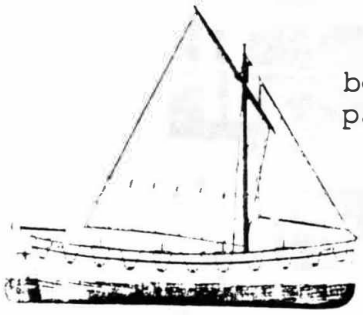
San Diego Ship Modelers' Guild

1306 N. Harbor Drive San Diego, CA 92101

August 1993 NEWSLETTER Volume 17, Number 8



A ship is always referred to as "she" because it costs so much to keep one in paint and powder.

Chester W. Nimitz 1885-1966
Speech, Society of Sponsors of the United States Navy (February 13, 1940)

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THE FIRST MATE SPEAKS:

Jim Hawkins passes along his thanks to all who attended our July birthday party making it a success. He is especially appreciative to Gordon Jones for bringing his accordian and providing some lively music after first making an emergency "ice and mix" run with Fred F.

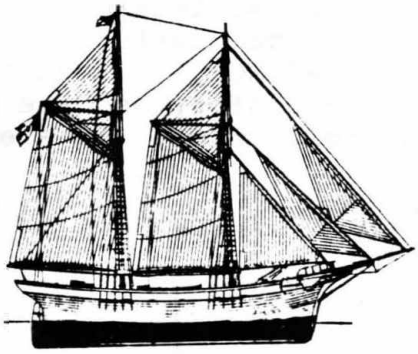
Actually, it is Jim who deserves the praise as he brought the food and did most of the work. On behalf of all who attended, the entire staff of the Newsletter says "Thanks to you,Jim. Well Done!"

DEL MAR FAIR VOLUNTEERS:

The fair has come and gone for another year. Our guild was represented this year all but one day (July 4th - Sunday), which was no small feat. The following members participated: Joe Bompensiero, Bob Crawford, John Fluck, Chuck Hill, Doug McFarland, Jack Klein, and Ed White. Our "booth" was set up with the San Diego Fine Woodworkers Association and it should be noted that several of our volunteers are also members of this group as well. Besides explaining the Guild and answering questions about ship modeling, they promoted the Maritime Museum and benefits of membership. They hope to do this again next year and are looking for additional volunteers. Any takers??

