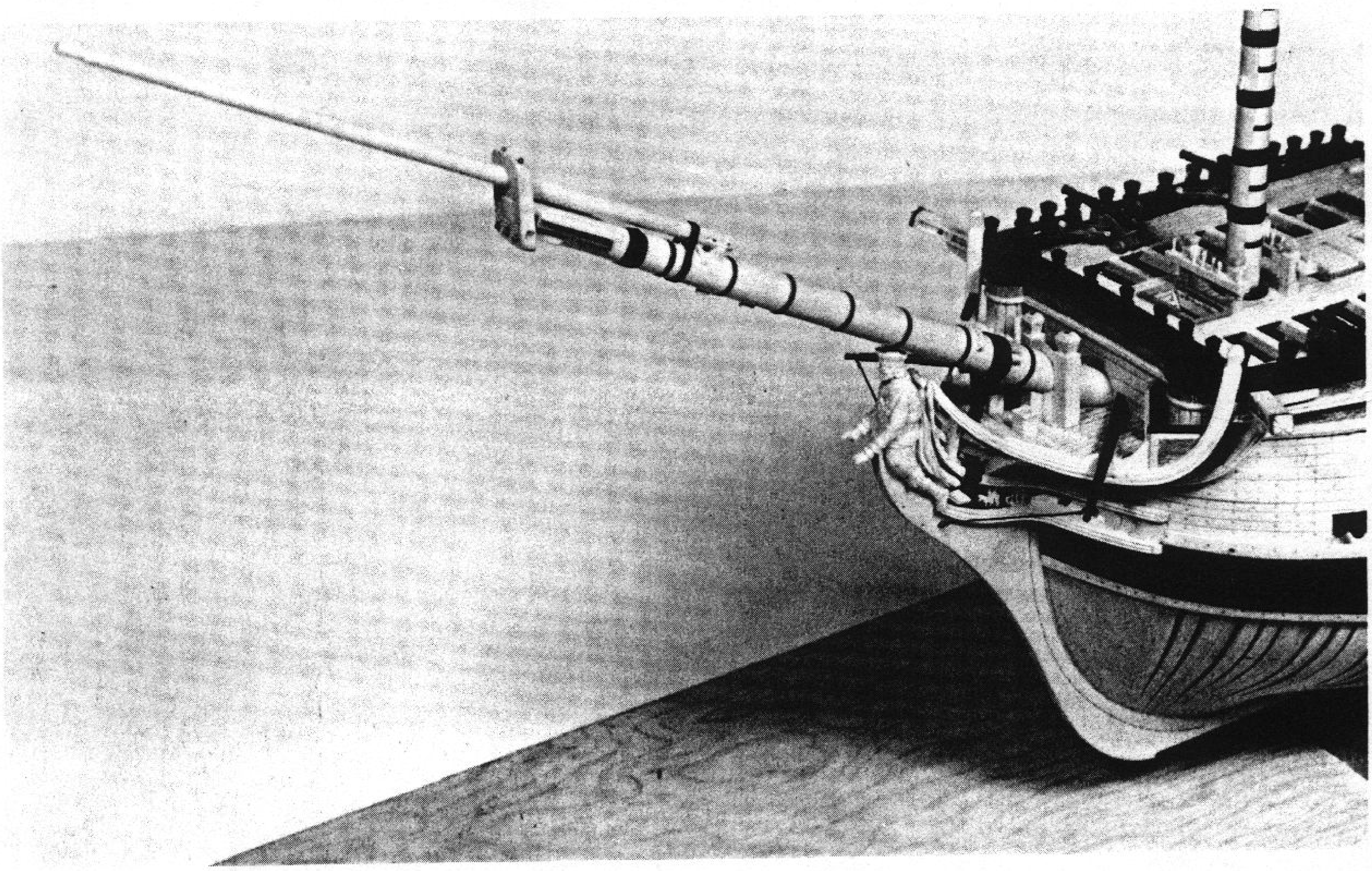
14.5

fit the cylindrical mast shape. My solution was to cut flats on the sides for the cheeks and on the front for the fish. Grooves were cut across the flats where hoops were to be added so that the cheek and fish pieces could be fitted flush against the body of the mast with no interference from the hoops.

I have read accounts of how others fit copper or brass hoops to the masts on their models. Considering the number of hoops required for *Alfred*'s bowsprit and masts, I feel that this would be a tedious, time consuming, meaningless endeavour. I have a roll of ¾in wide brown tape used for sealing packages. It is coated with water soluble glue. I take a 5in length and paint the back with black acrylic paint mixed with matte varnish to reduce the shine. Using a steel straight edge (machinists scale) as guide, I cut strips of the proper width with a razor blade. Moistening the end of a strip, I locate it where a hoop is needed and let the glue take hold. Then a length extending from that end is dampened with water from a brush, and I wrap the tape around the mast. Two turns were made for the hoops in photograph 14.4. As a result of the grooves cut across the flats, the tape did not project above the surface where the cheeks and fish were to be added.

The next step was to cut flat strips of boxwood and glue one on each side for the cheeks. Then, another flat strip was glued on front for the fish. The purpose of the front fish was to cover the hoops so that the lower edge of the course would not catch on them. Since there is no mizen course, no fish was required on that mast. When the boxwood strips were secure, they were rounded off with care taken to avoid damage to the painted paper hoops. The hounds and bibbs which I make as integral pieces were shaped and glued on above the cheeks to form a ledge that would support the trestletrees. I set the mast in place on the model to check that the top edges of the hounds were level.

The wooldings of black thread were added at this point. I learned the trick for performing this operation many years ago from a booklet by Winthrop Pratt, Jr, that I bought from *Model Shipways*. Starting with a U-shaped turn of the thread having a good tail projecting, turns of the thread are made around the mast working toward

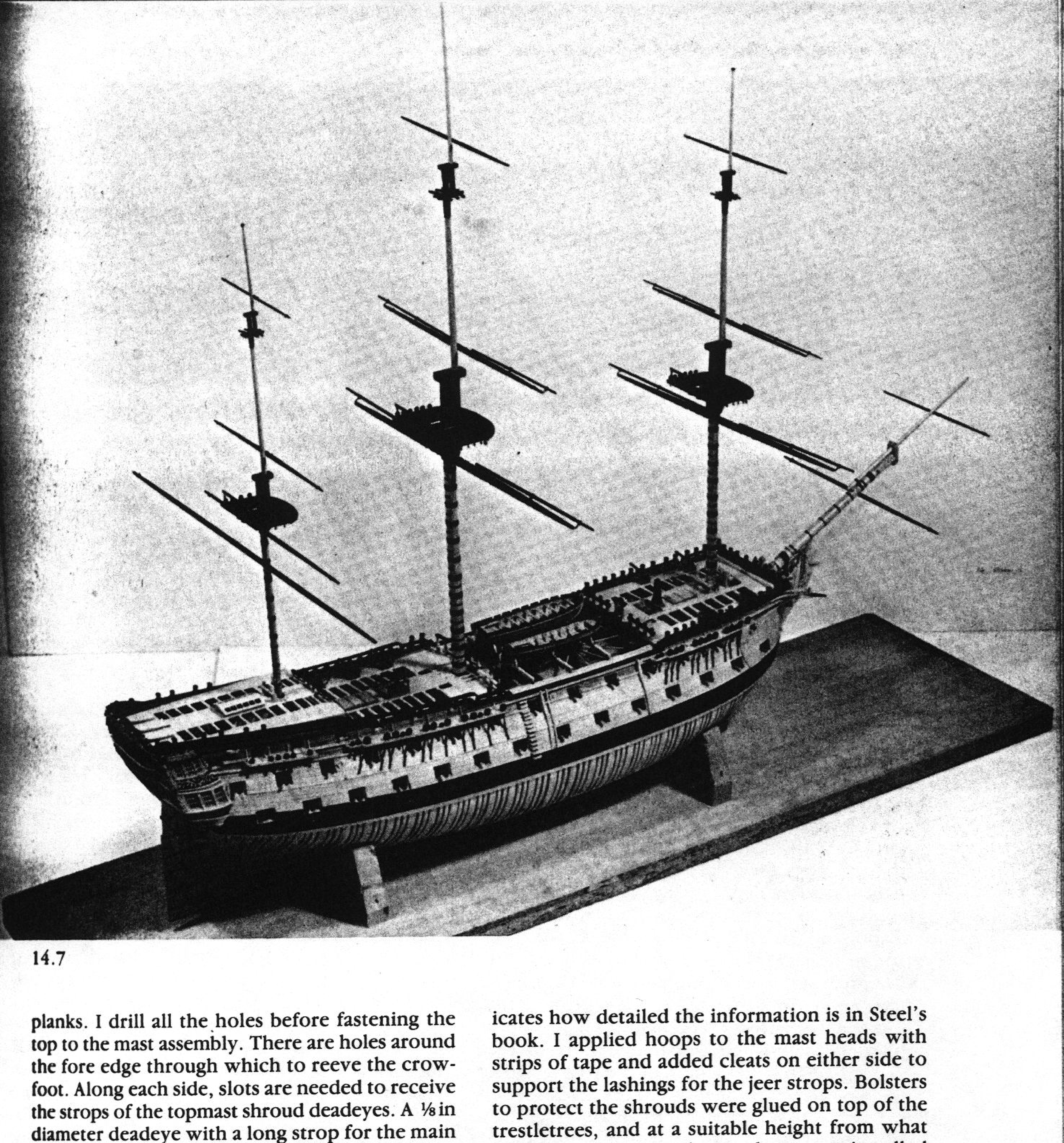


14.6

the loop of the thread until the desired number of turns have been made. Then the thread is drawn through the loop of the U. Throughout the procedure, the thread and its coil must be kept under tension. Finally, a pull on the tail will draw the loop and thread ensnared in it under the winding. If the winding has been kept tight, it will now be quite secure and the loose ends of thread can be nipped off with a razor. Steel specifies in his text that there should be thirteen turns in a woolding. However in a model the appearance of uniform and suitable size is the most important factor. Once the windings have been secured, they can be slid along the mast with care if the position needs to be adjusted. Narrow bands of wood were installed on either side of a woolding, so I cut narrow strips of the black tape to finish them off.

As an example of how very detailed the specifications are in Steel's book, it is worth relating how the trestletrees and crosstrees that support the tops are designed. The length of trestletrees is specified as ¼ the length of the topmast. The depth or vertical dimension of the cross-section is ½ of the mast diameter at the partners, and the thickness or width is ⅔ of the depth. The under sides are to be snaped (tapered) for a distance equal to 1½ times the depth at one end and a length equal to the depth at the other end. The ends are to be rounded. The crosstrees are to be ⅓ the length of the topmast less 6in. The width is to equal the thickness of the trestletrees and the depth or vertical thickness ⅔ of the width. Each end is to be tapered or snaped for a length ¼ back from each end to ½ the thickness and the ends are to be rounded.

In photograph 14.4 the main mast is shown ready for the top to be glued on. Mast doublings during the late-eighteenth century were black as were the yards. I make the individual parts from ebony and paint the exposed boxwood surfaces above the bottoms of the hounds with black acrylic paint. The trestletrees were glued on top of the hounds after they had been notched for the crosstrees. On the main mast, the longer taper of the trestletrees was located to the fore, on the fore mast, the after side. Then the crosstrees were glued in place with care taken that they were square with the mast and the top surfaces flush with the trestletrees. On a ship the tops were built from planks first laid fore and aft on the crosstrees. The lengths before and after the planned lubber's hole were reduced to half their thickness so that the transverse planks, also reduced to one half the thickness as necessary, could be laid across to produce a flush top surface. The rim structure, foot cleats, and top rail were then added. Instead of using individual planks, I make the tops from four pieces half lapped together. The surface is scored to suggest the individual

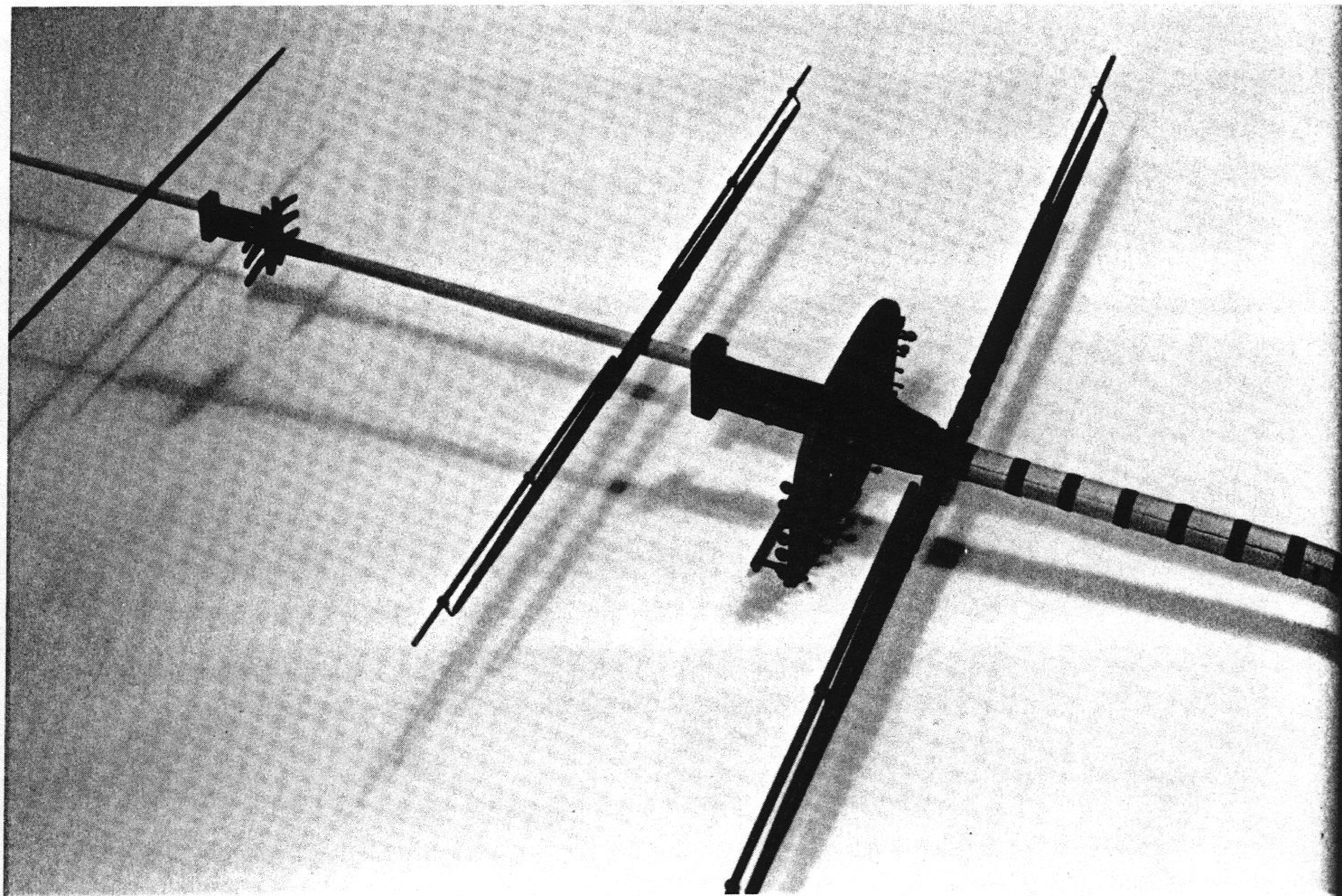


14.7

planks. I drill all the holes before fastening the top to the mast assembly. There are holes around the fore edge through which to reeve the crowfoot. Along each side, slots are needed to receive the strops of the topmast shroud deadeyes. A ⅛in diameter deadeye with a long strop for the main top is shown in photograph 14.1. Finally, holes must be drilled on the aft side for the top rail stanchions.

The caps of ebony were fitted to the mast head with a simple straight tenon joint rather than the special angled tenon shown to be actual practice. The lengths of the fore and main caps were made four times the diameter of the topmast plus 2in in accordance with the specifications in Steel. The width of the foremast cap was made twice the diameter of the topmast plus 1in and the thickness $^4/_9$ the width. This once again indicates how detailed the information is in Steel's book. I applied hoops to the mast heads with strips of tape and added cleats on either side to support the lashings for the jeer strops. Bolsters to protect the shrouds were glued on top of the trestletrees, and at a suitable height from what would be at deck level mast cleats were installed for use in belaying running rigging. While they were still loose, the caps were drilled for eyebolts that would be needed later.

Photograph 14.5 shows the topmasts and the topgallant masts assembled with the components that make up the topmast mast heads. Again, the dimensions for all the parts were determined from formulas found in Steel. When the topmasts are being turned and their hounds shaped, the hounds must be limited to a size that will allow the mast cap to be slipped over them. Obviously,



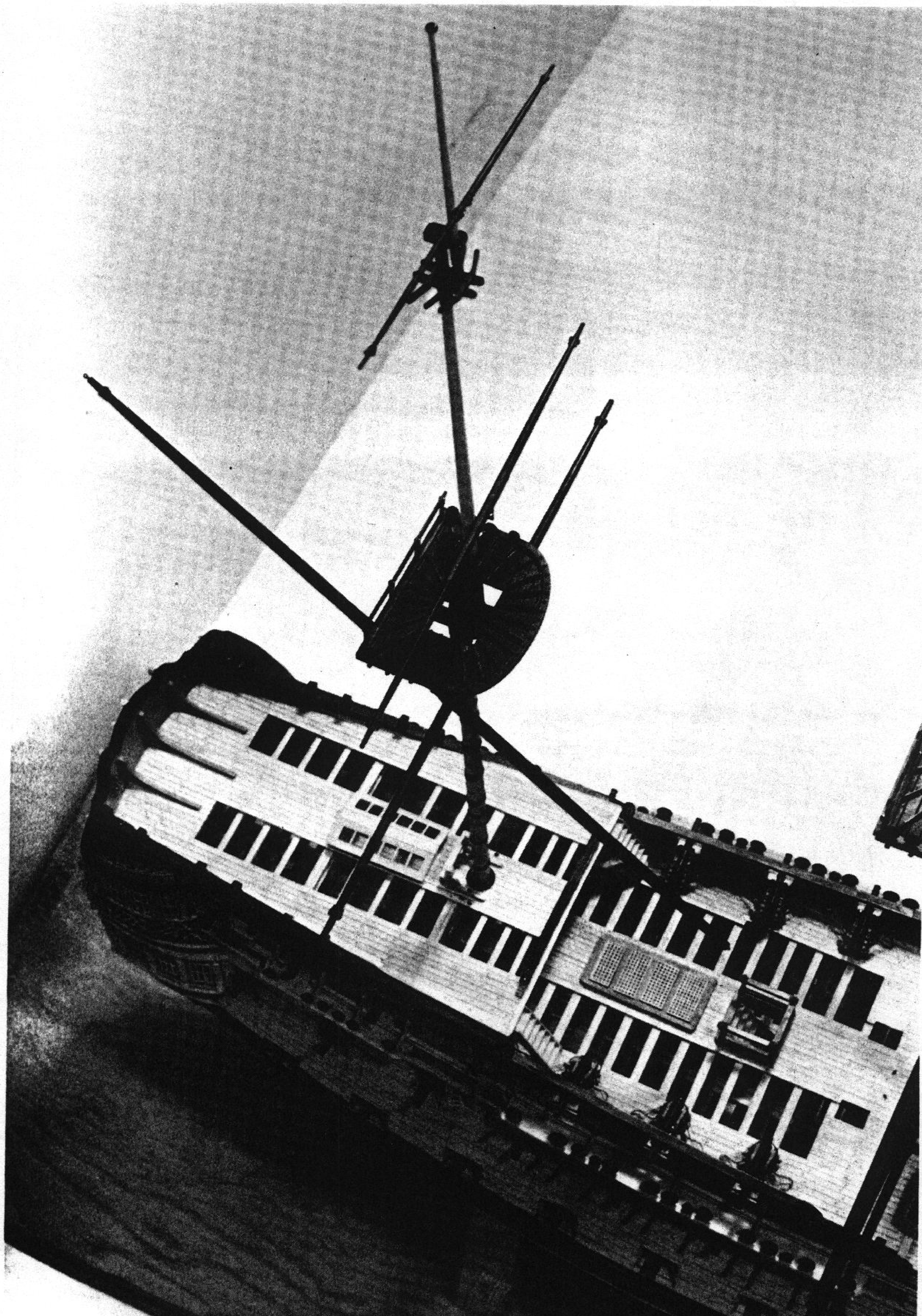
14.8

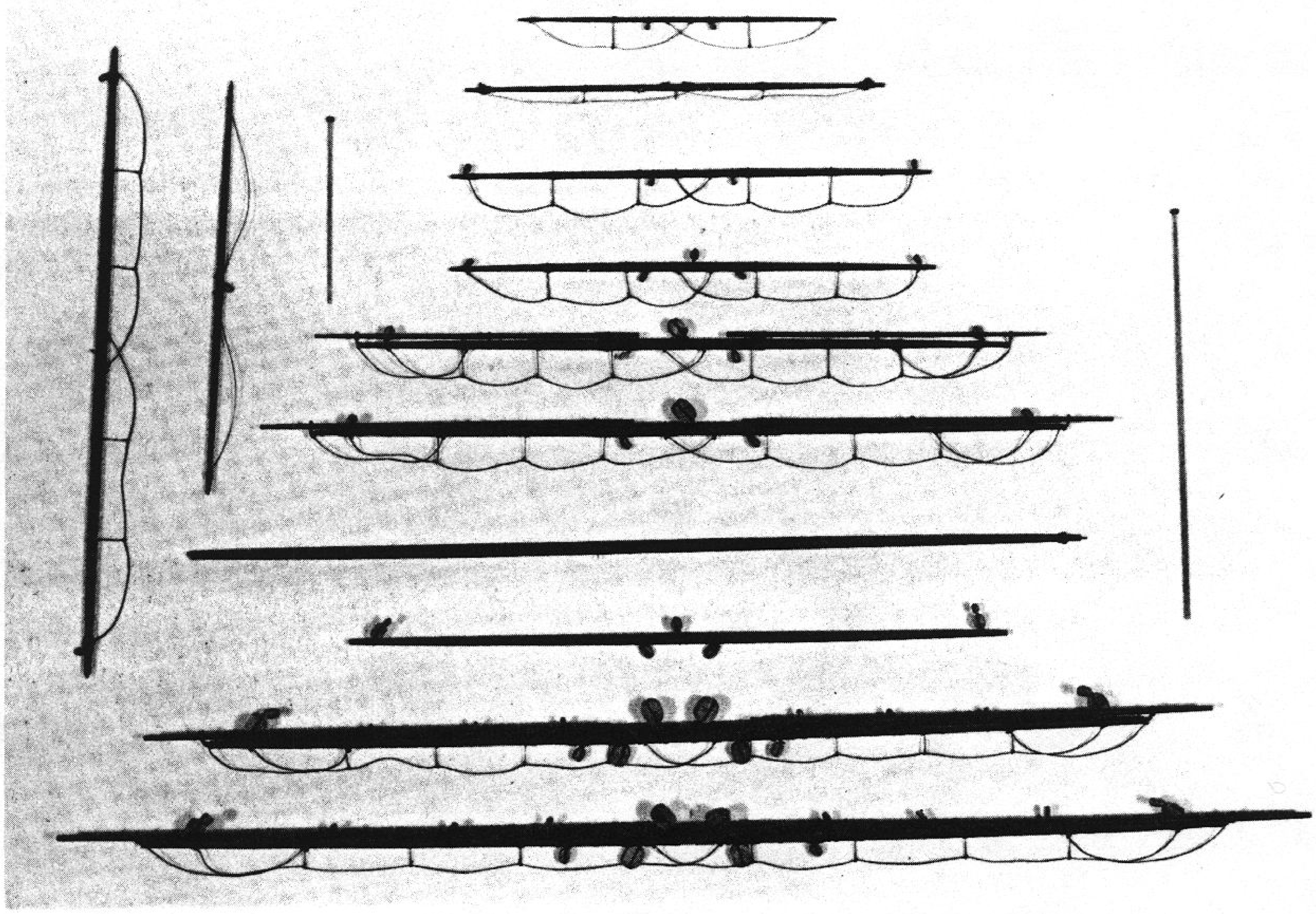
Opposite: 14.9

the caps must be assembled on the topmasts before the trestletrees and crosstrees are fastened to the mast head. The topmasts and topgallant masts were all turned out of boxwood on my Unimat. They are quite straight and do not bear any resemblance to the cow's horn that Davis suggested would result from using boxwood. The mastheads were turned oversize to allow stock for the final shaping, but the round sections were turned with taper to their finished sizes. Cheek blocks in pairs were fastened at the top on either side of the mast heads on the fore and main topmasts. The mizen topgallant mast with cap has been permanently glued to its topmast. Those parts intended for the main and fore masts are shown separately but are ready for permanent assembly. Some model builders like to assemble the masts progressively as they work their way up with the standing rigging. In this way they approximate the procedure followed in rigging an actual ship. I prefer to have the masts completely assembled before starting the rigging process so that they will be sturdy, properly aligned units with which to work.

The first spars that I install in the hull permanently are the bowsprit and jib boom as shown by the photograph 14.6. Because of its large diameter on a ship of the line, the bowsprit had to be built up and fitted with hoops and woolding. The gammoning locks it in place on the stem. The terminology for the jib boom is confusing when reference is made to my copy of Steel's book. Under proportionate lengths for booms, the flying jib boom is listed as $5/7$ of the bowsprit. There is nothing for the jib boom. After cross-checking with other references, I came to the conclusion that at the time Steel's book was being assembled the term flying jib boom was synonymous with jib boom. According to Lees, the flying jib boom (second boom extending from the bowsprit) was first used in 1794. Of course, the jib sail could be set flying from the jib boom, so that may explain the confusion in terminology. In any case I used Steel's proportions for the flying jib boom as representing correct sizes for the jib boom. The bumkins were made from ebony.

