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Vol. 74 Issue 893: APRIL 2025

model Boats

EDITORIAL
Editor: Lindsey Amrani

Illustrator: Grahame Chambers

Publisher: Steve O'Hara

By post: Model Boats, Mortons Media Group, Media Centre, Morton Way, Horncastle, Lincs LN9 6JR
Tel: 01507 529529 Fax: 01507 371066
Email: editor@modelboats.co.uk

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Archive enquiries: Jane Skayman
01507 529423 jskayman@mortons.co.uk

ADVERTISING
Advertising Sales Executive:
Mason Ponti
mason@talk-media.uk
Tel: 01732920499

Lisa Ebdy
lisa@talk-media.uk
01732 441642

By post: Model Boats Advertising, Mortons Media Group Limited, Media Centre, Morton Way, Horncastle, Lincs, LNP 6JR

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NEWSAGENT RESERVATION (SEE PAGE 74)
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WELCOME TO THE APRIL 2025 ISSUE OF MODEL BOATS

In yet another exclusive prize draw, this month we're delighted to be able to offer you the chance to win the newly improved and updated version of Billing Boats' 1:35 scale kit for *Zeeland* (a tugboat which, as some of you may be aware, started life, back in World War II, as the *Winston Churchill*). Examples of the original, long out of production, kit now command serious premiums on the second-hand market, so this revamped using the latest technology relaunch due for imminent release is bound to prove popular, especially as, although marketed as a static kit, the potential for R/C installation has been kept very much mind during the development process. We will be bringing you a hands-on build review (still currently a work in progress) in the May issue (on sale from April 18), so if this a project you're looking forward to tackling in the near future be sure not to miss it as it will be packed full of insightful observations and handy hints and tips.

Likewise, we'll be explaining how the Airfix kit for the 1:72 scale RNLI Shannon class lifeboat can, with a bit of plastic magic, be converted into a little R/C gem.

And, for the scratch builders amongst you, there will be a free pull-out plan for *Invicta*, a simply fabulous Thames Waterman's Launch, along with a fully illustrated and easy to follow in pagination guide to its construction. For a sneak peek of what can be achieved, see page 74.

Getting back to the here and now though, there's plenty to draw inspiration from on the pages ahead, with modelling features including everything from absolutely exquisite head-turners to great fun, thanks to their ingeniously devised working features, crowd-pleasers.

I hope, therefore, you will enjoy your read and that it may prompt more of you to consider, even if you've never done so before, submitting a contribution of your own, whether that be in the form of a feature length article or some content for inclusion in the Your Models section of the mag.

May I also remind all those involved in organising club/society open days, shows, *etc*, that we'll be more than happy to flag up the dates and details of your forthcoming events in our Compass 360 news section – although please bear in mind that, being a monthly publication, we will need at least four/five weeks advance notification. If that's not possible, an alternative is to email us a flyer we can more immediately post on our social media platforms (www.modelboats.co.uk and www.facebook.com/modelboatsmag).

I look forward to hearing from you!

Lindsey

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The original vessel was built by Richards Shipbuilders at Lowestoft and launched in 1965 as a development of the Plumgarth/Avongarth class. The success of her design lead to a further four ships of almost identical design.

She was powered by a 7 cylinder oil engine built by Ruston & Horsby, to a single fixed pitch propeller operating with a kort steerable nozzle.

Following sale by Cory and a number of years moored on the River Weaver she was purchased by Rigg Shipping and converted for coastal towing.

Latterly Lowgarth was sold to Fendercare and now operates in Nigeria carrying the name Charles Plane.

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OBITUARY
Dave Brumstead

The Brentwood Model Boat Club has advised us that, sadly, Dave Brumstead, one of its founder members, passed away in January following a long illness. Back in the 1970s, Dave and his fellow club members first began meeting up and sailing their model boats on a pond in Brentwood town centre, before sessions were then relocated to a lake on a local farm. When this much larger body of water proved to be 'a bit fierce', however, it was Dave who managed to find a more suitable venue, and the one still in use by the club to this day.

Before having to retire due to ill health, as well as playing an active role within Brentwood MBC, Dave also served as Vice Chairman of the MPBA and was a regular and valued contributor to this magazine

Our sincerest condolences to out to Dave's wife, Marion, his family, and indeed all his friends and fellow club members.

NEW KIT *The Black Swan*

OcCre has now added a 1:75 scale wooden kit for the pirate ship from Rafael Sabatini's famous novel The *Black Swan* and the 1942 film of the same name to its range. With a 3,342-part count (which includes hand stitched sails) and an estimated build time of 480 hours, no attention to detail has been spared and scaled plans along with full step-by-step instructions are provided. Online videos tutorial videos provide yet more support. For further details, visit https://occre.com

OUT AND ABOUT

Bourneville Lifeboat Day

Between 10am and 4pm On Sunday, April 13, the Bourneville Radio Sailing and Model Boat Club will be holding a Lifeboat Day at Valley Parkway, Bourneville Lane, Birmingham B30 1QS.

The picturesque venue boasts free parking and wheelchair-friendly access around the whole perimeter of the pool courtesy of a tarmac path and to the club house (from which visitors will be able to purchase refreshments) and toilets.

For further details, visit www.bournvillebrsmbc.com

Hampshire shows to dip into this spring

Members of the Portsmouth & District Model Power Boat Club (http://www.portsmouthmodelboatclub.co.uk/) will not only be displaying their own models but also offering visitors the chance to get hands-on with some great fun 'have-a-go' boats in a portable pool at two forthcoming events:

- The Popham Model Show (primarily dedicated to model aircraft) scheduled for the weekend of May 10/11 at Popham Airfield, Coxford Down, Winchester, SO21 3B (https://www.popham-airfield.co.uk/)
- The Overlord Show (https://www.overlordshow.co.uk), the annual military spectacular which this year take place over the long weekend of May 24-26 at The Lawns, Forest Road, Denmead, PO7 6HS.

For further info on these shows and to book tickets, please visit the websites listed above.

Model Boat Mayhem 2025

Hosted by the Wicksteed Model Boat Club at its home port of Wicksteed Park in Kettering, this year's event is scheduled for the weekend of May 24/25. As usual, the show will embrace all aspects of R/C model boat building and sailing, but the main theme for 2025 will be the 80th anniversary of the end of World War II. Visitors will be welcome to bring along their own model boats to sail, regardless of type, the only exception to this invitation being IC boats, which cannot be accommodated – although the organisers themselves will be putting on IC boats demos on both days.

Ample room around the lake allows for the pitching of numerous gazebos and tables, so there will be plenty of club and trade stands to browse, and catering outlets to purchase refreshments from.

Admission to the event itself will be free of charge, but visitors will need to pay for parking (details of which can be found at https://wicksteedpark.org/yourvisit/car-park-prices/). The majority of spaces will be no more than 200 yards away from the lake, with trollies and help with the transportation of models to the water available throughout the day.

For those wishing to make a weekend of it, pitches for camping can also be booked through the Park's website at https://wicksteedpark.org/your-visit/camping-at-wicksteed-park.

Model Boat Mayhem The Worlds Greatest Independent Model Boat Website & Forum www.modelboatmayhem.co.uk

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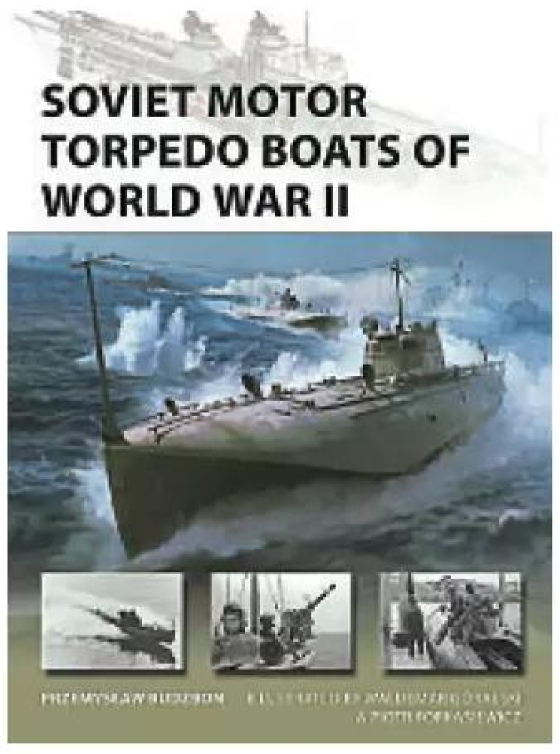


This new book, just released in paperback format, is the first English language publication to document the history of the torpedo boats designed for the USSR by the head of the Aerodynamic Institute Andrey Tupolev during the 1920s and 30s, and includes both new artwork and previously unpublished period photos

Allocated ISBN 9781472866608 and carrying an RRP (Recommended Retail Price) of £12.99, the title is currently being offered at a 10% discount (*i.e.* at £11.69) if ordered directly from www.ospreypublishing.com.

WHOOPS!
Chiltern Model Steam *erratum*

Regretfully, in last month's instalment of Boiler Room the address for Clevedon Steam was mistakenly repeated under the listing for Chiltern Model Steam.

To set the record straight, we must point out that Chiltern Model Steam markets its products exclusively online via its website (https://www.chilternmodelsteam.co.uk).

We can, however, confirm the address listed for Clevedon Steam (15 Lusart Drive, The Lizard, Helston, Cornwall TR12 7RS) as being correct.

Our sincerest apologies for any confusion caused.

PRIZE DRAW ANNOUNCEMENT

Billing Boats' Prize Draw winners

Congratulations to the lucky winners of our November 2024 and January 2025 (respectively) prize draws:

- WSP 10 Passau Patrol Boat kit
  Fred Revell of Kempston, Bedford
- Monterey Fishing Boat kit in limited edition Mediterranean finish
  Rob Sheridan of Lymington, Hampshire

There's yet another fabulous Billing Boats' kit up for grabs in this month's exclusive prize draw (see pages 38-39), so good luck everyone!

Visitors to the boat hall were greeted by this impressive model of HMS Ajax, one of the big 'Wooden Walls' fitted with pyrotechnics and used in the Napoleonic Wars reconstruction displays staged by the Portsmouth Model Boat Display Team.

2025 Midhurst Modellers Exhibition

Colin Bishop reports back on this year's show and delves into the history of a famous power boat

On visiting the 2024 show after a break of several years I was delighted to find that it had retained its support and popularity as a regional multi-modelling event, so I was interested to see if this successful formula would be maintained for 2025 – and I wasn't disappointed! If anything, the scope has broadened, with boats and railways still the mainstays but stronger support from other areas of modelling, notably model trucks, helicopters, wargaming and interesting one-off displays – such as a large collection of Concorde (the Anglo-French supersonic airliner) models, now evident. There were also some superb Meccano creations, including a working replica

A few of the many warships on the Portsmouth Model Boat Display Team stand.


The Portsmouth & District MBC stand occupied most of one wall, exhibiting models of all types and sizes.


Peter Goddard of the Runnymede Meccano Guild and his model of the 1912 Clyde Puffer Innisagra. Clyde Puffers were small vessels used on the canals around Glasgow and powered by early oil engines, hence no funnel.

of a German World War II Enigma ciphering machine, as used by the military, including on U-boats. Despite the additional content, there were still 12 model boating stands (one more than last year), these featuring many new exhibits. So, all still seems well in the modelling world of Sussex! Incidentally, the Grange Leisure Centre which hosts the exhibition is less than 10 minutes' drive from the Weald and Downland Living Museum where the BBC's popular 'Repair Shop' programme is filmed.

Entrance fees had increased a little, but £6.50 standard and £6 for seniors is still pretty reasonable for what was on offer, and all the exhibitors had made an excellent job of showcasing the modelmaking hobby. I can, therefore, thoroughly recommend a visit to this annual event, normally held on a Sunday in mid-February.

A model that particularly caught my attention was a Fairey Huntsman 31, named *Double Century*. Further enquiries revealed an interesting backstory about the full-sized boat depicted. In 1972 *Double Century* took part in the 15-day Venture Cup race from London to Monte Carlo, a distance of 2,400 miles, which some consider to be the greatest power


Swallow, Amazon and Titmouse, a collection of dinghies inspired by Arthur Ransome's classic adventure books, on the Springbok Model Boat Club display.

Kelvin Bird's Fairey Huntsman Double Century on the Portsmouth MBC stand (see description in the text).

The Thames Excursion steamer Windsor Belle exhibited by the Eastleigh Club. The original vessel, built in 1901, is on the National Historic Ship Register.

Fairlight, a fine example of a 1960s' Thames Luxury Cabin Cruiser built by Paul South of Hanwell & District Model Society from the Fairacre II plan by Philip Conolly, which is still listed by Sarik Hobbies in its 'X List' section.

boat race of all time. Only seven of the 21 entrants completed the course, and *Double Century* took the best overall performance prize and would have been in first place had she not stopped to rescue the crew of a capsized boat. *Double Century* also competed in the Cowes to Torquay powerboat races in the 1970s and was named after Double Century sherry imported by her original owner David Palengat. She was fully restored some years ago and now appears to be used for pleasure cruises on Lake Windermere, where the speed limit is 10 knots!

This model was created from a pre-made 1:8 scale all wood SLEC Precedent kit bought by Kelvin Bird and adapted to represent *Double Century*; work undertaken including a repaint in the appropriate livery and the addition of decals to match the vessel's appearance in the Venture Cup race. It is fitted with a brushless 700kv Ripmax Quantum 55 motor running on 6s LiPo cells (24v) and

This superb tug originated as a Caldercraft Imara kit bought by a Phoenix club member who sadly passed away before it could be started. Dave Steggles, one of his clubmates, purchased it from the family and with help from fellow members built the model in her later guise as the Royal Navy tug Perseverance. This model has won several awards.

Two lovely steam launches on the Phoenix club stand. Open launch models are always popular as the engine can be seen running when the boat is operating. With closed models such as tugs, only the vapour escaping from the funnel is an indication of what is going on inside the boat.

has a two-blade prop, affording a very realistic scale on the water performance.

Anyone wanting to model a Huntsman is spoilt for choice. SLEC market the Huntsman in kit format at 1:8 and 1:16 scales, while for scratch builders, Sarik Hobbies offers the Dave Milbourn plan at 1:16 scale, plus two older plans, one at 1:12 and the other former editor Vic Smeed's version at approximately 1:9 (which featured in the June 1970 issue of Model Boats).

Information on the other exhibits is mentioned in the photo captions, which highlight the sheer variety of boat modelling on display at this popular show. ●

The excellent Basingstoke MBC display was packed with models of all descriptions, demonstrating the scope of our hobby.

Stuart Turner is best known in boat modelling circles for its traditional steam engines, but those exhibited by the Worthing and District Society of Model Engineers are gas engines, running on gas or petrol, which were intended for light duty applications such as operating dynamos for domestic lighting, powering lathes, etc.

The charming little boat in the Rainbow Rock diorama. more than justifying its inclusion here!

QUEEN MARGARET

Nev Wade pays homage to one of the fastest and most magnificent sailing ships of the 19th century…

More elegant than any superyacht, "The Beautiful Queen Margaret".

The open aspect of the large lakes of North Tyneside on which I sail offer the perfect conditions for my large square rigger models, and this one is a particular beauty! I built her from plans drawn up by Harold Underhill to a scale of approximately 1:68, and she measures in at a mighty 1360 mm long (from stern rail to bowsprit end), with a beam of 190 mm and a main mast height, from keel to main truck, of 775 mm.

> *"I built her from plans drawn up by Harold Underhill to a scale of approximately 1:68, and she measures in at a mighty 1360 mm long (from stern rail to bowsprit end)"*

The barque's backstory

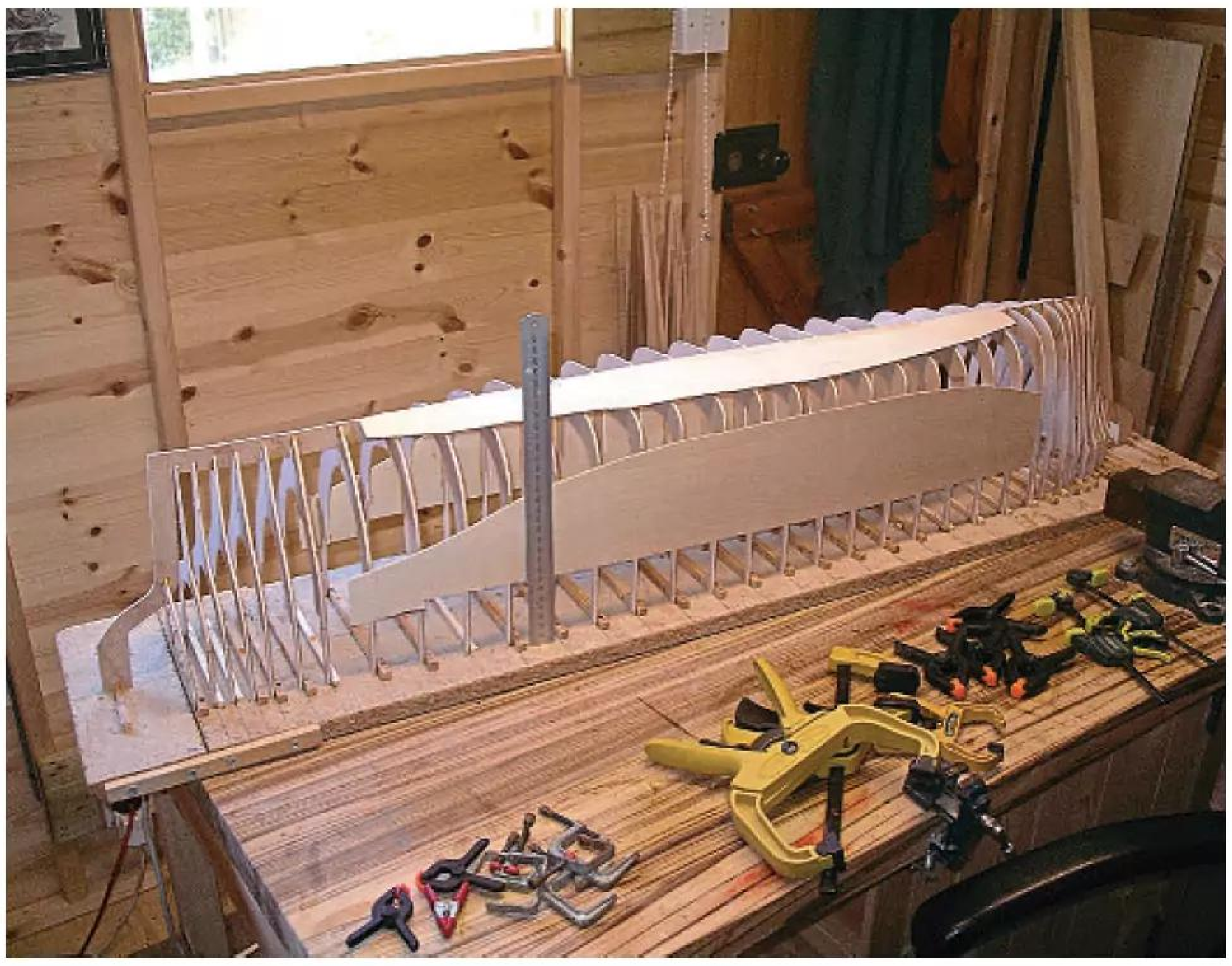
In the last 20 years of the 19th Century and right up to the Panama Canal opening in 1915, the 'San Francisco Grain Fleet' took general cargo from Europe to California and brought back grain. The 'Fleet' was not an organised

The real Queen Margaret, with her sky sail yards sent down.

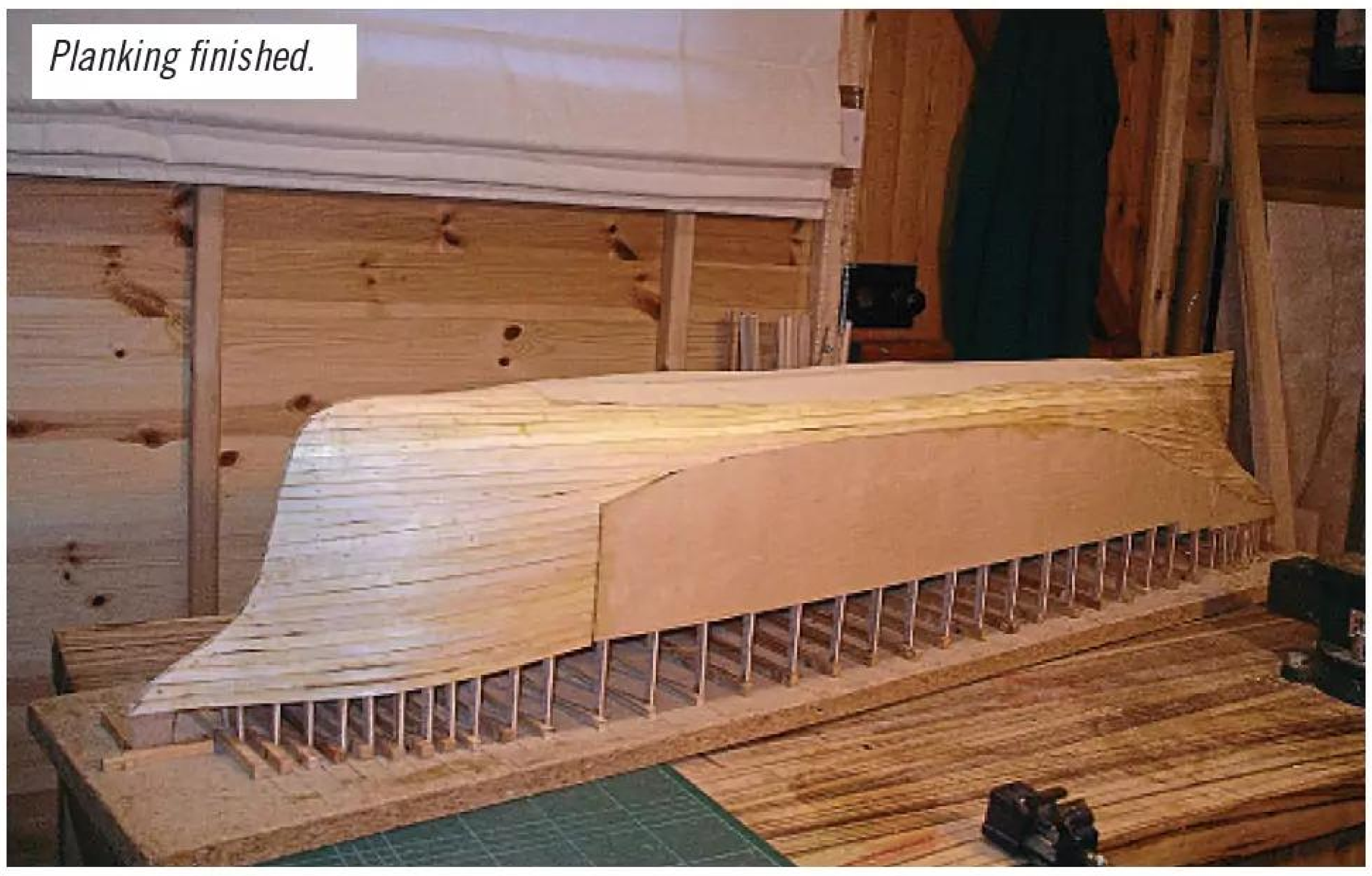
entity, just the blanket name given to the ships which made money from the trade. From the Gold Rush in the late 1840s, on through the building of the great Californian cities, to the re-building of San Francisco after the earthquake and fire, right up to World War 1, the best of the worlds' sailing ships made the long and hazardous journey to and from California, round Cape Horn, deep loaded both ways.

Many of these vessels were the final development of deep-water sail, before the advent of the steamship turned sailing ships into undermanned floating boxes, and the *Queen Margaret* was often referred to, even back in the day when people took these exquisite sailing ships for granted, as "*The beautiful Queen Margaret*'. Indeed, there are documented examples of this. In the southern summer of 1897, the four masted barque *Springburn* was beating her way to windward round Cape Horn on her way to the west coast of South America. Coming the other way, the 'easy' way, with a fair wind, was *Queen Margaret*. As the ships passed, one of *Springburn*'s crew was moved to write: "*It was about noon when she came into view. What*

With the lines plan on the wall behind, here the first frames for Nev's hull going onto the building board.