AUGUST

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

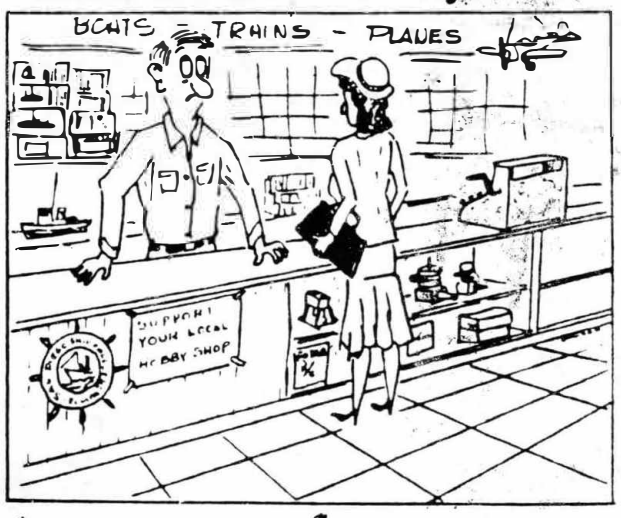


NEXT MEETING 7PM

Aboard the Berkeley

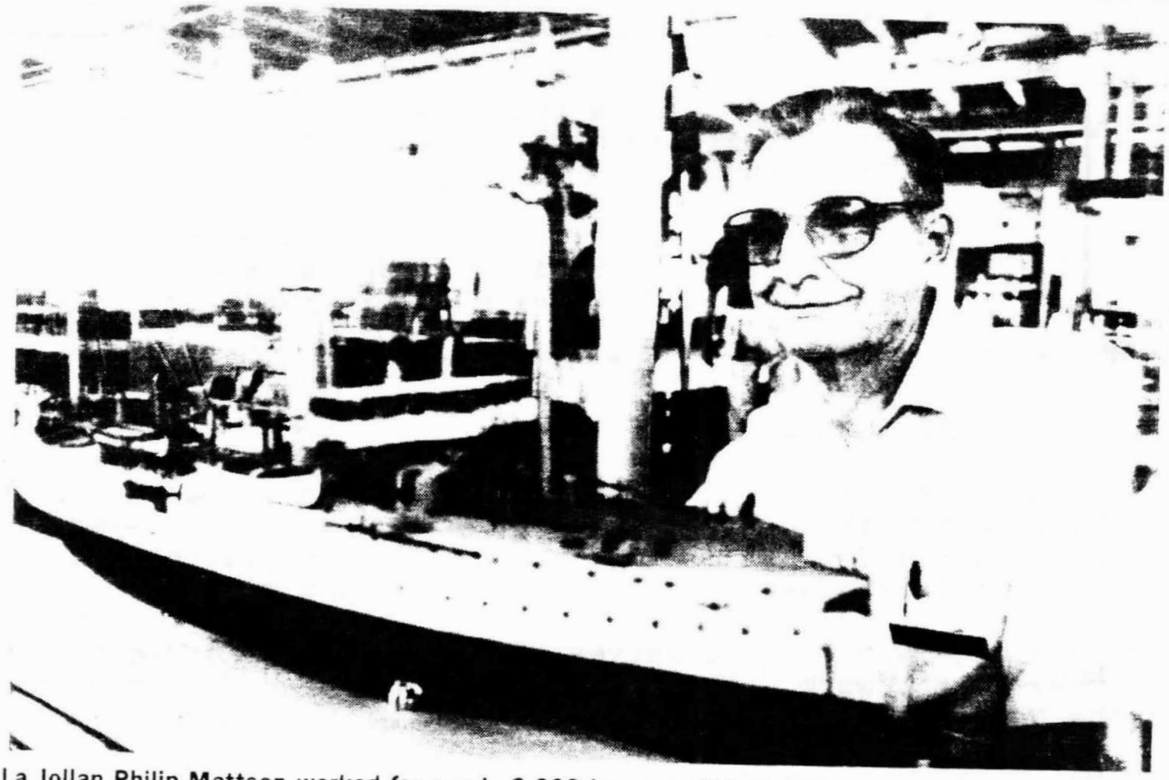
Bring a model or something,ok??

SHOW & TELL **by Nilson**



"I WOULD LIKE TO BUY $20 WORTH OF SCRATCH".

NAMES IN THE NEWS: The article below appeared in "Senior World" this month. Phil was also the guest of honor at a reception held July 21 aboard the Berkeley. Congradulations, Phil.



La Jollan Philip Mattson worked for nearly 2,000 hours on this model of the U.S.S. Bennington to be displayed aboard the ferryboat Berkeley in the San Diego Maritime Museum. On July 21, 1905, the gunboat Bennington's steam boilers blew while anchored in San Diego's harbor and 65 crew members were killed. The explosion remains the worst peacetime disaster in U.S. naval history. Mattson's model is one eighth to a foot scale. It is made from poplar wood and the hull coated with copper sheeting.

Erik C. Hanson photo

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MORE GUILD MEMBER RECOGNITION:

When the STAR sails this month, three of our members will be aboard as specially-invited/honored passengers. They are Phil Mattson, Jack Klein and Joe Bompensiero. This well-deserved recognition is a result of Jack and Joe's work and completion of the model SAN SALVADOR and Phil completing the USS BENNINGTON. Both of these models represent ships unique to San Diego history and are major contributions to the Maritime Museum's model collection. We are all very proud of you guys. BRAVO ZULU!!!

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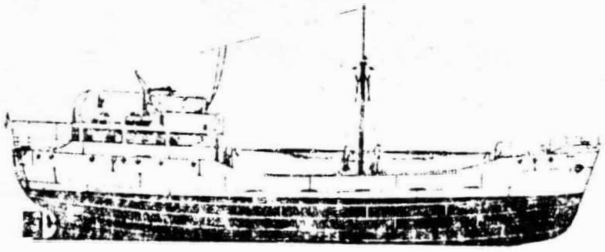

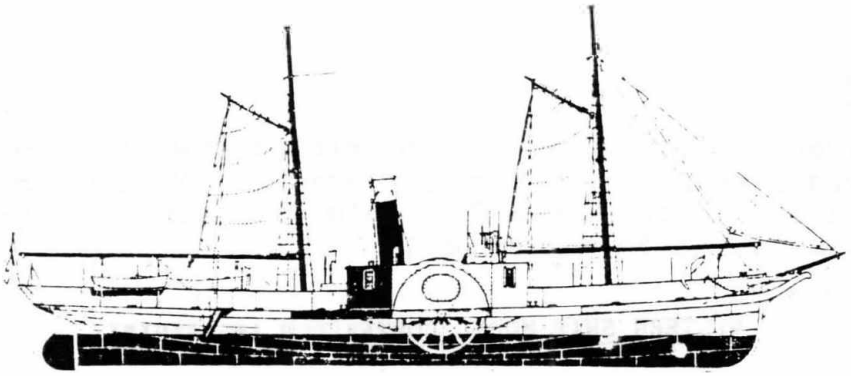

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PASSING THE WORD ALONG:

Jean Eckert, Editor for South Bay Model Shipwrights' newsletter, included this item in their last newsletter.