The yards were all turned from ebony on my



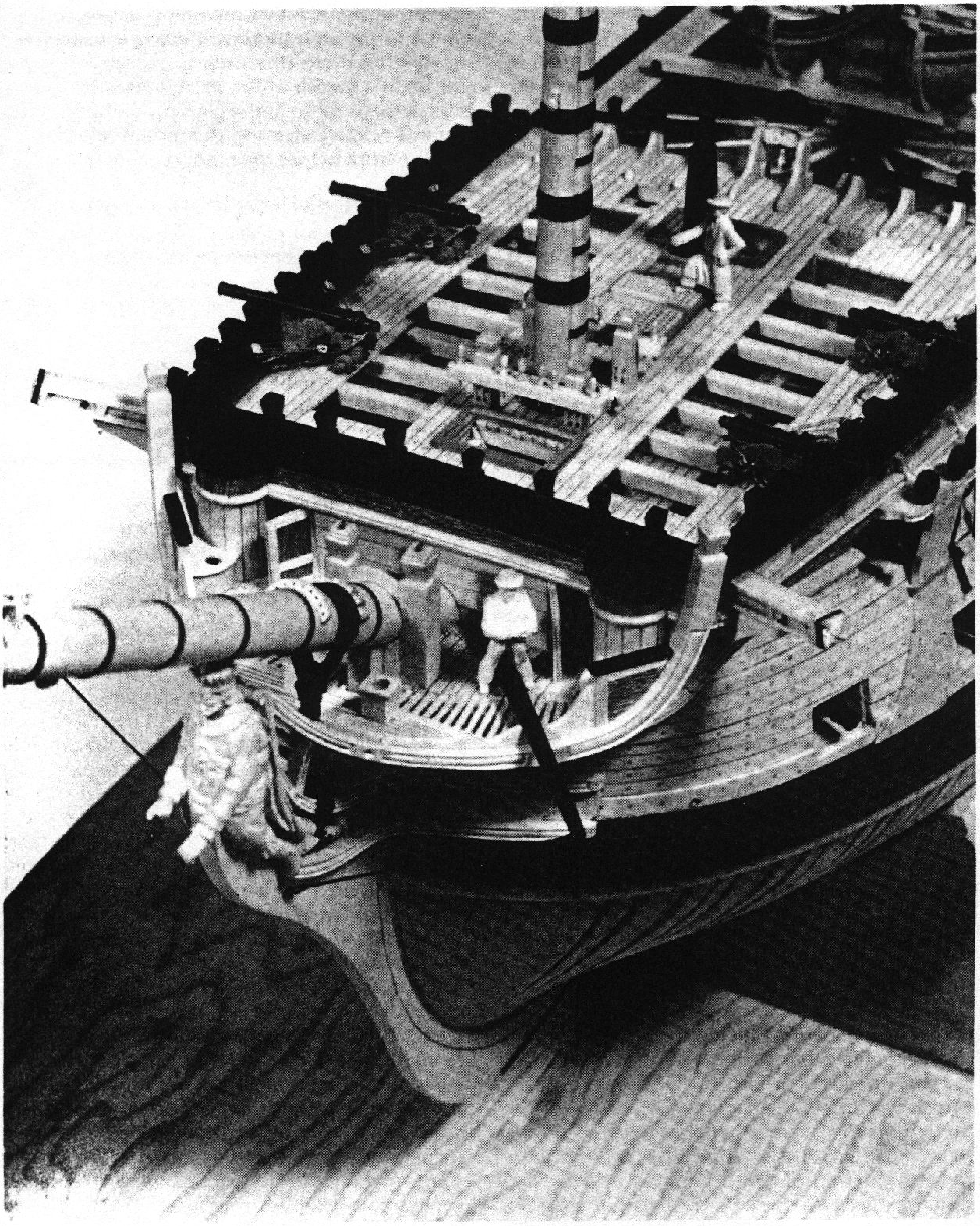


14.10

Unimat. Cleats at the yardarms and at the middle were turned in the round and then whittled down to produce the finished cleats. On the 5 yards that required an octagonal section in the middle, that length was turned oversize so that it could be shaped down to the proper cross section. In those instances, separate cleats were made and fixed in place with epoxy glue. When holes were needed in the ends of yardarms to hold eyebolts or stunsail boom irons, I drilled them through the centre holes used to support the ends while being turned before they were cut off. This ensured that the holes would be centred in the small diameters of the yardarms. The fore and main lower yards were too long to be turned in the Unimat, so I made them in two pieces that were scarfed together with epoxy glue after they had been finish turned. The boom irons were brass turnings with small pin-sized extensions soldered into holes drilled in rings cut from brass tubing. The irons set into the yardarms required a 90° bend which was eased by annealing the piece to keep it from cracking. The topgallant yards are small in diameter, but the ebony used to turn them, while brittle, is stiff enough to withstand the light tension of the rigging that will depend from them.

Just as I prefer to work with the complete masts as permanently assembled units, so do I like to pin the yards in place before finishing them off and starting the rigging. Cut-off lill pins are pressed into holes drilled in the backs of the larger yards at their centre point. Because of their small diameters, I epoxied .018in diameter copper wires into the topgallant and spritsail topsail yards. Holes in the masts were drilled with the next larger size of number drill so that the yard could be easily pinned in place or removed. As seen in photograph 14.7, the unitized masts have been set in place and the yards all pinned on. When it comes time to rig them, there will be no problem with locating the yards and keeping them in position.

Photograph 14.8 shows the main mast removed from the model but with the yards still pinned in place. The top rail has been added. The stropped topmast shroud deadeyes have been set in place with a touch of epoxy glue. Eyebolts set into the under sides of the crosstrees have had small double blocks tied on to take the leech and bunt lines from the main yard. Another view of a mast and yard preliminary assembly at this stage is of the mizen mast in photograph 14.9. This gives a better idea of the top construction. Eye-



14.11

bolts have been glued into the platform to aid the rigging process.

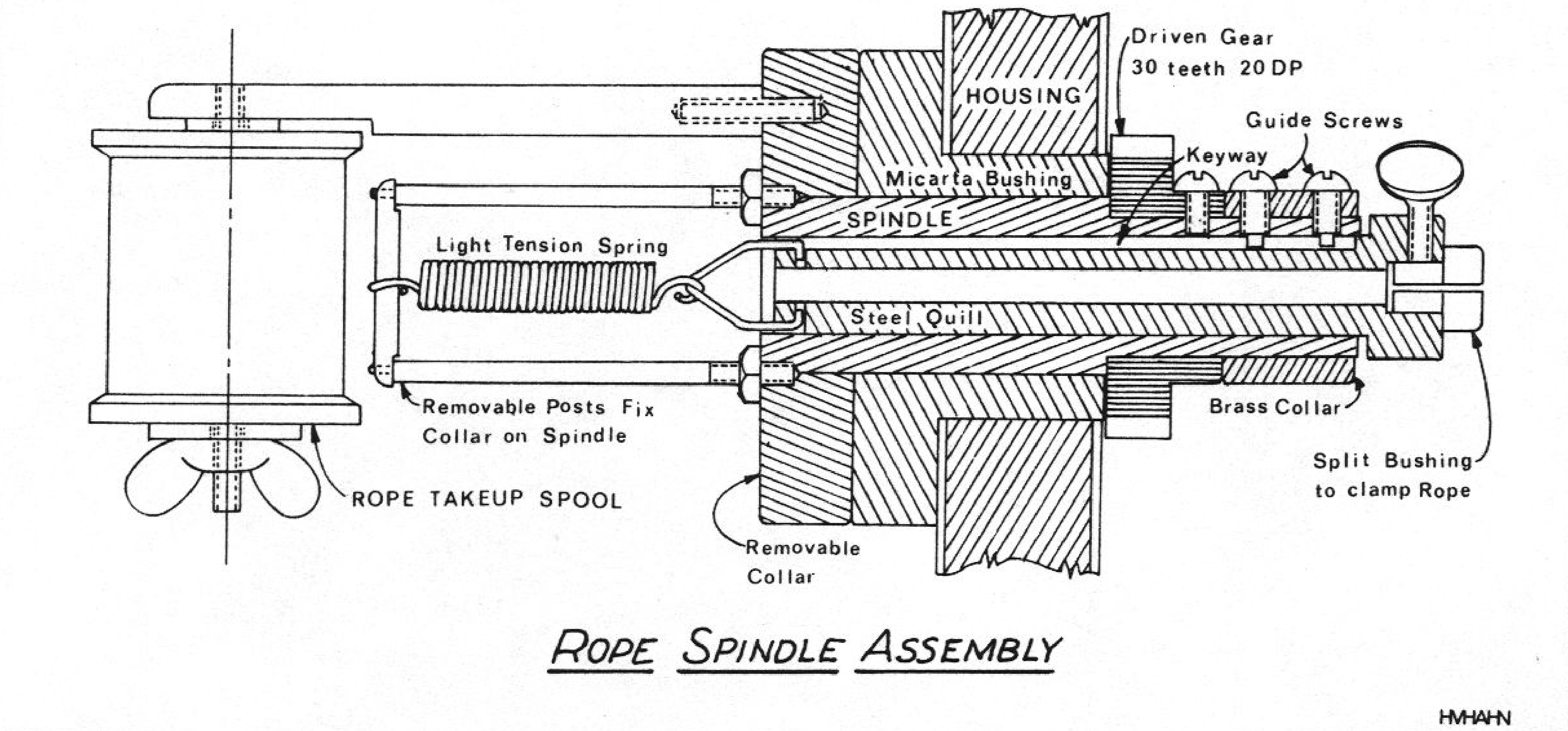
Before leaving the spars to start the standing rigging on the model, I did as much work on them as possible without attaching such unwieldy items as brace pendants and ties. The stirrups and footropes came first. The stirrups were made from copper wire. A hole was made in the bottom of the spar with a no 78 drill where each stirrup was to be located. A length of .010in

CHAPTER 15

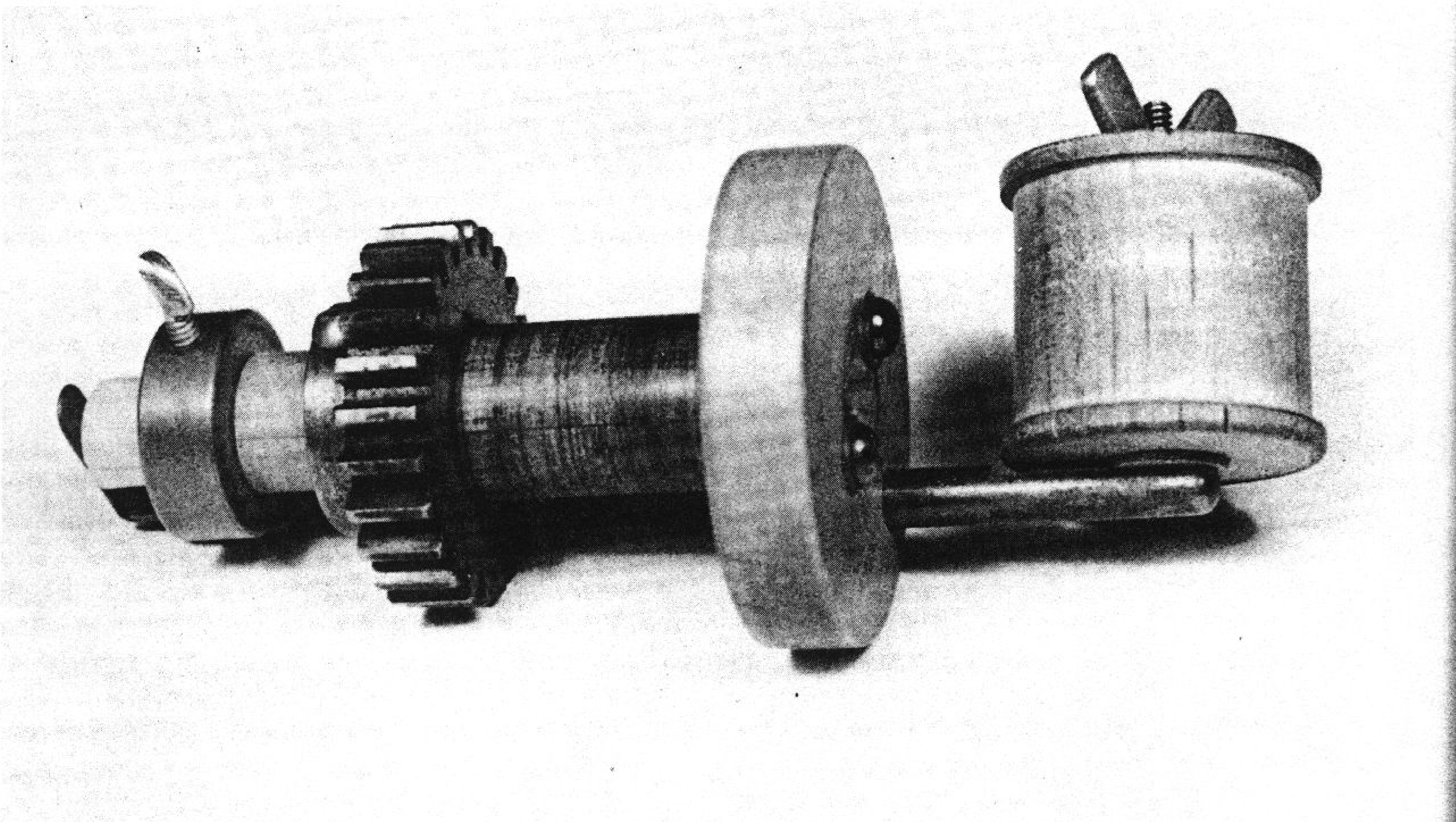
Model Rope and Standing Rigging

Now that the masts and spars along with the finished hull are ready for rigging, it is a good time to consider the possible use of a machine to make model rope. For some years, I had built solid hull models depending on plans and materials purchased from ship-modelling supply houses before I finally decided to strike out on my own. Those concerns perform a valuable service for the many ship modellers who do not care to make the investment in added effort and equipment required to build from scratch. However the suppliers even with the best of intentions are limited in their attempts to furnish the multiplicity of quality items required. Compromises must be made if their enterprises are to be commercially feasible in a field where quality ship modelling is definitely not a profit-oriented business. One of the glaring weaknesses of which I became increasingly aware was the limited choice of rigging lines offered. The early models that I rigged with the commercially available model rope began to look more and more unsatisfactory to me, so I decided that I would have to find another solution. It appeared that this would include building a machine to make model rope.

Before proceeding with a description of that machine and the results of its use, I would like to emphasize one very important prerequisite to success. A rope machine will be virtually useless if no source is found for a variety of thread sizes in small diameters. Being unaware of its significance, I did not stop to consider this factor, but went blithely ahead with the design and construction of my machine. The disastrous results of this folly were averted only by information from a friend who advised me of source for the thread that I have used ever since. Frank was an avid hunter and fisherman who had catalogues from mail order houses that supplied his needs for materials and equipment. One of those catalogues listed six different sizes of nylon thread that was intended for the fisherman to use in

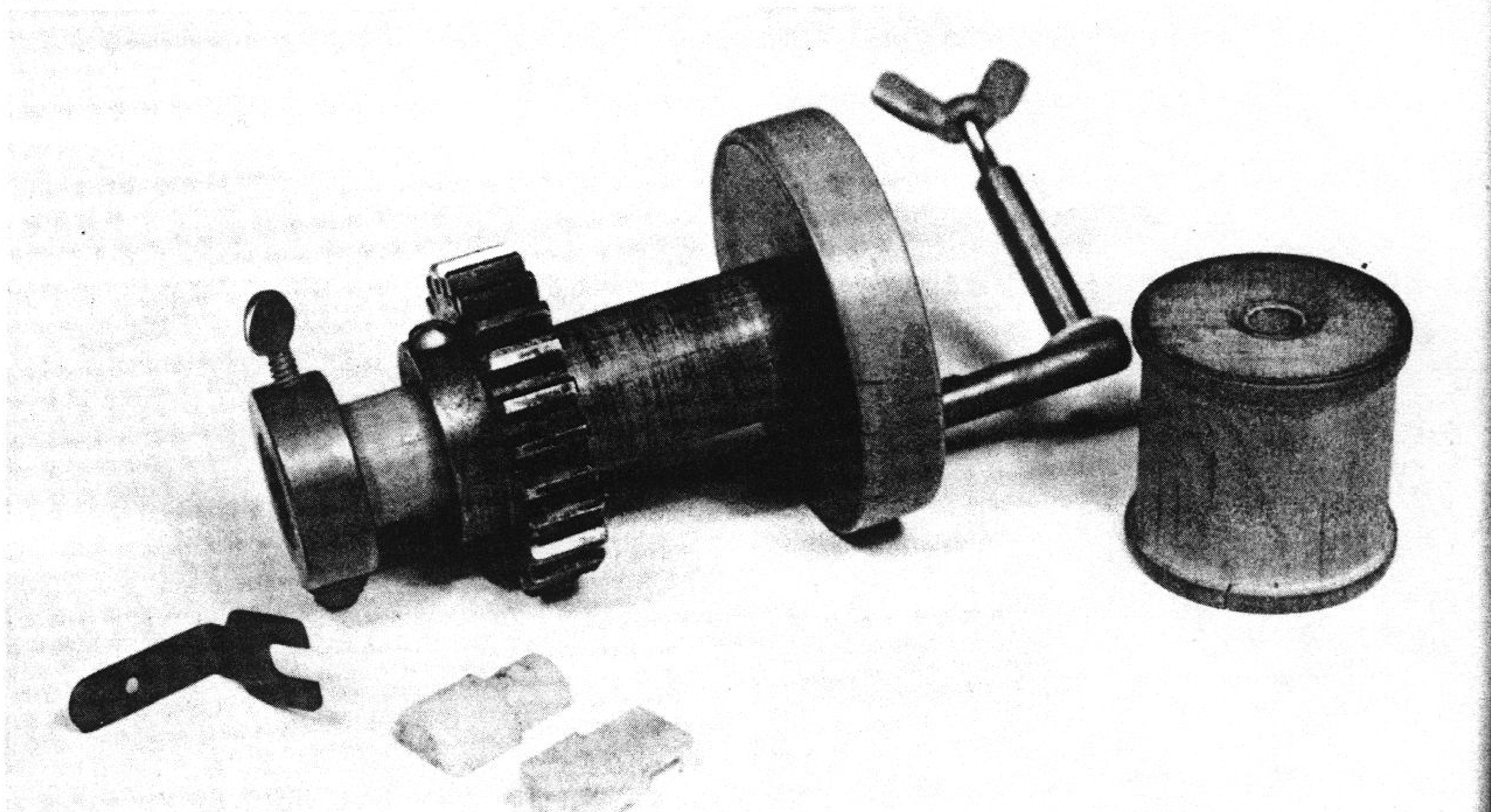


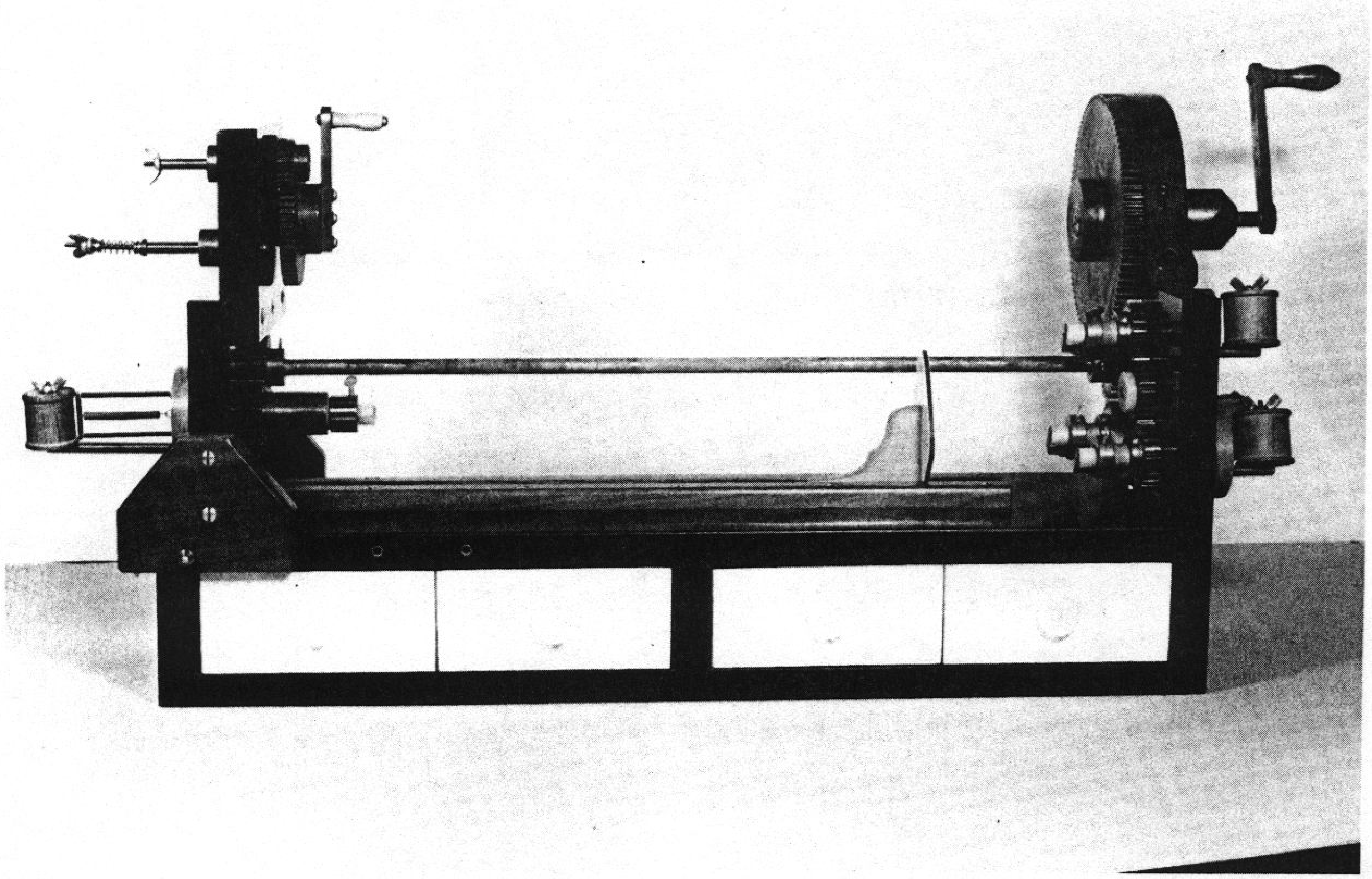
ROPE SPINDLE ASSEMBLY



15.1

15.2





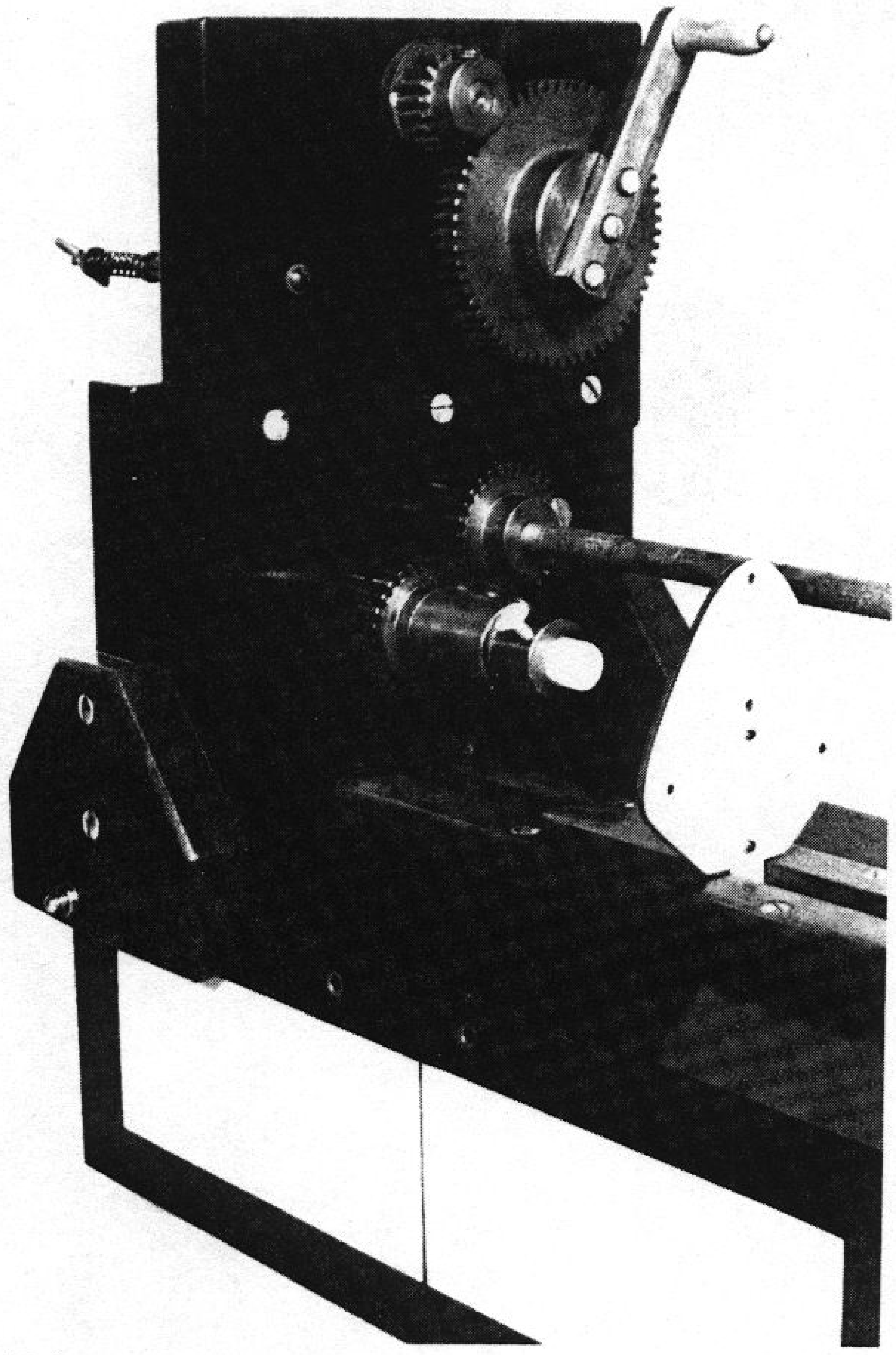
15.3

tying flies. I have been warned that nylon is susceptible to deterioration from continued exposure to our present-day polluted atmosphere. There have been complaints about nylon stockings being damaged in this manner as an example. However, I do not believe that this concern need apply to a cased ship model. I have been using nylon thread exclusively for rigging ship models for eighteen years now without noting any evidence of failure.