Plywood going on to the relatively 'flat' bits.



Planking finished.

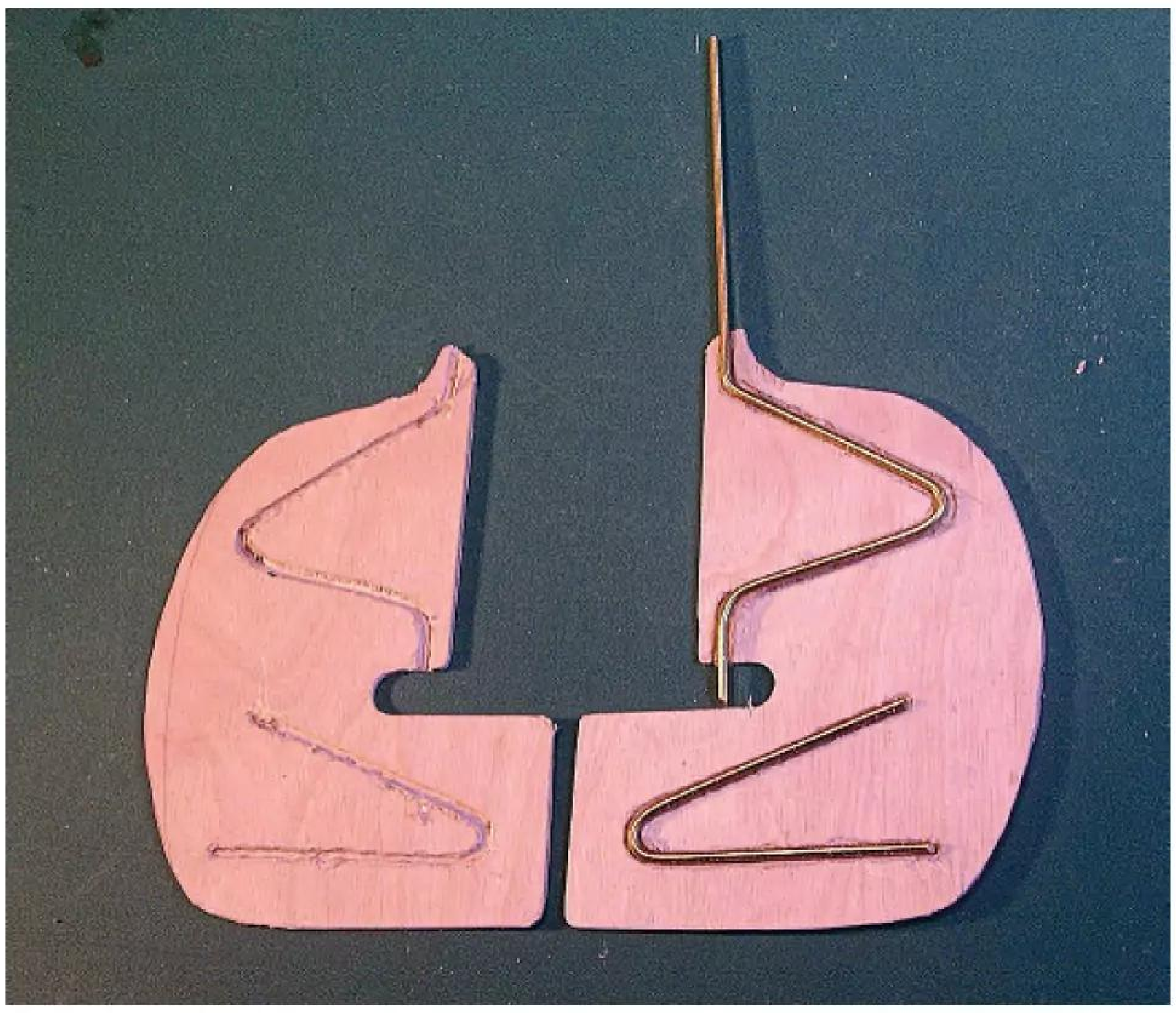
Off the board.

a magnificent sight she made. In a short time, she was up to us, easing up a point or two to round under our stern, not more than 40 yards from us. If ever any ship topped 16 knots, the beautiful Queen Margaret was doing it then. Despite the shriek of the gale, we could hear the thrash of her as she swept past."

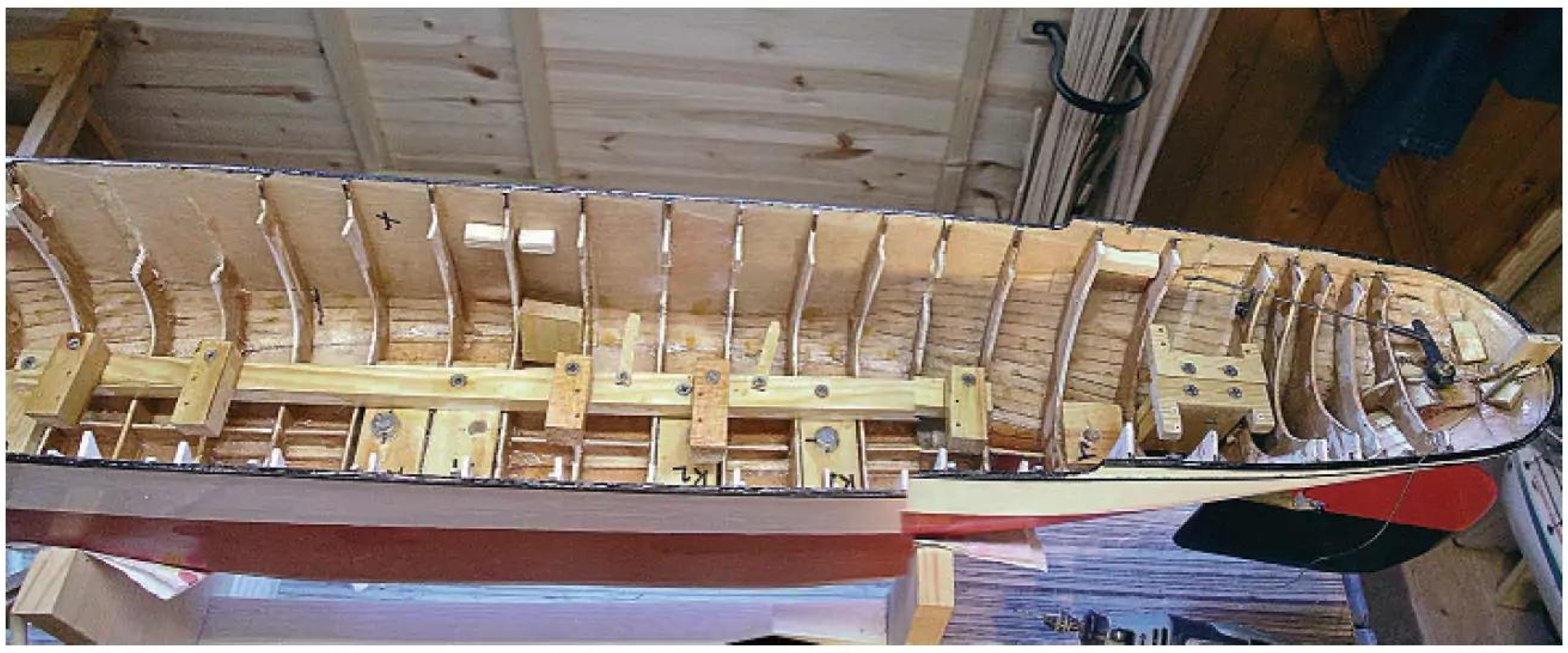
Queen Margaret was built in Glasgow in 1893 by McMillan's for John Black & Co., also of Glasgow. She was 275 ft long, with a cargo capacity of 3400T. She sailed the world for 20 years until, in May 1913, she arrived off the Lizard with a cargo from Sydney. In those pre-radio days, ships had to sail close to the coast in order to receive, by signal from the shore, discharge of cargo orders, and on this occasion, the *Queen Margaret* struck a submerged rock about a quarter of a mile from the lighthouse. Although the impact was not severe, sadly, it proved fatal. Within three days, the masts had gone by the board, and she broke up – a sad end for a fine ship.

The sheer line cut, and the hull filled and rubbed down ready for paint.

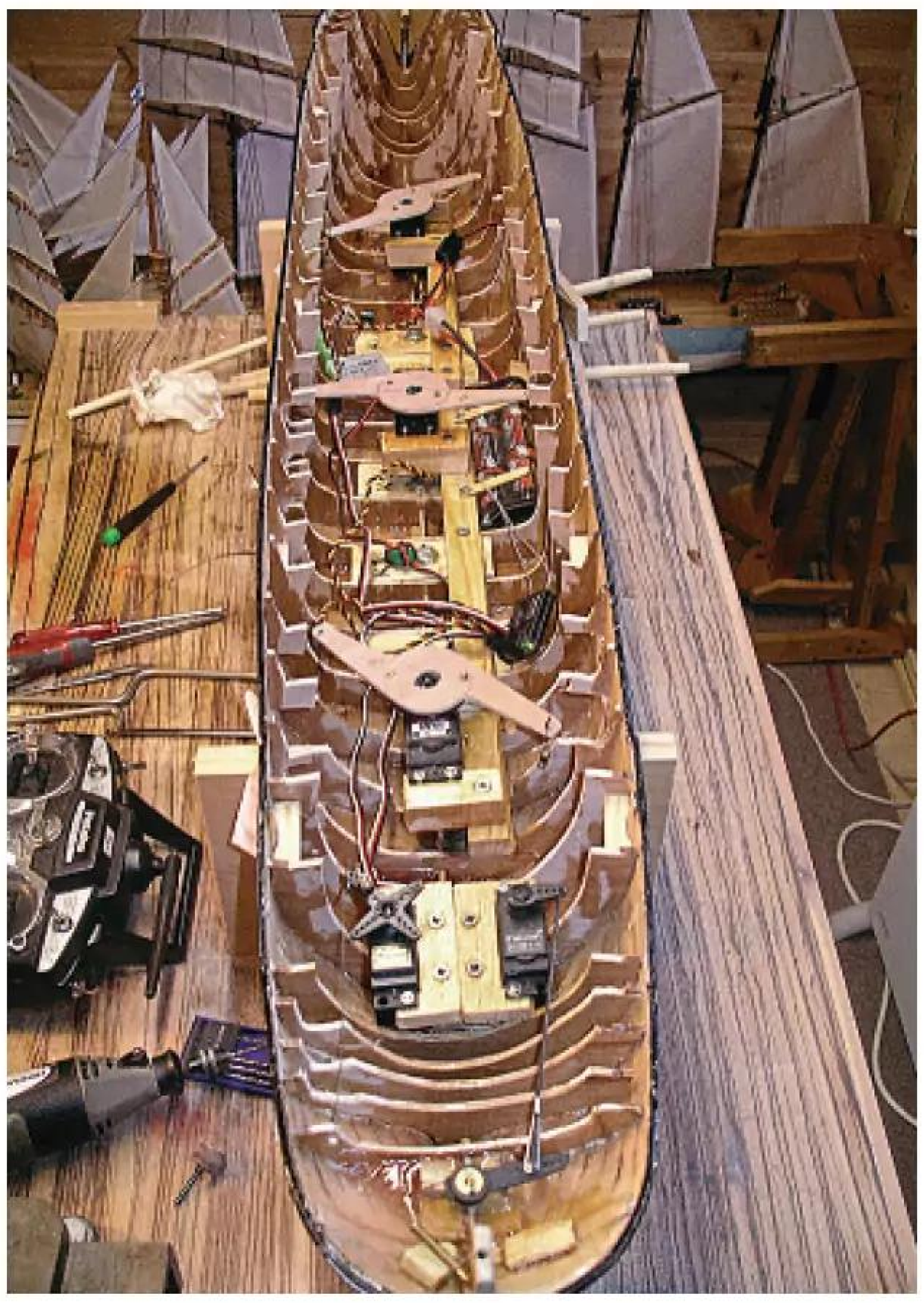
Now painted, with the interior fibre-glassed and resin'd.



The rudder, part built, with the brass wire to be sandwiched between the halves obvious.



A stitched picture, illustrating the fixing points for the servos and the locating positions for stepping the masts. Note the rudder is in place.



The stern, at the bottom of the picture, and the servos all installed. There are three sail arms with centrally mounted arms, one each per mast for the yards, and two normal servos at the stern for the rudder and the spanker/gaff upper topsail, controlled as one, on the mizzen mast.

Modelling the hull

The hull of my model was constructed from 2mm plywood for the relatively flat bits, with 8 x 2 mm lime wood strip for the more 'shaped' parts. This 'skin' was glued to frames made from simple plywood, fastened upside down on a solid base board.

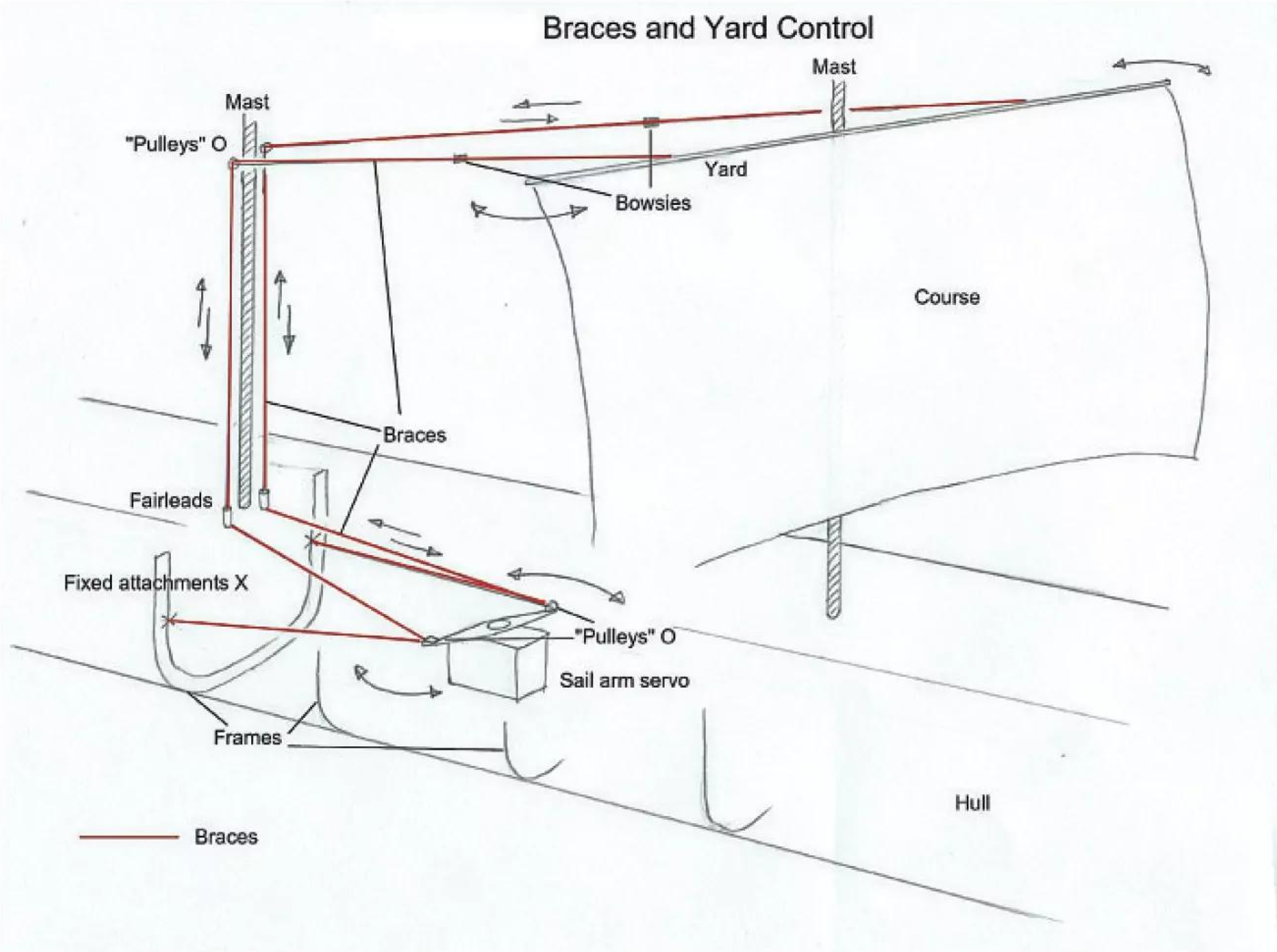
> *"This strengthens and provides additional waterproofing to a model's hull ahead of it being painted"*

After completing the rough hull, upside down, I removed it from the board, cut off the 'legs' which had supported it, and trimmed the 'sheerline' (the top edge of the finished hull). There are some strakes on the hull, which add ornamentation, and so I added these at this point, using 0.5 mm strip wood. After which, I filled and rubbed down the exterior. I then lined the inside with fibreglass tissue and used resin to seal it. This strengthens and provides additional waterproofing to a model's hull ahead of it being painted, for which I use enamel and satin finish varnish.

The rudder

The next step was the rudder. Sailing ship rudders were manually operated, with no power assistance, so they were tiny in relation to the size of ship. A scale rudder would be ineffective in the tight confines of a model boat pond, so mine was built at least ten times scale size. I built it in two halves, sandwiching between them pieces of 2.5mm diameter bent brass wire in cut grooves, such that the wire protruded from the top and bottom to fit into the underside of the stern and into a removable bracket made from bent brass sheet at the bottom end of the hull. The wire was bent within the 'sandwich' so that twisting the top by use of an operating arm would make the rudder turn from side to side. The whole assembly was then glued and clamped until set. A brass tube was set into the stern to accept the top wire of the rudder, while the bracket mentioned above was fitted to the stern to accept the bottom wire. The rudder could then be fitted, with an operating arm attached to the top wire within the stern and the arm connected to the rudder servo in the usual way.

This boat needs a substantial sailing keel, so the hull's kelson (the longitudinal frame) was strengthened in the middle by the addition of a wooden batten. Inside, I added blocks on the centreline in which to set the four masts and the keel bolts. Through this arrangement, and out through



The layout of one pair of braces for one sail on one mast. On the model there are two pairs per square-rigged mast: one pair for the course (the lowest square sail) and one for the fourth square sail from the deck, to space out the pull on the masts.

the bottom of the hull, I drilled three holes, into which I glued 8 mm diameter bolts for the removable sailing keel to attach to. In the blocks for the masts, I also drilled 'sockets' into which the heels of the masts would be glued. Fitting of a block to accept the heel of the bowsprit completed the bare hull.

The sailing keel

In order to float to a required waterline, in addition to the weight of the installed electrics some ballast was required. The next stage, therefore, was to conduct a waterline test with all the electrics in situ. Lead was then added until the hull floated to the correct waterline (in this case representing the almost fully loaded ship). This weight of lead I cut into strips, which I bolted at right angles to an aluminium strip. I cut out a shaped plate from a sheet of aluminium, into which I drilled a series of holes corresponding to the holes I had drilled into the aluminium strip so that I could attach the strip to the plate and be able to adjust it fore and aft. The top of the plate was bent at right angles to itself so that it could be attached to the bolts fitted into the hull.

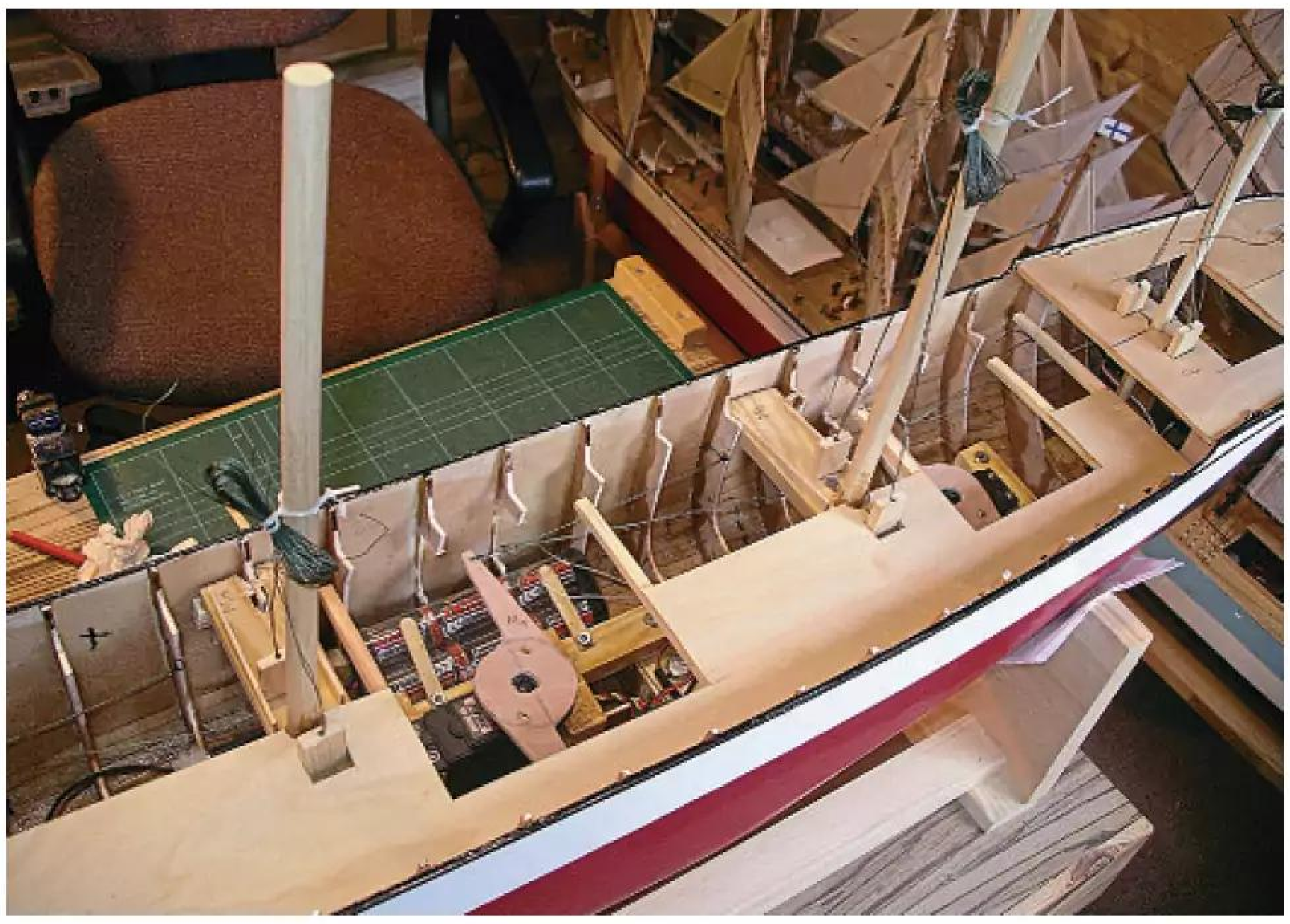
I then had to determine the position of this sailing keel, fore and aft, in relation to the hull to get the correct 'trim' in the water. So, the hull went back into the water and the keel was moved fore and aft inside of it until the trim was right. This allowed me to mark the position of holes to be drilled in the 'bent over' top of the plate so that they'd match up with the keel attachment bolts in the hull.

Eventually, the completed sailing keel was attached to the hull, and the hull was put in the water for a final trim trial (to enable any adjustments required, the aluminium strip could be moved fore and aft along the plate). Once satisfied, the sailing keel was then removed from the hull and put aside until the model was ready to be sailed.

The electrics

The heart of a model square-rigger is the method of sail control, and I'll come to the detail of this later. For now, all that's necessary to know is that the square sails are controlled by sail arm servos with centrally pivoted arms that pull 'in' the 'yards' (the spars that carry the square sails) at one side of the vessel as they are 'let out' at the other. Each square-rigged mast has a sail arm servo, three in all. In addition to these, there are two normal sized servos, one to operate the rudder and one to pull 'in' and let 'out' the fore and aft sails on the aftermost mast.