* * *

STOLEN MODELS -- (Other clubs receiving this bulletin - please spread the word.) Dick Weed of the Breakers Gallery, 911 Capitola Ave., Capitola, Ca 95010, reports that the following ship models and other items were stolen from his gallery on June 6th or 7th:

1) 1940's French 1-man yacht "Kurun", plank-on-frame, mahogany finish, 32" long, with sails - built by Efren Sanchez, San Carlos;
2) Replica of "California", 2-masted topsail schooner - teak & mahogany, 32", no sails - also by Efren Sanchez;
3) "Essex" - 36" solid-hull kit model, yellow & dark green hull, no sails, many figures throughout deck & rigging - built by Jos. Pelletier of Long Beach;
4) "Niagara" - brig of 1812 (Perry's flagship), solid hull, approx. 18-20", black, red & white hull - full sails - also by Jos. Pelletier;
5) "Mystic" of 1830 - 2-masted racing-type fishing schooner, 36", no sails, black bottom, green topsides - built by Seacraft of Phillipines;
6) J-boat "Endeavour" - 32", no sails, blue topsides, white bottom, also by Seacraf
7) Bronze sculpture by Tilford of a ship's captain holding telescope, standing by a helm - clock in base - weighs about 65 lbs;
8) Antique 6" Chelsea bell-strike clock in cradle.

None of these models were in cases. If anyone has any information, call Dick Weed at /redacted/. Understandably, there is now a new alarm system at th Breakers Gallery, and also understandably, Dick is looking for some more ship models to sell!

* * *

FOR SALE

36" Sailboat with sails and stand--Needs minor finishing--R/C can be added $25

5 ft. Harpoon Lamp with 225 heave block for base $75

Brass Bell Ship's Clock $300

U.S. Navy WWII black ship's clock $150

Bob Wright
/redacted/

COMING EVENTS:

Vic Crosby sent the following information down from Seattle which he received via a newsletter from the Oregon Maritime Center & Museum. He also indicated via phone that he's planning on attending with a batch of his "ships-in-a-bottle."

WESTERN SHIP MODEL CONFERENCE AND EXHIBIT

The Ship Modelers Association of California plans to hold a Western Ship Model Conference and Exhibit on the R.M.S. QUEEN MARY at Long Beach on March 25, 26 and 27 1994. The exhibit will include displayed models, seminars, speakers and vendors of books, kits tools and supplies. Participants and their families can stay on the QUEEN MARY at reduced prices, up to 3 days before and 3 days after the event. It is assumed that costs will be comparable to that for other national conferences.

The Ship Modelers Association wants to know if OMC&M, NSO or others from our area would like to attend and/or participate. Specifically:

How many would probably attend this conference?
How many would plan to stay on the QUEEN MARY?
How many models might be shown?

The Association wants a response as soon as possible to help them plan. If you are interested, or think you might be, please call **Ed Neubauer** /redacted/ who will coordinate our response and supply information as the conference develops.

This is a real opportunity for model builders to show off and to learn, and possibly the last opportunity to have a stateroom on the QUEEN MARY. Could be fun!

Ed Neubauer

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MEDEA CRUISE:

To date about 24 Guild/Argonauts have signed on for the MEDEA harbor cruise scheduled September 11. In order to meet our goal in contributing $1,000 to the Museums' general fund, fourteen more are needed willing to donate $25 for this cause. Any member who would like to invite additional guests may now do so. Contact Ed White at 583-0847 for more details. Remember, this is a first come, first serve deal, so don't be left standing on the pier by waiting to the last minute.

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Model Yacht Pond Schedule

AUGUST

1	Power Practice A.M. / Sail Points Series P.M.
7	Ship Modelers Guild A.M. / Sail Practice P.M.
8	Power Practice All Day
14	10:00 Mid Summer Regatta S/B & US1M
15	10:00 Mid Summer Regatta S/B & US1M
21	8:00 Ship Modelers Guild Regatta
22	Power Practice All Day
28	Ship Modelers Guild A.M./ Sail Practice P.M.
29	Power Points Series All Day

This article is reprinted from our January 1978 Newsletter and was written by your editor who believes that since the laws of physics have not been repealed, it is still current some 15 years later.

DISPLACEMENT CALCULATIONS: "Cube of scale" or "Block Coefficients??"