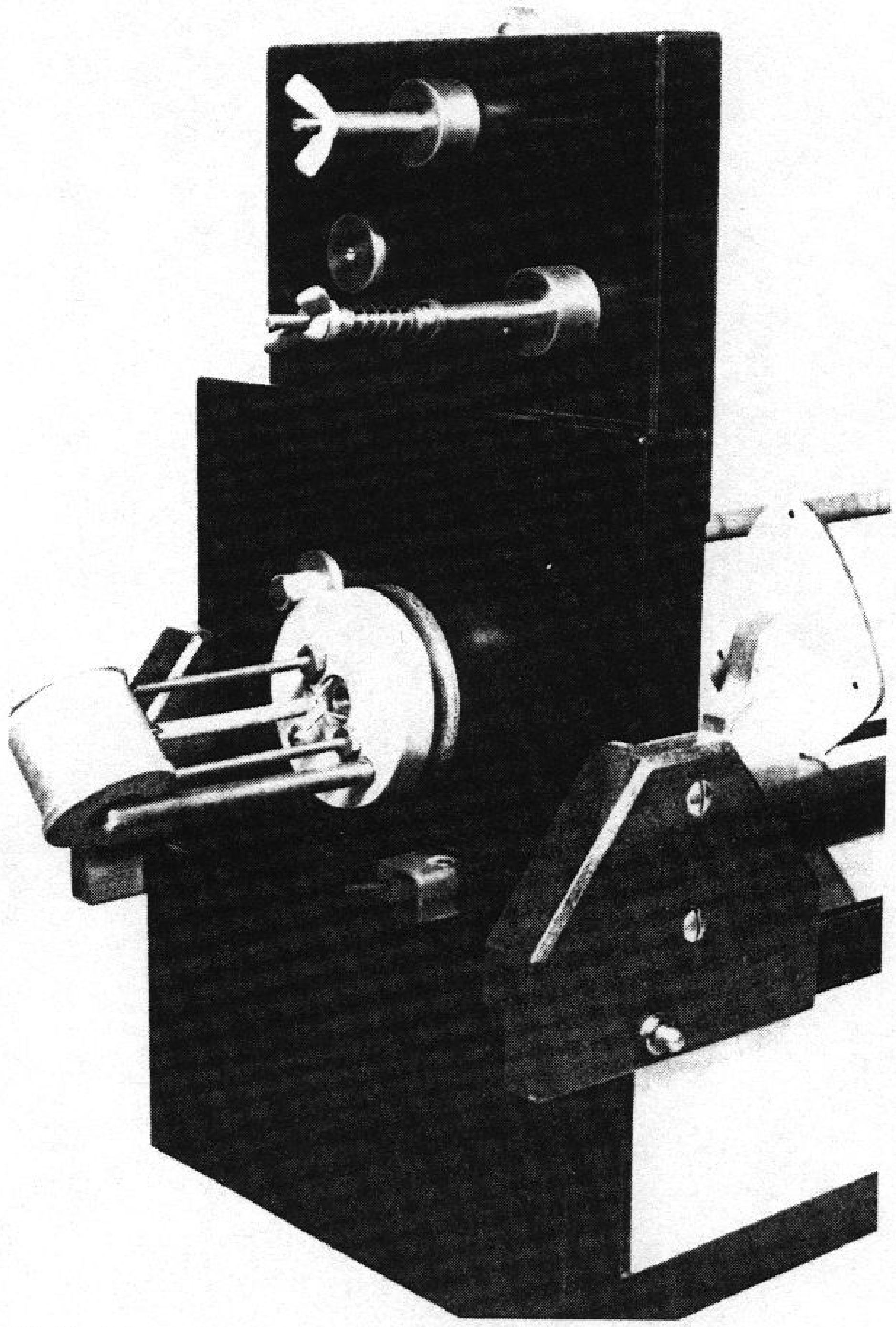
I am sorry to report that my source of supply for nylon thread has long since disappeared so that useful information cannot be passed along to the reader. However when I realized how important that thread would be to me, I purchased it in quantities that will continue to supply my needs into the foreseeable future. This is a policy that I have followed whenever I have bought materials for ship modelling. If a person is serious about continuing the work, I believe that he is making a mistake if he buys just enough material for the immediate project. In most cases, the cost of hoarding material is negligible when the inconvenience and frustration of trying to establish new sources is considered. In other cases, the escalating costs resulting from inflation and actual scarcity make the stockpiling of material most worth while. As is evident in this book, I make extensive use of boxwood in my models. I am continually having correspondents ask me where it can be bought. My source has been lost, and though I am aware of new ones appearing, the cost of boxwood now is many times greater than what I paid a dozen years ago for a supply that will satisfy my requirements for some time to come.

As a mechanical engineer with some experience in machine design, I thought it would be easy to develop a machine to make model rope. There were a number of articles on the subject offering examples to guide me. However, I wasn't happy with the limitations of the machines that were described. They were unwieldy and the length of rope produced was limited by the length of the setup. I decided that my machine would have to make a continuous length of rope that could be wound on a spool to afford a ready supply just like an ordinary spool of thread. To satisfy this condition, it was necessary to provide for spools of the thread used to make up the rope to be mounted on one end of the machine and a takeup spool at the other end on which to roll the finished rope.

The principle of rope making is theoretically quite simple. I have reduced it to the following statement: the twisted strands untwist themselves as they twist into a rope. What could be easier than designing a machine to suit this description?



15.6



15.7

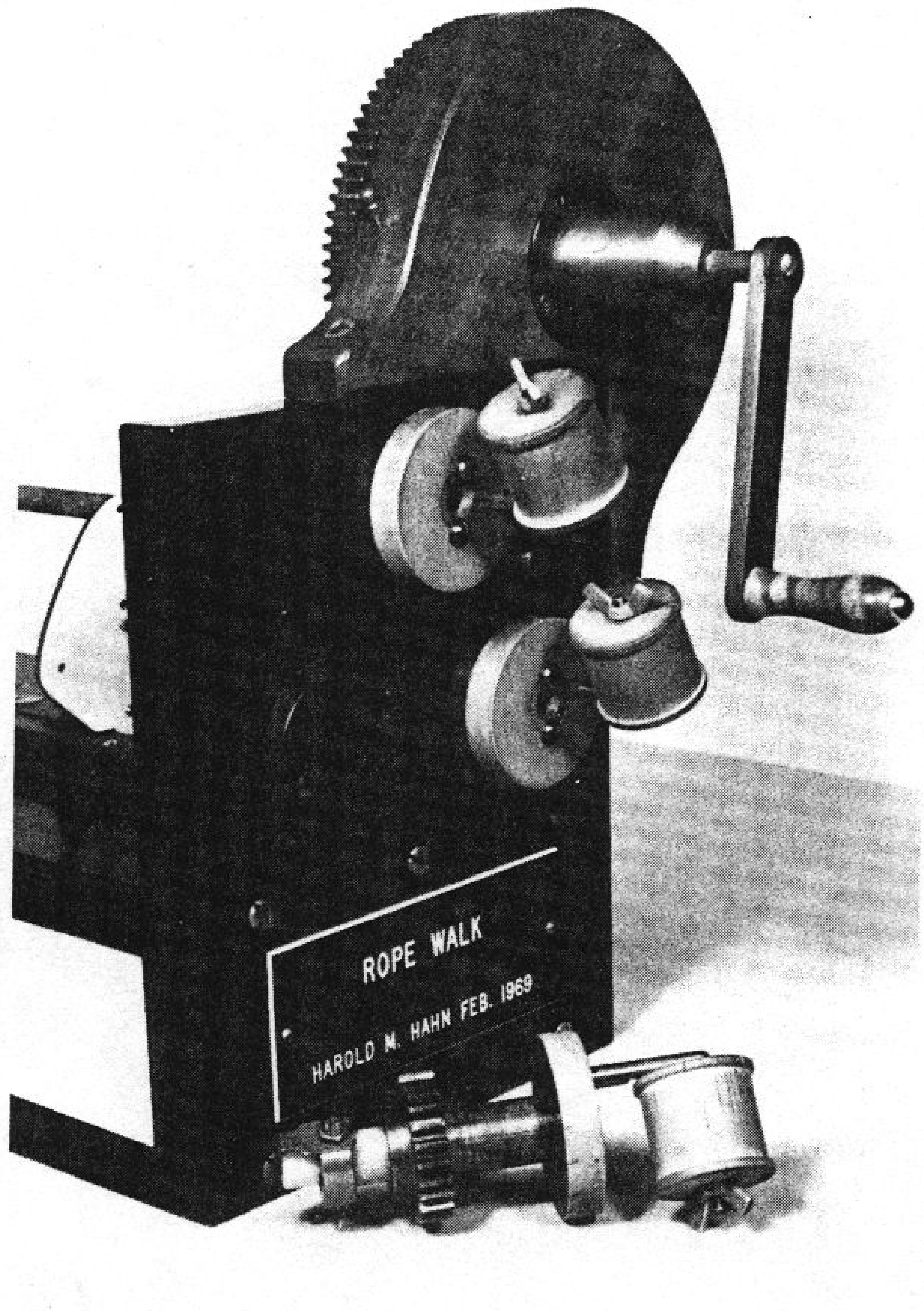
wanting to keep it simple and compact for mobility, I decided to introduce a large gear providing a four-to-one step up speed ratio. This reduced the number of turns, but increased the force required to crank the machine by hand. It also added a Rube Goldberg appearance with the tacked-on mounting for the gear. The gearing arrangements for the various spindles can be seen in photographs 15.5 and 15.6.

Mounting the spindles on ball bearings would have reduced the effort required to operate the hand crank, but working within the limitation of a home-workshop situation, I decided to use plain bearings. The sleeves fastened in the housing were turned from Micarta which provides a good bearing surface. The spindles were made of boxwood to rotate inside the Micarta sleeves. Photograph 15.1 is of a supply spindle disassembled from the machine. A brass collar, drilled and tapped for a thumb screw was mounted on the left end of the spindle. The thumb screw is used to press together two halves of a split nylon bushing which clamp on the supply strand. The stock gear was fastened against a shoulder at the end of the bearing surface which turns against the Micarta bushing.

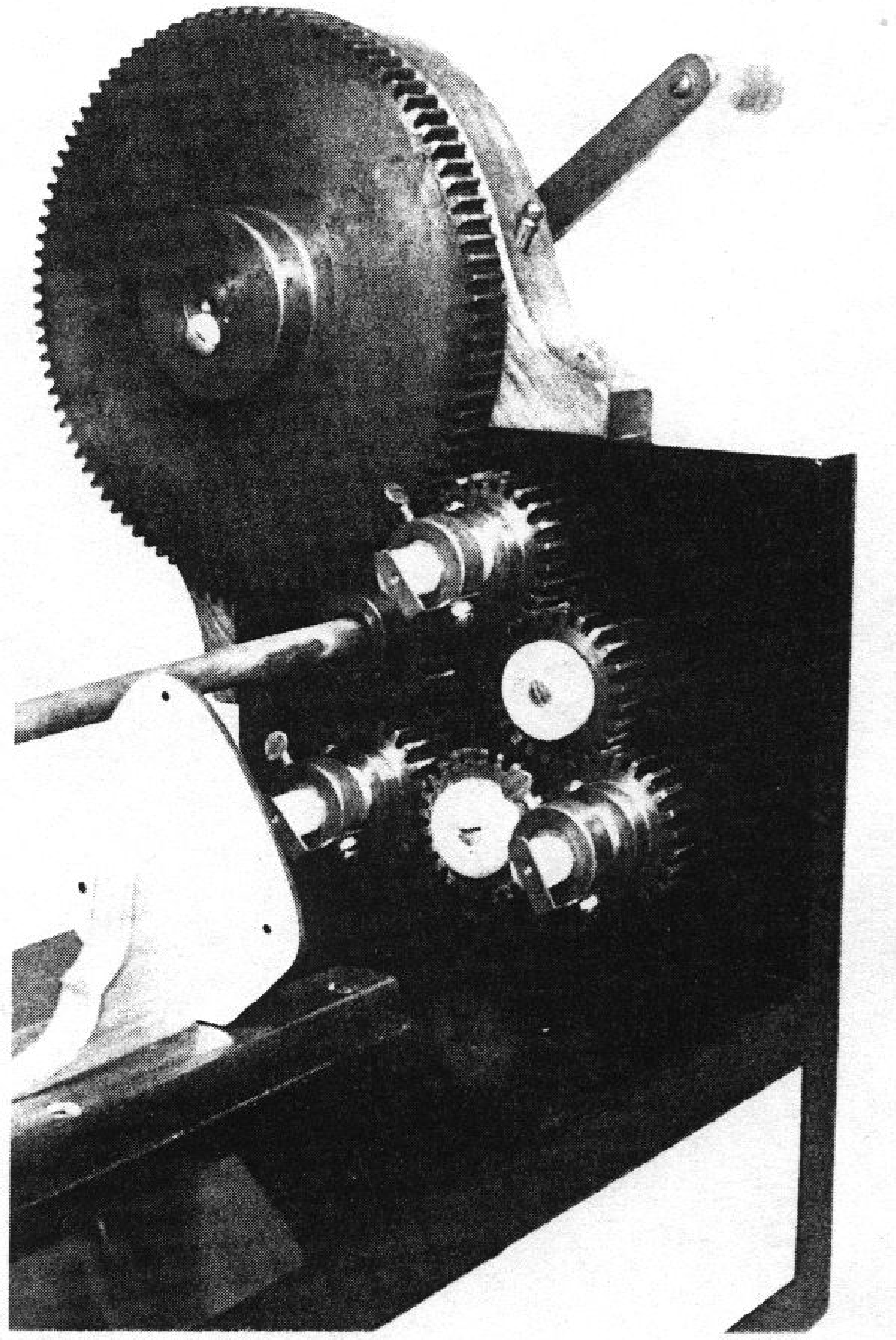
At the other end, a boxwood collar is fastened to the spindle in such a way that it can be readily removed for easy disassembly of the unit. A post was mounted on the collar with a threaded rod and thumb nut to hold the thread supply spool.

One of the first modifications to my original design was made when I discovered that the split bushing fell out and had to be replaced every time the thread supply was pulled through the spindle. To eliminate this nuisance, the 'L'-shaped metal retainer with a hole for the thread was added. It was slotted for fastening to the collar by a small screw. Each time the machine is set up to make rope, the retainer is removed so that the thread supply can be drawn between the split bushing, taken through the hole in the retainer which is then replaced to hold the bushing in until that rope has been made. These details can be observed in photograph 15.2.

The frame or housing for the machine was built up of ¾ in plywood, covered with black formica left over from a previous job. The completed unit pictured in photograph 15.3 is portable, measuring just 2ft in length. The base includes four drawers in which a ready supply of thread,



15.4

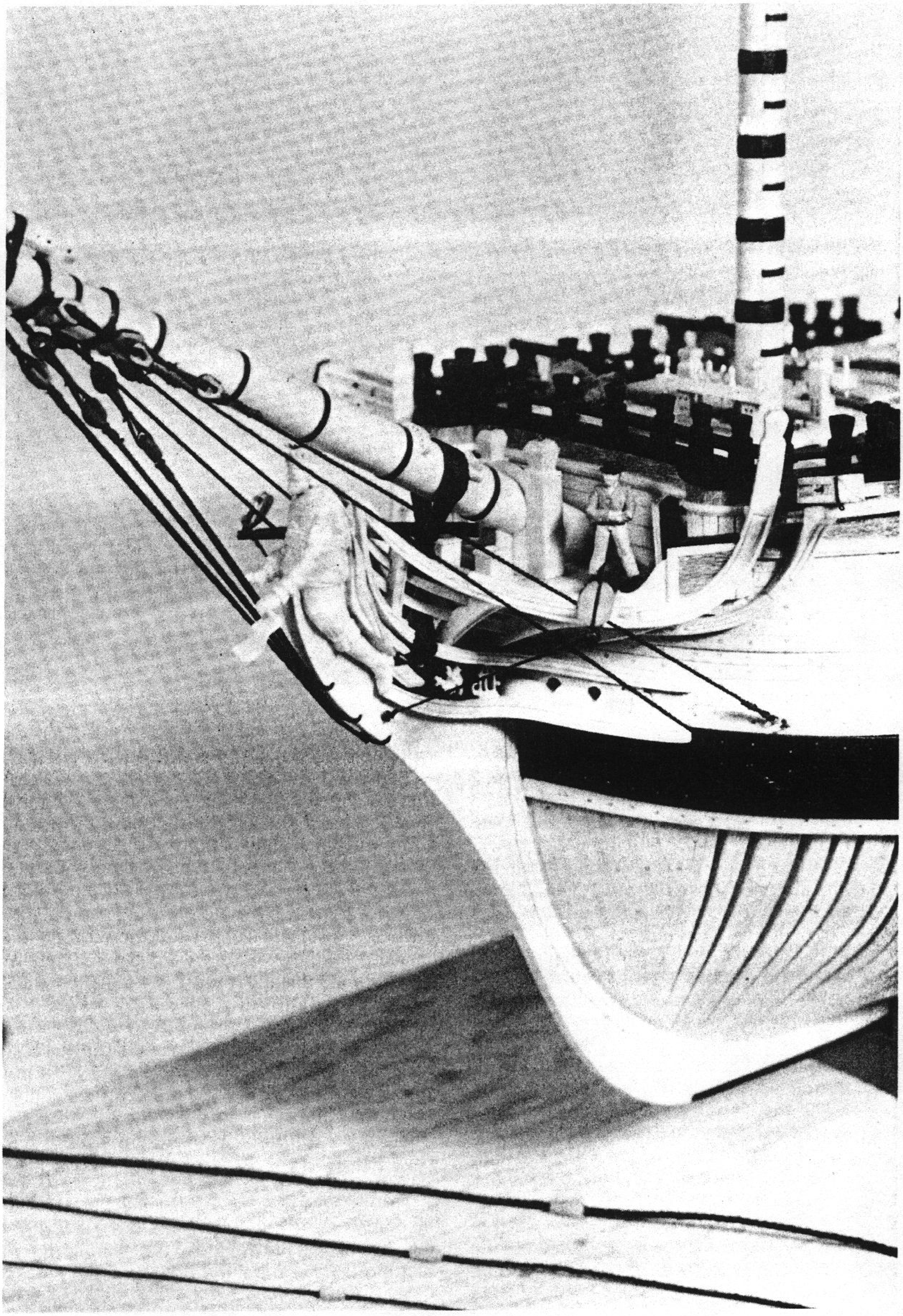


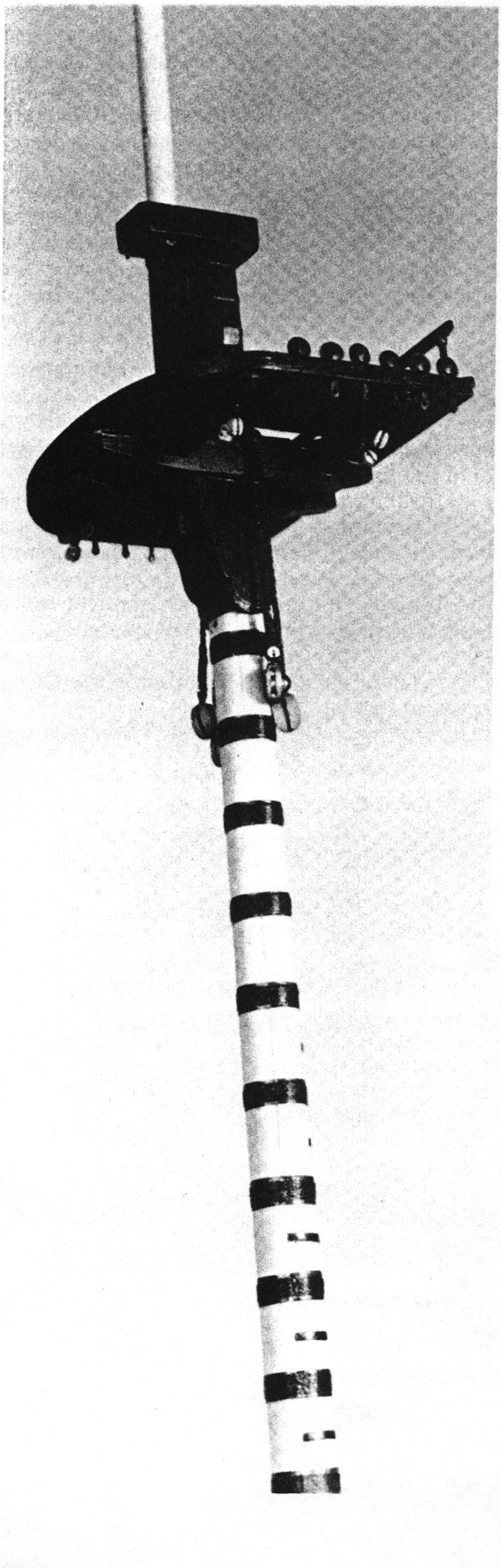
15.5

Unfortunately it glosses over a few details that complicate the process. As rope is formed, the spiral configuration produced results in a length of rope that is appreciably shorter than the length of the strands that were used to make it. As I conceived my machine, it was obvious that the rope at one end and the strands on the other end would have to be held securely for the twisting action to be applied. However, the distance between those fixed ends had to decrease as the rope was formed. This called for some sort of spring-loaded arrangement that would keep the material under tension as the length changed.

This is fairly easy to accomplish in the case of the usual single-length model rope machine described in the literature. However, my determination to build a machine that would make a continuous length of rope complicated the picture. The solution to meet this requirement is as follows. On the strand supply end, spools of thread are mounted on the outer ends of hollow spindles through which the thread could be passed. This can be seen in photograph 15.4. The inner ends of those spindles include clamping devices used to hold the thread as it is twisted. A single hollow spindle in the other end of the machine clamps down at its inner end on the rope which has been passed through the spindle and wound on the spool mounted on the outer end. This spindle or quill is keyed to the inside of an outer spindle through which it can slide while being restrained by a tension spring. This unit is shown in the sketch.

I designed the machine with three supply spindles. Later, I wished that a fourth spindle had been included to provide a more versatile range of options for producing rope. The gear train used to turn the spindles was made up of stock industrial gears that were available to me at that time. A one-to-one ratio was used so that the three supply spindles and the rope spindle at the other end would all turn at the same speed. Idler gears mounted on nylon bushings were included so that the four spindles would turn in the same direction. A drive shaft connected the gear trains at either end of the machine. Originally, that drive shaft was turned by a hand crank fastened to it. On starting to make rope, I discovered that it took many turns of the crank to produce the 13in length of rope at each setting of the machine. At that point, it would have been a logical move to motorize the machine. However,





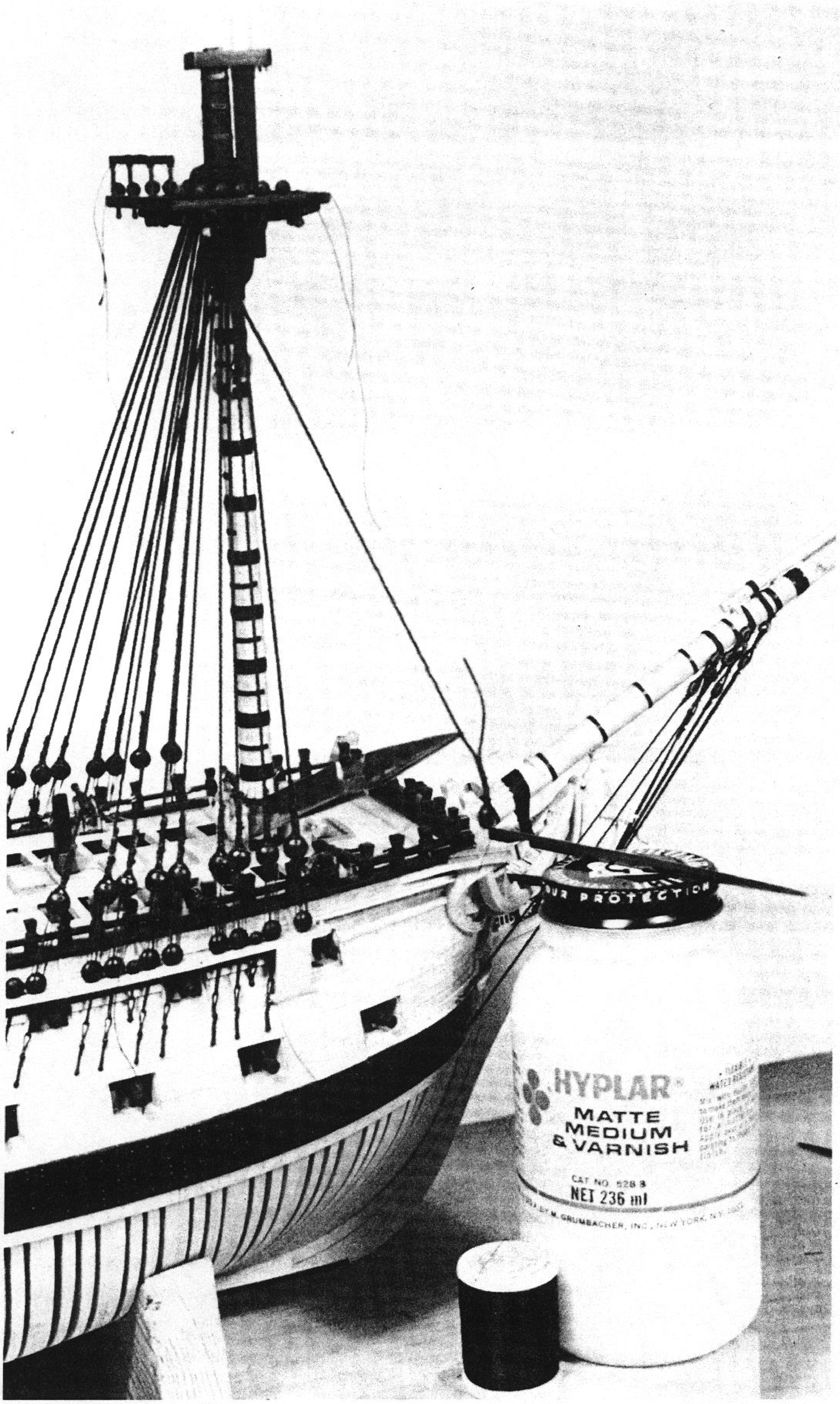
finished rope, and miscellaneous tools needed for setting up the machine are kept. This added bulk also makes for a more stable operating unit. Except for the stock gears, all of the parts that make up the machine were materials that were found in my home workshop or readily available at the local hardware store. I decided against preparing dimensioned detail drawings for building this machine. Anyone wanting to do so should be able to use the principles described here, but his machine would be governed by whatever components might be available to determine his design.

The four spools on the machine were turned to uniform dimensions to make them interchangeable. The diameter was calculated so that three turns on a spool would be made by a 12in length of thread. To facilitate loading thread onto the spools, I mounted a pair of gear-driven spindles on the machine to transfer thread from the purchased spools to the special machine spools. The larger gear, turned by a hand crank, has a ratio of three to one with the driven gear on which the supply spool is mounted. As a result, each turn of the crank winds a foot of thread onto that spool. This device can be seen in the upper sections of photographs 15.6 and 15.7. As its appearance suggests, it was, as in the case of the large gear in the main train, an afterthought tacked onto the original machine design. This winding device makes it easy to load the spools with predetermined equal lengths of thread. The thread supply that I purchased came with the standard 50 yard length on a spool. When I want to produce a substantial supply of model rope of a particular size, it is easy to load each of the machine supply spools with fifty turns of the crank to use up the thread on a purchased spool.