I screwed a batten all along one side of the centreline to the blocks glued into the bottom of the hull. At three points along this I screwed in short pieces of thinner batten, in pairs, so that I could centrally locate the sail arm servos for each mast. At the stern I glued in suitable pieces of wood to allow mounting of the two normal sized servos for the rudder and

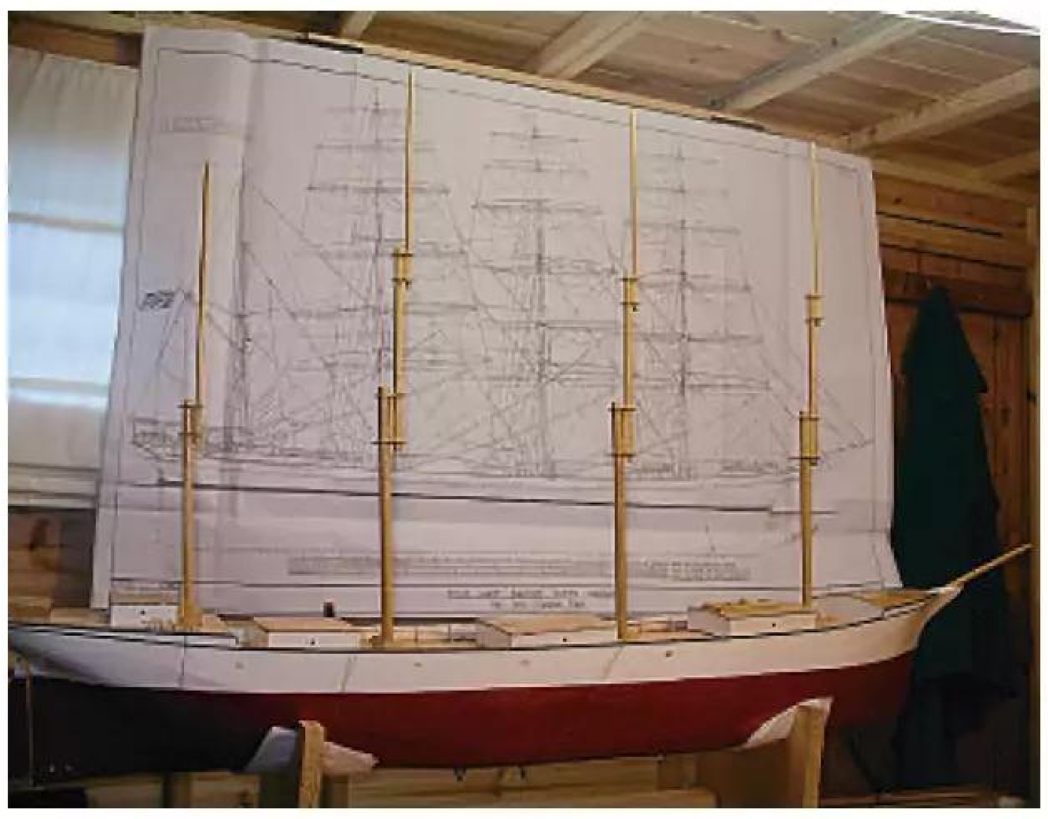


The masts stepped and located by their thwarts and the false decks being cut and fitted. On the sail arm just above the battery are the braces for the main mast yards; these run up through the deck via fairleads either side of the mizzen mast and are temporarily tied to the mast about 200mm above the deck.

The false decks glued in and with decorators' caulk applied all around them. With the hatches and their coamings and tops fitted, the decks are now being planked.


The detachable sailing keel, all 8kgs of it, attached to the hull by the use of 8mm diameter bolts.


The flotation trial at Tynemouth Pond.


Set against the General Arrangement drawing, the boat with all the masts in.


The yards and their pivots, fashioned from brass wire, sheet and tube.


Shown here on the main mast, an arrangement whereby the top two square sails on each mast are removable so as to facilitate 'bending' the sails.


Backstays and shrouds: even with the rigging simplified, there's still a lot of it!


Over the starboard quarter: the oversized charthouse and the steering box serve as hatch covers, allowing access to the servos, etc.


The fo'c'sle head and the fore part of the main deck. Again, the model's deck constructions are oversized so they can double as usable hatches over the servos and electrics.


Off the port bow.

'spanker' – the lower fore and aft sail on the aftermost (jigger) mast.

I used a 7.2V NiMH battery for my motive power and coupled it to the receiver via a UBEC. I am no electronics expert so can only give you a vague idea of why the latter is required. As I understand it, a UBEC ensures that each servo gets enough power from the battery and that the receiver doesn't detect too little power and go into 'failsafe' mode. Note that I use Futaba radio equipment from ten plus years ago, and its aero model origins have required this protection in order to give a throttle 'failsafe'. The loads imposed by square sail operation can lead to a 'failsafe', which causes loss of control of the main mast yards occasionally. I have absolutely no doubt there will now be more elegant solutions, but this *does* work.

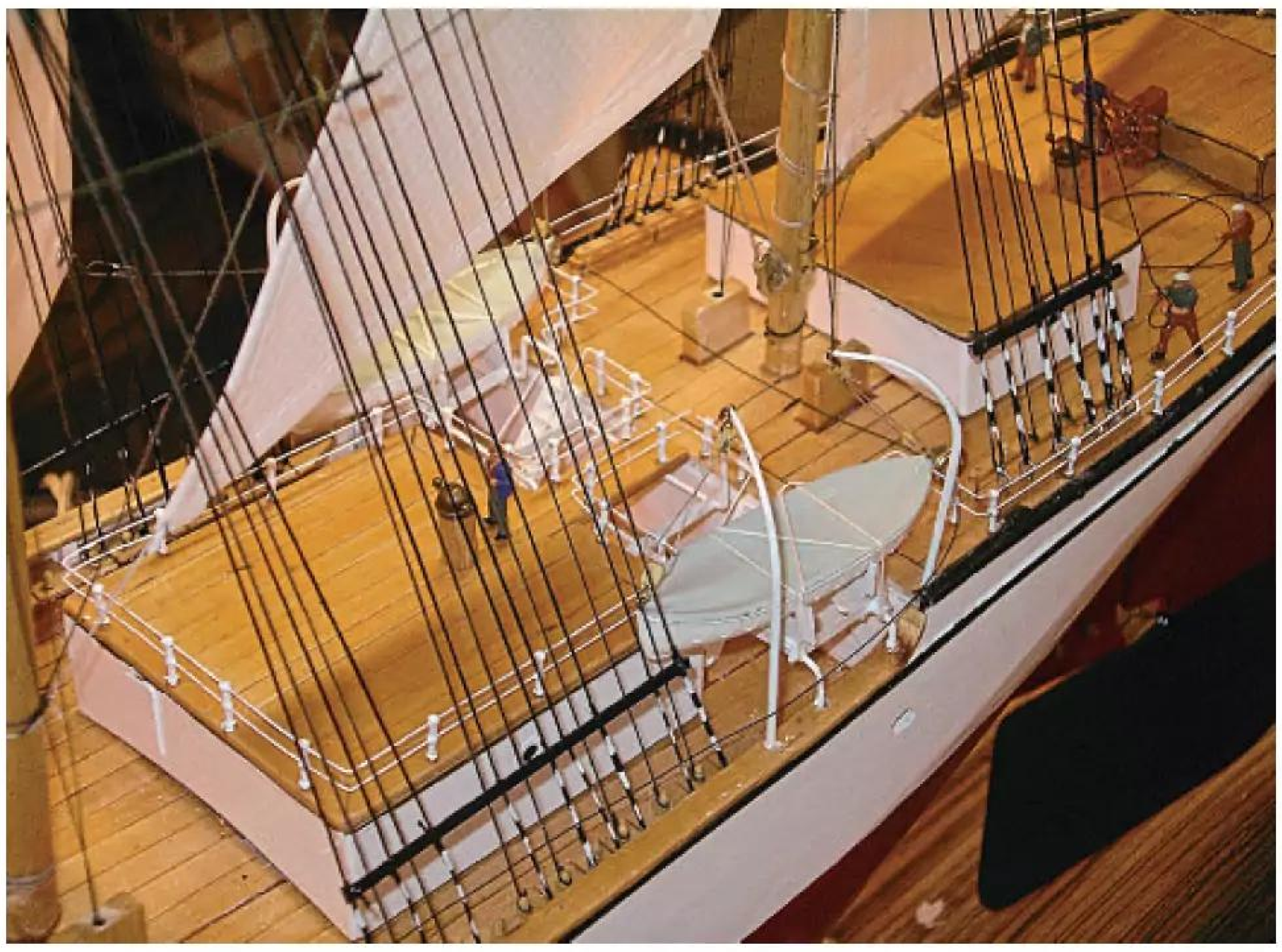
> ***"I have absolutely no doubt there will now be more elegant solutions, but this does work"***

Once I'd fitted the servos, the battery, the UBEC, the 2.4 GHz, 6 channel receiver and the on/off switch and charging lead, complete with extension leads where required, I then tested it all out.

The decks

The sails and rudder are controlled by the electrics located under the deck of the boat, so while the next step in the build was the construction of the decks, intertwined with that was engineering the run of lines out through the decks to the sails. This necessitated some work on the operation the yards and boom (the spar which carries the 'spanker').

The spanker was easy. An extended servo arm was fitted to the appropriate normal sized servo at the stern, while a bent brass tube was glued into a wooden block as a fairlead on the inside of the hull, right at the end of the stern, to carry a line through the



The after part of the main deck, the ship's boats and the poop. Repurposed 1:72 scale Airfix railwaymen serve as crew.

A Skys'l Yarder, beating on the starboard tack.

'poop' (the aftermost deck). A line was then fed through the tube, run to the servo and attached to the arm. Job done – for the time being.

The lines for the yards (the 'braces') must come through the deck at either side of the mast, aft of the one they will 'brace' (we will come to the details of how and why later). This involved making 'thwarts' with fairleads through them to locate the masts and carry the braces through the deck by their sides. These were fitted to the hull at points appropriate to stepping the masts, so that the masts went through the 'thwarts. The lower masts were then glued into the blocks in the bottom of the hull and to the 'thwarts. All the braces were fitted at this stage and led up through the fairleads. The details of the attachment will follow later, under the subhead Sail Control. Also integral to the thwarts were pieces of 8 x 2 mm lime wood strip, cut to make slopes on either side of their respective masts, so that the deck, when laid on them, would have 'camber', *i.e.*, a slope down, at either side of the centreline to allow water to drain off the deck into the scuppers. The final point to note here is that the fairleads were set into pieces of wood long enough to lift their tops about 20 mm above deck level, so that water across the deck won't go down the fairleads.

With all that preparation behind me, I set to work fitting 'false' decks of thin ply, to which I would later add planks. These false decks were cut in pieces and shaped to fit along the hull at a height determined by ledges cut into the hull frames at the correct levels. They were also supported by the thwarts mentioned above. Into the false decks were cut hatch holes appropriate to the positioning of the electrics below. Finally, the verticals at the 'break' of the poop and fo'c's'le head were cut, and the whole lot was glued in.

The holes through the deck were then converted into hatches by the addition of battens and coamings around them. Into the coamings were glued sills, to accept 'inner' hatch covers, which were then cut to size and loosely fitted. At this point the on/off switch was fitted into the hatch cover above the battery and the charging leads were soldered to two brass pins, which were glued under the deck in such a way that the pins stuck up through it. By connecting the leads from the charger to these pins using crocodile clips has made charging possible without the need to 'go below'.

To seal and prevent water ingress, I filled all the gaps in the deck with decorators' caulk. Once this had dried and been rubbed smooth, I then planked the decks with 8 x 2 mm lime wood strip. Next came the drizzling of resin around all the edges, followed by the application of three coats of yacht varnish, to ensure complete watertightness. Drain holes were drilled into the bulwarks to allow water to drain outboard off the deck when sailing.

There were various deck constructions on the real ship – houses, hatch covers, *etc* – but they didn't correspond in size or location with my hatches, so I built and fitted my own versions of them to cover the openings in the deck as realistically as possible. These were all painted/varnished.

The fourth square sails up from the deck are 'single topgallants', as opposed to the 'upper and lower t'gallants' that came on later ships, with small crews. The technicalities involved with the differences between the two rigs don't need to bother us here, but the fact that they are single means that the sails above are 'royals' and 'skysails'.

Beating in 15 mph of wind.

Sailing 'hands off' in a beam wind, the North Sea in the background.

The final deck job was to fit attachment points for the standing rigging; these were fashioned from galvanised wire, bent into 'eyed pin' shape and glued into the deck where all the many shrouds and backstays are attached at deck level.

Aloft

I had already cut and prepared the topmasts, the topgallant masts and the yards, boom and gaff. The upper masts were fitted via doublings. The yards were attached via central pivots, created using brass bands, tube and 1.5mm wire. The yards are set 15mm forward of their masts so that, when they're braced (swung) round, they will brace to within 30-degrees of the vessel's centreline. This is crucial: if they don't brace this far, the sails they carry will not go round far enough to allow progress to windward. The boom and gaff of the jigger (fourth) mast are attached similarly from their ends, to allow their sails to be let out and pulled in.

"This is crucial…"

My sails were made from Ripstop nylon, cut to the shape of paper patterns (plus an allowance for seams), which had been, in turn, cut to the shapes of the sails on the mast and rigging plan. The square sails were laced to their yards and then their bottom corners (clews) were tied to the yard beneath. The spanker (the lowest sail on the jigger mast) was laced to the gaff, mast and boom. The removable gaff upper topsail is attached to the mast and the gaff by hooks on the sails which locate into 'goalposts' on the spars. The fore and aft sails between the masts, set between the bowsprit and the foremast, are set via their stays (the lines between their attachment points). The top two square sails on each mast (the 'skysail' and the 'royal'), are removable (for heavy weather sailing) as a pair via hooks and 'goalposts', as per the gaff upper topsail.

The 'courses' (the lowest square sails on each mast) are unique in that they don't have a yard below them. In order to allow these yards to use the wind from ahead, they each have a piece of 2.5 mm brass wire sewn into their hems, so that they are almost completely stiff. To utilise the wind from astern, they each have an 'endless' sheet attached to their bottom corners (clews). This sheet runs aft from one clew, to, and through, two ring bolts screwed into the deck in front, and at either side, of the next mast astern. From there it runs forward to the other clew, thus holding the sail back, into the wind from aft. As the yard is braced, this sheet simply moves through the ring bolts, still holding back the sail.

Sail control

With the sails in situ, it was time to couple everything up to check they would work. The electrics were already installed, with the lines (braces and a sheet to the spanker) that

Nev's model of the Queen Margaret in her element.

About to put the lee rail under.

operate the sails – all of which were made from fishermen's braid, which is thin, strong, runs easily and does not stretch in use – attached to them below decks (as described earlier).

Following these lines, the spanker proved easy. The above deck end simply had to be fastened to the spanker boom so that it can be pulled in and let out. The braces were more complicated. For each square-rigged mast there are four braces, two to port and two to starboard. Following the run of one pair will illustrate how to tackle the rest, so I began with those on the port side for the foremast yards. These were attached to a port side hull frame below deck by the side of the mainmast, the one aft of the foremast – our four masts are fore, main, mizzen and jigger. From here they were run forward, to a pulley on the end of the port side sail servo arm (remember, these sail arms have centrally pivoted servo arms). They were run through the pulley and sent back, across to the bottom of the fairlead by the port side of the mainmast. The reason that they were attached to a frame and run round a pulley is that such an arrangement allows the line to be pulled in and let out by more than the distance travelled by the end of the servo arm. This 'multiplying pulley system' means you get slightly more movement out of your braces, meaning the yards can be braced round more – not by much, but every little helps.

"This 'multiplying pulley system' means you get slightly more movement out of your braces, meaning the yards can be braced round more – not by much, but every little helps"

My braces were sent up, through the deck, by means of the fairlead and were then run up the side of the mainmast to the height of the yards they were to brace. On a real square-rigger each yard had braces, but I've simplified here, in that one goes to the course (the bottom sail on each mast) and one to the topgallant (the fourth sail up), in order to spread the bracing effort all the way up the mast. At the correct heights up the mainmast, the braces were each run round a screw eye, screwed into the mast, and sent across to their yards on the foremast. At the yard arms the braces were run around pulleys and sent halfway back across to the mainmast, where they were tied off to bowsies to allow for individual brace length adjustment.

The same thing was done on the starboard side and on both sides of each of the other two masts. Main braces were run up the mizzen and mizzen braces run up the jigger.

My radio-control is a 6-channel set, with left/right on the LH stick controlling the yards on the foremast (channel 4), with no spring loading on the stick; up/down on the LH stick controlling the mainmast (channel 3), with no spring loading; and up/down on the RH stick controlling the mizzen mast (channel 2), again with no spring loading. It will be apparent that the sticks, and, therefore, the yards, will stay where they are put. The rudder is left/right on the RH stick (channel 1), spring loaded, and the in/out of the spanker is controlled by a toggle switch on channel 6. This arrangement allows all the yards to be on the port tack, with the LH stick in the top left corner of its travel and the RH stick at the top of its. It's vice versa for the starboard tack. This

The *Queen Margaret* on YouTube

If you'd like to view video footage of this magnificent model on the water, simply key Nev Wade into the YouTube search engine.


The tall ship, port tack.

makes yard movement intuitive for me, including when I have the vessel go about by tacking.

Setting up yard control was relatively simple. All three sticks were placed centrally in their travel, the yards were moved manually to be 'square' (at 90 degrees to the hull), and the bowsies were tied off loosely half-way across between the masts they were operating to and from. The yards were all braced round from one tack to the other and their travel was sufficient in each direction to allow practical sailing. There is much more to this but now is not the time/place to go into it.

The model would sail at this point, but there was still plenty of finishing off to do.

Reality

If you look at any picture of a sailing ship, you'll see miles of rigging. I've long taken the view that installing too much rigging on a sailing model is not the way to go, so I fit only part of it. On this model, all the shrouds and backstays were fitted but without ratlines (the ladder rungs for climbing the masts), and so, too, were some of the ship's running rigging, buntlines, brails, foot ropes, etc. All of the deck furniture (handrails, *etc*) was, however, included, along with a crew made up of suitably repurposed 1:72 scale Airfix railwaymen.

> ***"I've long taken the view that installing too much rigging on a sailing model is not the way to go, so I fit only part of it"***

The sea used to come aboard these ships as a matter of course. In a good wind they would heel over and take water over their sides. In heavy weather the lee rail could regularly go as much as 2 metres under water and there would frequently be a couple of hundred tonnes of water across the deck. It's no surprise, therefore, that a model will be affected in the same way, so a watertight hull is imperative – hence the sealing precautions described earlier. For additional peace of mind, I also sealed the coamings to the inner covers with duct tape.

With the deckhouse and outer hatch cover pressed onto the top and the decks as sealed as I could make them, it was time for the *Queen Margaret's* maiden voyage…

Sailing *Queen Margaret*

I attached the sailing keel at the water's edge and away she went.

The beauty of a model based on an actual full-size sailing ship is, of course, that the latter was designed by someone who really knew what he was doing. As a result, the model will beat to windward so that you don't simply end up at the lee end of the pond. She will tack to windward with about an 85% success rate, and 'wearing ship' (turning away from the wind to 'go about') proves excellent, too. She will even sail 'hands off' if you let her find her own balance against wind and water, which is a great tribute to *Queen Margaret*'s designer and builders. She does have the tendency to 'gripe' (try to turn 'up' into the wind), which was a feature of all four-masted barques, but I can easily cope and still make her go where I want her to. The model revels in 15-20 mph of wind and only reaches her limit in waves of 100 mm or so (going on for 7 metres on the real ship). That lovely hull shape lets her go smoothly through the water and the height of her masts and white hull reveal why her full-sized counterpart was so often referred to as "*The beautiful Queen Margaret*". ●

Specifications

Length (stern rail to bowsprit end)	1360 mm
Beam (mm)	190 mm
Height (keel to main mast truck)	775 mm
Scale	1:68
Sailing keel weight	8 kgs
Battery	7.2V NiMH
Tx	2.4GHz Futaba
Rx	2.4GHz Futaba
UBEC	Hobbywing 8A Switching Mode
Sail arm servos	HiTec HS 765
Ordinary servos	Futaba S3003

The History of The Humber Lifeboats, by Morris, 1988, **£4**
Vane Steering Gears by Wilcock, 1977, **£10**
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London fireboat: *Sandie Shaw*

Ashley Needham introduces a sure-fire crowd pleaser

At Bushy Park our builds gravitate towards the unusual and crowd-pleasing variety, as on a Sunday morning, if it's nice, considerable numbers of people gather to watch the boats. Besides the usual stuff – speed, noise, Disney film characters, etc – a water squirter is always a sure-fire crowd pleaser. Having a squirter on your boat elevates it from just being an 'also-ran' to being top of the class. Just the other light-year, I finally got around to fitting a death-ray water squirter on my UFO (see the August 2021 issue of Model Boats) and when I put it back on the water, you'd almost have believed it was about to take off if you'd been there to hear all the ooo`s and aaah`s from the pondside spectators.

Most boats have one, or perhaps two water jets, as that's about all a windscreen washer type pump can usually manage – and even then, some people have trouble getting them to perform properly. I, however, have come up with a cunning plan when it comes to water jets, meaning mine has the potential to positively soak any bystanders! Read on....

The London fireboat *Massey Shaw*

The inspiration for my fireboat model that is the subject of this article was a preserved London fireboat, the Massey Shaw. This former London Fire Brigade fireboat was named after the first Chief Officer of the Metropolitan Fire Brigade, Sir Eyre Massey Shaw. She was built in 1935 by the J. Samuel White company at Cowes on the Isle of Wight to a London County Council design, at a cost of around £18,000. During World War II, Massey

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Shaw, along with a volunteer crew of firemen, formed part of the flotilla of small vessels which were sent to Dunkirk to help evacuate British troops from the beaches, rescuing over 500 servicemen. Decommissioned in 1971, the vessel was restored between 2008 and 2013 and is now moored in London's West India Docks.

> *"The inspiration for my fireboat model that is the subject of this article was a preserved London fireboat, the* Massey Shaw*"*

Photos of the boat in action during the Blitz show a multitude of monitor hoses being used, as well as the main firefighting water monitor fitted forward, and these photos served the aspiration for my build. My intention was never to produce a scale replica of the Massey Shaw; I simply used this vessel as a basis for my fireboat model, which I have name the Sandie Shaw (with apologies to the MS Trust!).

No pressure, then...

For anyone considering a project like this, everything depends on a good supply of high-pressure water. When it comes to the multiple windscreen pumps required to achieve this, allowing for the space they'll occupy and wiring them all up is going to present some challenges. There may also be the issue of an insufficient volume of water being delivered by the pumps to contend with.

> *"For anyone considering a project like this, everything depends on a good supply of high-pressure water"*

The 'Death Ray' on my UFO has a good range to it, 4 metres or so, but in terms of output it's a rather thin, weedy stream, so even five or so windscreen pumps per side wouldn't even come close to emulating those pictures of the MS fighting fires in the Blitz, where perhaps eight hoses on one side were operational and hundreds of gallons of best Thames aqua (perhaps not the best description of the river's sludgy brown water) were being sprayed hundreds of feet in the air.

What I needed was a pump able to shift serious volumes of water. Luckily, just such a device is available, one I've used it as an alternative form of propulsion in several craft: the bilge pump. It's an impressive device, running on 12V and drawing a mere 2.5A, but capable of pumping a gargantuan 1100 gallons (about 5000 litres!) an hour. Would one of these pumps be able to deliver pressure I required though?