From several different articles written by more knowledgeable persons than your editor, it is apparent that there exists two different methods of roughly calculating displacement of ship models. The first and perhaps simplest is: scale cube divided into "full load tonnage". In order to do this one cannot cube scales as we in America normally use, i.e. 1/8", 1/16" or 1/4"= 1 ft. This scale must be converted to the actual ratio of 1 foot of model to 1 foot of real ship which is also the scale most commonly used with models sold on the international market. So 1/8" to 1 ft. becomes 1 to 96; 1/16" is 1:192 and 1/4" is 1:48. For simplicity, model manufactureres of plastic and metal "waterline" models round this scale out to the nearest 1/100th. Hence 1:96 becomes 1:100; 1:192 is 1:200 etc. with 1:600 and 1:1200 becoming also very common.

Also important in this formula is converting tons to pounds and even ounces in the case of small plastic models. Apparently long tons (2240 lbs.) is used vice short tons (2000 lbs.). Let's take, as an example, Al Lheureux's model of the USS MISSOURI (BB-63) which he built in 1/8" to 1 ft. scale. If 1/8" = 1 ft., then 1" = 8 feet, and 12" or 1 ft. = 96 feet (12"X 8'), hence 1:96. IOWA class battleships originally displaced 45,000 tons, so:

$$\text{(Tonnage displacement)} = \frac{45{,}000}{\text{(Scale: (1/96)}^3} = \frac{45{,}000}{96 \times 96 \times 96} \text{ or } \frac{45{,}000 \times 2240}{884{,}736} = 113.9 \text{ lbs.}$$

So much for "cube of the scale."

Now let's consider the second method, "volume times "block coefficent." Block coefficient is really nothing more than a ratio of the underwater body of a ship or model, compared to a rectangular "block" of that body. The overall lenth of USS MISSOURI is 887 feet, however, the waterline length if 861 ft. with a 108 ft. beam and 29 ft. draft. Dividing each of these by 8 (1/8"= 1 ft.), we come up with:

107.6" x 13.5" x 3.6" = 5,229.36 cubic inches

The "block coefficient" for a battleship is .63, so:

5,229.36 x .63 = 3,294.5 cubic inches

A cubic foot of salt water weighs 64 lbs; fresh water = 62.5 lbs. Mr. J.B. King, in an accompanying article states a cubic inch of water weighs .0363 lbs.

So: 3,294.5 x .0363 = 119.6 lbs.

Between the two methods we have a 5.7 lb. difference, easily corrected by ballast (more or less??). As a check one could take the dimensions of the actual ship,(861'x108'x29')= 2,696,652 cu. feet times .63 = 1,698,390.7 x 64 lbs divided by 2240 = 48,539 tons. We originally used 45,000 tons, not 48,539, so the "block coefficient" for battleships must have at least a slight error in this case. (cont.)

. . . the recoil of a properly constructed gun, however miniaturized, is calculated taking the cube root of the scale . . .

Since battleships' beams were limited to the Panama Canal width, over the years (1911 to 1941) their beams remained nearly constant while length increased. (NEVADA and OKLAHOMA had 108 ft. beams, but their waterline lengths were 286 feet shorter than the IOWAs designed 30 years later.) So the "block coefficienct" method is but a rough calculation, depending upon the type hull/model being built.

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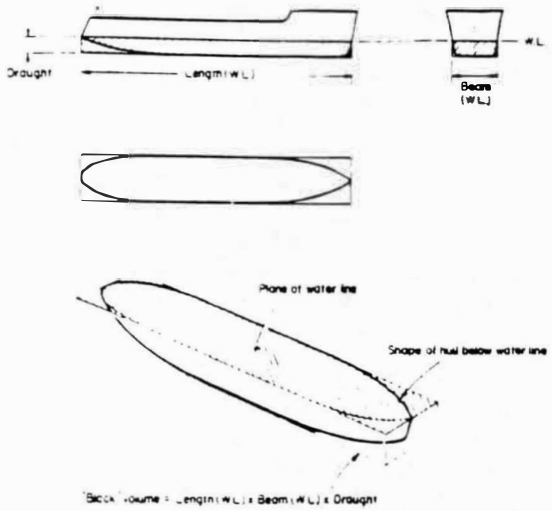
MODEL BOATS

(from "MODEL BOATS" July 1974 p 262)

Starting to build?

(or mathematics made easy)

A look at some of the problems facing the model shipbuilder when contemplating a new model – By J. B. King



THE other day I was discussing with a friend his proposed new model which was to be a stern wheeler paddle boat of the Mississippi type.

However, after a few calculations it was obvious that if he built the model to the size he was proposing, the displacement would not be enough to carry the motor, accumulators, radio gear etc. It occurred to me, being quite quick on the uptake, that many newcomers to modelling might be interested in how I go about the planning of a new model.