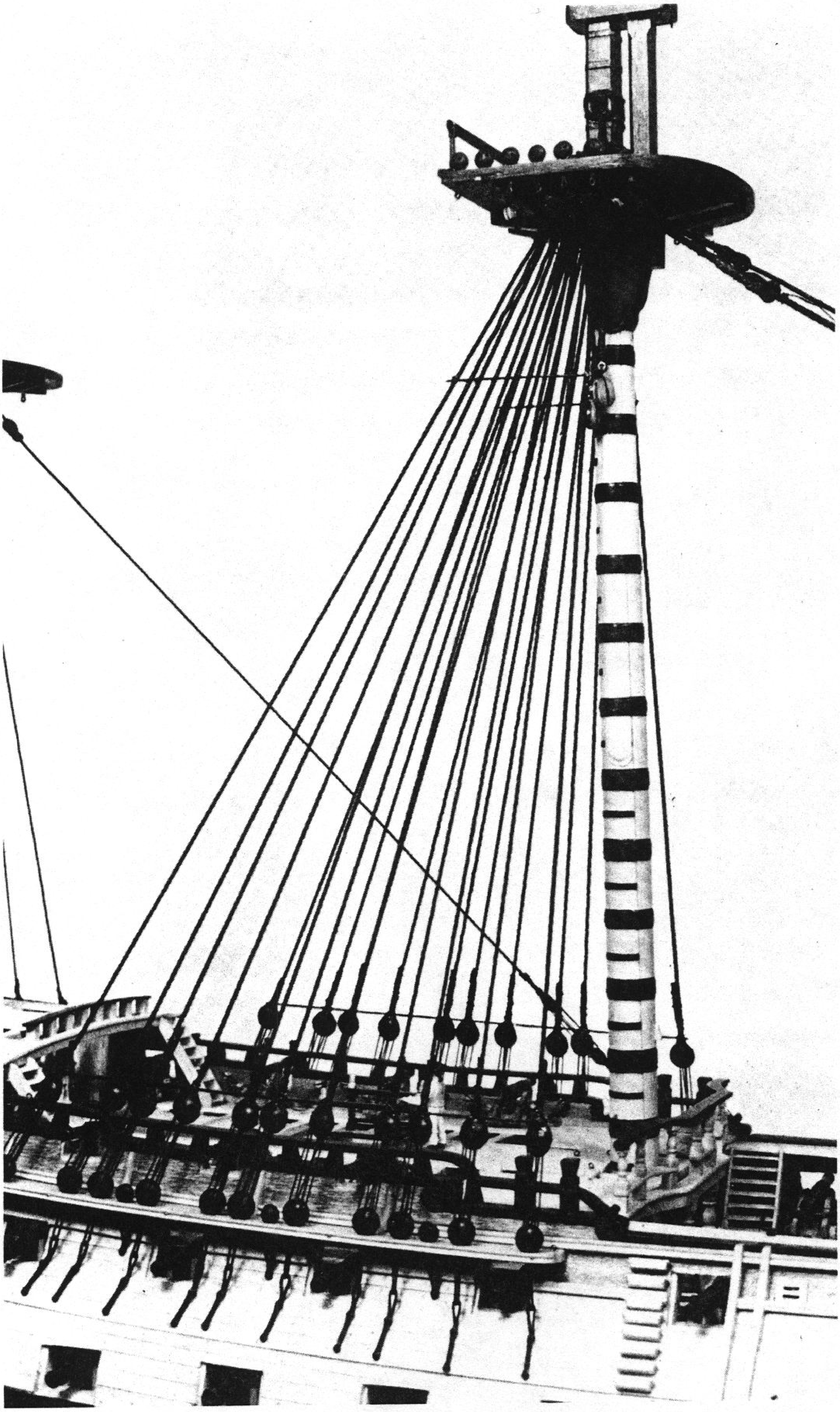
My nylon thread is black or white. The black thread serves for the standing rigging. For the running rigging, I colour the white thread with fabric dye. The 50 yard spools of thread are off wound to a rectangular reel made from a wire clothes hanger. This is laid in a shallow pan holding the hot dye solution. A blower type hairdrier helps to dry the thread quickly which is then rewound on the original spool by means of the winding device described above.

The diameters of the nylon thread that I use measure: .0055in, .0065in, .0075in, .0085in, .012in, and .0185in. To determine those diameters, I hit upon a method that I believe is as simple and accurate as any. Thinking in terms of its normal usage, the micrometer had previously

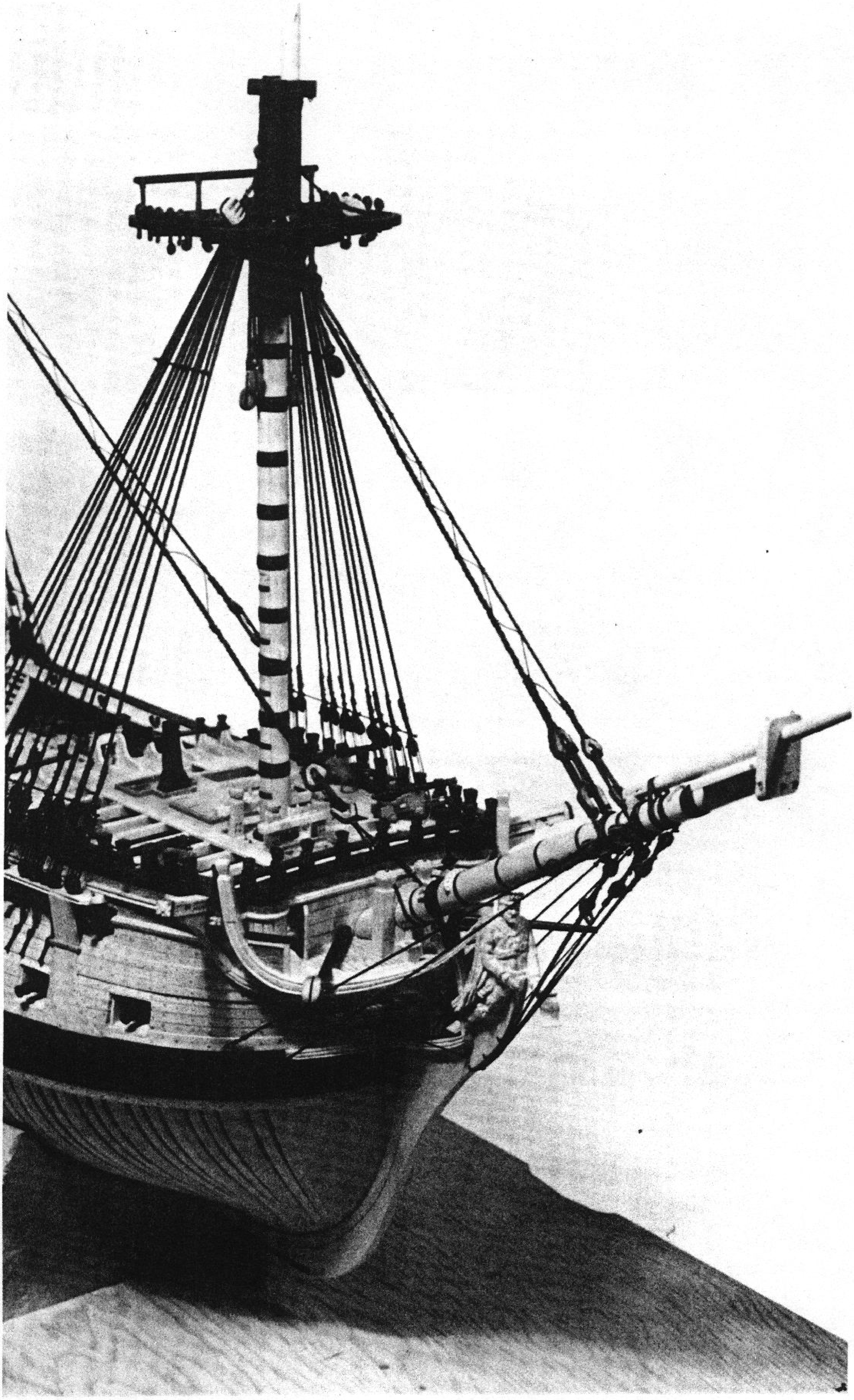
Left: 15.9
Far left: 15.8



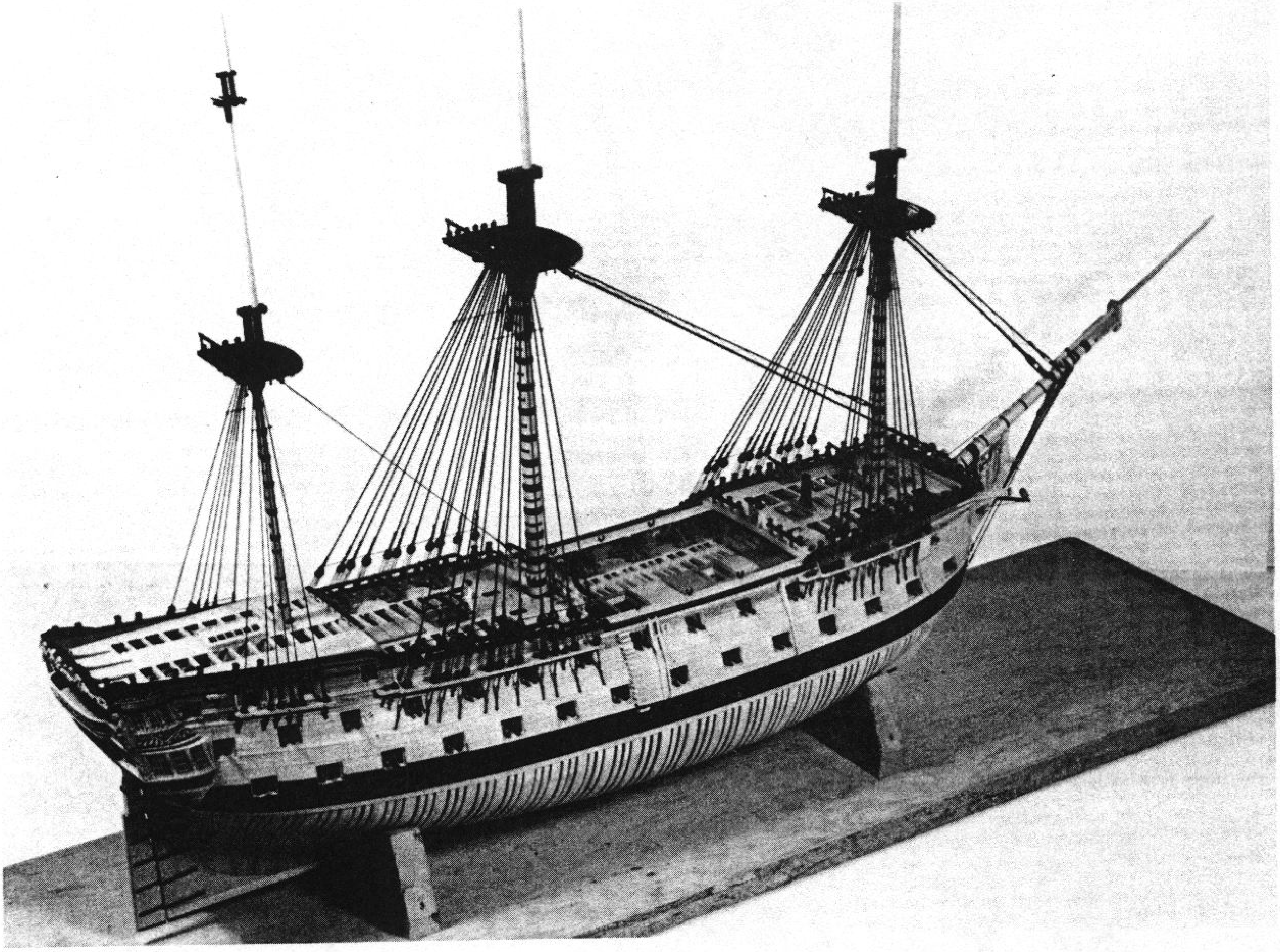
15.10



15.11



15.12

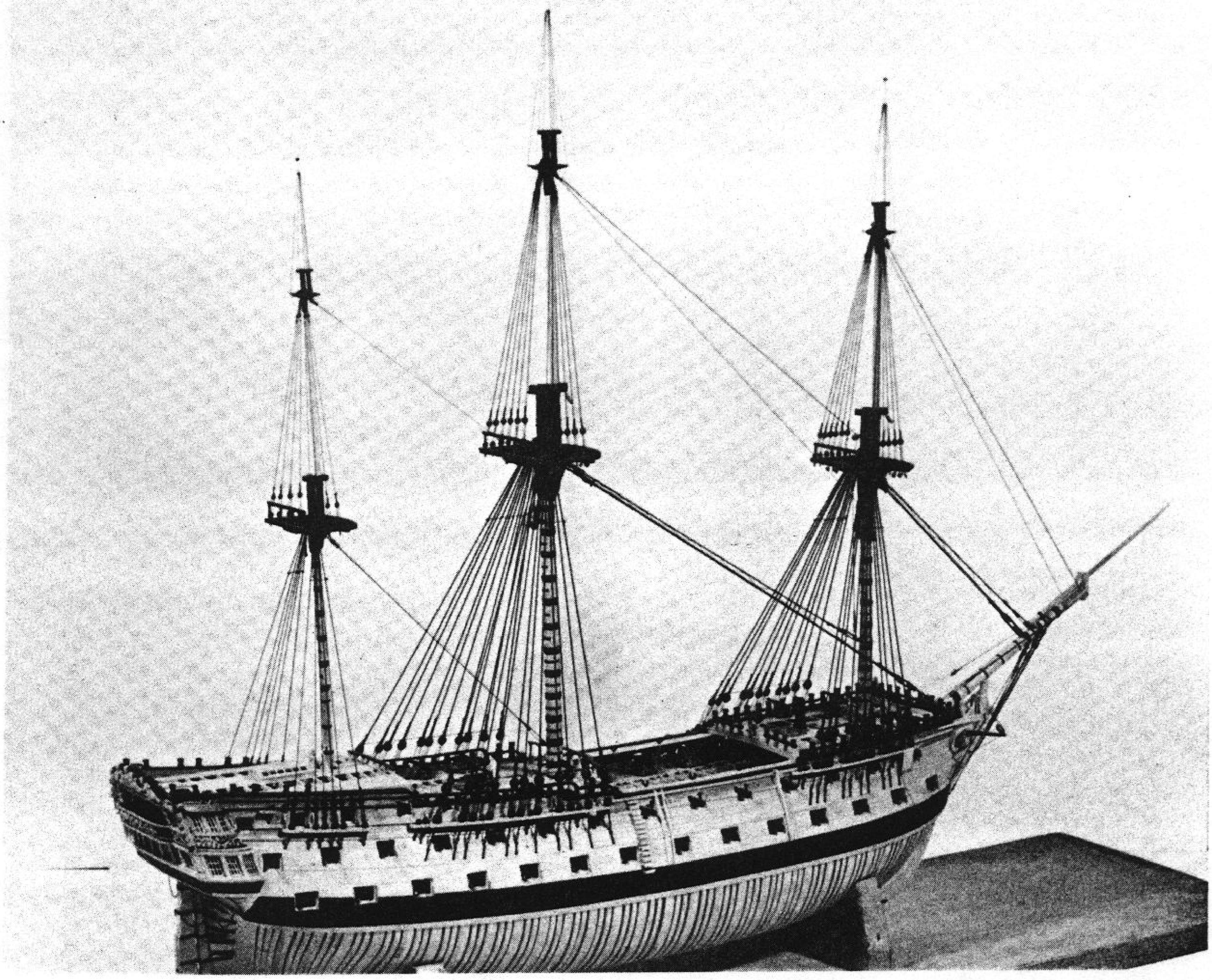


15.13

the model. For practical purposes, this could be rounded off to .010in per full size inch, so that the model sizes would simply be multiples of .010in times the full size dimensions. The error is negligible in sizes less than 12in. For example, the model size of .080in would be in error just .0033in if used to represent 8in full size. For a ¼ in per ft scale, the multiplier would be .020in and .015in for 3/16in per ft. Any dimension greater than 12in full size would of course be readily calculated to the true scale proportions in feet. I believe that use of this modified conversion system makes it easy to visualize relative sizes without reference to a table.

Rope sizes are invariably listed as inches of circumference. When Steel's tables are used, it becomes necessary to convert those dimensions to diameters in order to select the size of thread or made rope required for the model. This would normally be done by dividing pi (3.1416) into the circumference and then converting to scale size. This is another calculation that could be served with a table, but once again, I believe that it is much easier to use a simple mental calculation. Actually by rounding off both pi and the scale conversion factors, one error offsets the other so that deviation from theoretical becomes negligible. For an example, take 9in rope. I divide by 3 (pi rounded off) and multiply by .010in for *Alfred's* scale to determine that .030in model rope is required. If this calculation were made using the theoretically correct constants, the answer would be .0298in. This is less than 1 per cent error which would result when converting any rope size to scale diameter by the quick mental calculation.

The main stay on a ship is the largest size of rope used in the rigging. On a 110 to 74-gun range of ship sizes, Steel calls for 19in rope. By the system outlined above, this converts to a .0633in diameter needed for the model of *Alfred.* The tabulation that I established for rope diameters made from the sizes of thread I have available indicated that a suitable .064in diameter could be arrived at by the following procedure. First, a length of two strand rope was made from my .012in diameter thread. That length was halved and made into a thicker two-strand rope. Finally, that rope was cut into three equal lengths to make a three-strand rope for the main stay. Fortuitously, this produced cable-laid rope which was appropriate for its usage. I had a supply of

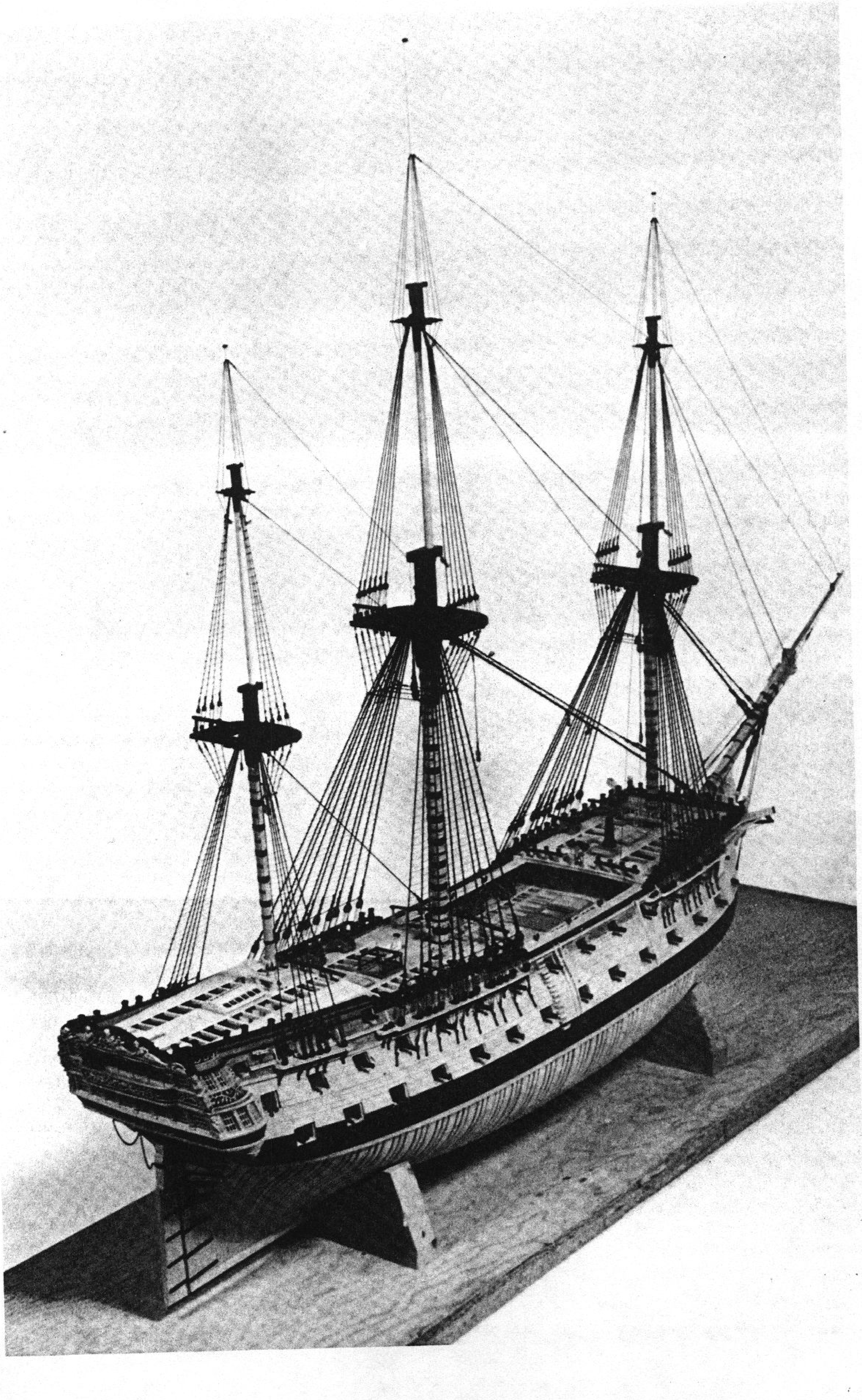


15.14

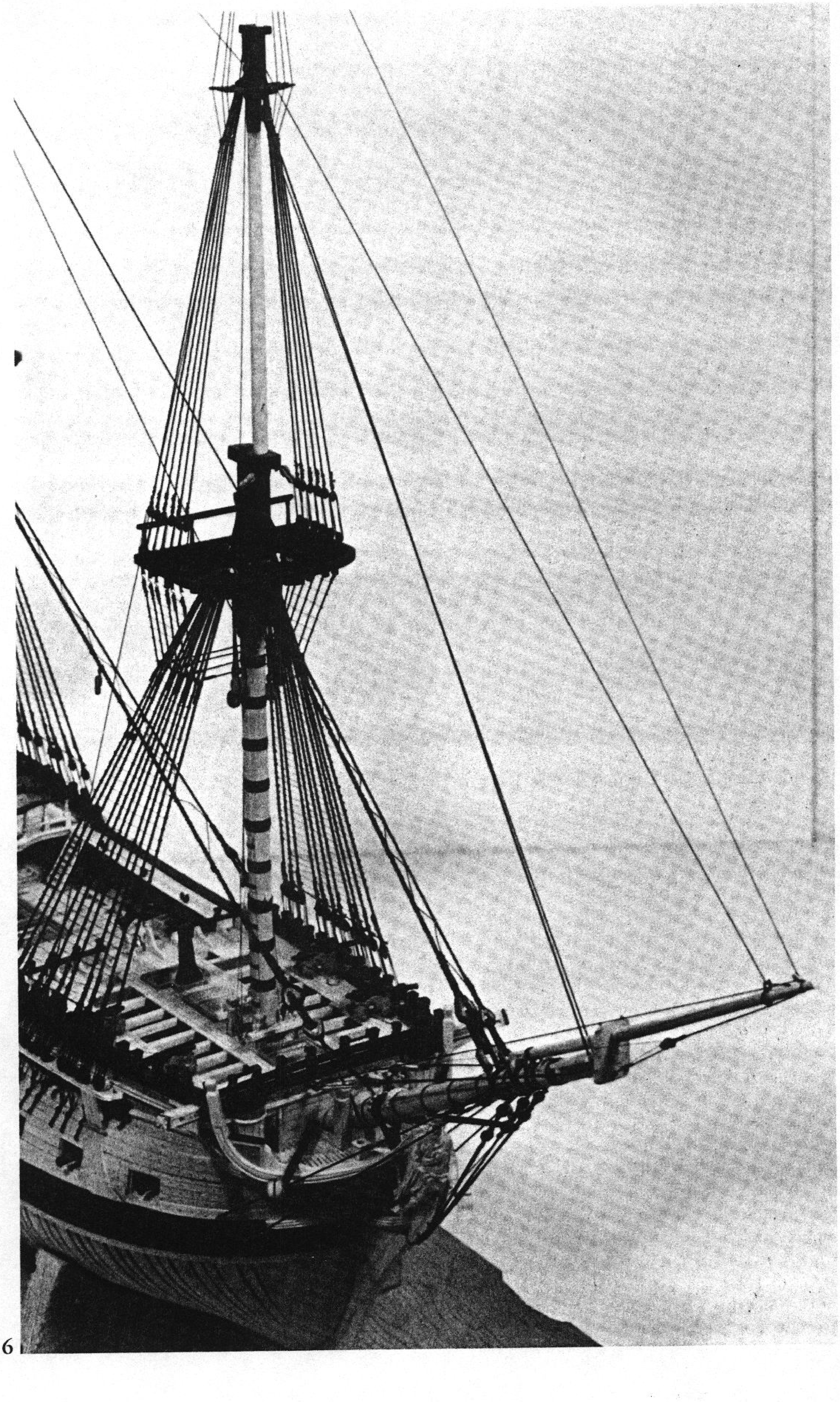
rope in various sizes left over from previous model work, but in those cases where nothing was available to suit the sizes required for the standing rigging, I made whatever was necessary on the rope machine before starting to rig the model.

I use black thread for the standing rigging. There are those who would take exception to this, because it has been noted that the Stockholm tar used to coat standing rigging in the eighteenth century was 'brown'. However, I am not aware that the shade of brown has been established. I do know that the tar that I have used to patch my roof is actually brown although in concentrated form it would appear to be black. Whenever I use mineral spirits to clean it off my hands, the tar thus diluted is brown. The question thus becomes: how brown is brown? – and I have decided to stick with black thread for my standing rigging.