> *"What I needed was a pump able to shift serious volumes of water. Luckily, just such a device is available…"*

While obviously there's a good volume to be had, I decided a test rig was called for. This was nothing more than a bit of 22mm plastic pipe with the end blocked off, drilled with 10 x 6mm holes and taped to the pump outlet. 50mm lengths of windscreen washer plastic pipe were jammed into the holes and the pump was immersed into our garden pond and connected to a 12-volt battery. Impressive! Just on this first test I had ten jets of water projecting about 600mm either side, and they were thick 5mm ones at that. Further testing using a block of wood drilled to take some short lengths of 5mm automotive brake pipe (see **Photo 1**) produced a bit more range and if I flattened the ends a bit the beginnings of a fan of water were just showing.

Game on, my proposed build had a chance of success!

A hull to suit

When I was building the General Purpose (GP) hull (see the July 2024 issue of Model Boats), one of the alternative tops I wanted to make was for the Carpathia, the ship that came to rescue so many people from the doomed Titanic on that fateful night in 1912. I already have a 1.2m Titanic, so having a Carpathia to sail with it would have been nice. Unfortunately, the original GP hull was just too short to accommodate this, but it occurred to me that another GP style hull, a bit longer this time, would likely do for a London fireboat top and a Carpathia top, and probably various other vessels, too.

> *"Unfortunately, the original GP hull was just too short to accommodate this, but it occurred to me that another GP style hull, a bit longer this time, would likely do for a London fireboat top"*

Once again, these would be 'representations' rather than replicas. The fireboat would have to come first as, due to the bilge pump being of a significant size, this would need to be permanently installed in the hull.

Juggling the dimensions

The original GP hull was 600mm in length, my big Titanic is 1200mm, and this one would be roughly 750mm long. This would mean the Carpathia at 1:200 scale would be a good match for my Titanic model, and, just as importantly, a good match for the 50mm tall bunch of firefighting figures I happened to have when stood on a Massey Shaw style deck and superstructure. Depth would need to be sufficient to accommodate the height of the pump (100mm) and of a width to provide stability, bearing in mind a water chamber would be located high up in the hull.

The SPAR design package was unleashed yet again, and a simple hull shape drawn up. Carpathia and Massey tops were doodled on top to ensure the proportions were about right, and the pump, firemen, batteries, motors and so on were laid on the drawing to ensure nothing could go wrong.

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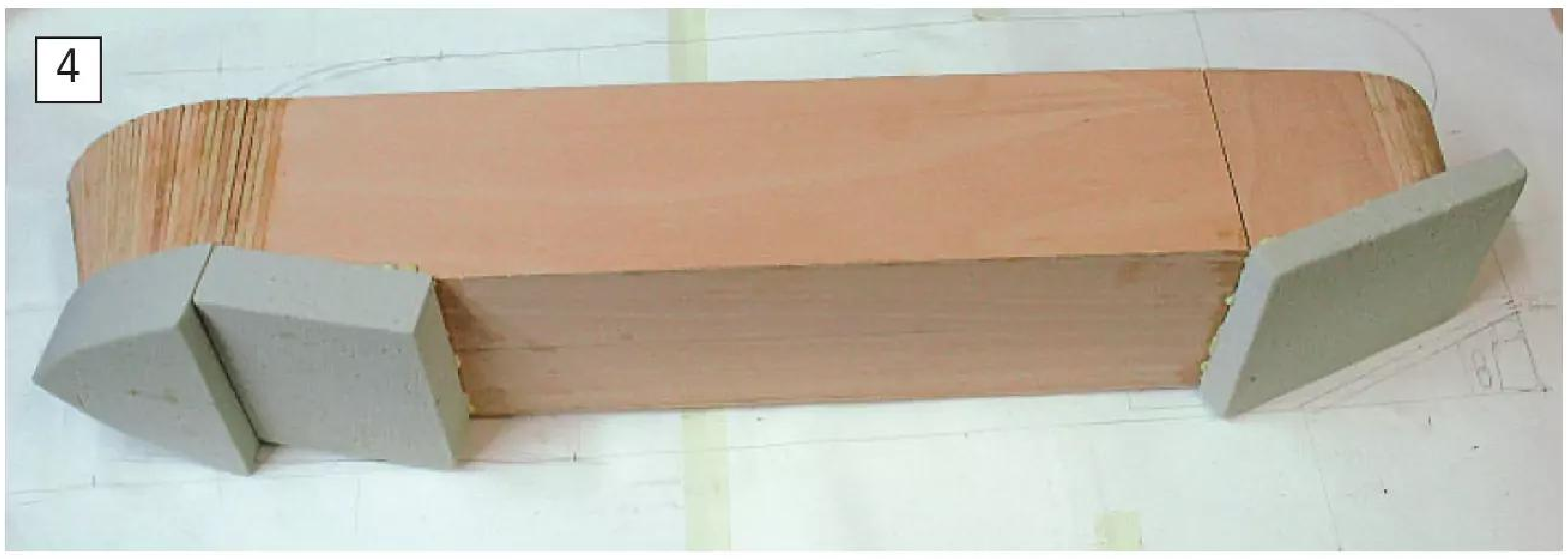

Building the hull

Once more, 4mm ply was my building medium of choice. The process here was as simple as things get and involved one centrally positioned bottom panel featuring a cut-out bulkhead at either end, two shaped sloping bottom panels for the cut-ups fore and aft, two more shaped pieces set just below deck level (see **Photo 2**) and then strip ply vertical planking for the rounded ends (see **Photo 3**). The top shaped pieces were to support the planking only; the planking being 5mm wide strips of 4mm ply, set vertically with PVA glue. In order to create a slightly better underwater shape than that of the original GP hull, grey medium density Styrofoam blocks were glued under the cut-ups using foaming Gorilla glue and then shaped with a craft knife and coarse sandpaper (see **Photo 4**).

Once everything had dried, a coat of Eze-Kote acrylic resin was applied to the planking – this filling the gaps and serving as an additional glue layer, while the foam was painted with epoxy resin and covered in a layer of fine fibreglass to protect it and to harden it enough for a nice, smooth finish to be achieved (see **Photo 5**). As I had some epoxy resin left over, the inside of the bow was also fibreglassed. If all that sounds quite straight-forward, the next bit, was where the real effort needed to be put in: rough sandpaper, medium sandpaper, Eze-kote, filler, more sanding, and so on. And then, once a coat of primer had been applied, more sanding! It didn't really take that long, it just felt like it.

A large-ish hole needed to be cut into the bottom of the hull underneath the pump location to let water in. From experience with the other hull – and this is just a slightly longer version – I knew I would need some heavy ballast weights. It didn't, therefore, really matter exactly where, from a weight point of view, I put the pump, so I decided that a forward location would suit, and bored a 40mm hole in the hull accordingly. This hole was off-centre by 15mm (see Photo 5) as the pump outlet was offset from the pump body and I wanted the water receiver to be centrally located. Having the pump off-centre wouldn't matter as a bit of ballast would compensate, but the water receiver would be full (and heavy) or would drain (and therefore be light), hence the central position. I removed the blue pump inlet shroud, and some screw lugs were filed down a bit to allow the pump to sit over the hole. I would fix the pump in once the hull had been properly finished and covered in undercoat.

Propulsion and steering

Two small brushed 385 motors provided the oomph via 100mm long propshafts. While none of the GP boats were designed to be fast, these motors are quite feisty and are powered by 7.2V from my normal 6-cell Nimh sticks so will turn the fitted X35 two blade plastic props on the Sandie Shaw easily, with very little battery power consumption.

I had already cut two slots in the stern plywood cut up, and the foam covering them was filed out and two 4mm shaft diameter (8mm tube outer diameter) units were let in. These shafts could be virtually level as the small motors sit on the bottom ply, and this made fitting them very easy. Motors were held in place with a clamp style arrangement and coupled to the shafts via brass ends and silicone tubing.

For simplicity's sake, only one rudder was fitted, but this is long and impinges on one prop or the other when they are hard over, providing adequate low speed manoeuvrability.

The all-important pump

A copy of a Rule bilge pump provided the firefighting hose water supply. These pumps are very cheap and deliver water in volume: 1100 litres per hour. Having got to a point where the hull was finished, the pump (about 50mm in diameter overall) was set onto the previously bored 40mm hole and fixed in place with marine silicone sealant – which, despite looking like ordinary bathroom sealant is tougher stuff altogether (and four times the price!). A large silicone sleeve provided the means of attaching the 25mm diameter styrene pipe which formed the hose distributor (see **Photo 6**).

Eventually, the deck would have ten 'fire monitors', glued into the cabin top, and connecting to the distributor via equal lengths (to ensure the same pressure reaches all the monitors) of car windscreen washer tubing. 6mm holes drilled into the styrene pipe provided a good interference fit for the tube, and some silicone sealant ensured there would be no issues with pipes coming adrift and filling the boat up with water – although, admittedly, this looks rather messy. The receiver tube was lightly lubricated with silicone grease and so can be easily pulled out of the connecting sleeve when the top needs to come off. Control for the pump came courtesy of a small 20A aircraft ESC, powered not by the main ship's battery but by a 3s Lipo, this ensuring the full 12-volts that the pump is rated is available for maximum pressure. After all, there could be anything from a 7.2- to a 9.6-volt battery pack installed for the propulsion. A Lipo was not used as the main battery as, for a start, I needed the weight and, in point of fact, I initially sailed the boat with two 6-cell Nimh batteries fitted, although only one was connected to the ESC. I have since positioned a


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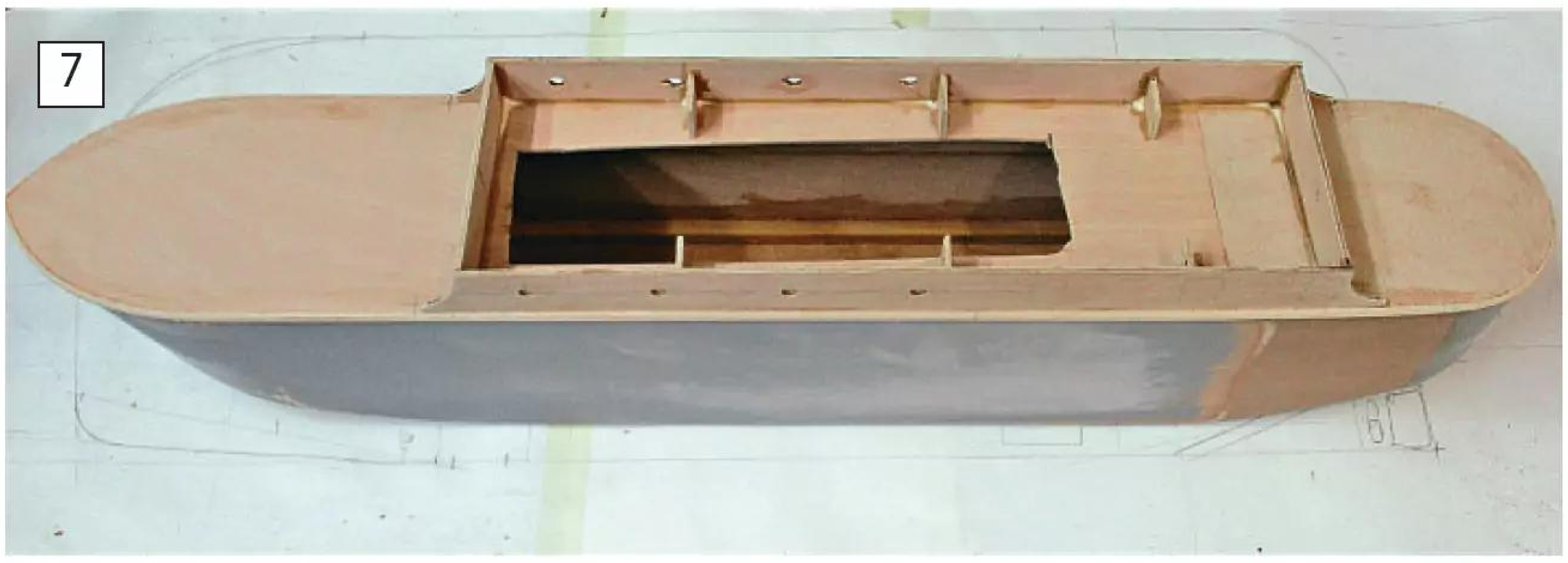
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battery's weight of lead in one side so I can just use one battery.

The upperworks

To an extent, some dimensions of the upperworks were chosen to not only look the part but match the scale of the figures I would be adding to the deck.

It's a pretty simple superstructure but it all starts with the removeable deck. So, having laid the hull upside down on a length of 4mm plywood, the outline for it was drawn round in pencil and cut out on my bandsaw.

Unlike the tops on the GP1 hull, this, and other planned decks, were sat on top of the hull bulwarks, so I could glue an approximately 8mm deep 'rubbing strip' to the deck edge. This sat flush to the deck and hung down below the edge, thus allowing me to locate the deck over the hull. Once the hull and strip were painted black, they appeared to be one, and the strip also took away the slab sidedness of the hull. A large opening was cut into the deck, inside the superstructure footprint, as access to the cabin roof was required to plumb in the water monitors (see **Photo 7**).

"Unlike the tops on the GP1 hull, this, and other planned decks, were sat on top of the hull bulwarks, so I could glue an approximately 8mm deep 'rubbing strip' to the deck edge"

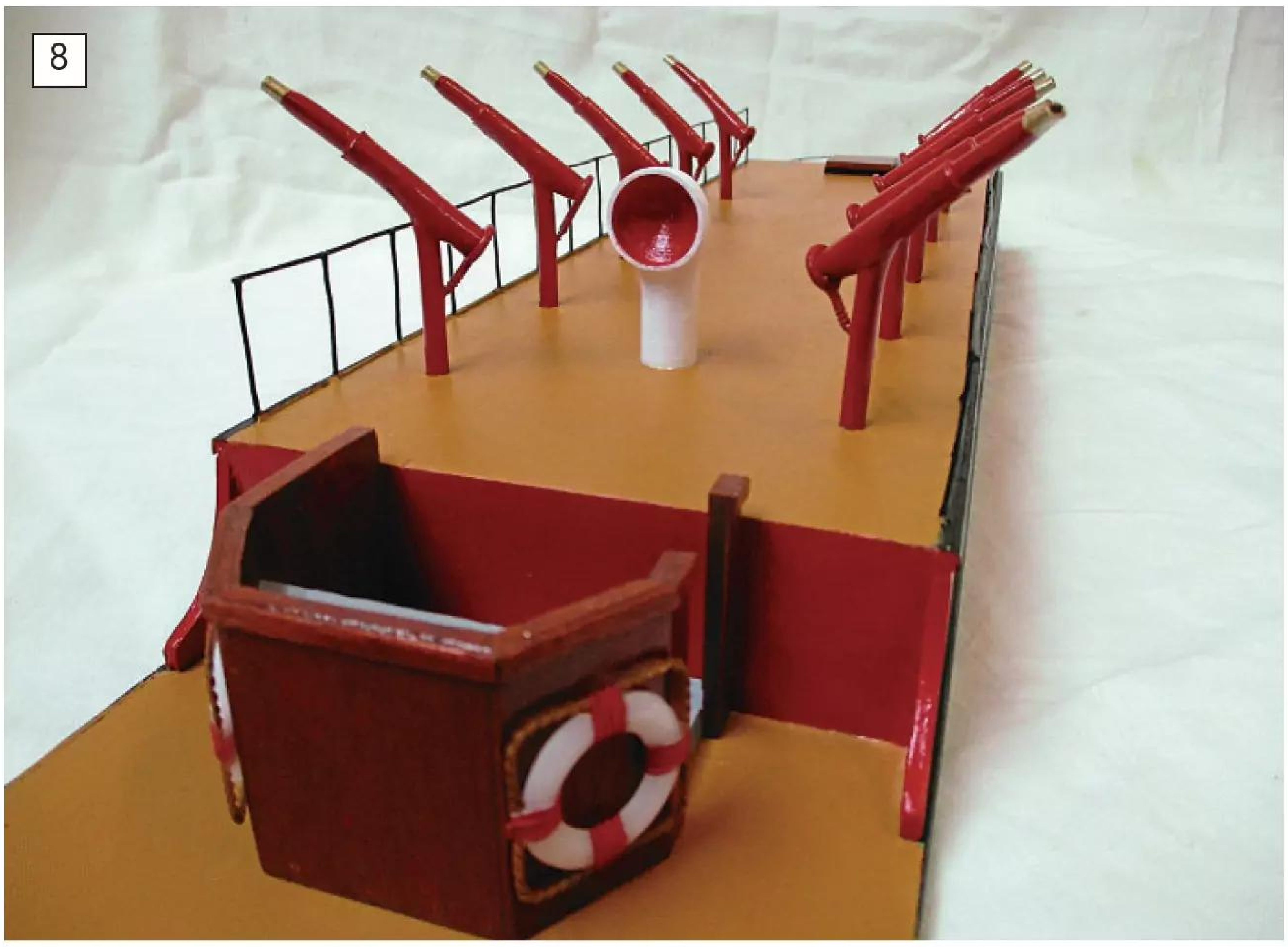
Strips of ply were then cut for the sides of the cabin and glued to the deck edge, the front and rear cabin walls were fitted, and a flat top was stuck on for the cabin roof. Holes drilled into the sides simulated the portholes, while the windows were, eventually, stuck-on flat shapes made from black acrylic sheet.

One of the things that works for this model is that the MS hull was black and only the cabin sides were red, so no compromise in colours had to be made!

Various other boxes and fittings were then made and painted, ready to be stuck on later.

There are some railings on this boat, not something I like doing, and the photos show them to be quite low, below waist height. Galvanised steel garden mesh is as usual my go-to for railings, and here the one-inch (not 25mm as advertised) hole size scaled well with my figures once suitably cut down. So, holes one inch apart near the deck edge (where required) were drilled and the uprights set in place and dobbed with superglue underneath.

A conning position was then constructed for the pilot (see **Photo 8**). The panels for this were made from 4mm ply, very carefully superglued together (because varnish will not permeate any areas affected by glue seepage), filled with brown wood filler where necessary, and finished with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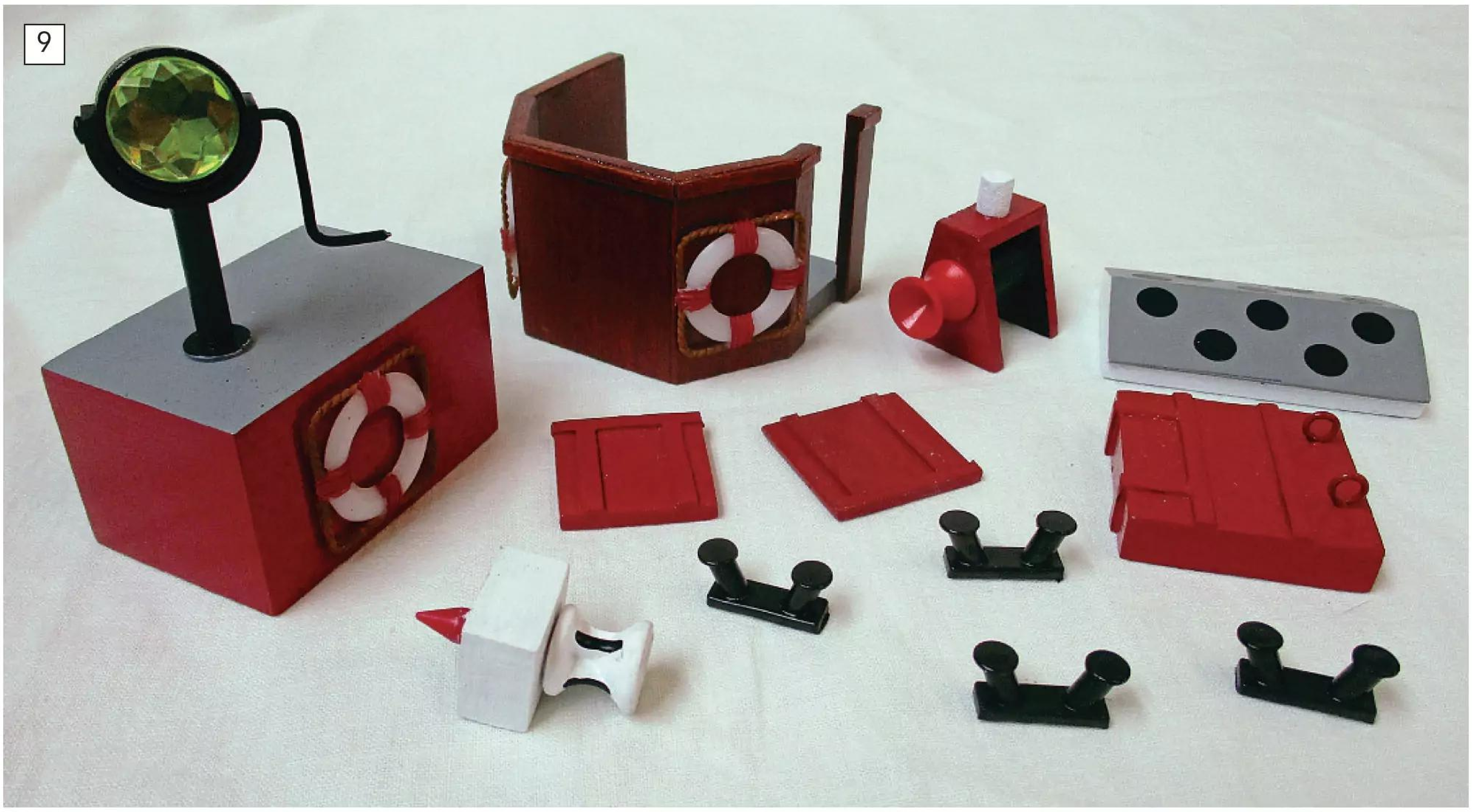

Rustins' Mahogany wood stain. You will note my model has no roof, unlike the current MS – more on this later.

At the bow, where a short bulwark sits on the deck-edge, a winch was mocked up, using bits and bobs found in the workshop. Various other small fittings were also either purchased or made from odds and ends (see **Photo 9**), these including the fairleads, bollards, ship's wheel, ladders and so on. The bronze mushroom vents on the upper deck were fashioned from antique bronzed upholstery nails sitting on 4mm length tubular beads.

The long superstructure needed stiffening somewhat, as it was tending to flex, so strips of wood were added underneath and this has reduced the twisting to a minimum, and I did not have to resort to hold down screws to achieve this.