Let's face it, it's a good idea if the ignominy of spending two years building a boat that floats too low in the water or rolls over and sinks can be avoided. It has been known for blokes to seek the contemplative life and enter a monastery (or should it be a convent?) when that happens.

The two basic aspects of modelling to be discussed here are:

1) How big?

2) How shall I power the darn thing?

Unfortunately these two aspects are to some extent interconnected – there's nothing easy in this life.

Taking No. 1 first, the size is often determined by the plans, as unless they are redrawn or reproduced to a different size building to different dimensions is going to be difficult. My method of photographing the plans and tracing off a projected image I described in *Model Boats*, November 1973.

However, let us assume the size of the model has been decided upon. The next step is to calculate (I know it's a horrible word but do pray continue, the process is painless, I assure you) how much water the model will displace when floating to the correct water-line.

If you recall, the Greeks found out that the weight of the water displaced by a floating body equalled the weight of that body. Archimedes did a streak from his bath when he discovered this fact, remember? Today he would have got a £10 fine and bound over to keep the peace.

In practice this means find the volume of the hull *below* the water-line in say cubic inches, multiply this by the weight of one cubic inch of water and you will have the total weight of the model; if it's to float to its correct water-line.

At first sight calculating the volume of a complicated shape such as a boat hull seems difficult but this is where a bit of low cunning comes in, known as the Block Coefficient.

This is the ratio of the volume of a given hull to the rectangular 'Block' of size: water-line length x water-line beam x draught (depth to water-line) and even *you* can calculate that! See diagram.

Block Coefficients for various hulls are:

Destroyer appx.	0.51	
Cruiser	0.55	
Battleship	0.63	This table from
Liner	0.64	'Radio Control
Trawler	0.64	Model Boats',
Tug	0.60	MAP publication.
Tanker	0.80	page 31.
Cargo vessel	0.65–0.84	
Motor Cruiser	0.55	

Nothing like a practical example to illustrate the method.

Let us assume a destroyer model of 36 in. long (WL) by beam 4 in. (WL) by draught 1½ in. Then the volume of a block of this size will be:

36 in. x 4 in. x 1.5 in. = 216 cub. in.

The actual volume of the hull will be this figure multiplied by the appropriate Block Coeff. (Block Coeff. for destroyers 0.51 see table)

216 x 0.51 = 110.16 cub. in.

Say 110 cub. in.

Now this is the volume in cubic inches of the part of the model in the water, i.e. the volume of water it will displace. The weight of this volume of water will also be the weight of the model.

As 1 cubic inch of water weighs 0.0363 lb. the weight will be equal to:

110 x 0.0363 = 3.993 lb.

Let's not be funny, say 4 lb. This figure should be within about 10 per cent of the actual weight.

This then is the total weight of the model, so we can now prepare a list of estimated weights – trying not to forget anything – remember that contemplative life!

Weight of hull	2 lb.
,, ,, superstructure	½ lb.
,, ,, motor(s)	1 lb.
,, ,, batteries	1 lb.
,, ,, radio gear	½ lb.
,, ,, ballast	1 lb.
Total	6 lb.

Problem: The calculated displacement is 4 lb. but the model weight is estimated at 6 lb.!

Don't forget the ballast – narrow beamed vessels such as destroyers are likely to require more than, say, a flat bottomed craft such as a stern wheeler.

Today's chuckle

Thanks to the present price of gasoline, oil tankers should be called clipper ships.

(from "MODEL BOATS" Sept 1966 page 383)

"Well, you know what a stickler I am for detail . . ."

San Diego Argonauts
R/C Model Boat Club
Presents
DISTRICT 19 HEAT RACING
Sept 4 &5 at San Diego Model Yacht Pond

OPEN WATER 8-8:45 AM RACING BEGINS AT 9:00 AM

FOR REGISTRATION AND INFORMATION CONTACT

MIKE VETA @ (714))495-1648

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Starting To Build (Cont.)

If the boat, on completion, floats too high, more ballast can of course be added. Some of these weights can be accurately determined from makers' catalogues, of course, but some will have to be estimated, which is a posh word for guessed. For instance, the weight of the hull and superstructure will be most difficult but past experience, if any, will be invaluable here – otherwise try other modellers, if you know any.

All this will now give you a very fair idea if the model is feasible. If the total of the list is greater than your displacement calculation, as in our example, you are in trouble. Either you must make the model larger or look at 'The List' again with a view to trimming something. A point to remember here is that you can always make the draught of the model larger, i.e. out of scale, and with some models this may be essential. The paddle steamer that I am building at present has 7/16 in. extra draught, as paddle steamers were always very lightly built.

In this case either work backwards from your list to get the extra depth or decide on a likely figure and rework the weight calculation.