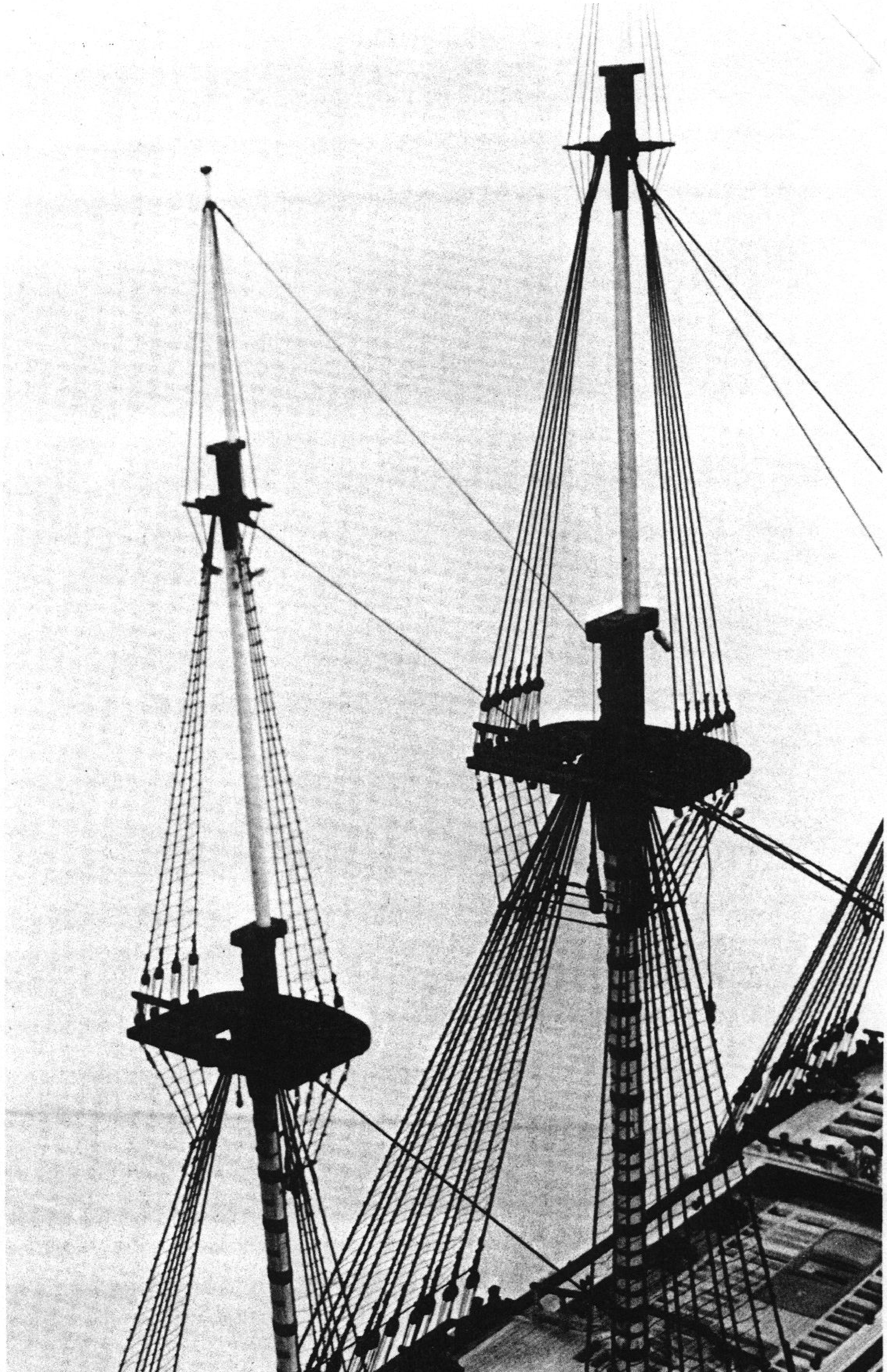
I most certainly have no intention of presenting myself as a great authority and highly skilled practitioner of rigging ship models. What knowledge I do have of the subject comes from reference to literature that is generally available. That information is open to controversy, subject to interpretation, sometimes contradictory, and often exhibits voids for which there are no reassuring solutions. Unfortunately, the reader generally expects that a person who has the temerity to write on the subject will somehow be able to provide concise, positive answers to the many obscure and puzzling questions that crop up. If, as I have, he will accept the fact that a certain number of arbitrary decisions must be made in the process of rigging a ship model, he may be able to eliminate some of the stress entailed in trying to do everything 'right'. Over the years by trial and error, I have developed an approach in my attempt to overcome the 'all-thumbs' syndrome which may be found useful, and that will be the extent of my contribution here.



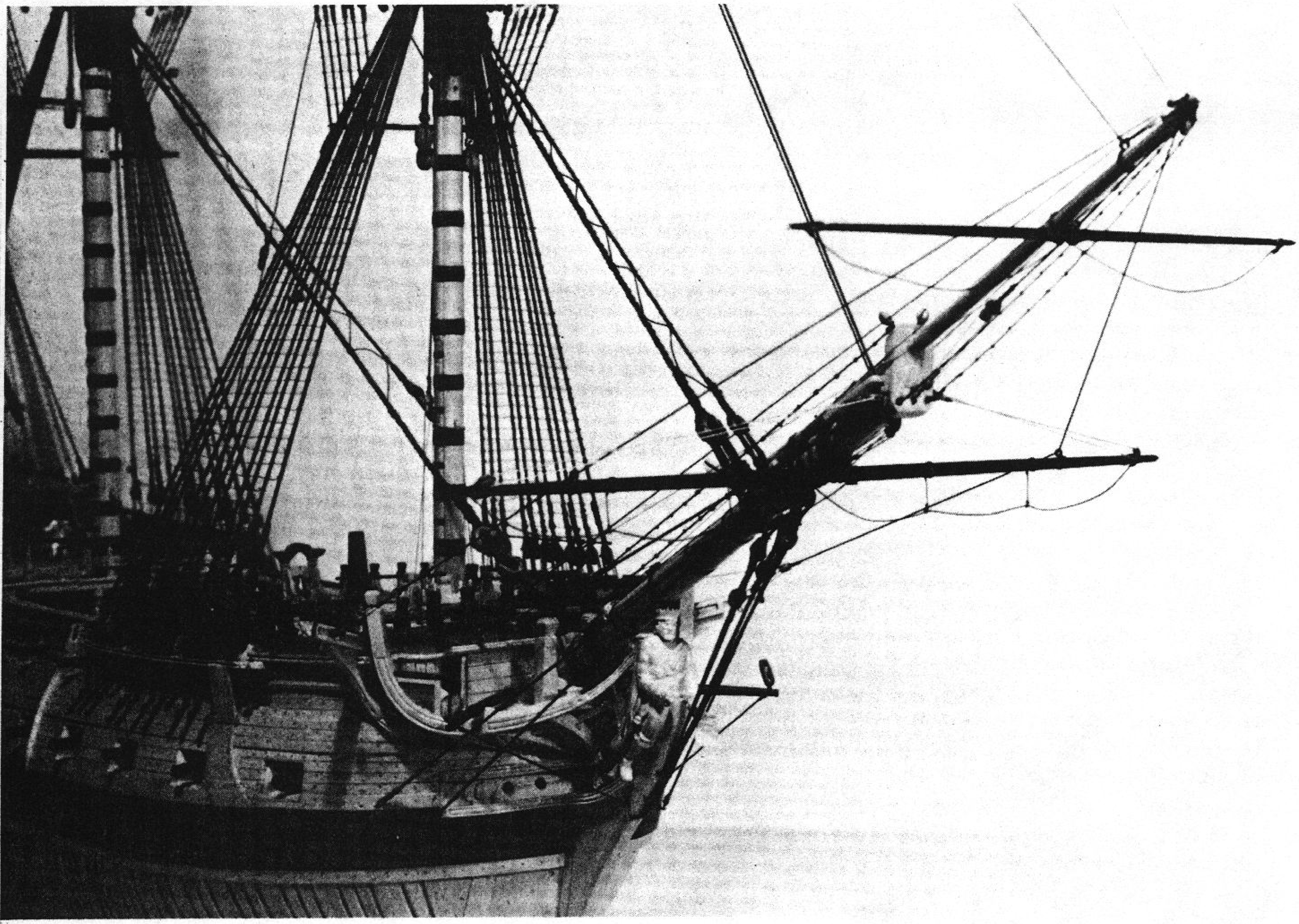
15.15



15.16



15.17



16.1

and tackle and mount it on main mast; do not rig braces to model
27. Ditto fore yard except do rig braces
28. Rig crowsfeet
29. Mizen topsail yard
30. Mizen topgallant sail yard
31. Rig leech and bunt lines on fore and main yards
32. Braces to spritsail and spritsail topsail yards
33. All topmast backstays starting at fore and working aft. Aftermost backstays to main and fore top masts threaded with bullseyes which will be fastened to topsail yard ties
34. Prepare main topsail yard with necessary ropes; mount on main topmast and rig
35. Rig bowlines to main yard and main topsail yard
36. Prepare fore topsail yard with necessary ropes; mount on fore topmast and rig
37. Rig bowlines to foreyard and fore topsail yard
38. Main topgallant sail yard
39. Fore topgallant sail yard
40. Topgallant mast backstays starting at fore and working aft
41. Main yard braces
42. Rig fore and main course tacks, clew lines and sheets
43. With running rigging complete, install capstan and boat assembly in waist along with guard rails beside gangways

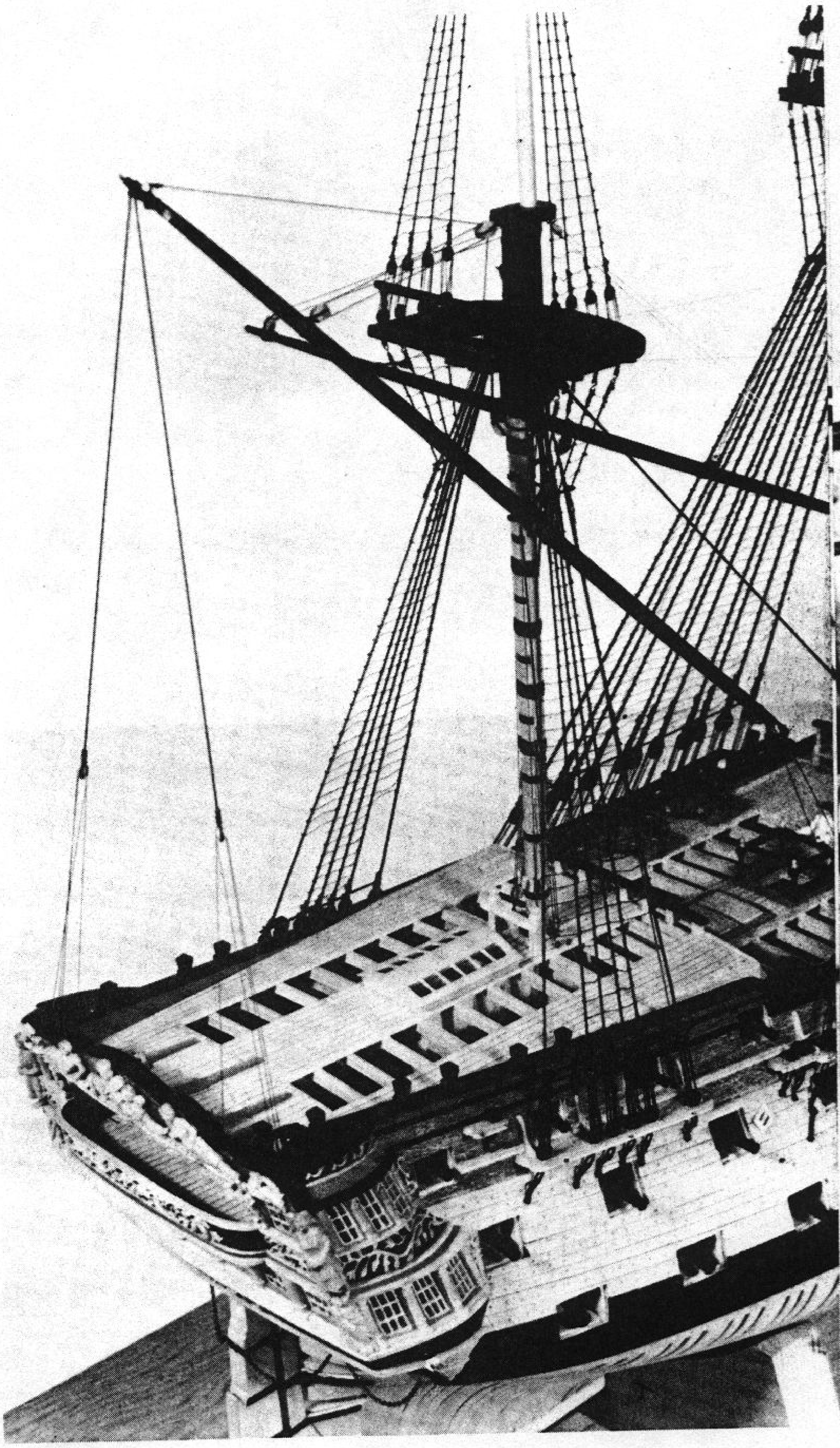
The above list of rigging operations is not presented as an arbitrary set of rules to be followed. It is offered rather as a guide to suggest a logical order of procedure to the model builder for use in keeping track of his progress, to determine what step to take next, and remind him of some details that might be lost in the shuffle only to become sadly evident at a later date when they would have become more difficult to achieve. The following photographs with clarifying descriptions should answer questions that might be prompted by some items on the list.

Photograph 16.1 pictures the first steps in doing the running rigging as noted under items 21, 22 and 23. As with the standing rigging, I like to start in the bowsprit, jib boom area because it is somewhat isolated from the rest of the model. Work completed there will not interfere with subsequent operations. Located in place by their pins, the spritsail and spritsail topsail yards were secured to the bowsprit and jib boom with collars. Thimble leads for the guys had been lashed to the top of the spritsail yard. Tackle for the guys was fastened to the eyebolts on the catheads with the running end belayed to the rail on top of the beakhead bulkhead.

One common request from model builders is for a belaying plan. They seem to assume that such information is readily available as standard practice to those in the know and is generally conceived in relation to an arrangement of belaying pin racks distributed along the bulwarks. Such a solution is not possible on the model of a ship like *Alfred,* so some alternate method must be used to belay the running rigging. Pin racks or individual cleats could be fastened inside the shrouds. I mounted some cleats on the after sides of the masts, and bitts with their crosspieces offered locations for some belaying pins. However, I chose to believe that the rails elevated on the many timberheads surrounding the forecastle and quarterdeck should serve as more than decorative additions to the hull by being used for many of the belaying points required.

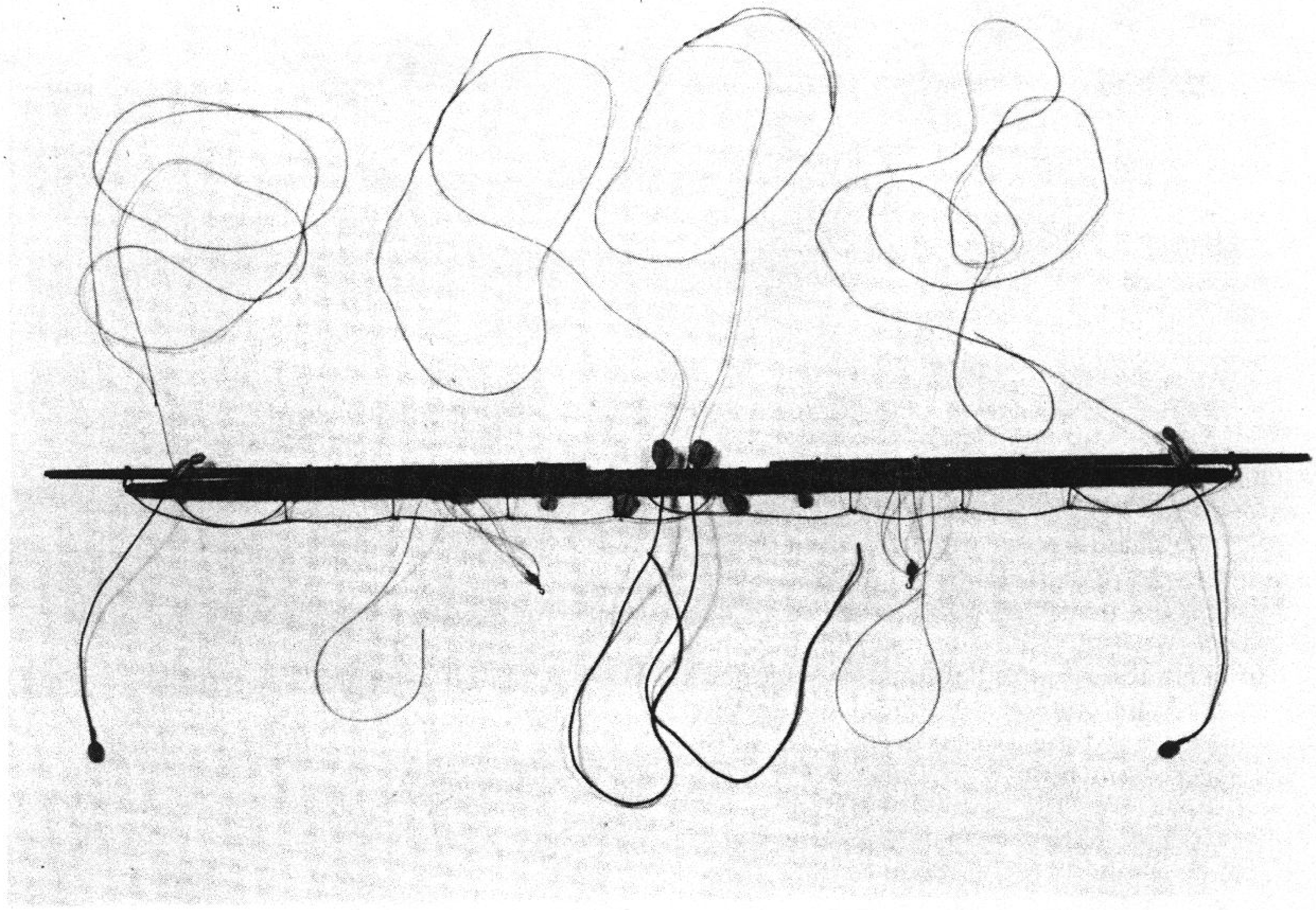
Halliards and lifts were rigged to the two spars with the running ends of their tackle passed through holes in the fairlead yoke fastened on top of the bowsprit near the gammoning and then belayed to the beakhead rail. Braces were not rigged at this time since they would create some interference when it came time to rig the fore yard, and they would be just as accessible later on. Horses were prepared and fastened from eyebolts on top of the knightheads to those on top of the bowsprit cap, and from the bowsprit cap to the shoulder on the jib boom. According to Steel's tabulated sizes, the bowsprit horses were of 5in rope while those for the jib boom were 4in rope. Having selected rope or thread of suitable size, I tied knots spaced ¼in apart along their lengths before rigging them in place. With the space still easy to work in, it was a good time to fasten onto the bowsprit cap and the forestay heart the single blocks that would later be used to rig bowlines from the fore and foretopsail yards.

The work done to complete items 24 and 25 on the list can be observed in photograph 16.2. At one time before becoming better acquainted with the terminology, I was confused by the name mizen yard. Being accustomed to thinking of yards as the transverse, horizontal spars that



16.2

carried the square sails, I found it difficult to associate the term with the spar that originally had been designed to carry a lateen sail. This of course at the time of *Alfred* had been reduced to a gaff sail. The mizen yard was soon to disappear when replaced by the smaller gaff, but when *Alfred* was built it was still very much in evidence on large ships. The lower end was controlled by bowlines rigged to shrouds and rail on either side. The yard was suspended from the mizen masthead by a pair of large jeer blocks. It was held to the mast with a single truss. The derrick or lift supported the upper end from the mizen mast cap. Vangs were needed to hold that end down



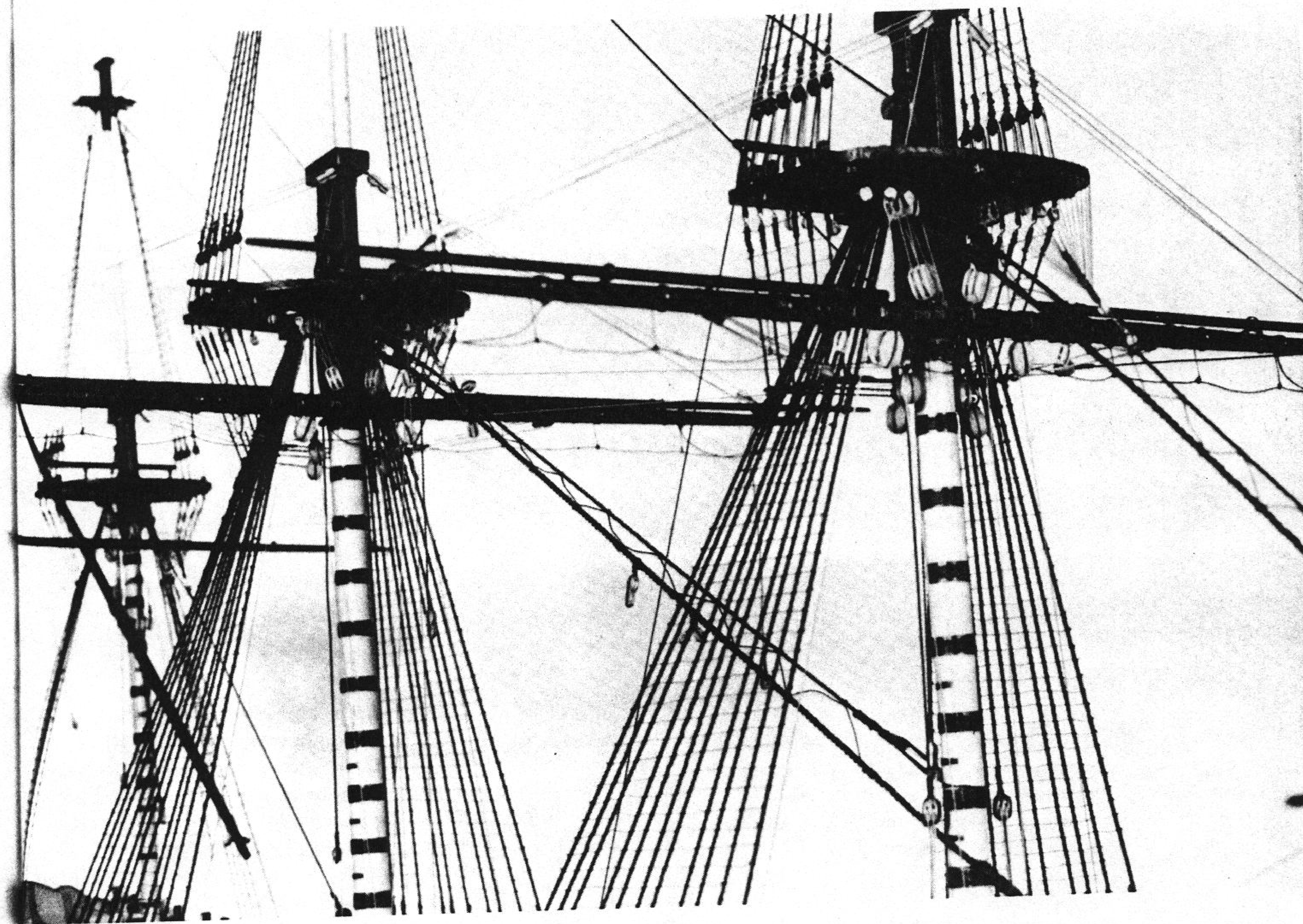
16.3

when the sail was not set, as in the case of my model. Cleats mounted inside the taffrail served as delaying points for rigging leading from the mizen yard at its upper end.

Since the cross-jack yard did not carry a sail, horses or footropes hung from stirrups were not required as on the square sail yards. It was supported by a sling that passed around the masthead and through a 16in single block attached to the centre of the spar. A single truss held the cross-jack yard against the mizen mast. Lifts reached up to the mizen mast cap. Brace pendants were lashed across the front of the yard with single blocks seized in their ends from which the braces crisscrossed to the aftermost main shrouds and led through blocks for belaying at deck level. These two spars could be completely rigged at this point with the expectation that their interference with later work would be minimal.

Item number 26 on the list which concerns mounting and rigging the main yard calls for considerable preparation. Photograph 14.10 shows the yards with necessary blocks attached in advance. Now before those yards are mounted permanently on the masts, it is advisable to add on the ropes, pendants and tackles that are required to rig them. Photograph 16.3 shows the main yard after this had been done. At either yard arm, can be seen the brace pendants with single blocks seized in their ends. Also attached there, are lengths of rope to be used for the lifts. The pendants for the yard tackles fastened at the yard arms are lashed to the back side of the spar and cannot be seen. However, the tackle reeved through the long tackle blocks stropped in the ends of the pendants can be noted with their blocks and hooks to be hung on the futtock staves.