Fire monitors and crew

Strictly speaking, the MS had one very large monitor fitted at the front of the superstructure, with outlets for hoses on the cabin roof to feed smaller temporary deck mounted monitors. On the Sandie, I've only fitted the side temporary monitors – mainly because of the room needed to accommodate a large monitor at the front of the superstructure, but also because the water jet would be no larger or more forceful than the 'smaller' monitors and would thus look less effective. Automotive copper/nickel 5mm brake pipe tubing stood in here (see

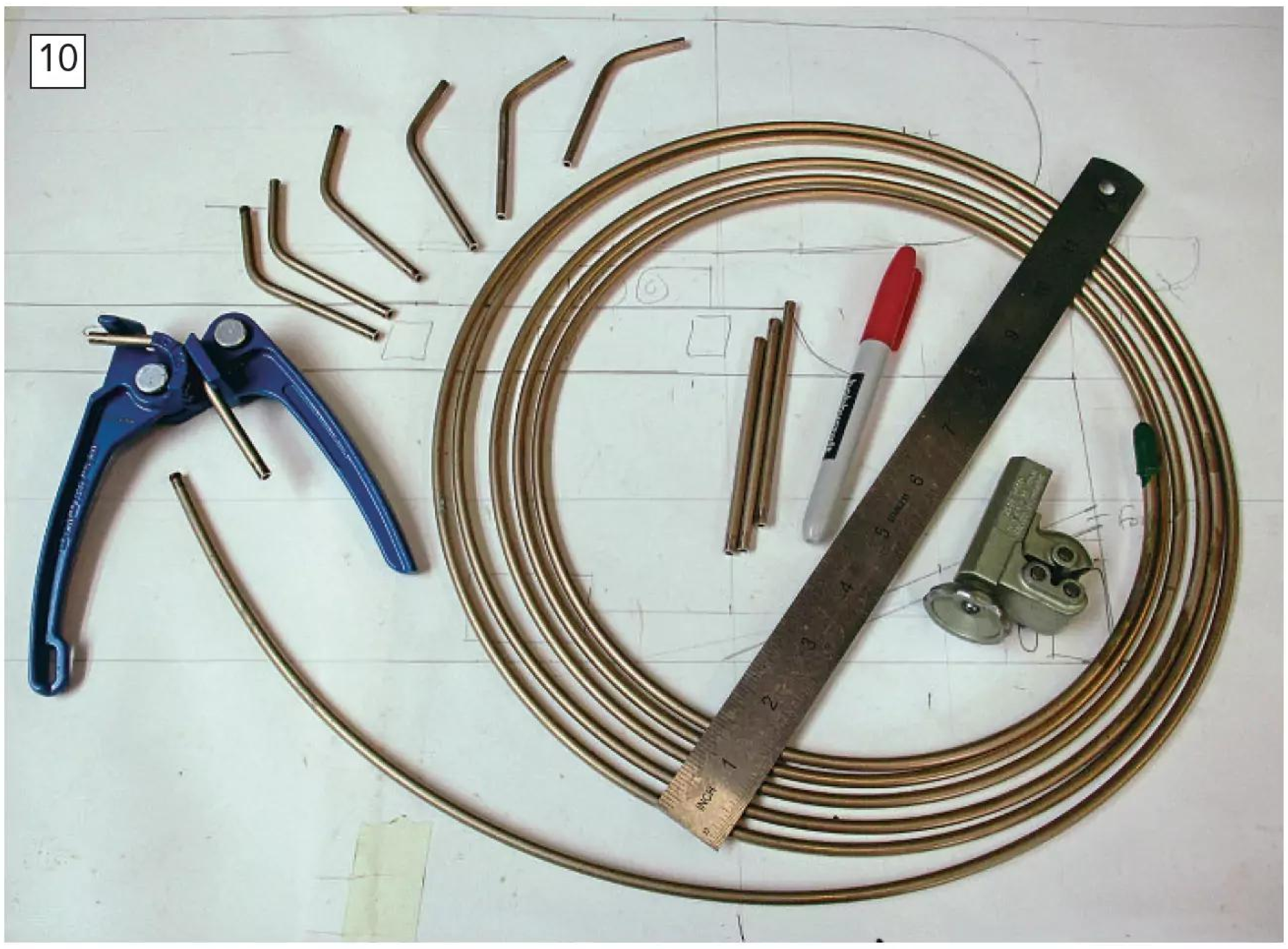

Photo 10), bent using a brake pipe bender and set into holes drilled in the roof. To achieve a slightly better look, the ends of the pipes were squashed using mole grips (to get the same squash on each pipe) and some preparatory work was undertaken using the initial proving rig to get the squash just right: too much and the jets would fan excessively and not achieve the distance I was looking for in terms of projection. Additional bits of tube, etc, were then added to make them look more akin to monitors (see **Photo 11**), and plastic tubing was used to connect the inner ends of the pipes (under the roof) to the water receiver (see **Photo 12**). As a final touch, monitor outlet blocks were mocked up and these were connected to the monitors with simulated fire hoses fashioned from 3mm nylon yacht woven cord (see **Photo 13**). I was pretty pleased with the result, as I feel this makes for a nice touch and busies up the deck no end!

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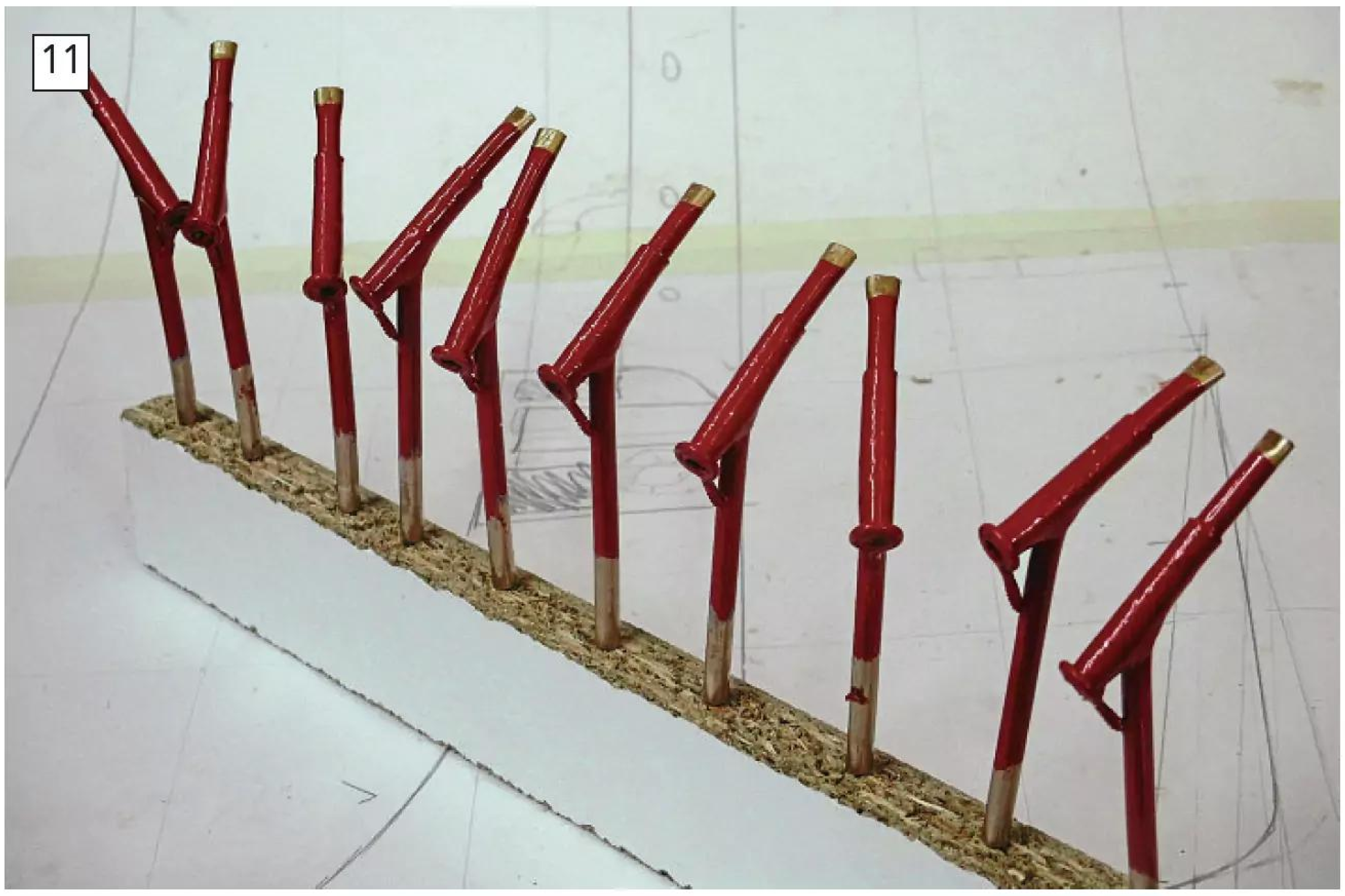

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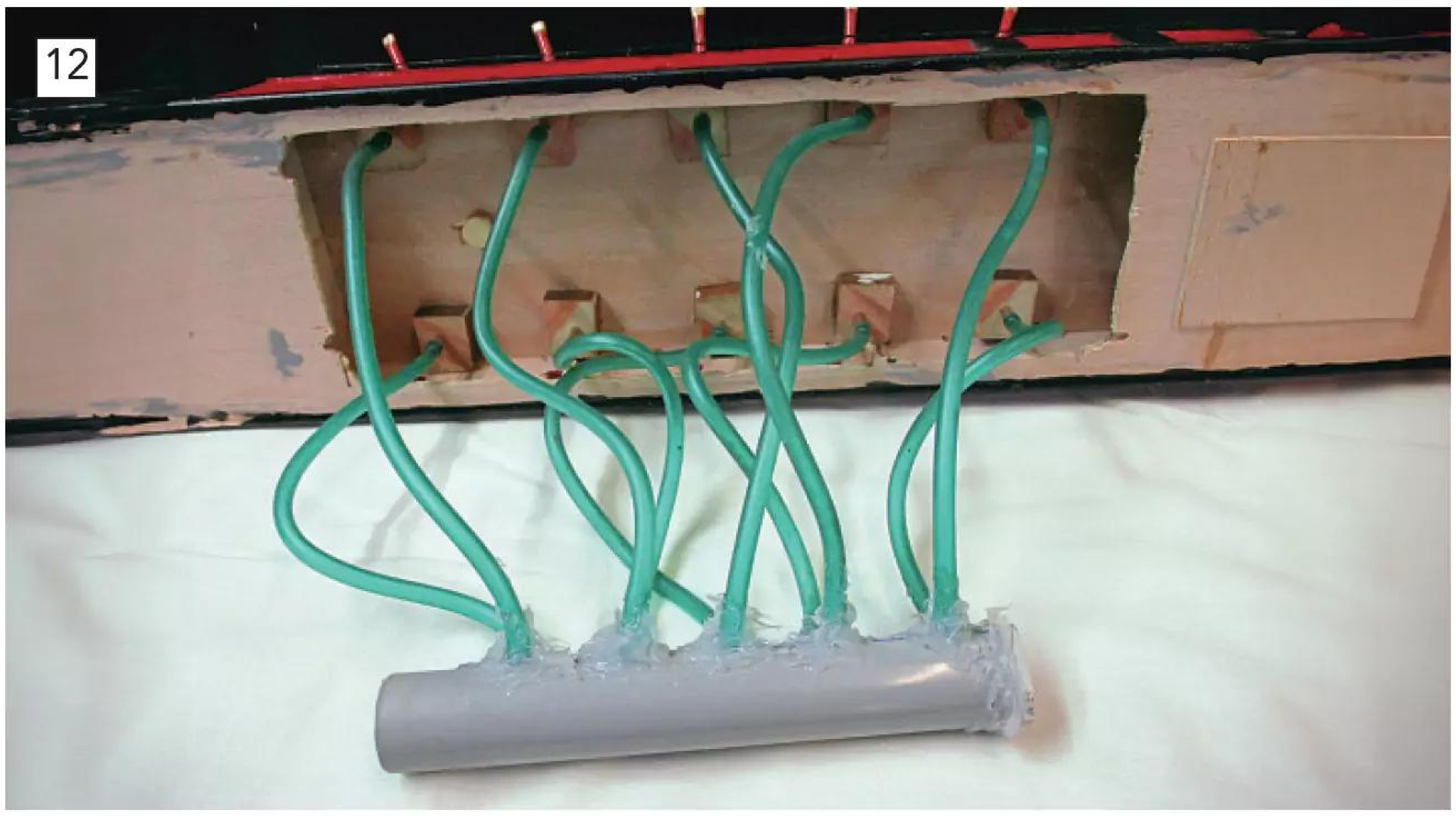

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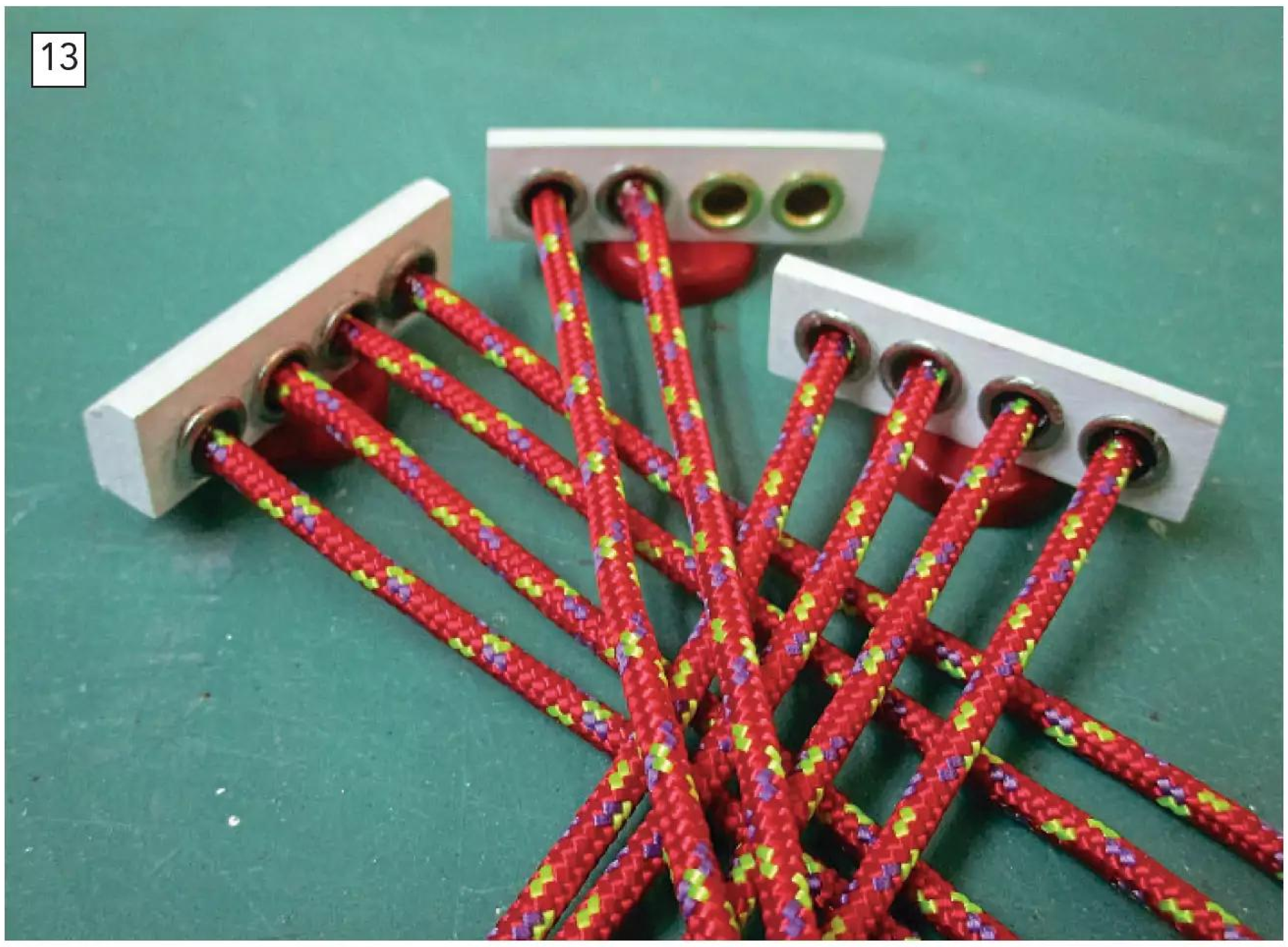

In real life, the boat would normally only fight a fire from one side. So, in case you are wondering why I've placed hoses on both sides, it is because the propulsive effort from, say, eight hoses along just one side would be quite pronounced and would cause the model to shift sideways, which would be a nuisance. In addition, I couldn't fit eight hoses to one side as there just wouldn't have been room for my firefighter figures and the monitors. Besides which, the more the merrier, ten hoses worth of woosh looks rather wonderful!

"In case you are wondering why I've placed hoses on both sides, it is because the propulsive effort from, say, eight hoses along just one side would be quite pronounced and would cause the model to shift sideways"

Speaking of the crew, although the approximately 50mm tall firefighters looked as if they'd be a good fit, they actually proved a bit on the small side once I'd put the roof on the cabin. I have, therefore, replaced them with Airfix 1:32 scale World War II British Army Support Group polythene figures – an incredibly versatile set of chaps, in really useful poses. But, of course, by depicting the fireboat in a wartime setting, with its crew sporting tin hats and webbing, I had to take into consideration that back then the MS would have been operated with an open conning position, hence the lack of a roof on my model. All the figures were washed, and their uniforms repainted in a navy blue, with green webbing, while their tin hats were repainted grey (see **Photo 14**) – this work being undertaken using craft acrylic paints at my, er, tidy paint station!

The war saw a massive and rapid expansion of the fire service (oddly enough!) and, consequently, 'proper' firemen's' helmets were in short supply. As a result, the army Brody style of steel helmet was issued. Grey was commonly used, while the chap in charge had a white hat – a convention still in use. In point of fact, I'm not that sure that boat firemen wore helmets at all, but I am fairly certain they would have worn tin hats during the war for protection against shrapnel and bomb elevated debris reigning down on them.

Weighty matters

At this stage a bath test needed to be carried out, as I wanted to glue strip lead underneath the hull. I find this is the best place for ballast, as not only does it act like a keel but also becomes, in effect a bilge keel, and dampens down the rolling of the hull. Sandie Shaw's top weighed in at about 650g, so I filled the hull with weights equivalent to this, added in all the batteries and equipment to be fitted, and floated the hull in the tub, whereupon I started to add lead to get the waterline down to…. Well, there is no actual set waterline for the GP hull, as naturally this will vary depending on which top is being added. Consequently, lead was added until the water was about halfway up the hull, which represented probably the lowest sort of waterline I would need. Approximately 1700g it came to, so if I were to have this as my lead keel, I'd still have some leeway to add weight inside for a lower look.

Six strips of lead flashing, 35mm wide and 450mm long, were then cut and stuck together in a block using Gorilla glue, this weighing in at approx 1700g.

Next, the hull was turned upside down, where, of course, there was a big hole in the bottom (off centre) for the pump inlet – something I'd forgotten about. This meant I couldn't use a continuous length of ballast as planned and instead had to cut my ballast into two separate pieces. Fortunately, while this doesn't look very elegant, it makes no practical difference to performance, as none of the tops will be 'fast'. As an afterthought, though, I drilled through these lead strips to bolt them to the boat using 5mm countersunk stainless bolts in addition to the glue, because if they ever fell off (and lead can go funny after a while) the boat would instantly capsize.

And then, after a pond test, two more strips of lead were glued on either side of the central strip. With a few pieces of lead placed (but not glued) inside this boat I finally got it down to its approximate waterline. Other planned tops won't need such a low waterline, so the internal weight (and overall weight) issue shouldn't be a problem.

Will it fit your fire-station?

Length: 750mm
Width: 120mm
Overall height of hull:110mm (plus about 30mm for the lead keel)
Propulsion: 2 x 385 can motors, x 35mm props, 100mm propshafts. Usually, 7.2V 6 cell Nimh stick. Mtronics 15A ESC. Separate ESC and 3s Lipo battery for bilge pump.
Weight: Heavy, really heavy!
Top: Length and width as per hull, overall height from bulwark 130mm, height for storage 200mm (this includes the pump adaptor and tubing, which stays permanently attached).

Finishing off

Acrylic paints were mostly used to colour the boat, and I won't describe the colours as they are clear to see in the pictures. Basically, though, black, white and grey, with a bit of gold, feature in the main. The red, however, is Humbrol enamel, as I found acrylic just didn't give a deep enough colour. Speaking of red, the relatively shallow side superstructure panels didn't initially appear to give the boat a 'red enough' appearance, but once the monitors were in place it all became very red! I painted the railings (my go-to 25mm garden wire mesh) black, just as they were on the MS, and a few other bits white simply to add a few highlights.

The searchlight, a non-original feature chosen to fill the flat top of the stairwell cover, was fashioned from dowel and plastic, a big yellow acrylic gemstone serving to represent the actual light.

By this time, I had a lot of separate pieces all needing to be stuck in place (again, see **Photo 9**), and so the various items, including the crew, were trial located on the deck to ensure there was enough room for everything – a task made a bit more tricky by the provision of the fake hoses between outlets and monitors. Yes, I know everything's not a perfect scale match; my aim here was simply to achieve the right 'look', hence the amount of juggling. Handily, the top deck is fairly clear of other fittings and rubbish, as this would have hindered firefighting operations while using multiple hoses, but still I wanted my model to look credible and I think the loose hoses go a long way to fulfilling this goal.

On the water

So, just how effective are the working water monitors? Well, if I were to use terms like 'fantastic' and 'awesome', then I may perhaps be overdoing it. They can, however, emit ten luxuriantly thick, 4mm in diameter, jets of water (much fatter than the normal 'car washer' types) for a distance of about 750mm, which make a very satisfactory splash as they hit the surface of the pond. 750mm may not sound that impressive, but that's 1.5 metres overall. Indeed, if the jets were to project any further, you would simply lose sight of them, which would obviously make demonstrating the pump system far less effective. A shorter squirting distance also means I can avoid (if I so choose!) soaking any bystanders or swamping other boaters' models.

"Having twice the installed power and a much better underwater shape, the fireboat is somewhat faster than the GP1 topped models. In fact, it verges on being pretty 'nippy'!

While simply based on a slightly longer version of the first GP hull, having twice the installed power and a much better underwater shape, the fireboat is somewhat faster than the GP1 topped models. In fact, it verges on being pretty 'nippy'! It's very stable and quite manoeuvrable too, due to its big rudder. You do, though, have to take into consideration the momentum of the boat, which is considerable, and this severely affects the stopping distance and makes for a slow initial acceleration. But the current draw from the small motors is frugal, and a 3700mAhr 7.2V Nimh stick lasts for hours. ●

WIN! BILLING BOATS' *ZEELAND* TUGBOAT KIT!

In this month's exclusive prize draw we're able to offer you the chance to win the newly improved and updated kit for the tugboat *Zeeland* recently announced by Billing Boats.

Starting life during World War II as the *Winston Churchill*, this vessel was the last steam driven coastal tug built for the Dutch company Goedkoop in Amsterdam. When later sold on, in 1964, to the company Willem Muller of Terneuzen (located in the Netherlands' southwestern province of Zeeland), she underwent a refit that included the installation of a diesel engine and was renamed the *Zeeland*. She was finally broken up in 1997 in Dordrecht, Holland.

Examples of Billing Boats' original, long out of production, kit for the *Zeeland* are now not only hard to find but can command a serious premium on the second-hand market. This revamped using the very latest technology version due for imminent release is, therefore, bound to prove very popular. However, should yours be the lucky entry drawn, you could be one of the first modellers to lift the lid of the beautifully redesigned box and set to work on the build.

To further explore the Billing Boats' range, visit www.billingboats.com

Contents include:

- An ABS hull
- Laser-cut wooden decks and superstructure
- Hull and deck fittings in wood, brass and plastic
- Ramin masts and rigging cord in various sizes
- Propshaft, rudder and propellers
- A fully revised and illustrated instruction manual

As you can see from the photos here, the resulting 1:35 scale tugboat (Length 82cm, Width 21cm, Height 55cm) makes for a lovely display model, but the potential to install radio-control equipment (not supplied) has also been kept very much in mind during the development process.

TERMS & CONDITIONS

N.B. For this particular prize draw we can only accept entries from those residing in mainland UK, the European Union and North America. The competition closes May 17, 2025. There are no cash alternatives available. Terms and conditions apply.
To view the privacy policy of MMG Ltd (publisher of Model Boats) please visit www.mortons.co.uk/privacy

HOW TO ENTER

To be included in the draw, all you need to do is complete the entry form below, cut it out (photocopies of the form will be acceptable for those of you who do not wish to deface your magazine) and mail it back to us at:

BB *Zeeland* Prize Draw,
Model Boats
Mortons Media Group,
Media Centre, Morton Way,
Horncastle, Lincs LN9 6JR

Please note, the **closing date for entry submissions** will be **Friday, May 17, 2025.**

Good luck, everyone!