However, and this is where the interconnection previously mentioned comes in, what motor and batteries are you going to use? Most scale models are perhaps best driven by electric power and a reasonable life say 1 to 1½ hours running is required. Electric motors are quite reasonably efficient and produce no heat to distort or damage the model, so electric power it almost must be – although for very large models steam is a possibility, you might say a necessity for steam addicts!

Remember you are not usually interested in great speed so very powerful motors are not required, nor are expensive cells of the silver-zinc variety. I have found the small lightweight lead acid accumulator is ideal although the current drain should be kept to say below 1.5 amps if a reasonable 'pond life' of say 1½ hours is required.

Selection of motor size can be helped by perusing the makers' advertisements, but again experience helps.

My 36 in. Oakley lifeboat – a very chunky hull – worked quite well with one Decaperm driving two screws through a simple gearbox. It worked much better with two Decaperms driving a screw each.

My present paddle steamer is 50 in. long and is driven by one Decaperm, but through a Pile gearbox and a chain drive to keep the paddle speed down. I would have fitted a Hectoperm but the beam was too narrow.

Which brings me nicely to my next point, and that is checking your guesses (?) as soon as possible.

Once the hull is finished I fit the power plant and get it into the water. Don't worry about getting everything lashed down and Bristol fashion, or installing the radio gear. Just do the barest to get it into the water, roughly ballast up and try it – in the bath first if you like.

Several things can now be *positively* checked for the first time.

1) Does the weight of the hull agree with your list? If lighter in actuality then you have something extra in hand. Conversely if the hull is heavier than expected something else must be trimmed – but at least some decision can be taken based on fact.

2) Is the drive OK, i.e. speed of the model satisfactory? The size and effectiveness of the rudder can also be checked at this stage if desired.

3) Power consumption tests can be done by fitting a simple ammeter in series with the motor. It may be necessary to change the size of the propeller – e.g. smaller if the amperage is too high.

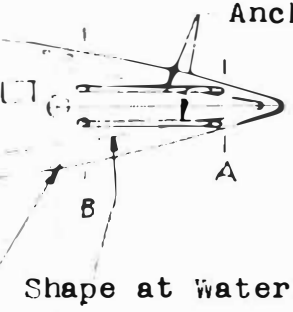
4) The amount of ballast required will give a very good indication of the amount of weight that can be taken by the superstructure etc. Remember the ballast does not have to be in the bottom of the hull; you can distribute it around anywhere you like. Put some of it above deck level to get some idea of whether the boat will be 'tender' (slow to recover from rolling) or 'stiff' (very stable).

All this should enable you to get an excellent idea whether it will prove a viable model. At least if anything is wrong decisions as to possible solutions can be made and tried out (?) and if the model is abandoned then you have only a hull to throw away! Or you could make a glass-case model?

One last point. I find that inevitably you collect a fair bit of paper work, catalogues, photos, even correspondence with other blokes similarly cursed with your complaint, so I keep a file and stick everything in it – it doesn't build the model but it helps by saving time hunting bits of paper; time that should have been spent at the bench.

Some models of course do not really require these calculations; it is obvious plenty of buoyancy exists – tugs, for example – but other vessels, as I have mentioned, destroyers and paddle steamers, among others, require care to avoid mistakes. In any case these calculations are easy to do and will give you an idea of what you can get away with.

Easy, that is, if you learnt your tables. Here's to good calculating!



Shape at Waterline

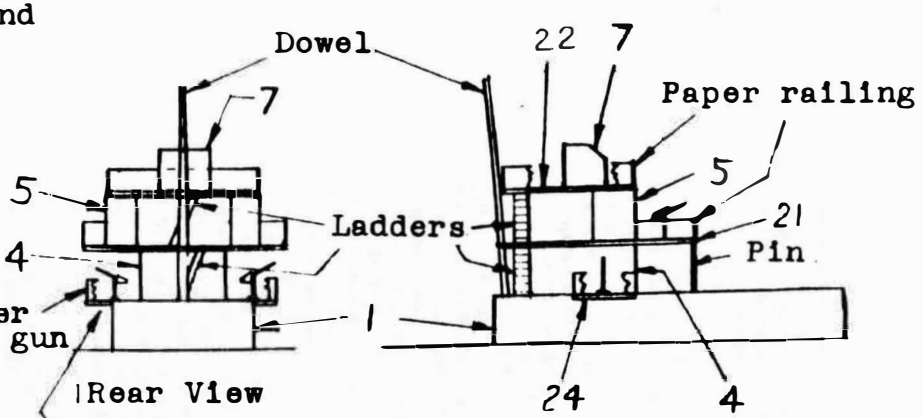
Black

Sand round

Shape of Small Boats
(Double-size)