Below the centre of the spar are ropes that will be used to make the trusses. They have been seized on with thimbles in the short ends projecting on the back side. When the main yard has been mounted on the mast, the rope from each side will be brought across behind the mast and threaded through the thimble attached to the other truss. When double blocks have been fastened into the ends of those truss ropes, tackles can be made up and hooked into eyebolts in the deck so that the trusses can be tightened around the mast. Obviously, the double blocks cannot be attached to the truss pendants until the ropes have been passed through the thimbles. This presents an awkward problem that I circum-

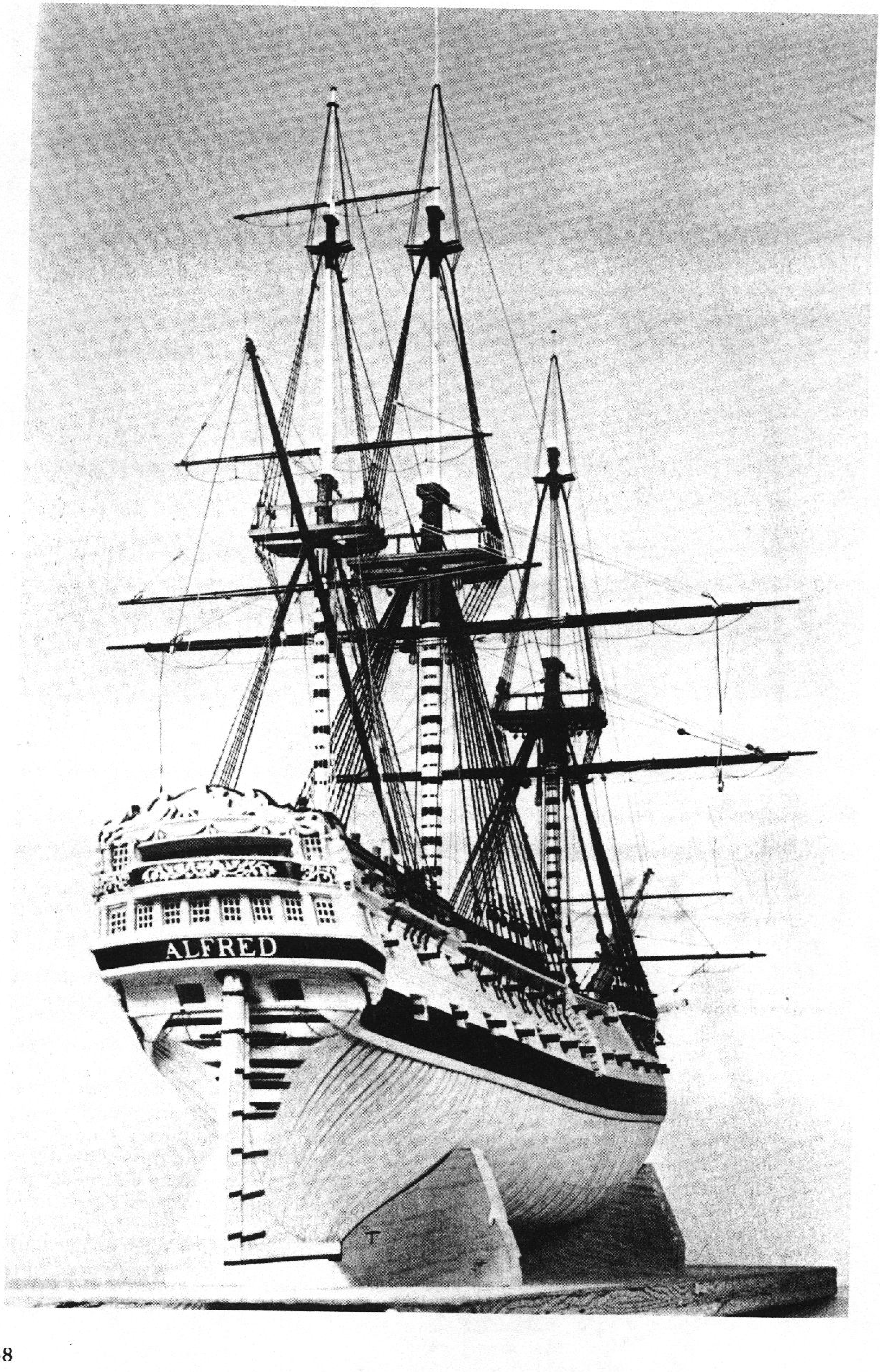


16.4

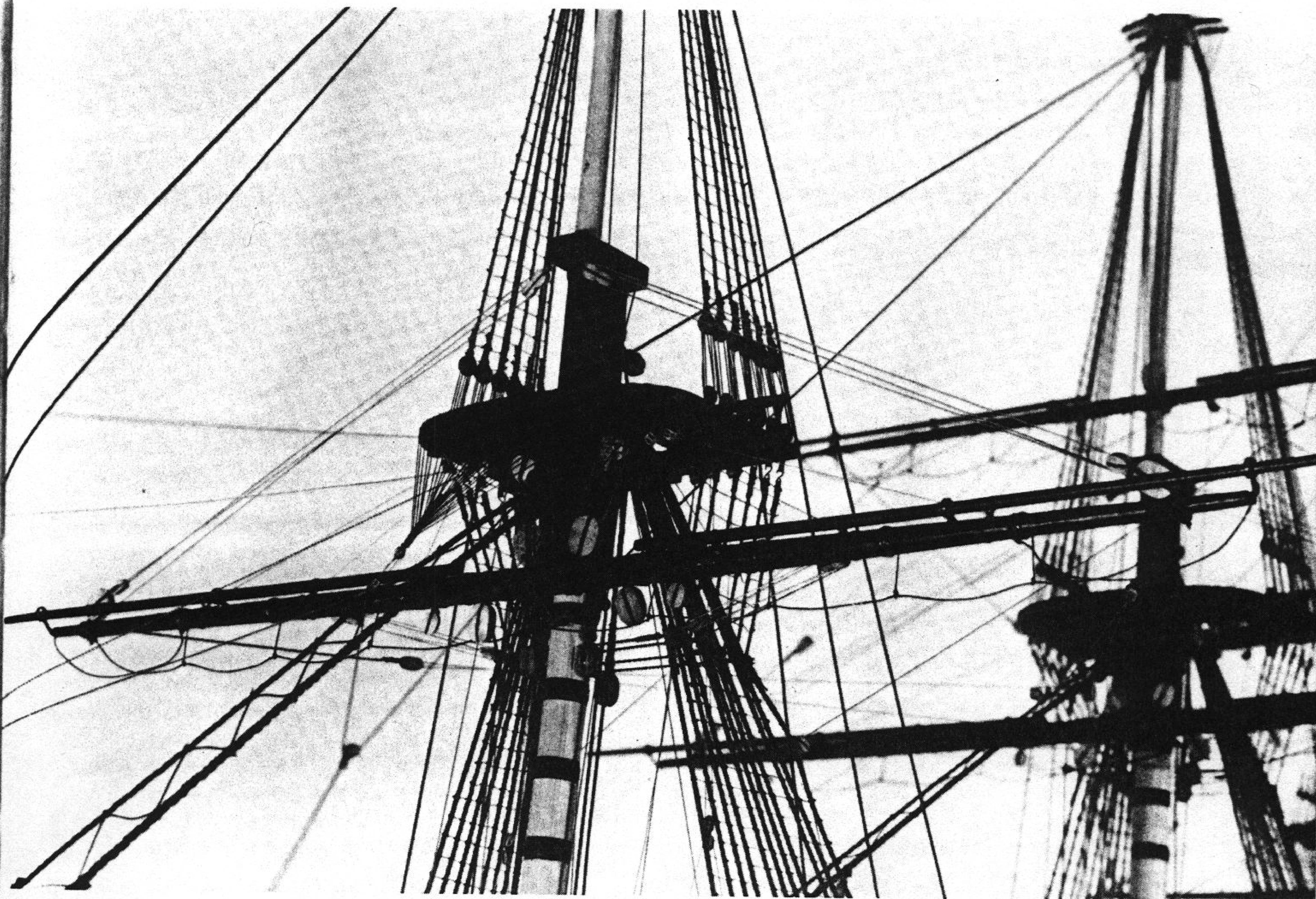
vent by using the self-closing tweezers employed in the last chapter for conveniently holding out the shrouds for stropping the deadeyes.

Also at the centre of the yard can be seen two ropes tied on beside the jeer blocks for use in rigging them. When we consider the main and fore jeers for those yards, the size of the blocks used emphasizes how very massive the spars are. The main yard was 96ft long and almost 2ft thick at the middle. To sustain and provide lifting power for the great weight that this represents, it was necessary according to Steel's tables to make up the jeers with 28in double and triple blocks. They used 8in rope. The fore yard being somewhat similar required 26in blocks with 7½in rope. Photograph 16.4 shows those two yards after they had been rigged to the model. The fore yard had been prepared with necessary ropes in the same fashion as shown for the main yard in photograph 16.3. The rope ends that were meant to be reeved through blocks had been stiffened with glue. I use the Titebond glue for this purpose. The end of the rope is dragged through a drop of glue on my fingertip while being rotated to ensure complete coverage. This usually results in the deposit of excess glue that if allowed to dry would enlarge the thread size making it difficult if not impossible to pass it through the hole in the block. To eliminate the excess glue, I immediately draw the thread over a clear spot on my fingertip with the same rotating motion. This leaves just the glue deposited in the recesses of the twist and whatever has penetrated the thread surface. This is quite sufficient and dries quickly to produce a stiff end that is easy to thread through the holes.

In photograph 16.4, the truss pendants with double blocks can be seen on either side of the fore mast. The lifts have been rigged to long tackle blocks at the mast caps. The yard tackles have been hooked and lashed to the futtock staves. The fore-yard braces have been carried back to blocks on the main stays and thence down to be belayed at the break in the forecastle.



16.5



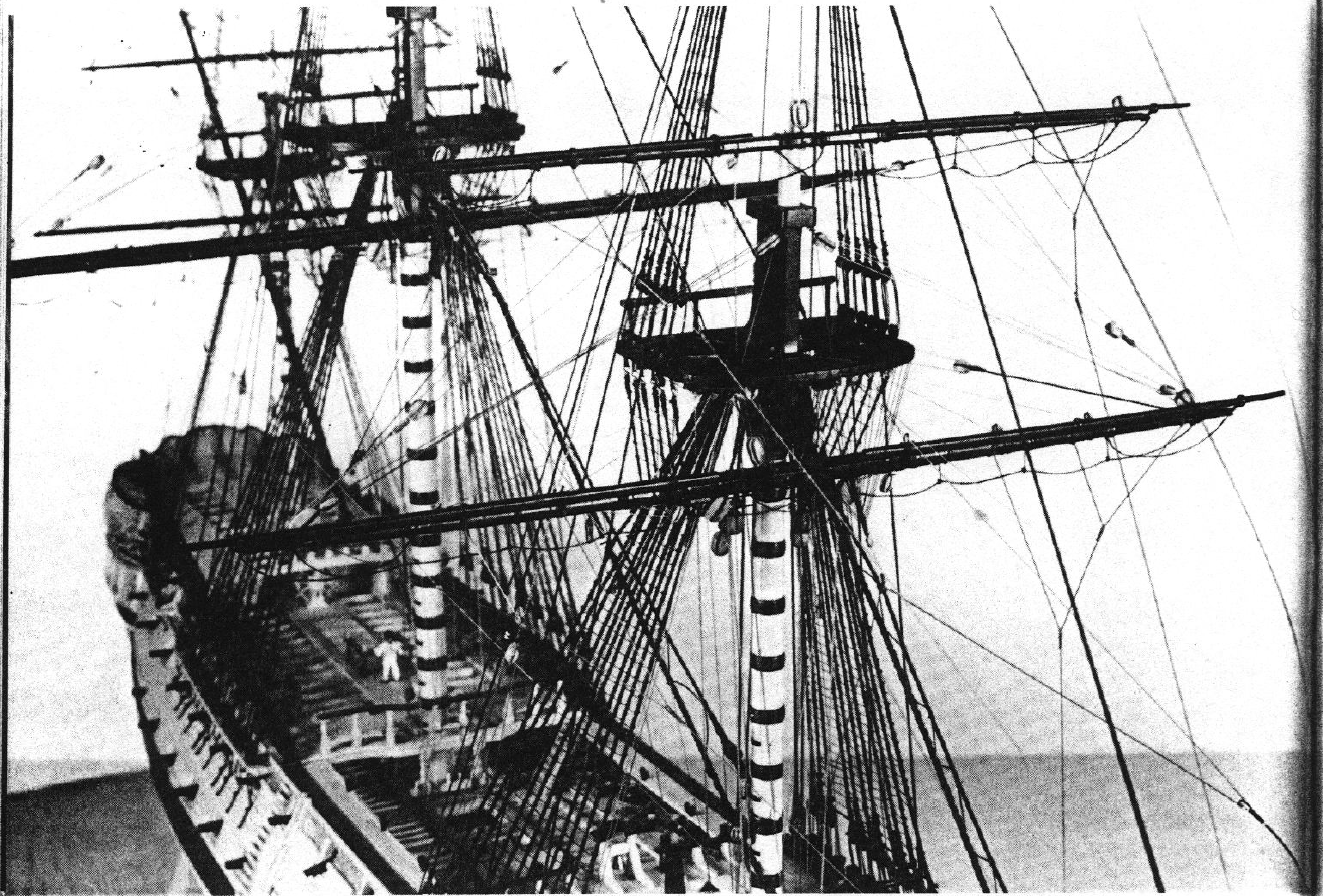
16.6

The main-yard brace pendants have been left dangling and will not be put to use until later when they will no longer interfere with the rigging process. Item 28 for rigging crowsfeet to all three tops has been completed. Euphroes were made from strips of blackened brass with holes drilled closely together for the legs in the crowsfoot plus an additional one at the end to which a $^1/_{16}$in single block could be seized. A second block was tied to the appropriate stay, the crowsfoot reeved through the holes in the front edge of the top and the euphroe, and the whole snugged up by a tackle between the two blocks.

Next on the list come nos 29 and 30, the mizen topsail yard and the mizen topgallant sail yard. Those two spars have been rigged in photograph 16.5. This could have been done earlier if so desired since all of the lines lead aft of the mizen mast and would not interfere with work that was done on the fore and main yards. The three topsail yards and the topgallant sail yards all require parrels to hold them against their masts rather than the trusses used for the lower yards.

I turned the beads for the parrels on my Unimat. A length of boxwood was turned to $^3/_{32}$in diameter. With that piece projecting from the chuck about ½ in, a hole was drilled deep enough with a no 76 drill to produce four of five beads. It was then turned down to a .055in diameter. A length of .019in diameter copper wire was set into the .020in hole, and individual beads, $^1/_{16}$in long, were shaped with a sharp-edged file. The group of beads was separated from the base piece and slipped off of the supporting wire. Where they were not completely shaped down to the wire, they could be separated easily by rolling them on a work surface with a sharp razor blade pressing into the groove between beads before removing them from the wire.

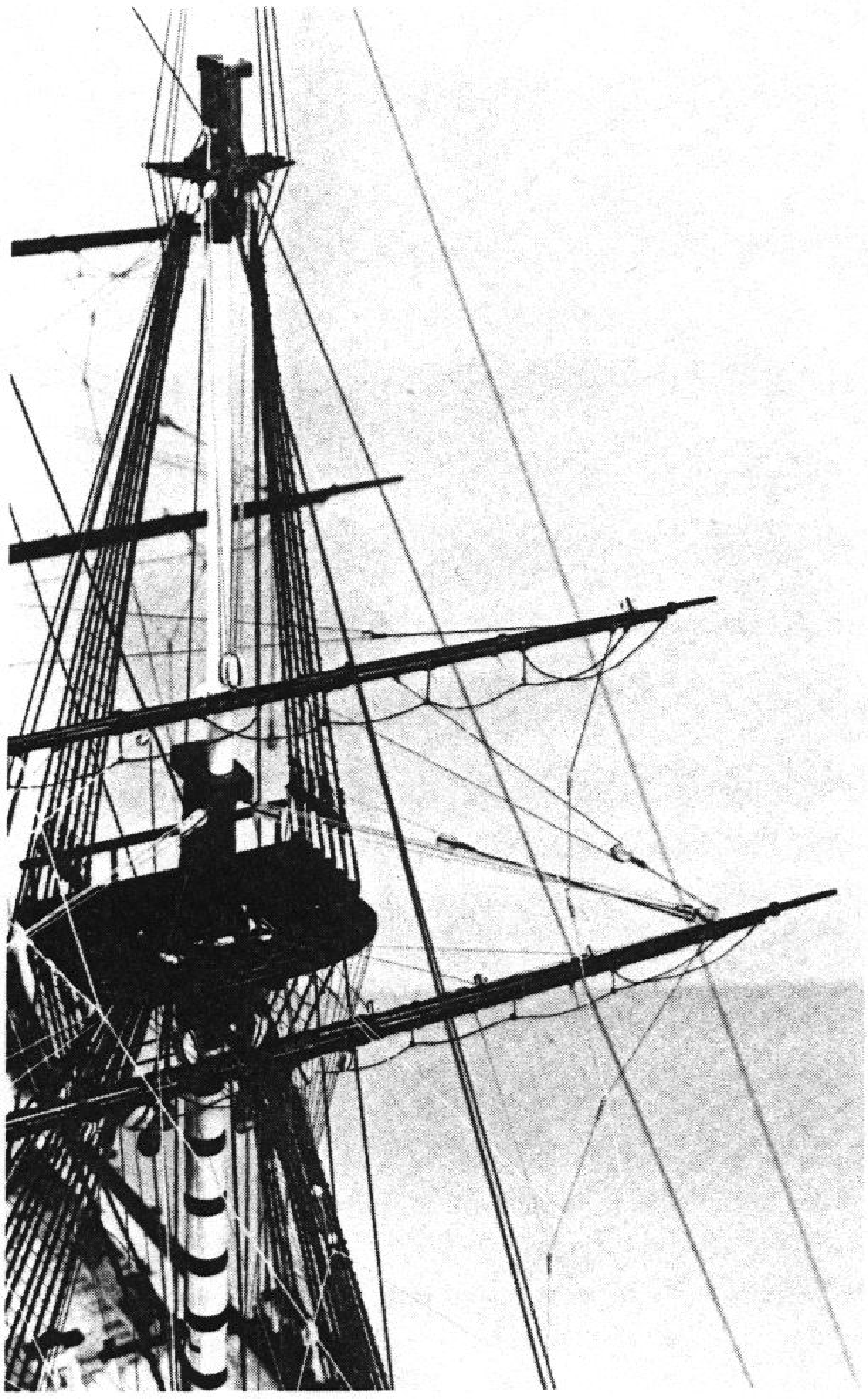
The rib contour was shaped across the grain of a boxwood strip of suitable thickness. Holes were drilled through that shaped piece with a no 76 drill. A fine jeweller's saw blade was used to cut the strip longitudinally for the individual ribs which were then cut off from the strip. The ribs for the topgallant yard parrels were made shorter



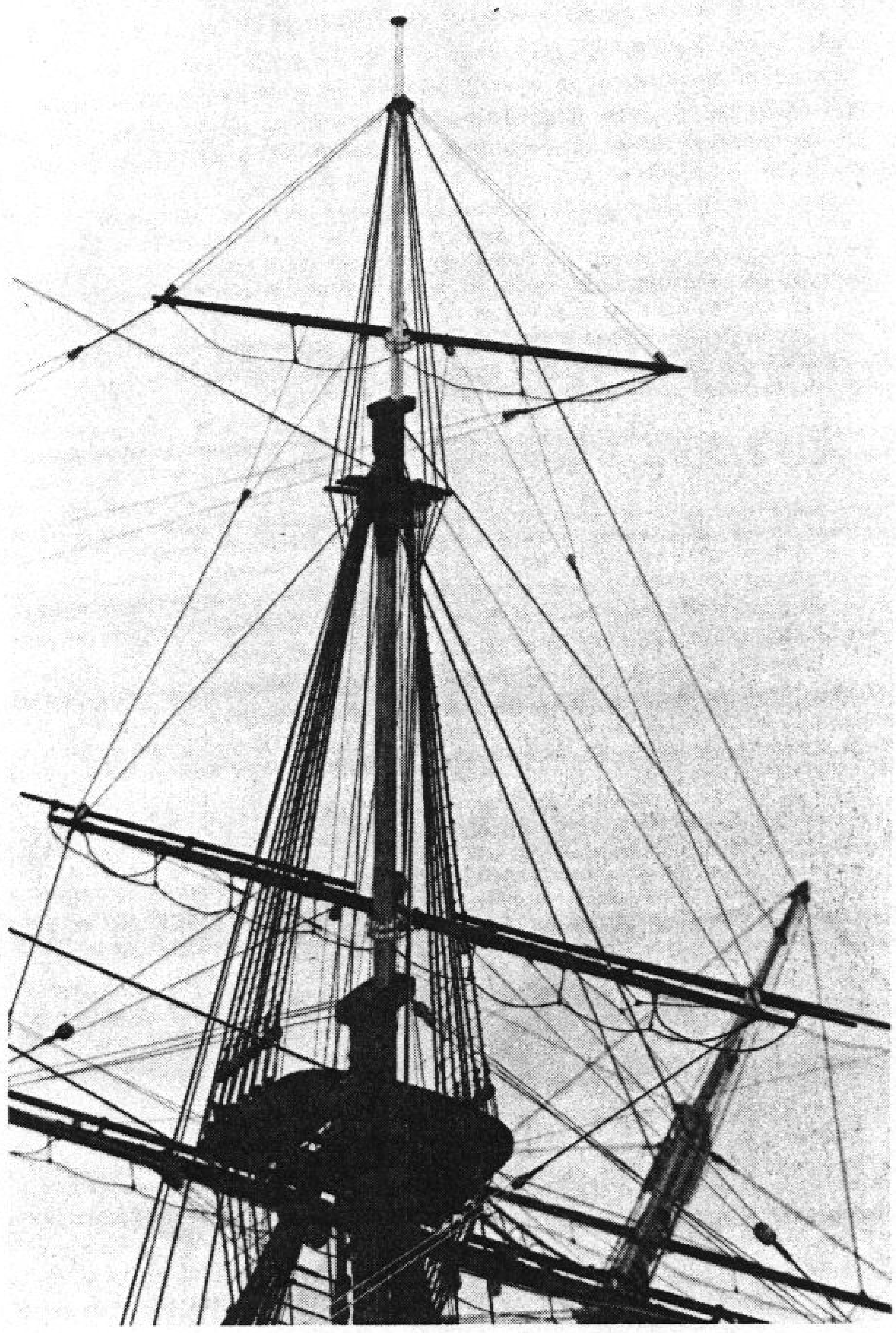
16.7

than those for the topsail yard parrels. Steel indicates a 12in length for the main topgallant yard parrel and a 25in length for the main topsail yard. With each parrel having two rows of beads, two threads were knotted so they wouldn't pass through the drilled holes leaving a length on both sides for tying around the yard. Then, enough ribs and beads to wrap around the mast behind the yard were threaded on to make up a parrel. The two threads were tied together to secure the assembled parts. The threads at one end of the parrel tied it to the yard before it was fastened to the mast. Then with the parrel wrapped around the mast the threads at the other end were tied to the yard, holding it against the mast.

I am in the habit of adding some rigging details to which I am sure some model builders will take exception. With no sails on the model, it might seem ridiculous to include leechlines, buntlines and bowlines which normally attach to the edge of a sail. However, I believe that it is a convention that others have followed before me. On actual ships, the rigging was such a maze of ropes that I feel it worth while to add details suggesting that condition. Small blocks had been seized to the fore and main yards to serve as lead blocks for the leech and bunt lines. Ropes (actually threads) with knots tied in their ends to keep them from pulling through those blocks can be seen in photograph 16.6 leading up to the double blocks fastened to the under side of the fore top. From there they pass back to double blocks at the after side of the top. I used just one leech line on either side which was taken down to be belayed at deck level. However, the two buntlines were comprised of a single thread leading up to the pair of double blocks, down and reeved through the upper of two single blocks lashed head-to-head, back up to the blocks under the top and down to the second lead block on the yard. The lower block of the head-to-head pair provided the means to haul on the pair of buntlines as a unit from the deck. This detail can be observed behind the first and second shrouds near the bottom of



16.8



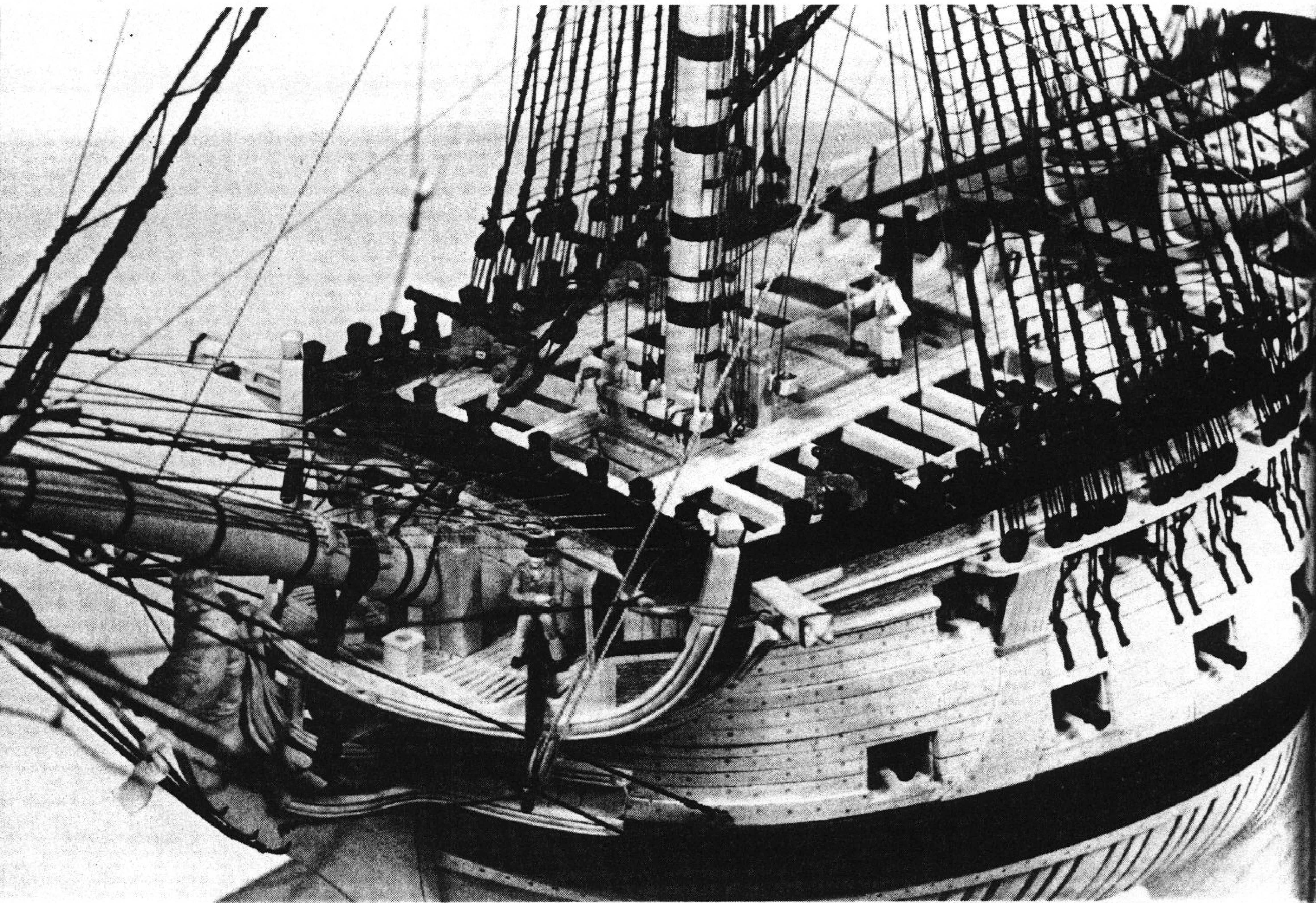
16.9

the picture.

Under the main top, just two pairs of double blocks were required on either side for leech lines and bunt lines. However, an additional pair was needed on each side under the fore top to serve the sprit sail and spritsail topsail yard braces. Those braces had been withheld until the fore yard could be rigged. Now they no longer posed a threat of interference, so item 32 on the list could be completed and the problems of rigging lines through the small blocks under the top ended.

As the maze of rigging lines increases on *Alfred,* there are a number of basic precautions that I suggest could well be observed. They may sound ridiculously obvious, but, in my experience, they are quite easy to neglect, forget or disregard. Before fastening any blocks in locations that will be difficult to reach, you should be sure that the hole is clear. Never reach into the rigging with an open pair of scissors to trim a loose end. Wait until the point of the scissors is at the spot to be cut before opening them. And finally, move the hands slowly and deliberately while working around the model. It is so easy with a sudden motion to snag a spar or piece of rigging unintentionally – but with disastrous results. I have unhappily violated all of those rules.