Billing Boats' *Zeeland* Prize Draw

Name: ______________________________

Address: ______________________________

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Tel No: ______________________________

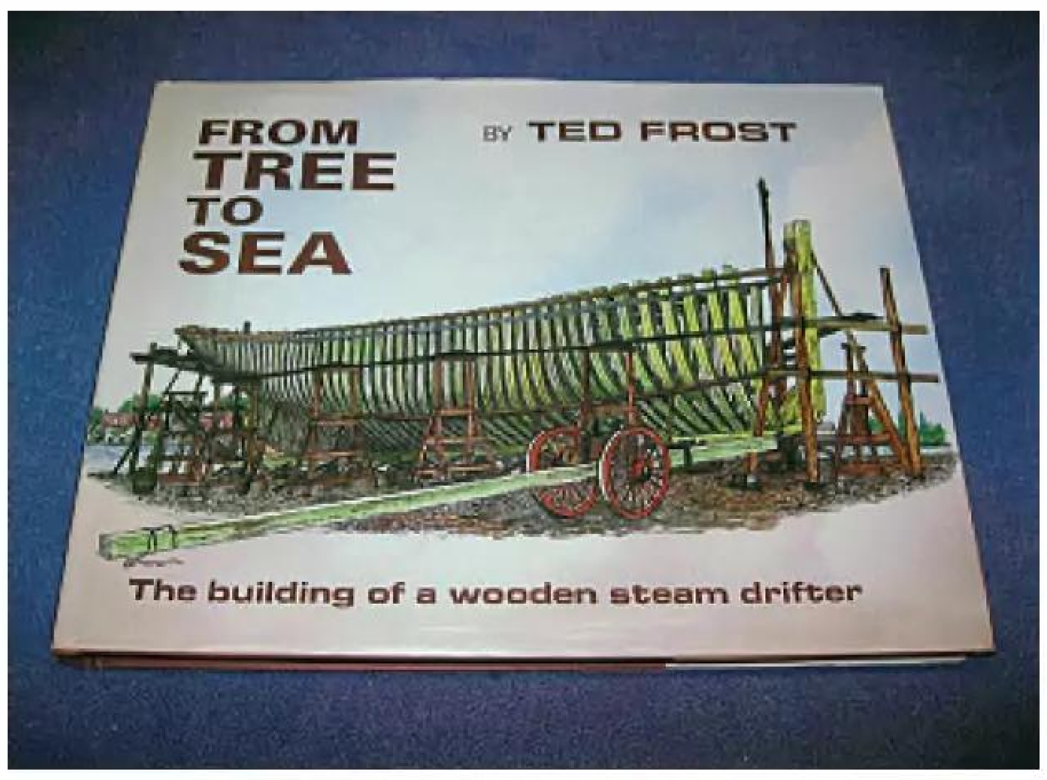
Email: ______________________________

A Formidable build

If the prospect of constructing your own version of this steam drifter from scratch seems a little daunting, fear not, as **David Bray** is about to serve up an explanation of how it's done…

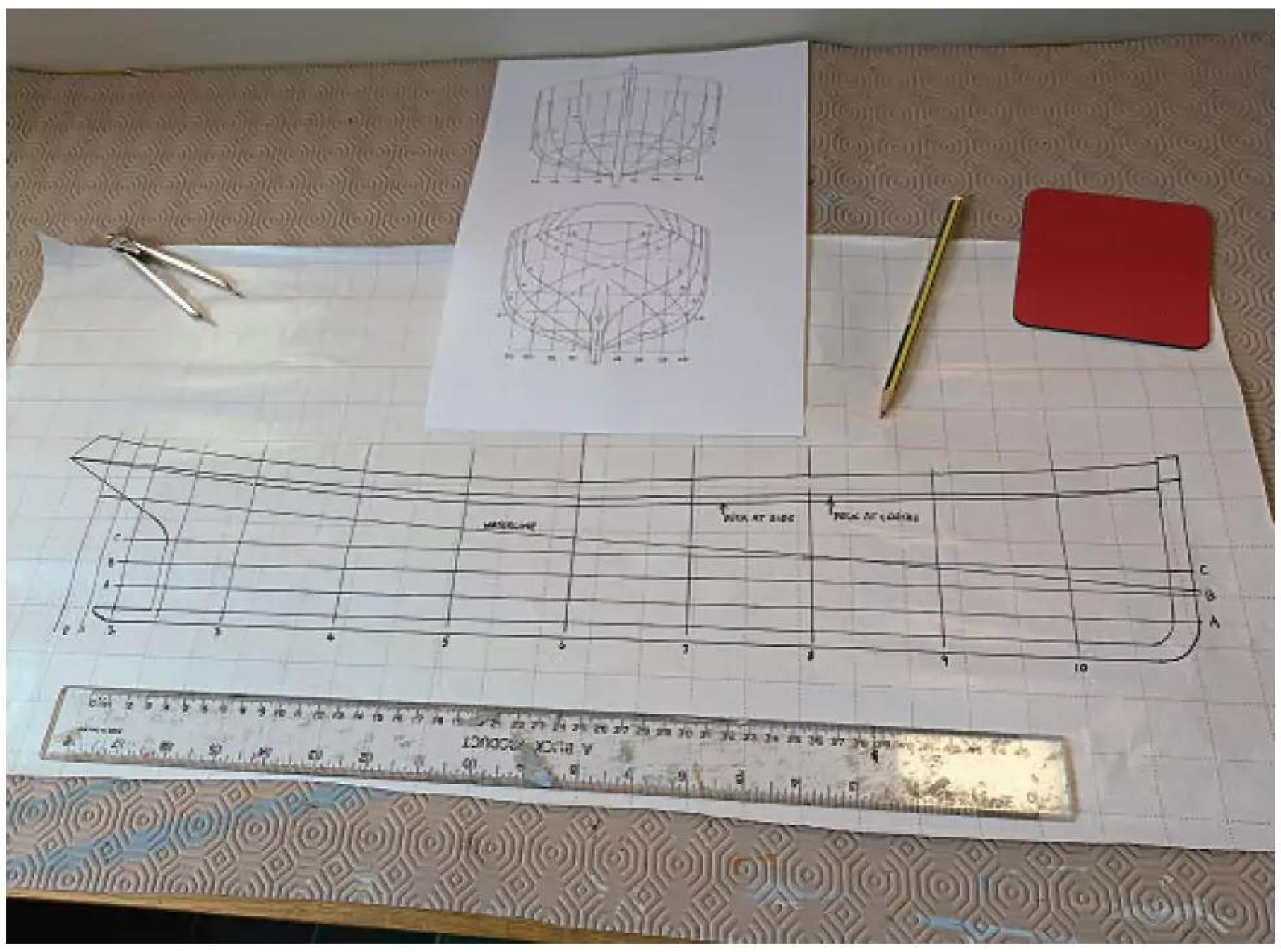
In around 1977 I attended a weekend workshop seminar on the herring fishing industry in East Anglia. The course was held at Belstead House near Ipswich. One of the expert speakers was Ted Frost, who talked at length on the building of a steam drifter. Ted was a shipwright by trade and served his apprenticeship at Chambers Yard on Lake Lothing, Lowestoft. This yard built many wooden sailing and steam drifters and trawlers and was responsible for the standard design of steam drifter built for the Navy during the war.

Ted had produced a very comprehensive set of magnificent pencil drawings, illustrating every stage of the construction of steam drifter *Formidable*, LT100, which

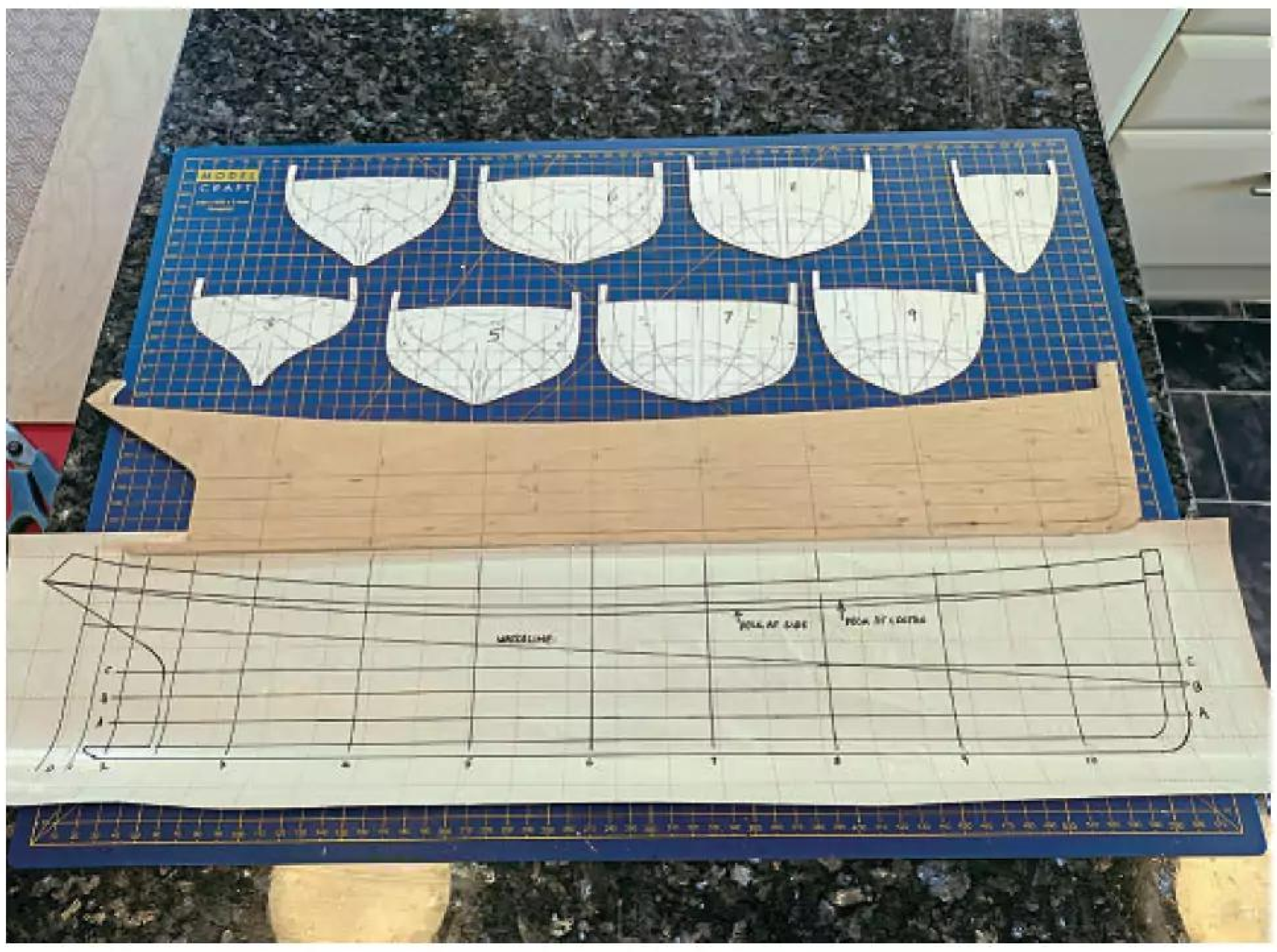


was built in 1917. During his apprenticeship and later, Ted worked on every aspect of the building of these vessels. In 1985 his drawings and constructional descriptions were published by Terence Dalton in *From Tree to Sea*. I don't believe that any of the wooden steam drifters have survived into preservation, so Ted's book is an invaluable record of this bit of maritime history. In later years Ted went to sea as a ship's carpenter for Houlders, working on the South American runs of its refrigerated meat boats. Before retirement he served as Clerk of the Works for Lowestoft. A true gentleman, I was honoured to call him a friend, and I treasure my copy of *From Tree to Sea*, which he signed for me. We will not see his like again.

Having completed the build of *Warrior* I was looking for a new project. I didn't fancy another ship with an extensive sailing rig, so *Formidable* beckoned. A year or two ago I completed the Lowestoft sailing trawler *Master Hand* to 1:48 scale, so I



Drawings to 1:48 scale.



The keel cut and marked, and templates for the bulkheads.

felt she would be well complemented by a steam drifter from the same port, the same era, and at the same scale.

Although there is ample information in *From Tree to Sea* to construct the model, I acquired the commercial plans for *Formidable*, which are at 1:33 scale. I was then able to scan, manipulate and print the body plan at 1:48 scale.

I briefly contemplated building the model as a full constructional replica of the prototype vessel. The book *From Tree to Sea* gives ample details of every element of the construction, and it would be perfectly possible to recreate this in model form. In reality, however, doing so would necessitate working to a larger scale – a minimum of 1:24, resulting in a model about 4ft in length. As a model of this size had never been my intention, I instead went for a conventional plank-on-bulkhead approach. At 1:48 scale, the resulting static display model measures approximately 23½ inches overall, with a 5-inch beam.

"At 1:48 scale, the resulting static display model measures approximately 23½ inches overall, with a 5-inch beam"

What follows is an explanation of how such model can be constructed, along with some tips and tricks I can share from my own build thrown in along the way.

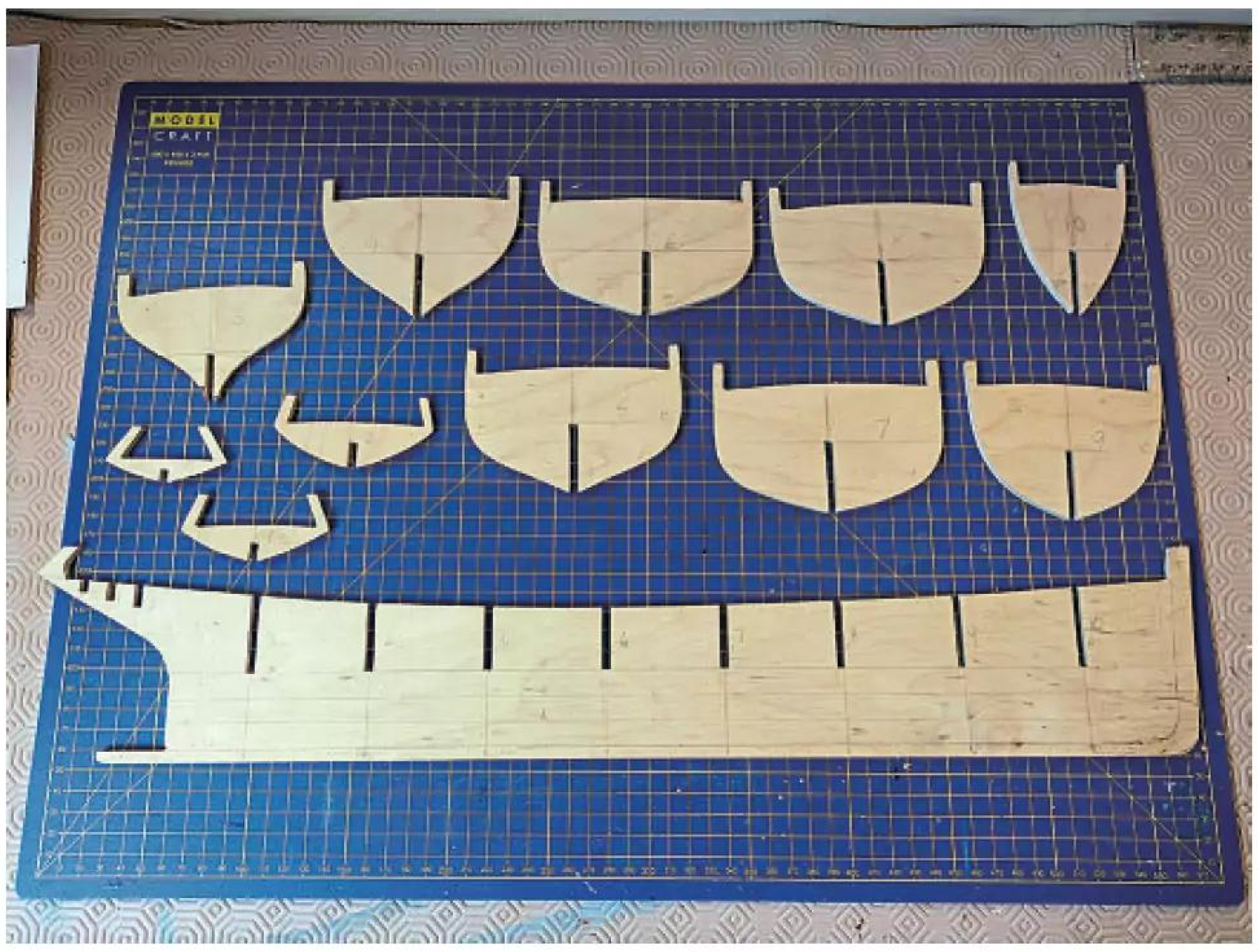
The hull

The keel plate and bulkheads are formed from 4mm ply. Profiles are traced for the keel plate, which is cut out in one piece. The upper edge of this corresponds with the deck line at the centre, while the lower edge is at keel level. Paper templates need to be traced and cut out from the body plan, transferred to the ply, and the bulkheads cut out using a fretsaw. Slots must be cut to fit the bulkheads to the keel.

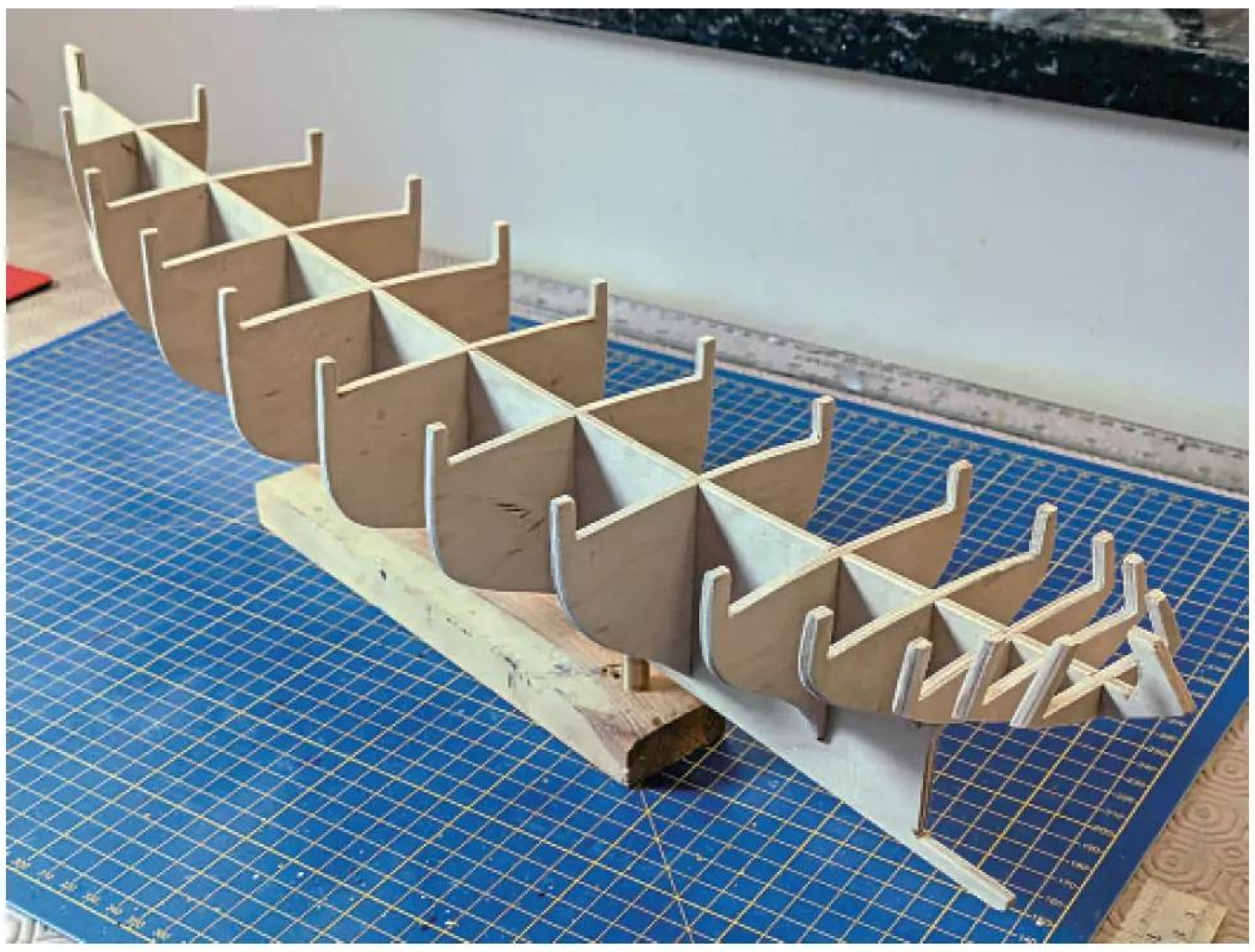
The datum for this build is the keel line, with all bulkhead stations vertical to it. The actual designed waterline was not parallel to this. When afloat the vessel trimmed about 3ft 'by the starn' as boiler and engine were located aft. She would gradually trim forward as she took on her catch of herring.

The keel plate for the model needs to be cut out and trimmed to shape, taking great care to form the sheer line accurately. Slots must be cut to take the bulkheads. At this stage of the build, I made the arrangements for mounting the hull on a baseboard. Regular readers of my constructional articles will be familiar with this, but the technique bears repetition…

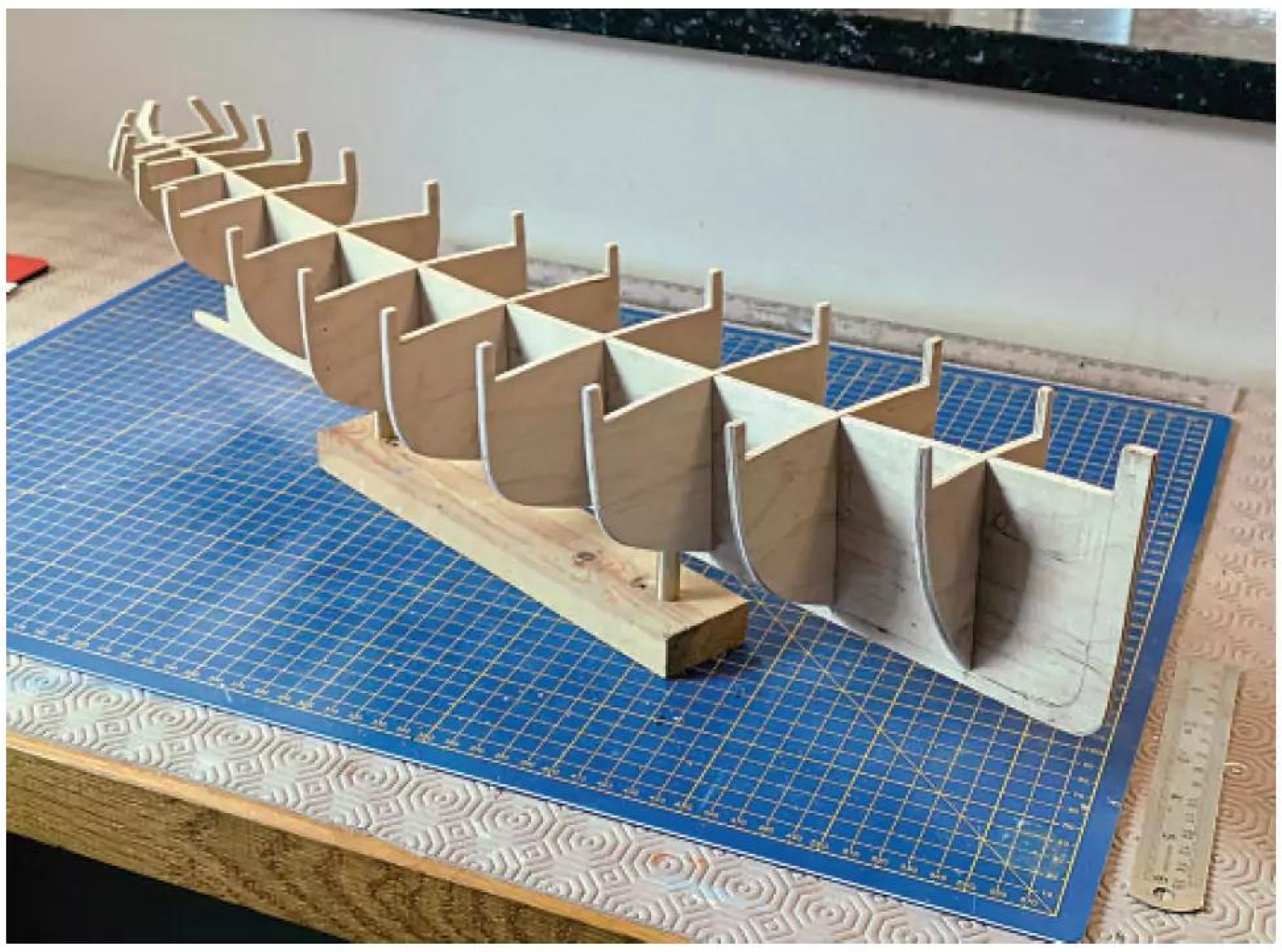
"Care must be taken to ensure these slots are vertical to the design waterline, not parallel to the bulkheads"