Ladders
(Double-size)

Paint face black
then grey lines
for structure



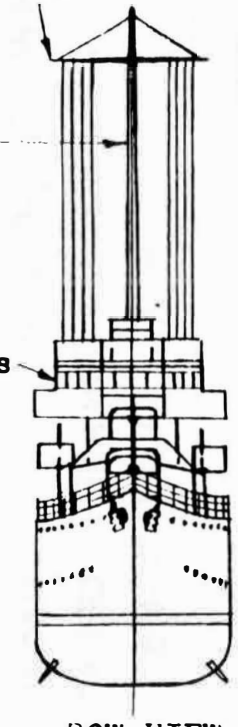
BRIDGES

Make 20mm guns from
small pins, cut & bent
as shown

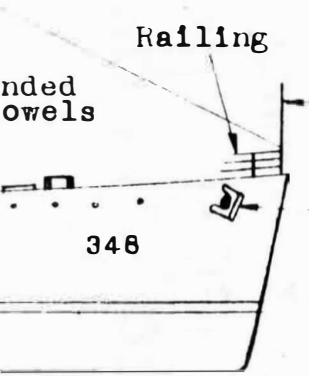
Section thru
Torpedo Tubes

ts from thin
ut 1/16"long
to deck

Sand dowel
for mast



BOW VIEW



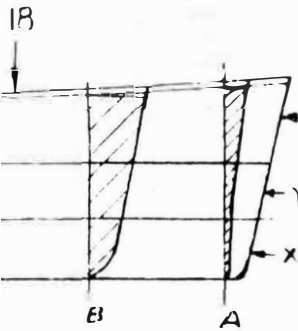
1/32"thick balsa

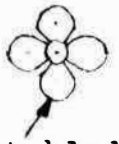
Anchor
(Double-size)

Color:
Grey- Everything above waterline
Red- Below waterline
Black-Waterline, top of smokepipes, and
bottom of small boats