The braces from the spritsail and spritsail topsail yards can be picked out in photograph 16.7 where they reach up to the double block under the fore top. Now that the lower yards have been rigged, the problem of interference from topmast backstays has been minimized, and it is time to proceed with item 33 on the list. Because of the interrelationship of tensions on various elements of the rigging, I like to follow a logical sequence of operations. This is generally accomplished by working from one end to the other. The way in which the stays react to one another must be considered and fine-tuned to get the best results. I haven't found that the tensions are extreme enough to pull eyebolts out of the deck, but subtle difference can throw things out of whack. By setting up the fore topmast backstays first, a certain amount of tension is maintained on the ropes that extend forward from the mast. At the same time, the tension on stays between the main and fore masts will be relieved. Then when the main topmast backstays are rigged, slack will be

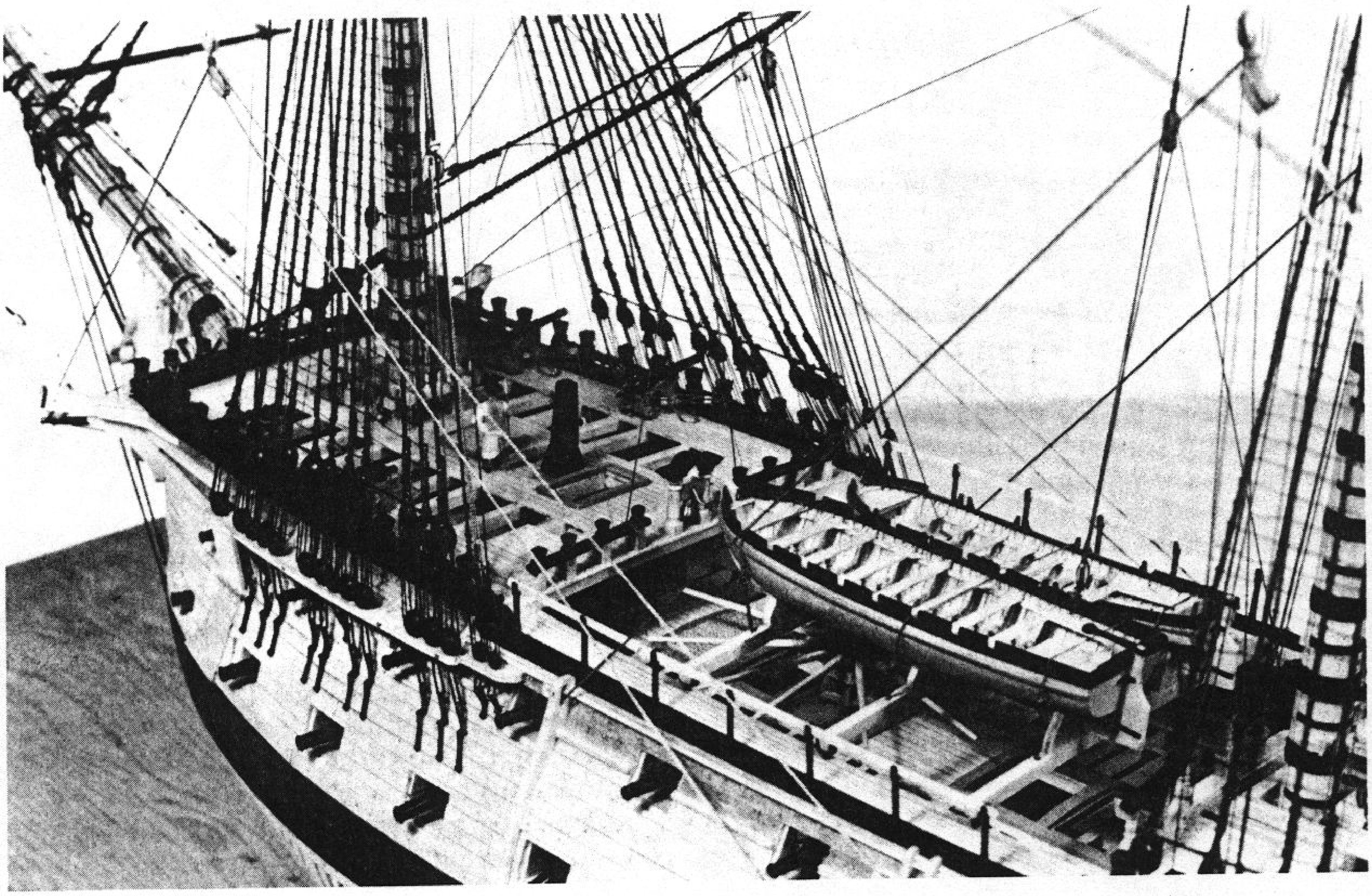


16.10

removed from the fore and aft stays. This cause-and-effect reaction will be repeated when the mizen backstays are set up. When the aftermost fore and main-topmast backstays are rigged, it must be remembered before the deadeyes are stropped into their ends to slip on bullseyes for the topsail yard ties.

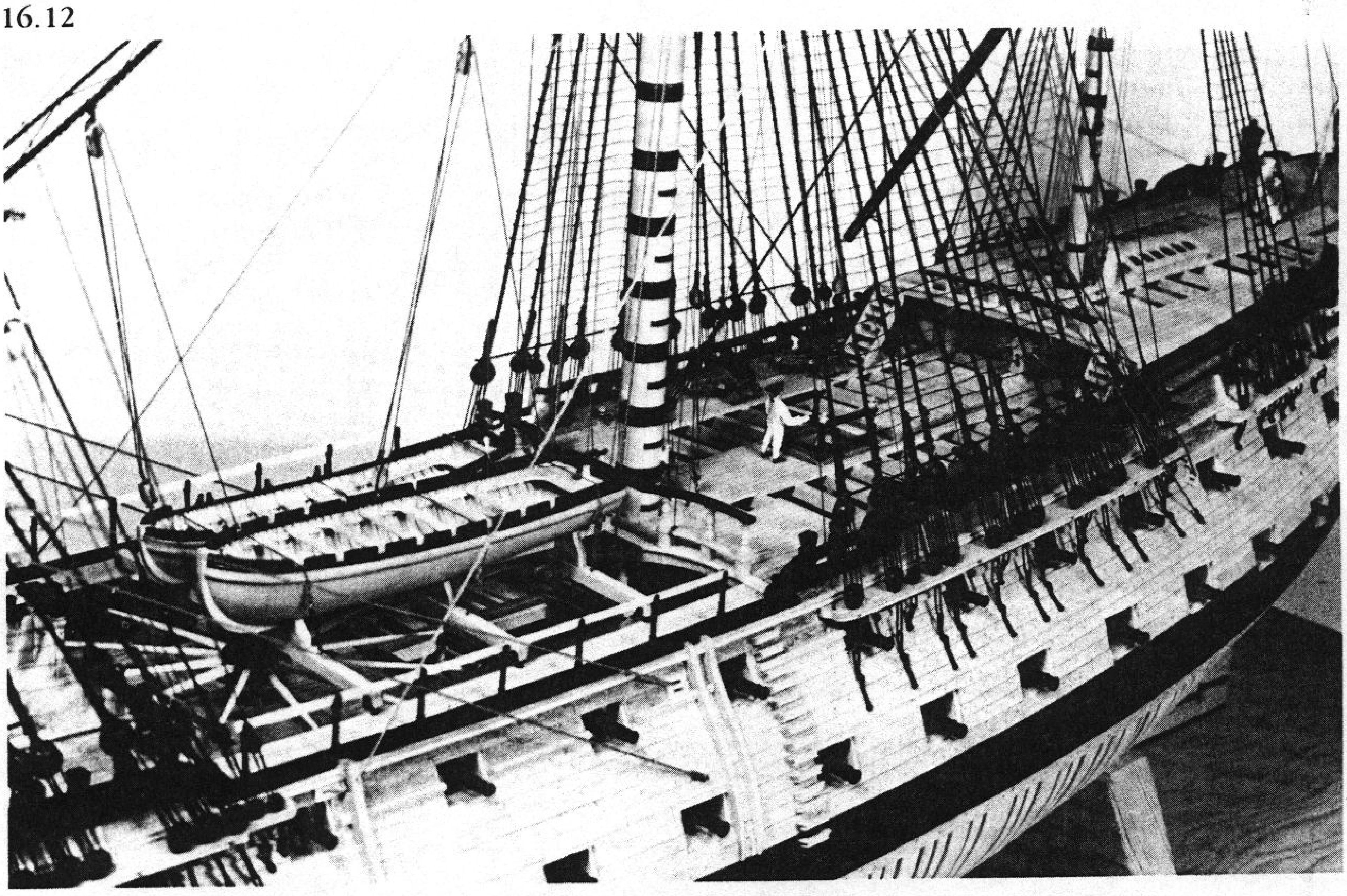
Noted on the list as number 34, the main topsail yard comes first because work between the fore and main masts can be handled more easily before the fore topsail yard is rigged. A rather indistinct view of the work at this stage can be seen in photograph 16.6. The nature of the ties and halliards is an interesting comment on the fact that while looking relatively small on the model these two topsail yards were actually hefty spars to be raised and lowered. The tie block fastened to the centre of the main topsail yard was 22in double according to Steel. The ties consisted of 6in ropes fastened at the mast head, down to and reeved through the double block in opposite directions, back up to single 22in blocks tied on under the crosstrees, and thence down to the double blocks of the halliards on either side. They closely parallel the aftermost backstays. The bullseyes sliding on those backstays are seized to the ties close to the halliard blocks. This arrangement provides for some degree of support and control of the ties when the halliards are hauled on to raise or lower the topsail yard.

In addition to the ties and the parrel, the braces and the topsail clue lines and sheets were rigged. It was also a good time to add the bowlines to both the main yard and the main topsail yard before the space became cluttered up with ropes from the fore topsail yard. This is suggested by item 35. I am sure that there are those who will object to the convention of tying onto the yards the legs of the bowlines that would in practice be attached to the leeches of the sails. I will also be accused of being inconsistent since bowlines are not included for the topgallant yards. My reaction is that production of a ship model is based on many additions or omissions that the individual will have to consider and decide upon for himself. I look askance on anyone who claims



16.11

16.12

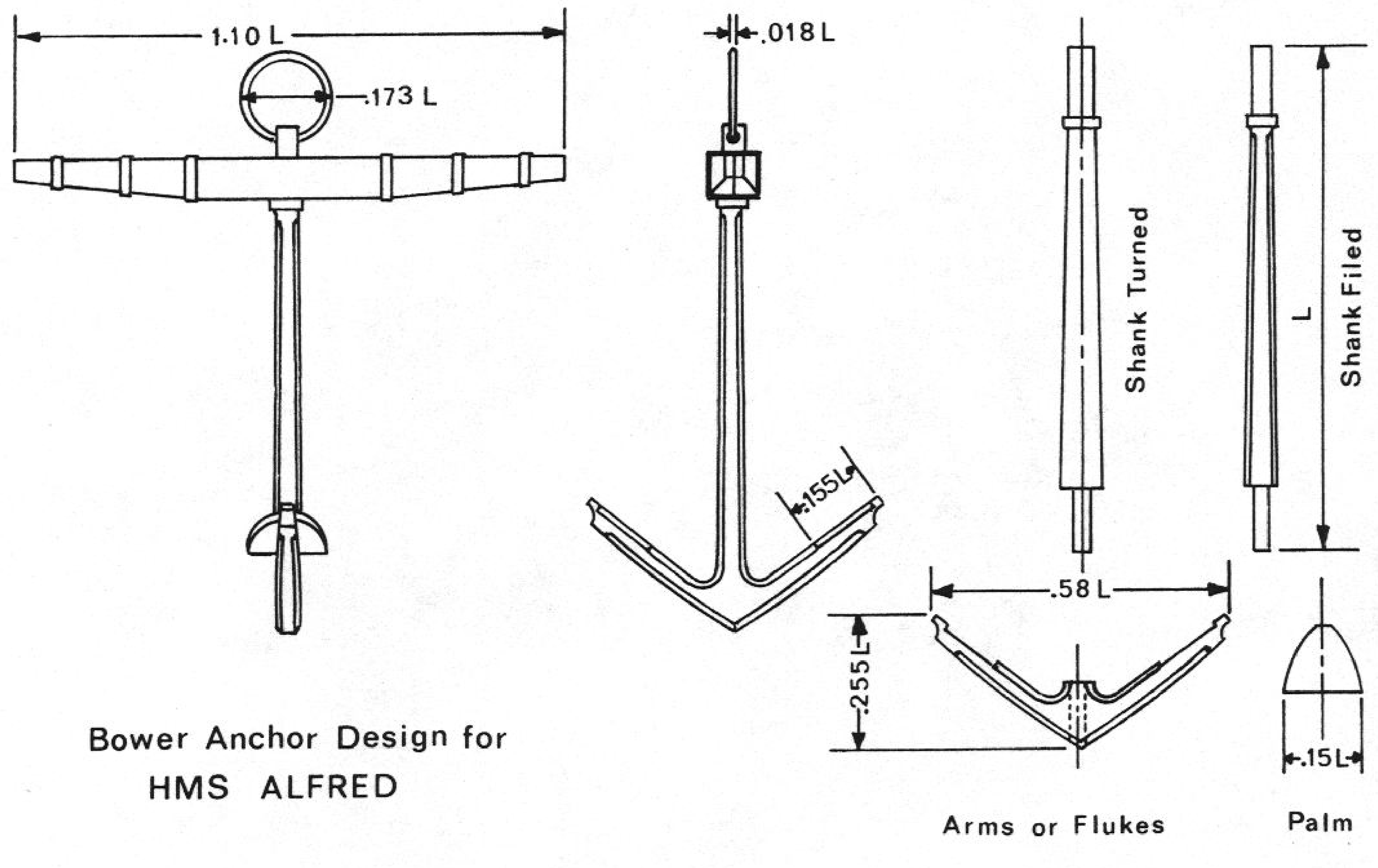


HMS *Alfred* Completed

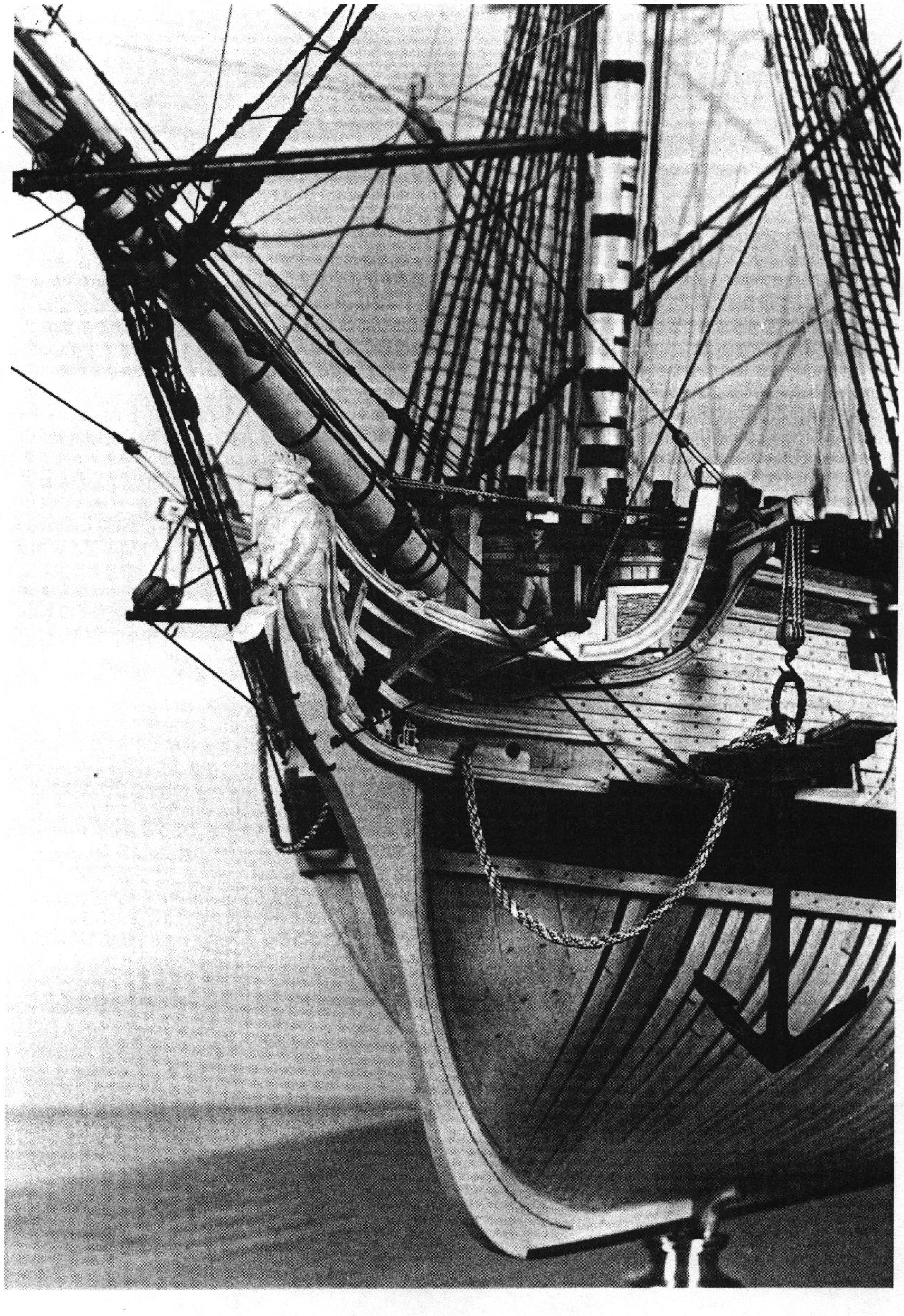
With the running rigging on *Alfred* finished as was described in the last chapter, one might jump to the conclusion that this model project was all but done. However, there are a number of pending chores that represent some considerable effort to come. These features to be added were deliberately omitted from the model until the rigging process could be completed. They would have been vulnerable to damage, been in the way, or would have caused annoying snags as the ropes were rigged. One of the pitfalls of which I am often reminded in ship modelling is my tendency to become oblivious to the immediate surroundings while concentrating on a particular job. This can lead to damage done to already completed work. This is best avoided by leaving off the more vulnerable items that can just as well be installed later.

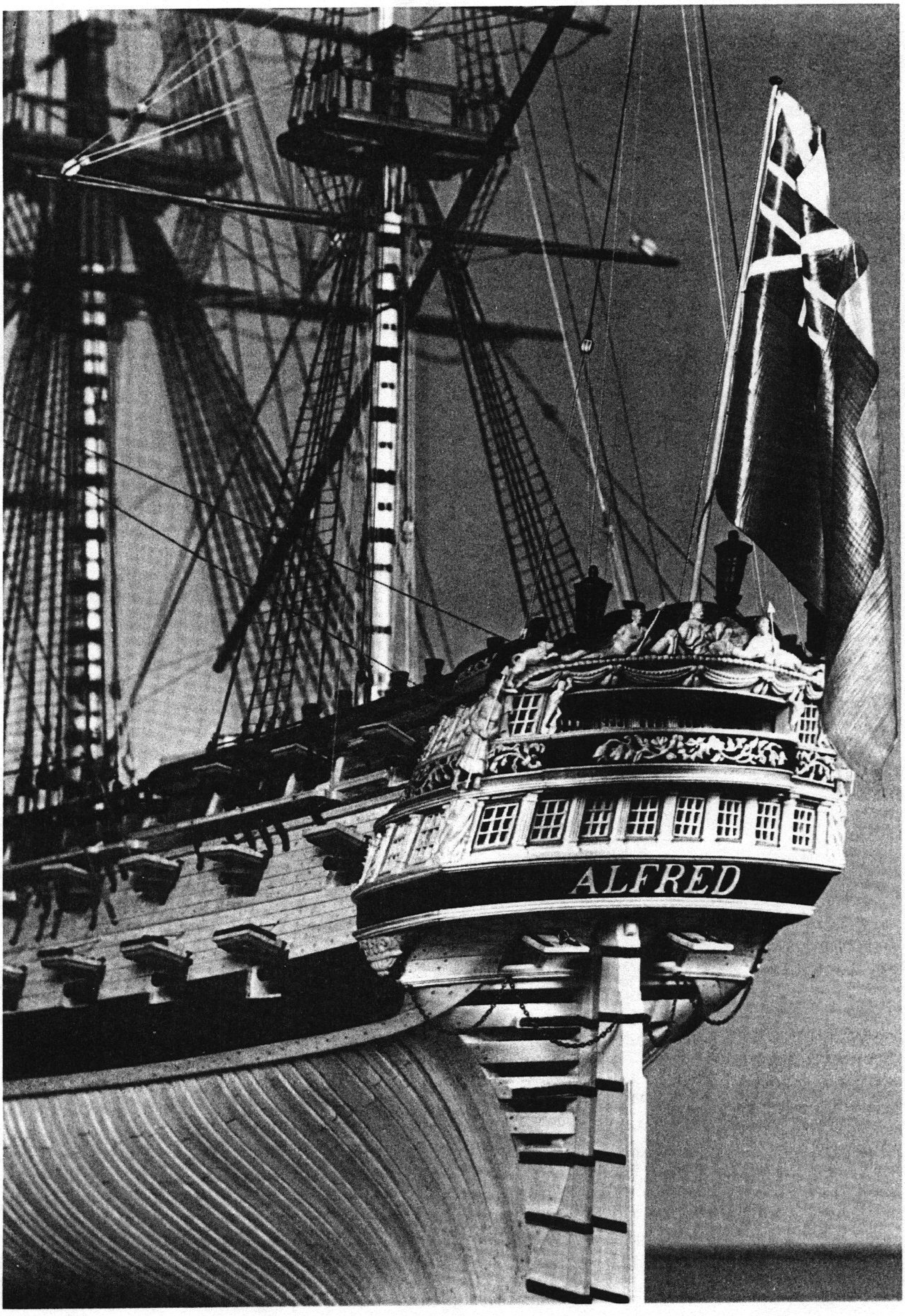
The anchors are not especially vulnerable to damage, but they would have been a nuisance. I do not have any detailed, unimpeachable rules for properly designing anchors for a given ship, but there are several reference sources available to me in my nautical reference library that I have to dig out and reinterpret every year or so. My thought is to assemble that information here in one place for the future. I cannot vouch for its absolute authenticity, but it is the only basis that I know of on which anchors for models of ships from my period of interest can be designed.

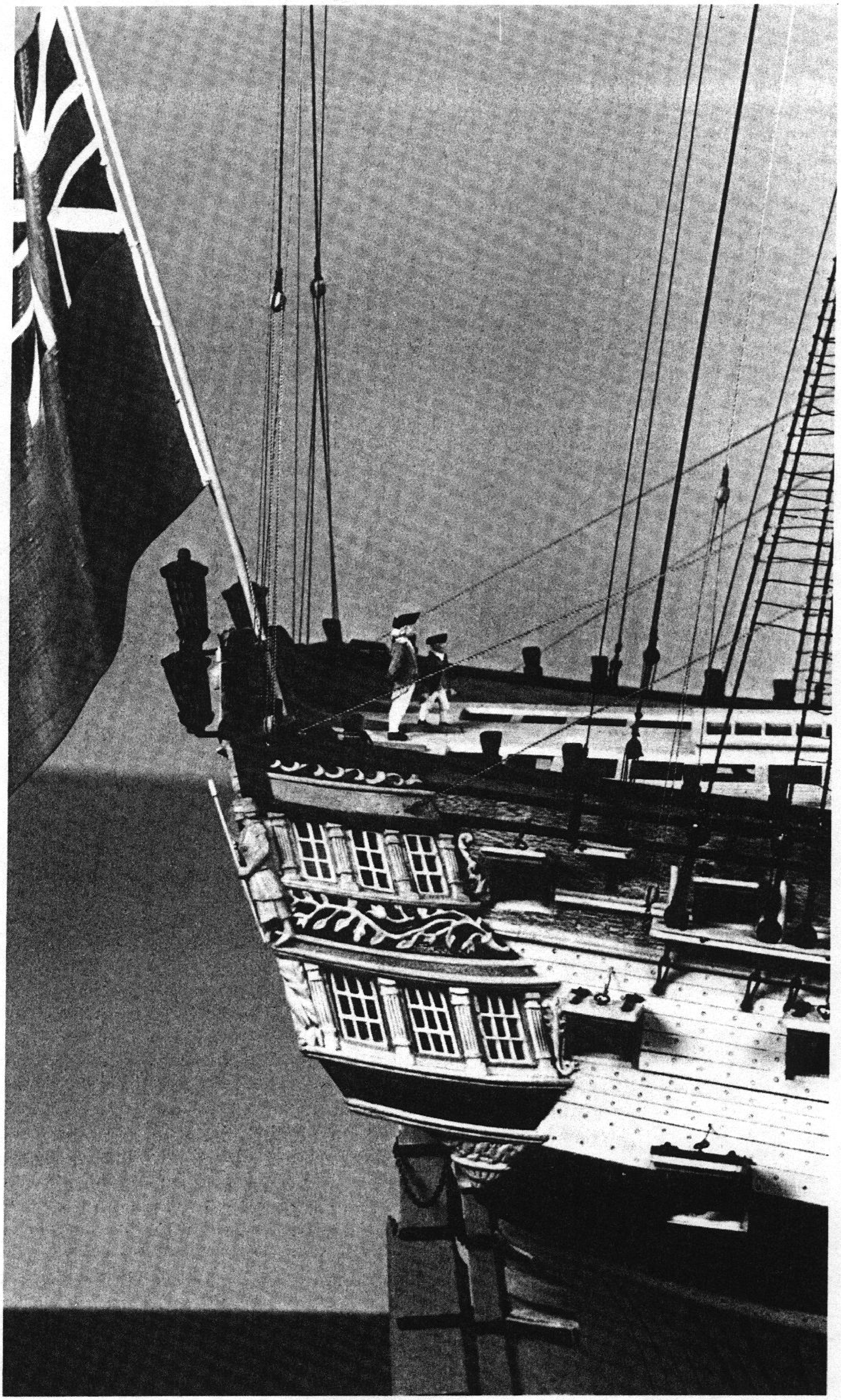
The type of anchor best suited to the seven models in this book would appear to be the long-