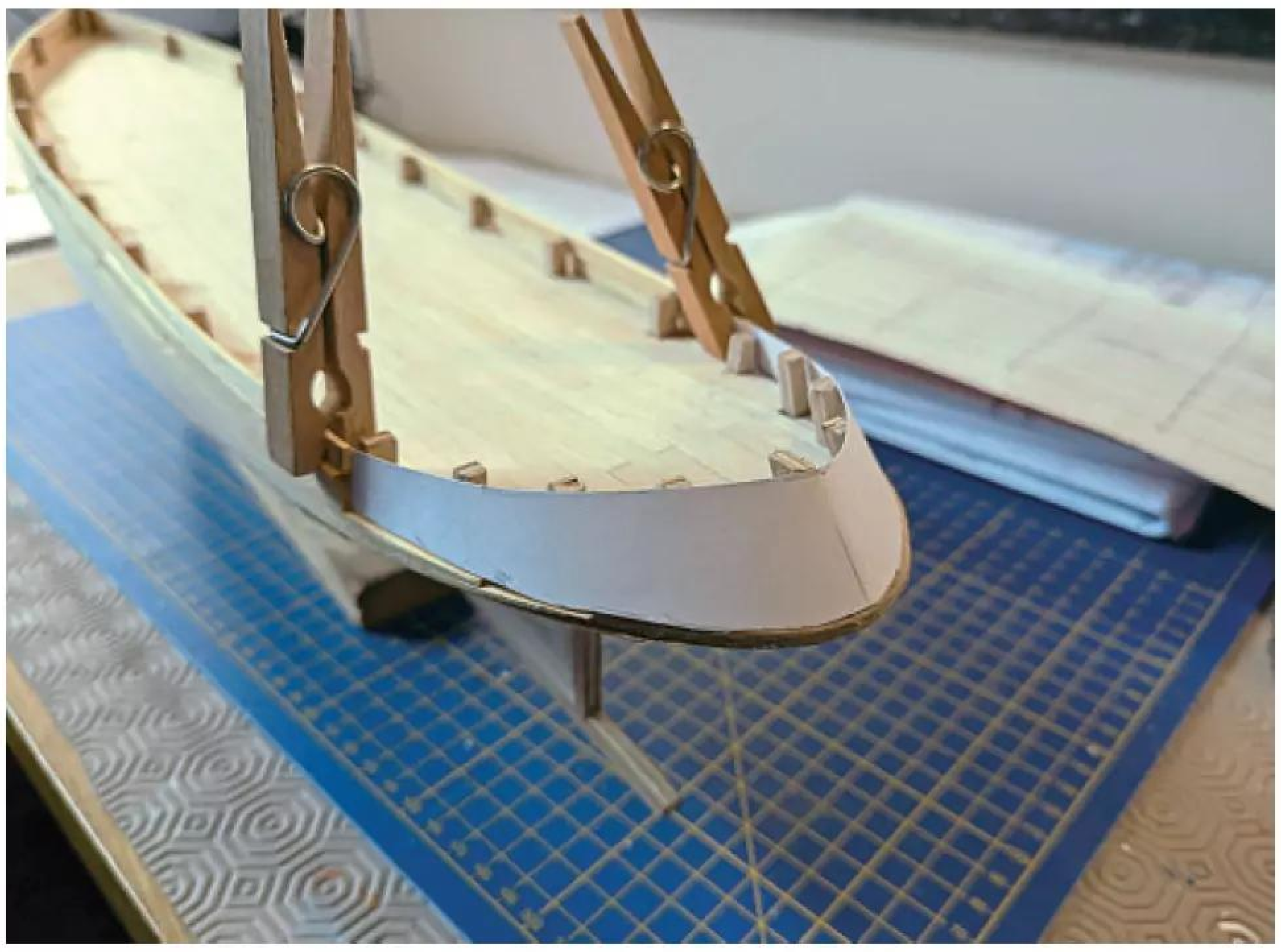
Bulkheads cut out and slotted, with the keel also slotted to receive bulkheads.



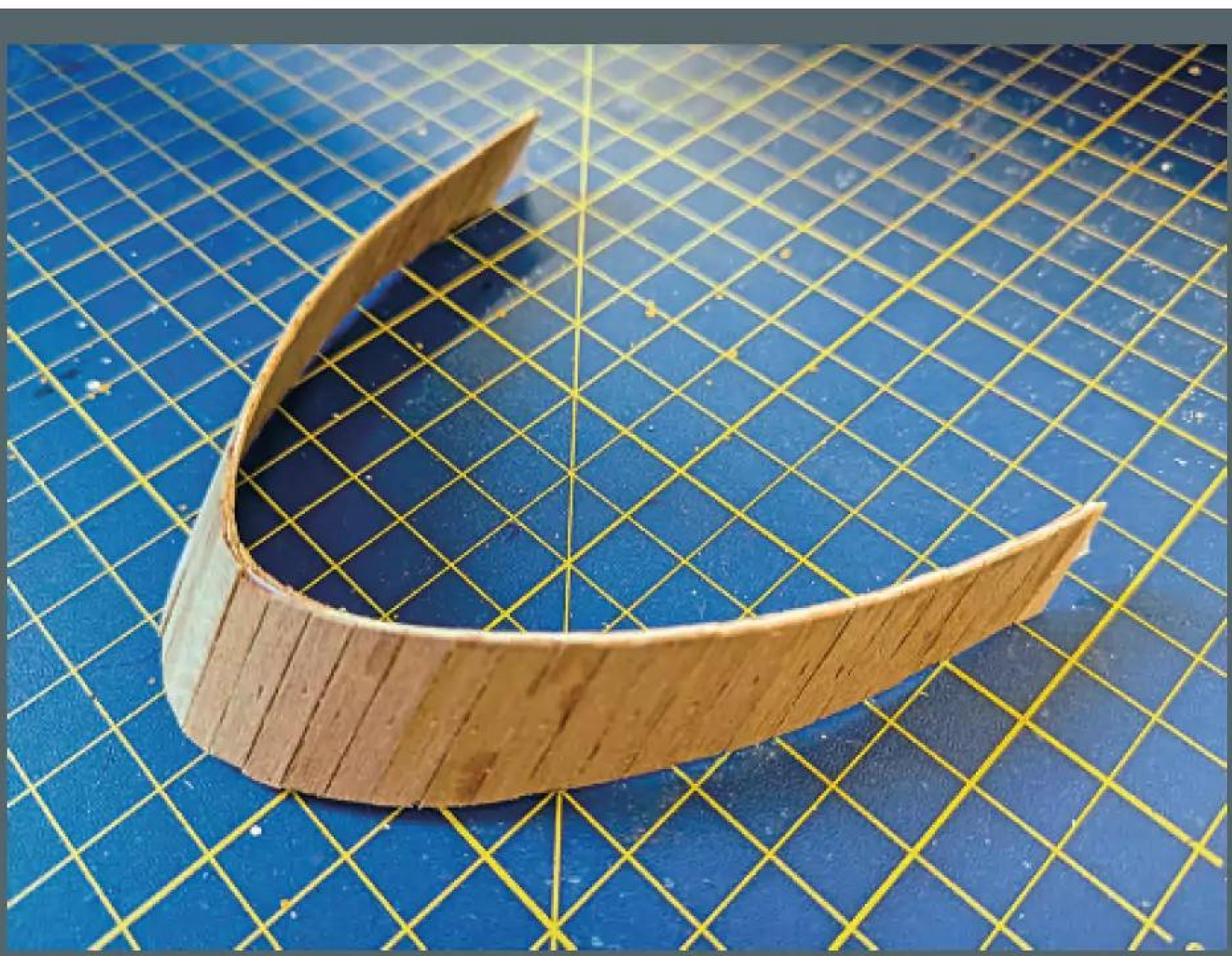
The keel and bulkheads assembled and mounted upon a temporary base.

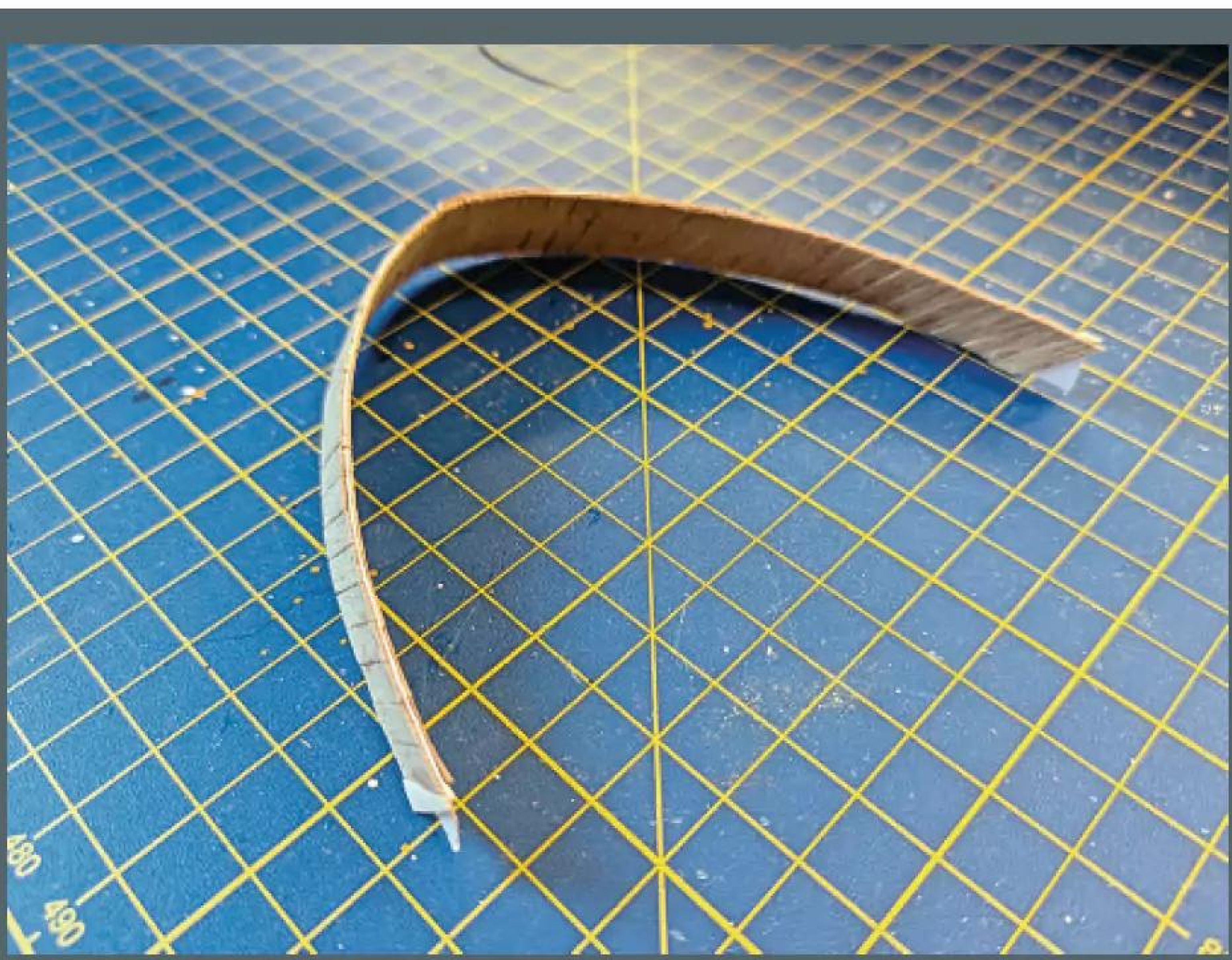


Care taken to properly fair and bevel bulkheads ensures a smooth run of deck and hull planking.



A card template in place, forming the basis for the planking of the 'Starn palins'.





Starn palins planked inside and out, ready to be fitted to the hull.

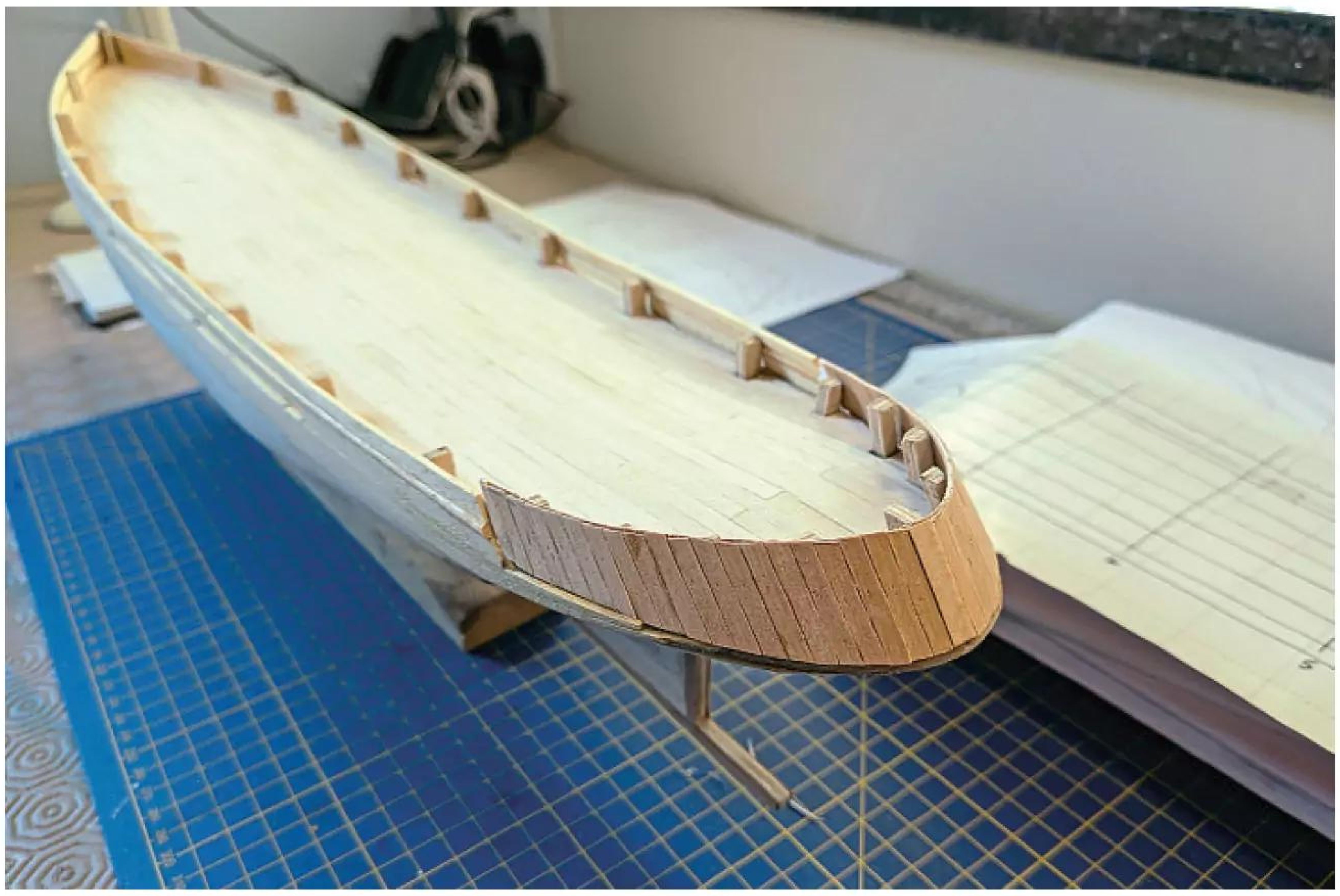
Two brass keel pillars will support the hull. Positions are chosen equidistant from stem and stern, and vertical slots 4mm wide are cut into the keel plate. Care must be taken to ensure these slots are vertical to the design waterline, *not* parallel to the bulkheads. Two nuts about 10mm square are made from 1/8" thick brass scrap, drilled and tapped 4BA. These are inserted horizontally into slots formed in the keel plate about 20mm from the baseline. These intersect the vertical slots which will take the 4BA securing screws. The nuts must be a firm fit into the slots and are glued in position. There must be about 15mm of vertical slot above the nuts to accommodate the 'tail' of the screws. I cut and glue two small support chocks under each brass nut, just for additional support. Brass pillars are turned and bored on the lathe and parted off to length. The forward pillar must be longer than the after one to allow for the 'rake' of the keel. The tops of the pillars are slotted to allow the keel to fit. I temporarily mount the hull at this stage on a scrap piece of 2-inch x 1-inch wood. This allows the hull to be mounted in the vice during the build.

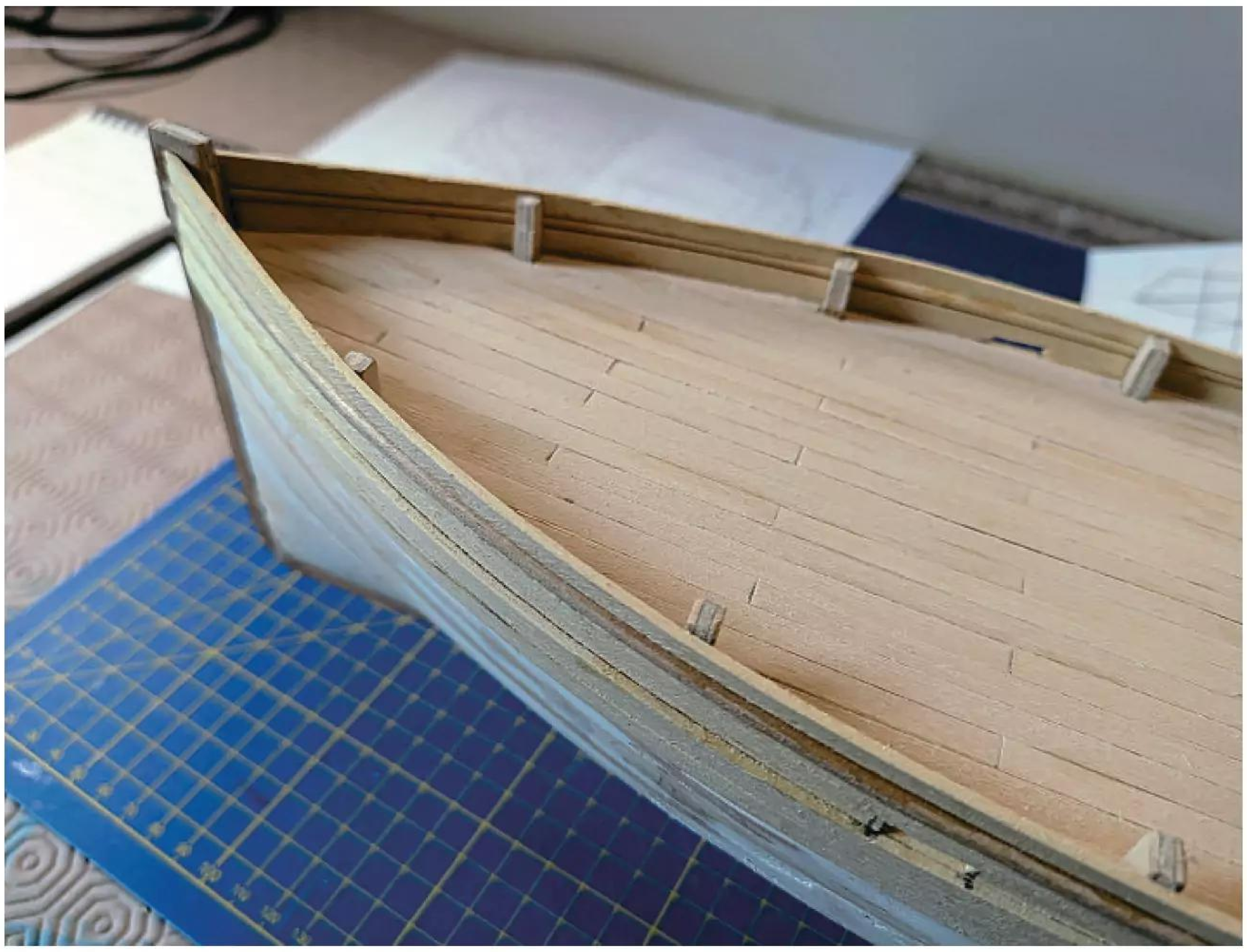
The bulkheads are slotted to fit into the corresponding slots in the keel. It is important to take the time to accurately shape the bulkheads, especially the deck camber. All the bulkheads must sit at the correct height to ensure a uniform sweep of the deck in both camber and sheer. Toward the ends of the vessel the bulkheads need to be beveled to allow a snug landing for the planking. Time spent on this pays dividends in achieving a 'fair' shape to the hull.

"The most difficult part of the hull construction is the formation of the counter stern"

The most difficult part of the hull construction is the formation of the counter stern. This drifter features a reverse-counter. Ted Frost referred to this as a 'tug stern'. Many drifters and trawlers were built with a conventional counter stern in which the stern bulwarks overhung above deck level. The drawback of this feature was that it was vulnerable to damage in a congested harbour. With the tug stern the bulwarks were protected from damage by the rubbing strake at deck level.

The counter (the portion of the hull abaft the sternpost) is formed on three bulkheads, plus the aft end of the keel plate. All of the bulkheads have 'ears' above deck level, which will support the construction of the bulwarks. These must all be shaped with great care, accurately slotted and beveled. The sheer line at the stern is very distinctive in this vessel, and it is important to get it right.


Starn palins in position.


Foredeck planking in position (note shift of butts) and bulkwarks in position.

At this point all the bulkheads are located and glued. A short section of deck substrate is formed from 1mm plasticard covering the aftermost five bulkheads. Accurately cut and filed to shape, this must be carefully fitted and glued in position. This substrate will ultimately be planked over. A length of 2mm square limewood can now be steamed and carefully bent to the stern profile. This is glued to the outside of the stern at deck level, ensuring that it follows the correct sheer. This simulates the counter covering board in the real vessel.

At the forward end, a deck substrate of 1mm plasticard is fitted, covering the for'd three bulkheads to the stem. A narrow tapered limewood fillet should be fitted on either side of the stem from deck level down to the keel. This needs to be shaped with a varying bevel, thereby providing a secure place for fastening the forward ends of the hull planking.

Planking

The hull planking commences with the sheer strakes, or wales. These are fitted from deck level downwards. The upper two strakes need to be thicker than those below and tapered forward and aft. The aft ends must be carefully shaped and faired into the counter. This vessel has a pronounced sheer ('sheer' is the vertical curve of the deck line, sweeping gracefully upward toward the bow and stern). It is important that the sheer line looks 'right'; an error here can ruin the appearance of the completed vessel.

The planking is straightforward; I used 0.5mm by 5mm limewood strips, tapering and inserting stealers where necessary. All my previous builds have been sailing vessels, but with *Formidable* I had to form a bossing for the propeller aperture. I actually forgot this until after the planking was complete, so had to add it as a bit of an afterthought.