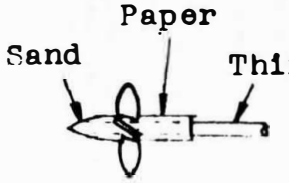
Sistership

DD348 FARRAGUT	DD352 WORDEN
DD349 DEWEY	DD353 DALE
DD350 HULL	DD354 MONAGHAN
DD351 MACDONOUGH	DD355 AYLWIN





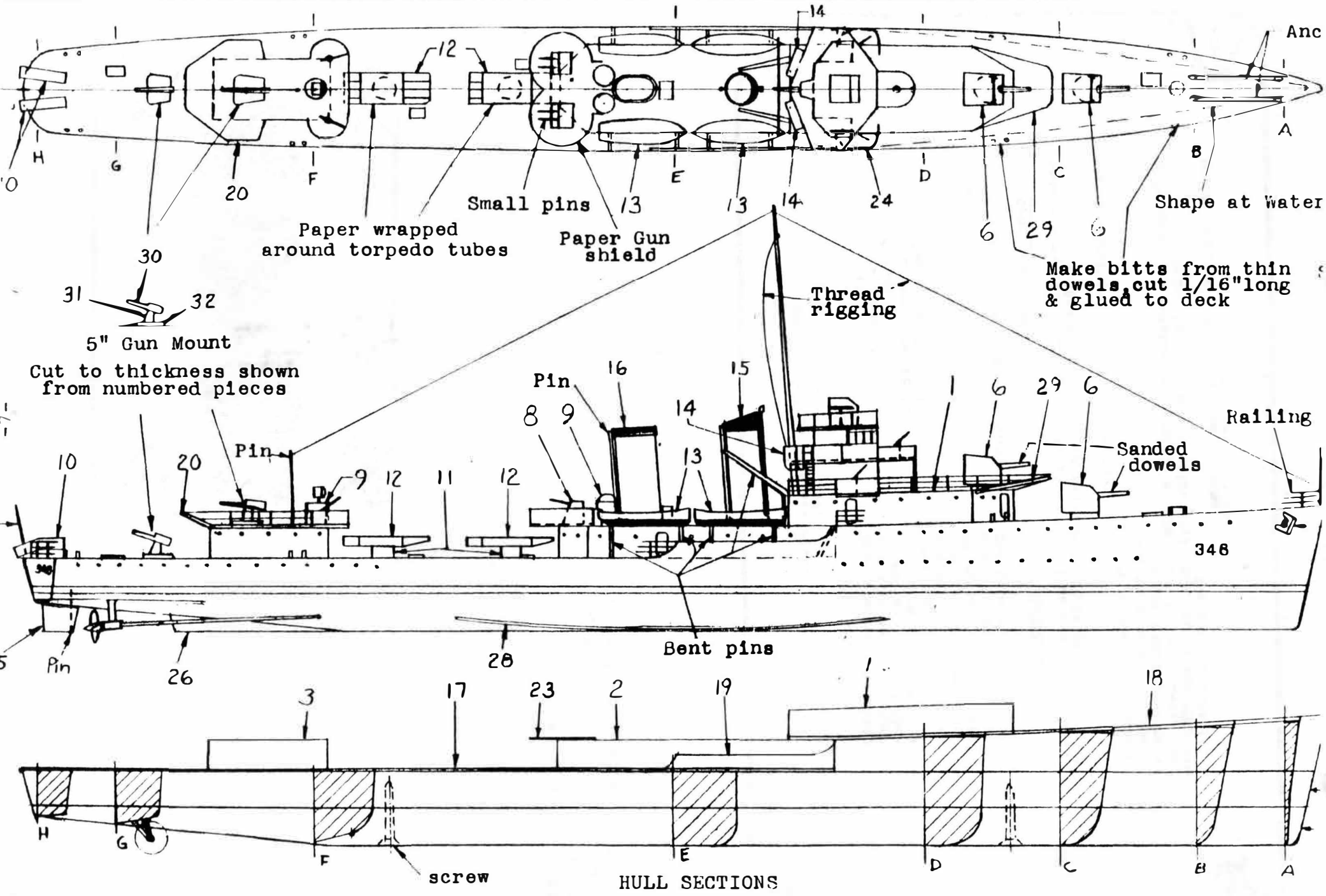
Cut blades from Pc.33

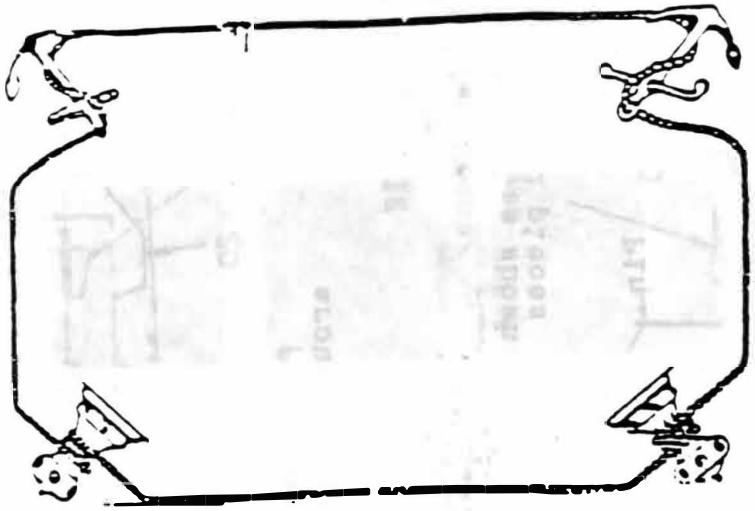


Propeller
(Double-size)

READING MODEL ENGINEERS		
READING, PA.		
DESTROYER U.S.S. FARRAGUT		
DRN. BY- E.H.W. 5/45	SCALE 1/32" = 1 FT	D-5

This was one of the first plans drawn by Ed Wiswesser in May 1945. He soon deleted the "how-to-do-it" instructions in the more than a hundred later plans. USS FARRAGUT was the first post-WWI destroyer, and first without "four stacks."


Anc
Small pins
Paper wrapped around torpedo tubes
Paper Gun shield
Shape at Water
Make bitts from thin dowels, cut 1/16" long & glued to deck
Thread rigging
5" Gun Mount
Cut to thickness shown from numbered pieces
Pin
Railing
Sanded dowels
348
Bent pins
screw
HULL SECTIONS



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c/o Maritime Museum Assc. of SD
San Diego Ship Modelers Guild

San Diego Ship Modelers Guild
Officers for 1993

Master	Bob Crawford
First Mate	Jim Hawkins
Purser	Ed White
Logkeeper/Secretary	Bob Cornell
Newsletter Editors	Fred Fraas
	Gordon Jones
Steering Committee	Bob Wright
	Ed White
	Bob O'Brien
Regatta Committee Chairman	Dan LePage

Schedule of Activities:

Meetings --Third Thursday of the month
7:00PM Social; 07:30PM Meeting

Static Workshops -- (discontinued)

R/C Operations --Saturday mornings at the Model Yacht Pond. (Mission Bay)

Annual Regatta-- Third weekend in June

Membership:

Dues are $15 annually ($7.50 after July 1st)

We strongly encourage all to join the San Diego Maritime Museum as expression of appreciation for the facilities they provide for our benefit.

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