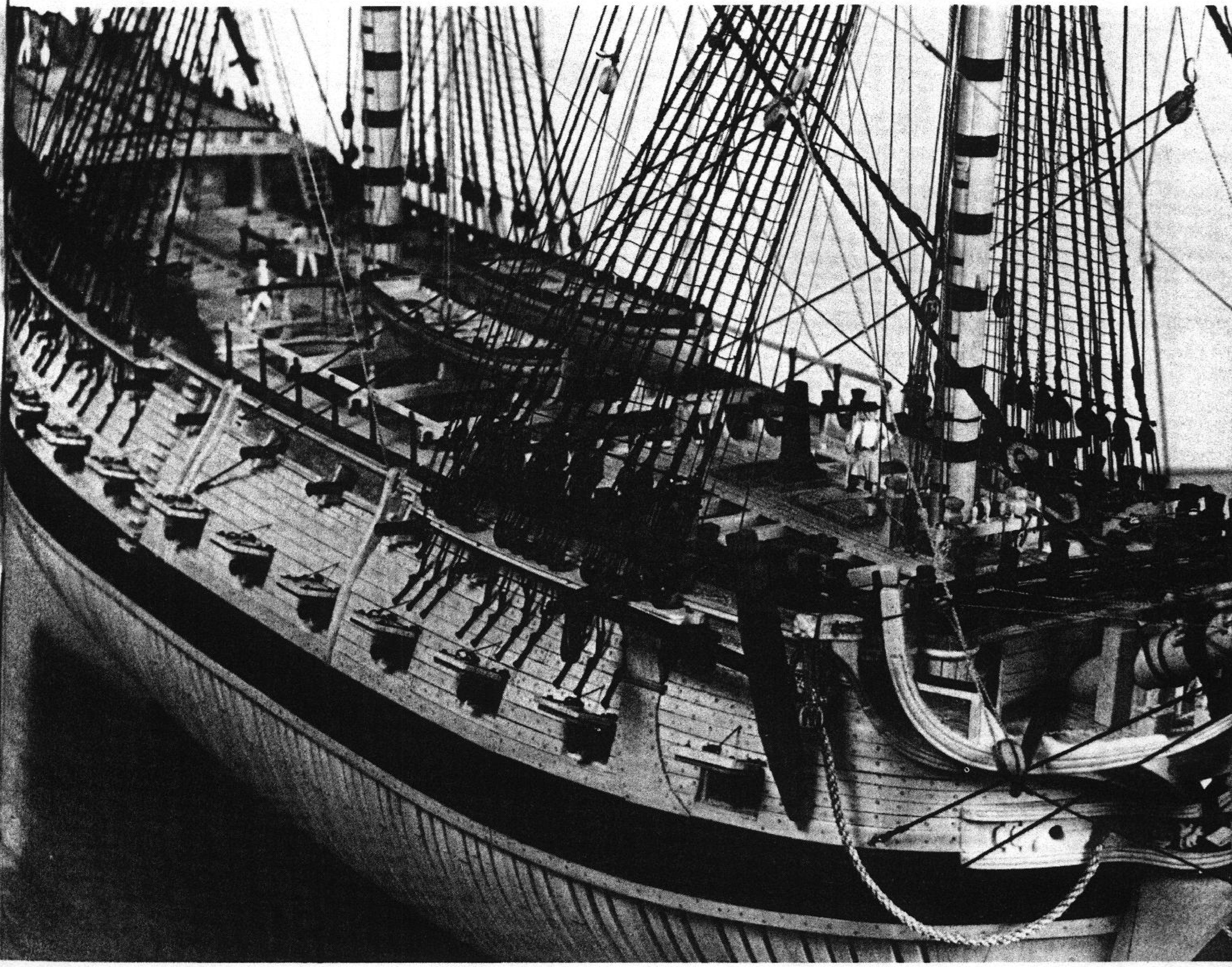
Bower Anchor Design for HMS ALFRED




ALFRED



17.3

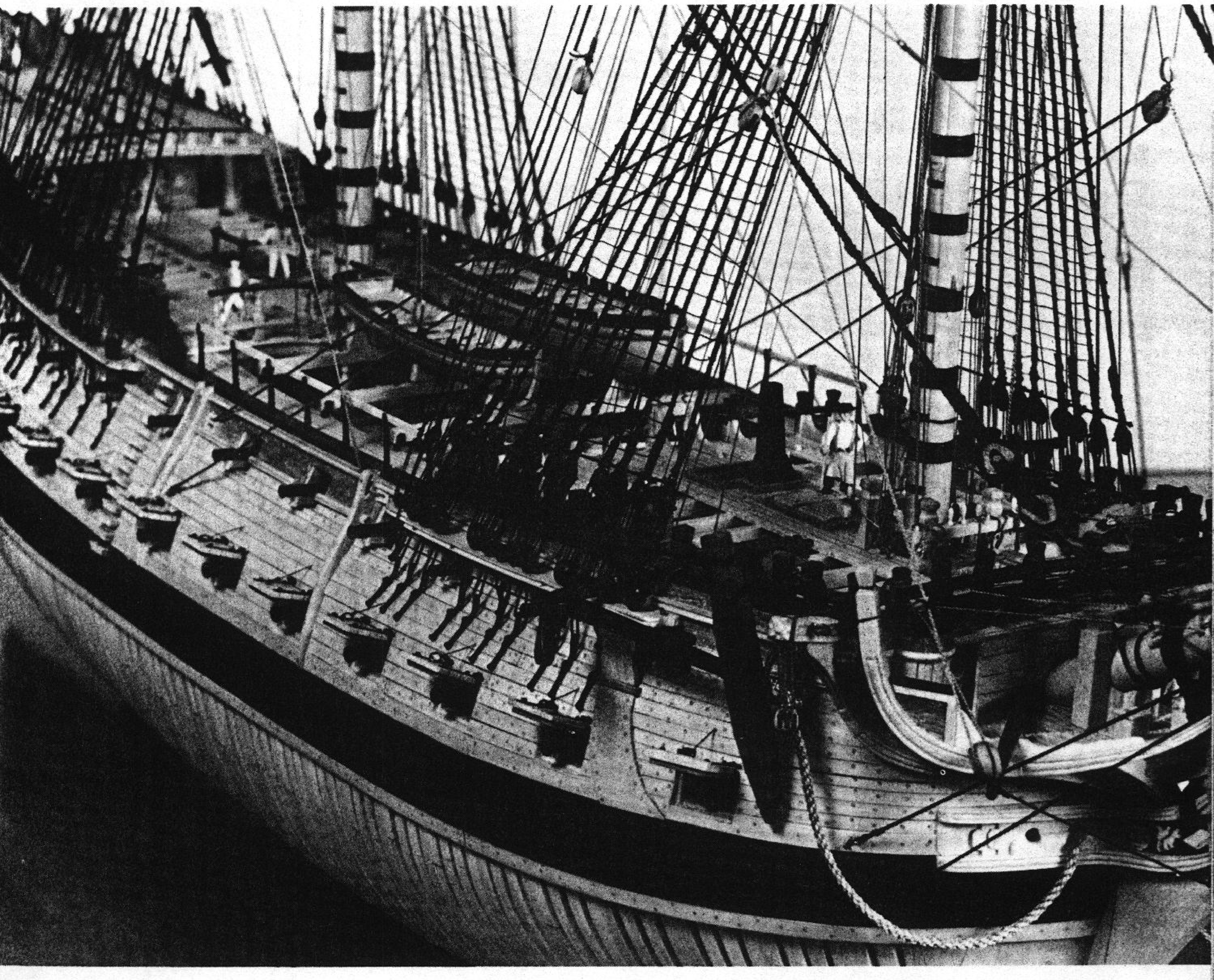


17.4

lantern piece was successively formed and cut off with angles top and bottom conforming to the side view. Ebony pieces were turned for the top and bottom sections of the lanterns with holes drilled through the bottom pieces to take the wires used to mount them on the stern.

Because of their small size, I made no attempt to finish the ebony pieces to their correct sloping octagonal shapes. They were fastened to the ends of the plexiglass sections with epoxy glue. I considered painting the Mullions with a fine brush but soon realized that I couldn't achieve the precision required for satisfactory results. Instead, I made use of my drafting pen to draw in the window framing on the eight sides of the plastic. The effect was fairly realistic with the sash on the opposite side visible through the transparent material. Bent copper wires were fixed in the bottom holes of the lanterns, fitted to holes in the taffrail, and painted black. The units were then stored safely away, not to be permanently mounted on the model until the rigging was finished.

Flags on a ship model are another feature where faithful duplication of the prototype must be compromised. It is obviously impossible to produce cloth to the small scale of a model. The ship modeller must choose whatever method he prefers to create the appearance or illusion of reality that satisfies him. This condition will naturally lead to differences of opinion. My method has been to paint the flags on thin aluminium (.005in thick) with acrylic paint thinned with the matte medium. It usually takes several coats

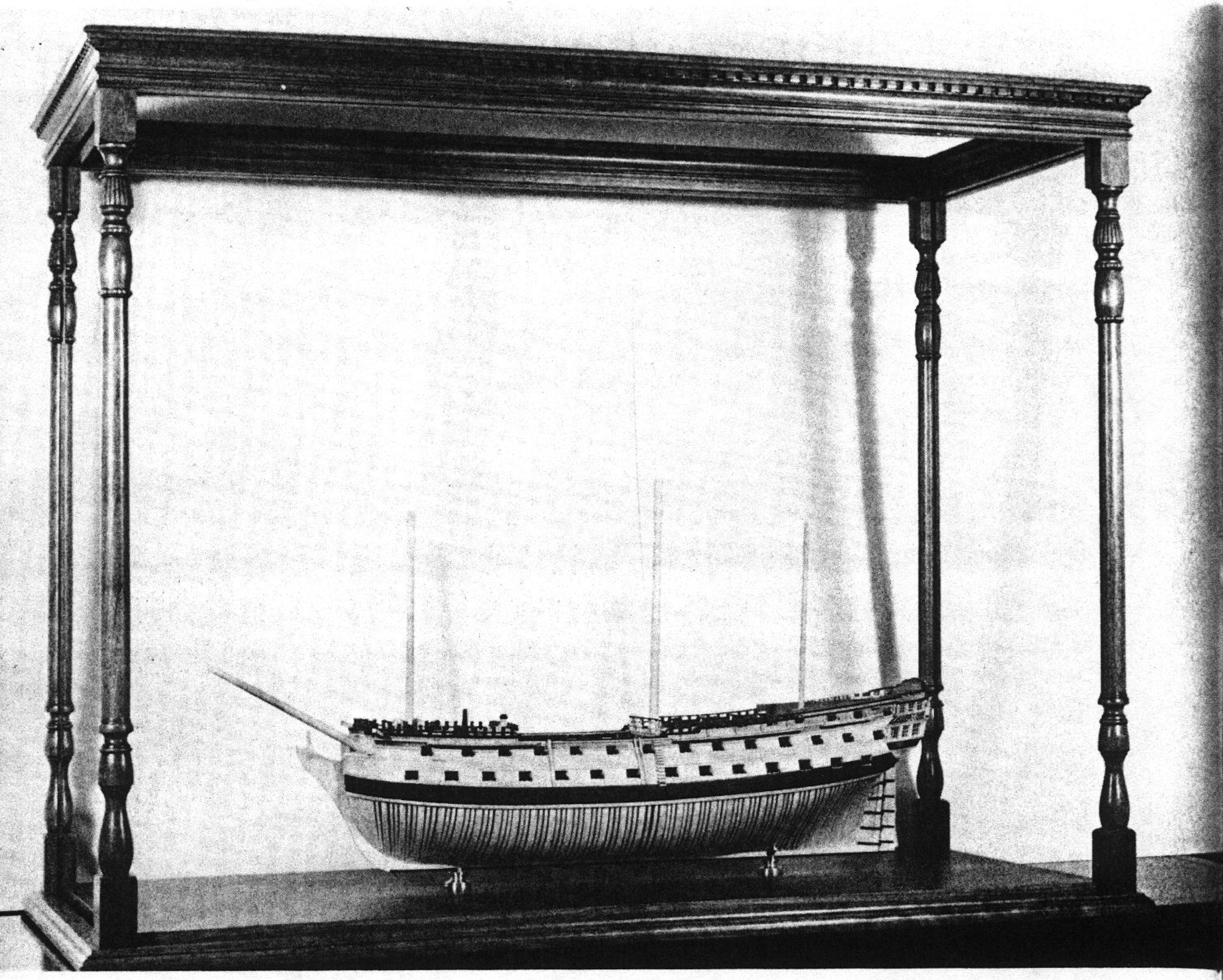


17.4

lantern piece was successively formed and cut off with angles top and bottom conforming to the side view. Ebony pieces were turned for the top and bottom sections of the lanterns with holes drilled through the bottom pieces to take the wires used to mount them on the stern.

Because of their small size, I made no attempt to finish the ebony pieces to their correct sloping octagonal shapes. They were fastened to the ends of the plexiglass sections with epoxy glue. I considered painting the Mullions with a fine brush but soon realized that I couldn't achieve the precision required for satisfactory results. Instead, I made use of my drafting pen to draw in the window framing on the eight sides of the plastic. The effect was fairly realistic with the sash on the opposite side visible through the transparent material. Bent copper wires were fixed in the bottom holes of the lanterns, fitted to holes in the taffrail, and painted black. The units were then stored safely away, not to be permanently mounted on the model until the rigging was finished.

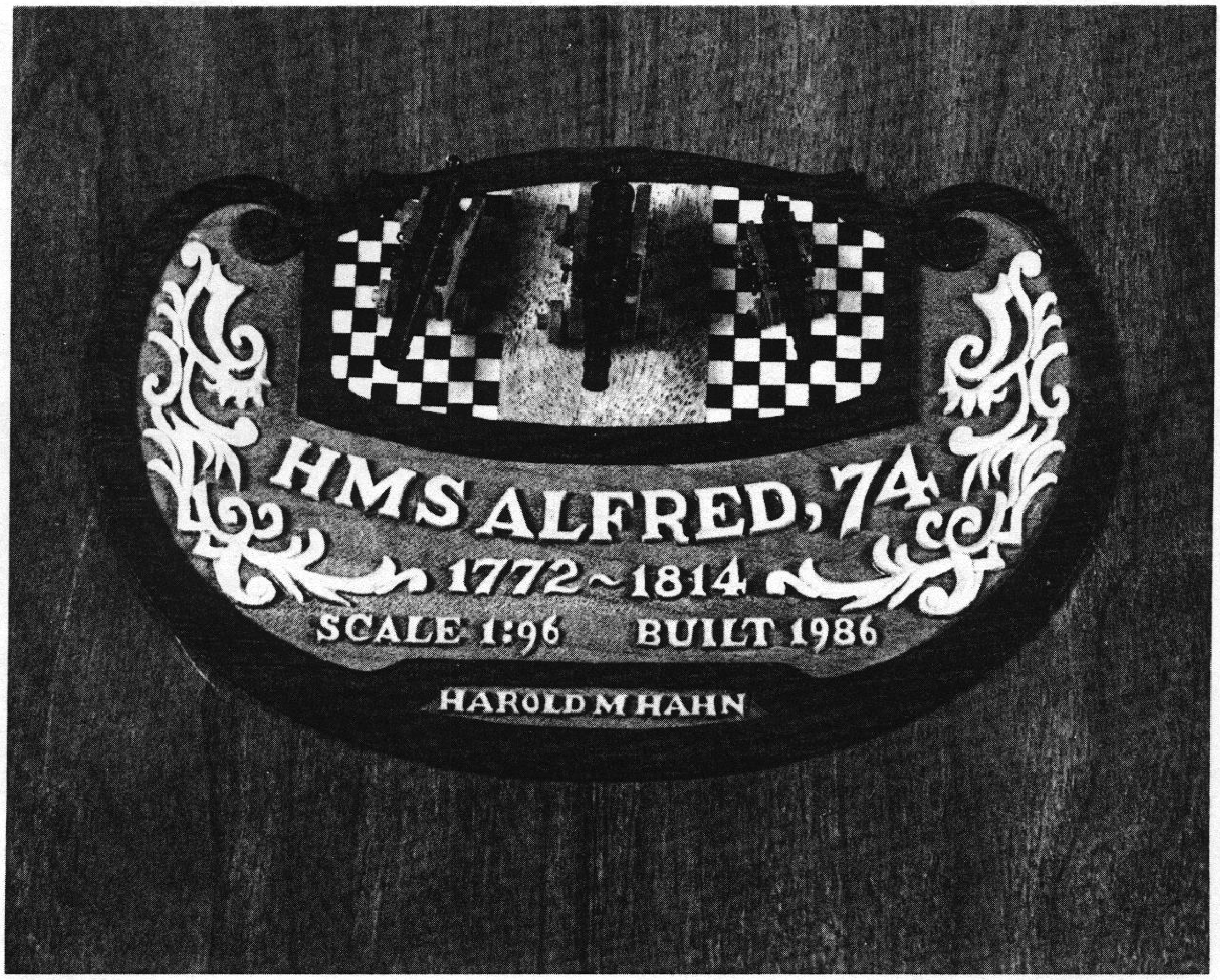
Flags on a ship model are another feature where faithful duplication of the prototype must be compromised. It is obviously impossible to produce cloth to the small scale of a model. The ship modeller must choose whatever method he prefers to create the appearance or illusion of reality that satisfies him. This condition will naturally lead to differences of opinion. My method has been to paint the flags on thin aluminium (.005in thick) with acrylic paint thinned with the matte medium. It usually takes several coats



17.5

brushed crossways to get the desired opacity. The rubbery acrylic coating makes it possible to bend and fold the sheet of aluminium without any danger of cracking the painted surface. With holes drilled along the edge of the flag, a hoisting rope can be tied and epoxy glued to it. I won't insist that this way of making flags that I have chosen is the best possible, but the illusion is such that some viewers have been surprised to learn that the flags were aluminium. I suppose that is because those people see cloth where they expect to see it.

The last and very sizeable project to be undertaken in completing the model of *Alfred* was the addition of 44 gun port lids. Taken individually, those lids would be simple enough to produce. However, because of the number required, it was necessary to prepare hundreds of small duplicate pieces. All thirty of the gun-deck ports (which includes the two port holes in the counter) require lids to keep the water from pouring in when the hull was heeled over in high seas. The officer's quarters on the upper deck had lids for the aftermost four ports on each side. On the quarter-deck level, the three ports on either side of the round house had lids to provide privacy and protection from the elements. In the study of Admiralty model photographs, I found that in some cases gun port lids were made so that when they were closed they would blend with the hull lines. This was most evident when the openings cut through the wales or decorative features. There were other examples where no effort was made to observe this condition. I finally decided



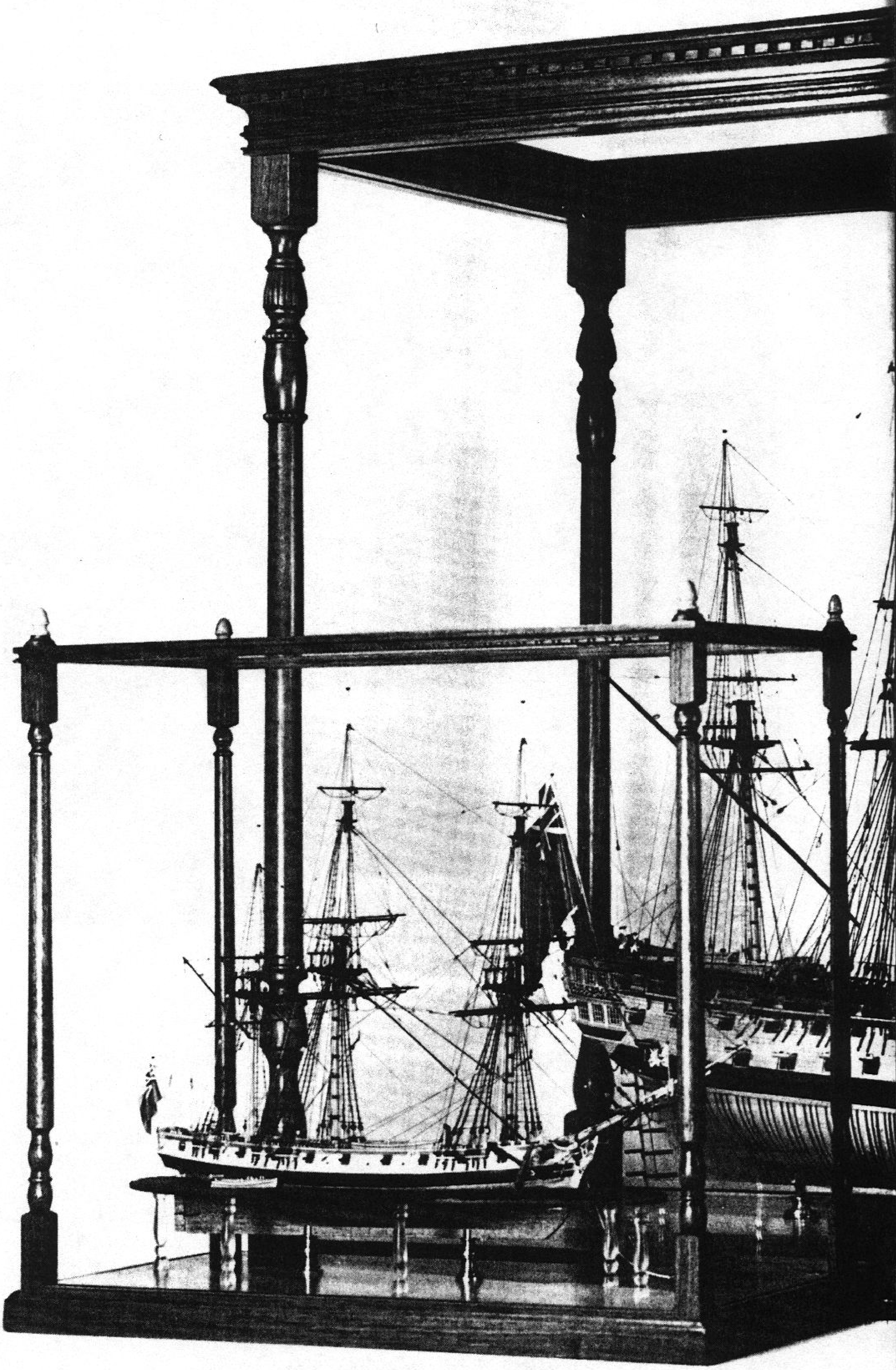
17.6

on making gun-port lids for my model of *Alfred* to suit the lines of the hull at the opening they were meant to fill.

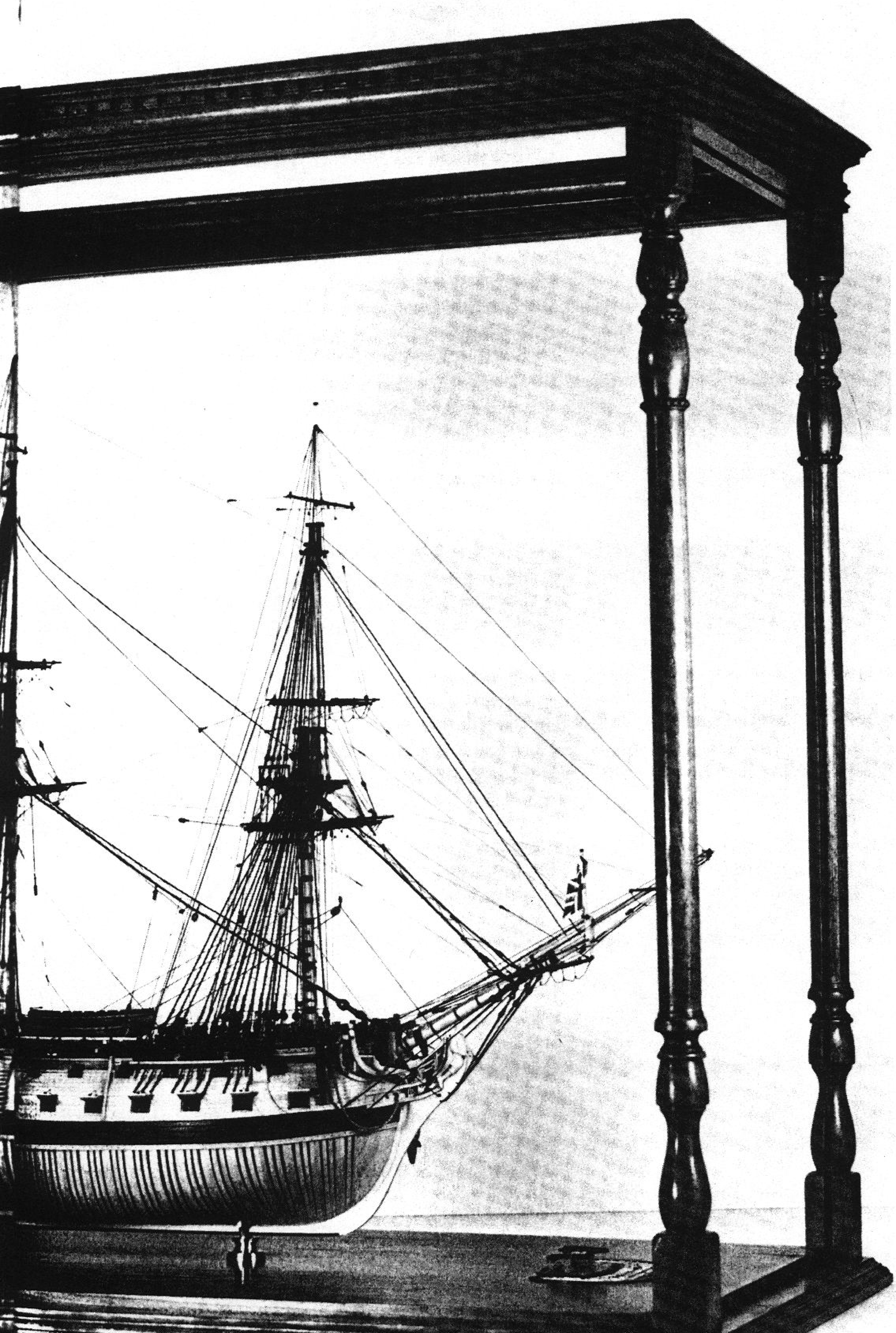
In making the wood lids, I started with a strip of Swiss pearwood, .040in thick, long enough to make the lids for a particular deck level. Strips of the same materials and sizes that had been used to plank the hull were glued onto that base in the same relationship as on the hull. I laid out the shapes of the port openings on that assembly in such a way that they would match the configuration of the hull planking. Those shapes were sawed out and marked to identify them with the gun ports for which they were intended. The backside of each lid was sawed through the Swiss pearwood to the planking material $^1/_{32}$in from the side and bottom edges and the materials stripped away to form rabbets allowing the lid to seat itself in the port opening.

Hinges were needed to hang the lids on the hull. I made them from strips of brass sheet .008in thick. The end of each hinge strip was rolled around a length of lill pin which was then soldered in place. Some soldering flux applied to the joint and a flake of solder that had been shaved off with a razor blade and strategically positioned on the pin secured it in the hinge when heat from the soldering iron was applied. The capillary action that served to join the anchor shank to its flukes was useful in this instance as well. As soldered, the pins were long enough to project on both sides. They were trimmed off to leave a projection of about $^1/_{32}$in on one side only. While this was being done, it was important to keep track so that an equal number of right and left hand hinges were produced.

The reader might find useful application for the method that I use to cut brass strips from a sheet of shim stock. Use of the shears or ordinary scissors will cause a cut strip to curl out of shape. To get a flat, perfectly straight strip, I score both sides of the sheet with the sharp point of a chisel or scriber. A steel machinists' scale is used for a straight edge, and the brass is scored while lying on a hard, smooth surface like formica or glass.



17.7




IRIS


IRIS