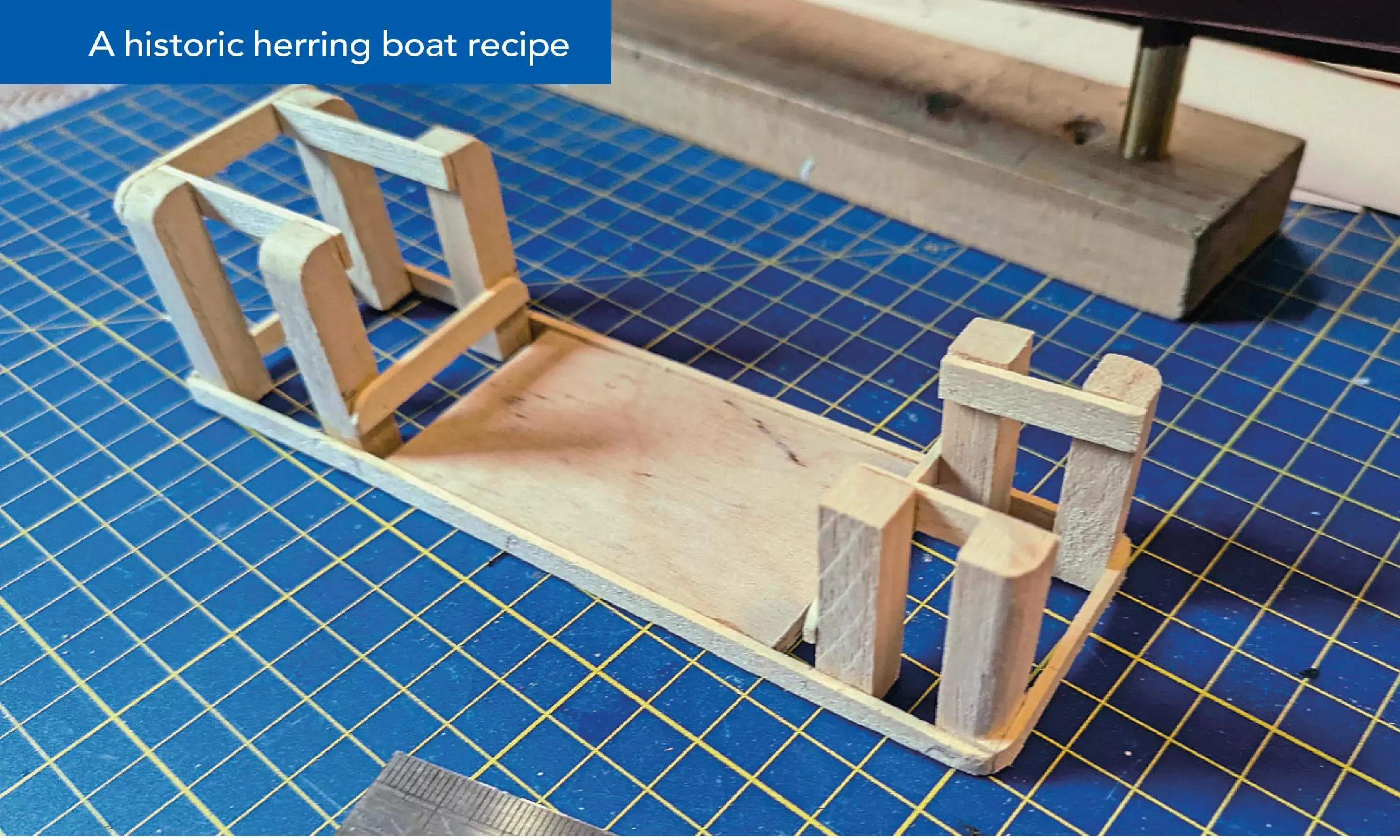
Three half-round rubbing strakes are located on the thicker wales, or sheer strakes. These must follow the sheer line curve and be equidistantly spaced. Again, these are visually prominent, so care must be taken to ensure they look the part.

> *"The deck's king plank must be laid first, taking great care to get it straight and dead central"*

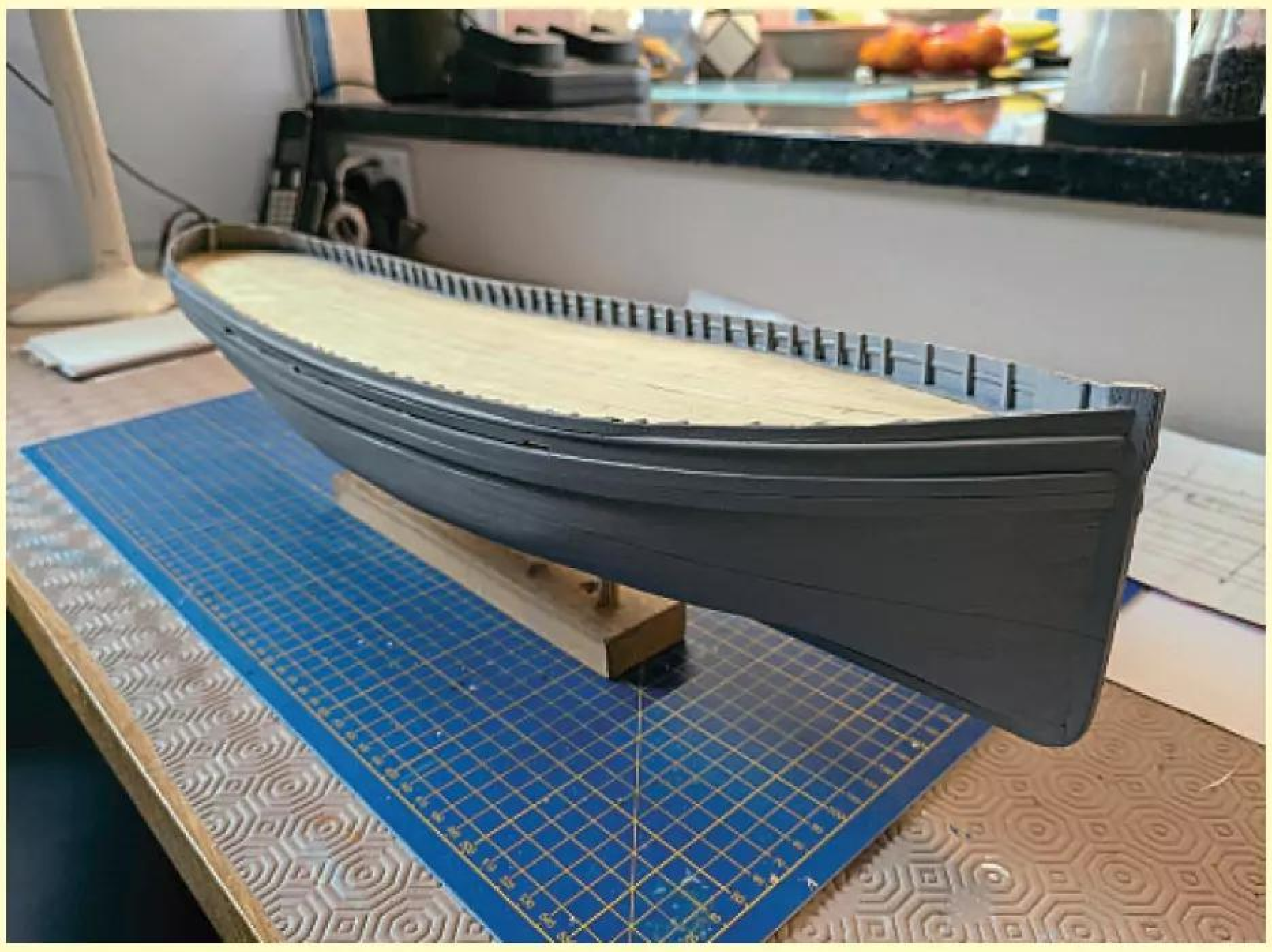
The deck now needs to be planked. A further substrate of plasticard can be fitted in between the forward and after sections already in place; this will indicate the correct sheer and camber. The deck should be planked with 0.5mm x 5mm limewood, cut into 4-inch lengths. The deck's king plank must be laid first, taking great care to get it straight and dead central. I used a shift of butts pattern, repeating every three strakes; each butt was shifted by 1.33-inch from its neighbours. Care must be taken to ensure that every third butt is lined up athwartships wise. At this stage we omit the covering board (the outermost deck strake, following the curve of the deck-edge).

Bulwarks

The next task is to build the bulwarks above the deck level. This job is done in two sections. The main bulwarks are of conventional fore-and-aft strip construction, while those at the stern are planked vertically. The shipwrights refer to these as the 'starn palins'. On the model, this is quite a tricky job. We have four pairs of bulkhead 'ears' plus the stern end of the keel plate on which to form the bulwark palins. I cut a cardboard template to fit round the



The framework for the deckhouse and boiler casing. Note the radiused corners.



Hull planking complete, with bulwarks in position and the bulwark stanchions fitted.

complex curve of the tug stern. This wasn't easy and took several clothes-pegs, lots of patience, and numerous attempts before it looked right and actually fitted. I then planked over the template with 0.5mm x 5mm strip laid vertically, commencing on the centreline. Being careful to retain the horseshoe-curve of the template, I could then turn it over and similarly plank the inside surface of the 'starn palins'. This formed quite a strong and rigid fitment and once trimmed to shape fitted perfectly in place.

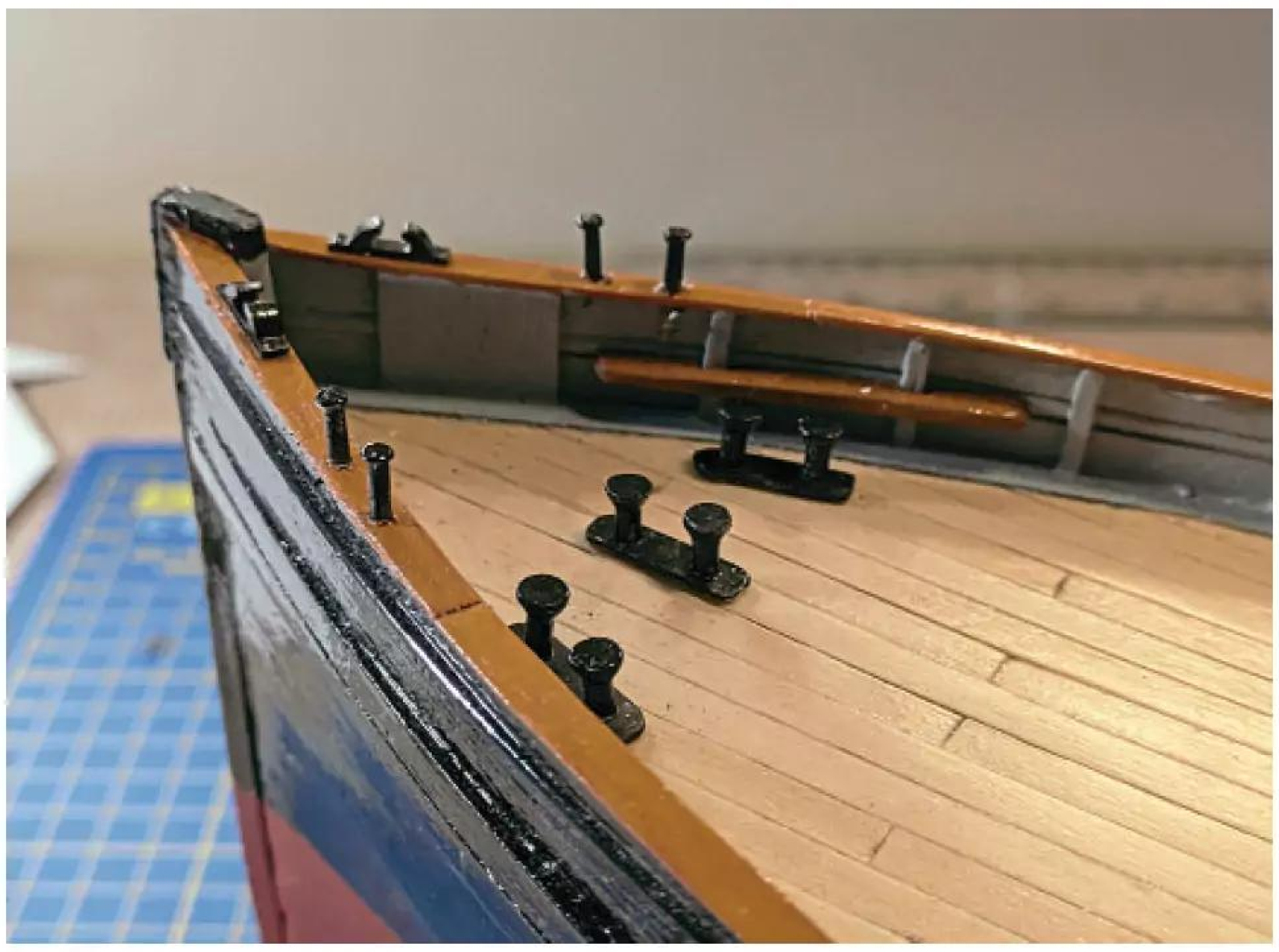
The main part of the bulwarks is planked more conventionally. A profile needs to be formed. In the prototype vessel, for appearance sake, the upper and lower bulwark strakes were flat, while the wider middle strake was domed on the outside face. This is yet another aspect of the build where achieving the 'right' look is really important. A further complication is that for about two-thirds of their length amidships, the bulwarks are 'floating', *i.e.,* not touching the deck. A gap of about 1-inch was left on the prototype vessel to allow deck water to clear. Water trapped on deck represents a substantial loss of stability, so these 'freeing ports' were essential. The gap couldn't be greater than about 1-inch though, or else the herring catch could have washed overboard!

Fitting the bulwarks must be done with care. The supporting bulkhead 'ears' will be removed, so must not be glued to the bulwark strakes. Said strakes cannot be secured to the deck either, as they're supposed to 'float', as mentioned above. In an earlier build, I constructed the bulwarks as a double-thickness skin, but here I just formed a single thickness. Once in place, the bulkhead ears can then be removed, filed flat to the deck, and the outer strake of the deck (the covering board) fitted.

At this point the deck can be sanded down and given a couple of coats of satin varnish. Once dry, the covering board can be masked off with tape, and the inside of the bulwarks painted.

A row of bulwark stanchions now needs to be fitted, referring to the

The afterdecks. Note the rudder yoke, spare propellor, skids for the small boat, and steering chain.



The bow fittings.

drawings for position and spacing, before a further coat of paint (satin light grey) is applied.

"The main bulwarks are of conventional fore-and-aft strip construction, while those at the stern are planked vertically. The shipwrights refer to these as the 'starn palins'"

Next comes the bulwark cap rail. Constructed from 1.0 mm x 6mm limewood, this should be fitted in several sections, shaped to accommodate the curve of the bulwark. The cap rail covers the top edge of the bulwark and the upper ends of the bulwark stanchions.

The funnel, complete with whistle and steam pipe. You'd never guess this had once been a Steradent tube!

You will need to make a number of pin rails to fit to the inside faces of the bulwarks. These must be curved to match the longitudinal curvature of the bulwark and notched to fit neatly around the bulwark stanchions. A more difficult task is the Cavil rail. This is fitted on the inside face of the bulwark stern palins, curving around the stern port to starboard. I made a card template to get the shape correct for mine. The cavil was formed from 3mm ply, cut to the template, then beveled to match the tumblehome of the palins. This was a fiddly task, involving lots of trial-and-error attempts, but I got there eventually.

Colour scheme

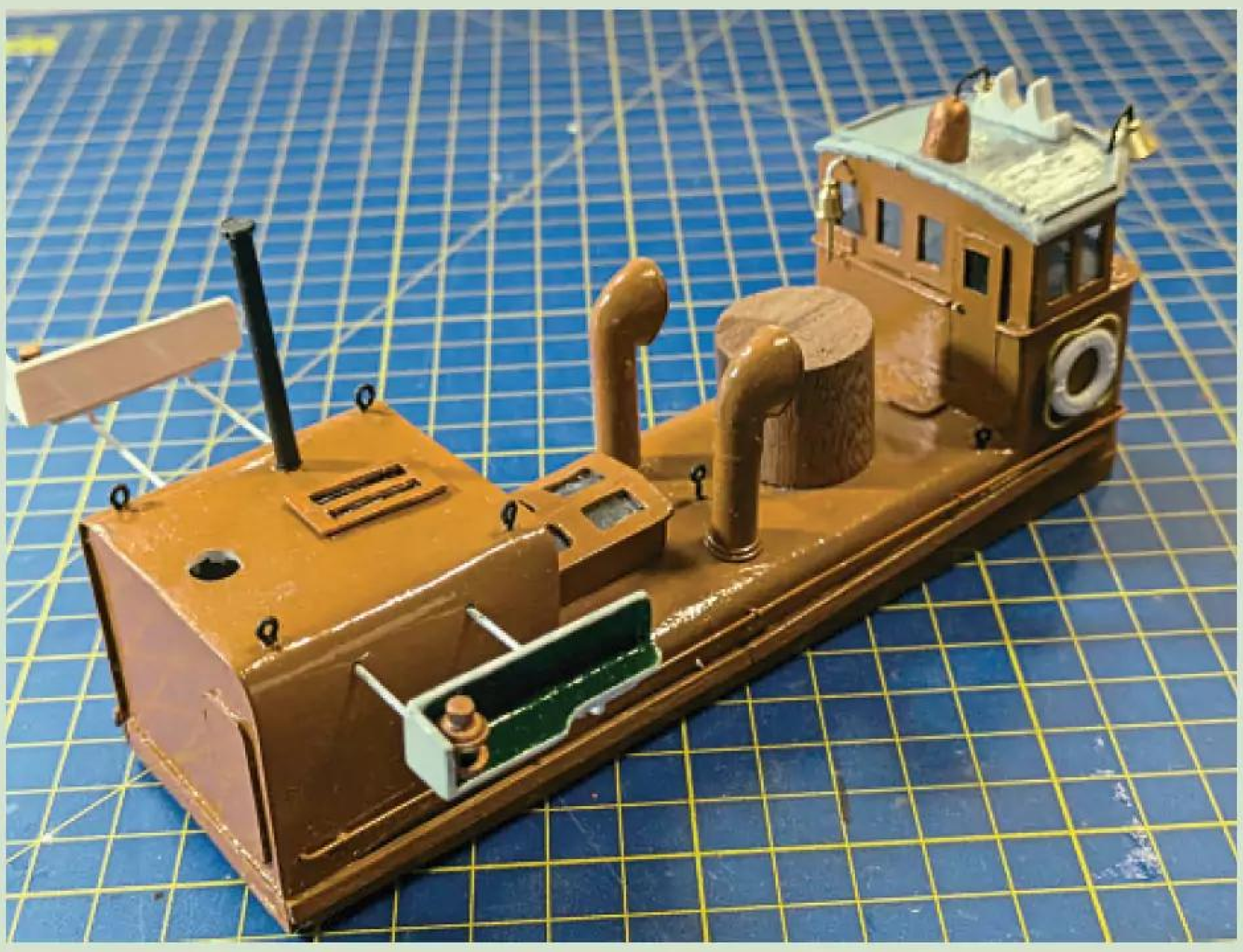
We now come to the painting of the hull's exterior, which is finished in matt dark red below the waterline and satin black above (masking off to provide a clean crisp waterline). The cap rail is painted dark brown.

With the hull essentially complete, she's beginning to look right smart!

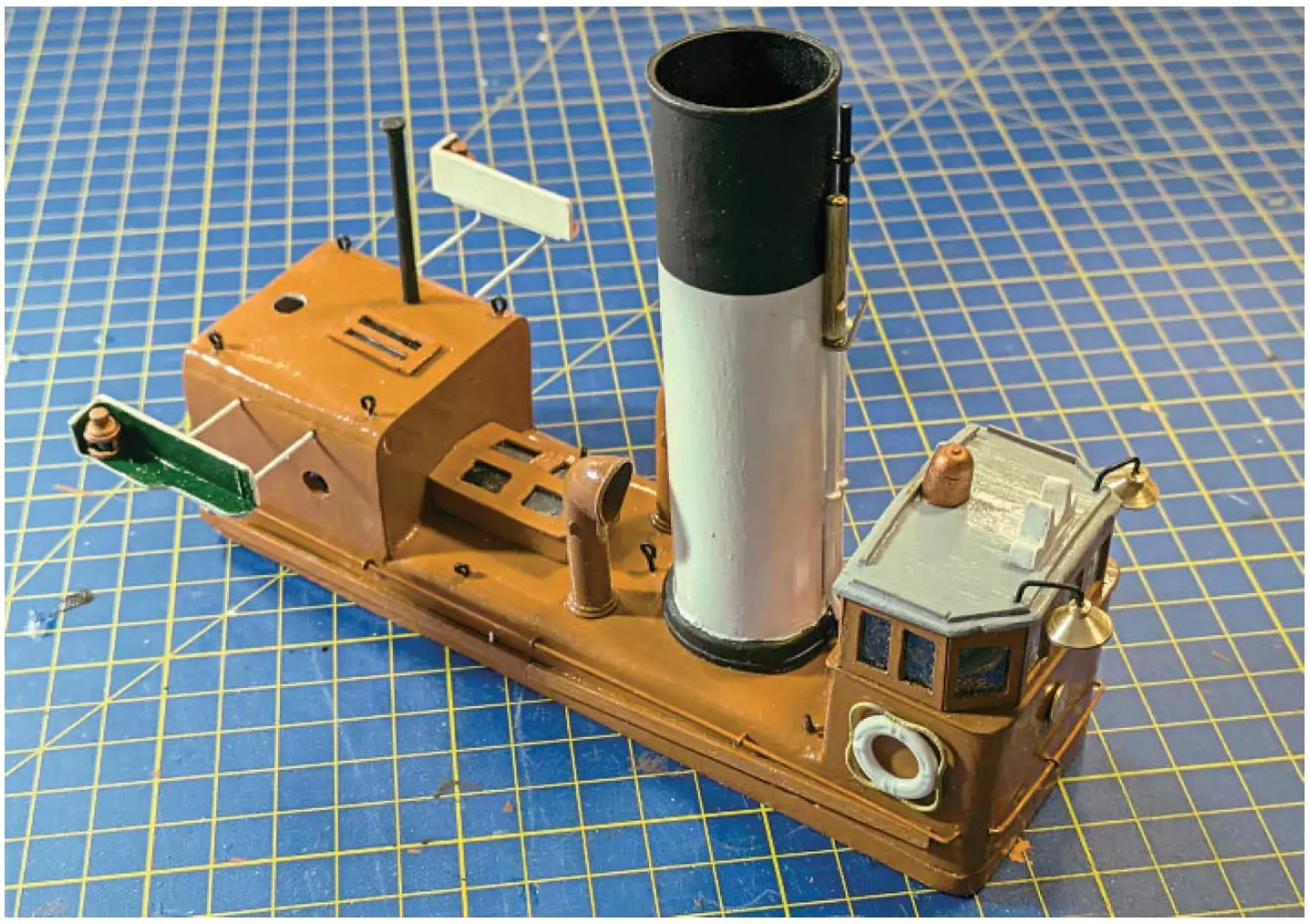
The deckhouse and the wheelhouse

The next task will be the construction of the deckhouse. This comprises the engine room casing, with the wheelhouse mounted atop at the forward end, and the galley integral at the after end. This is quite a complicated structure, with the upper edges of the galley and casing radiused. The forward corners of the structure are also radiused. I built a framework of limewood section and strip, which initially was quite flimsy and flexible, but as extra components were added the structure gained strength and rigidity. The lower edges of the deckhouse had to be shaped to match the sheer and camber of the deck. Once the framework of the deckhouse was complete, thin plasticard was cut and formed into the engine room casing. The galley was next, and then finally the base of the wheelhouse. Having completed this bit of construction, I discovered that the whole unit had warped slightly and wobbled when located into position on deck. A bit of trimming of diagonally opposite lower surfaces ensured a snug fit. 3mm plastruct angle was cut and formed accurately into a coaming into which the deckhouse would be a tight fit. The complete coaming unit was then painted then glued in position on the deck. The deckhouse is not fitted at this stage, as a lot more work is required to finish it off.

The wheelhouse needs to be completed by adding windows and a roof. The windows are formed from thin plasticard, cut accurately into a strip and carefully scored with a knife to allow folding at the correct angles to form the front and sides of the wheelhouse. Obviously, window apertures also need to be cut. The whole inside of the wheelhouse and window frames can then be painted (the inside structure of my model doesn't match the prototype as I found matt black renders the internal detail invisible) and the windows 'glazed' by gluing clear plastic sheet into them. I made a mistake here. Having completed the wheelhouse, I realised that there was no way to get in! I then had to cut a doorway in the aft wheelhouse bulkhead and fit a door. Glazed to match the other wheelhouse windows, the final touch was to drill 1mm and insert a tiny piece of brass wire to form a doorknob. The wheelhouse roof was planked and fitted with rain strips. A tiny section of dowel formed the




The deckhouse assembly mostly complete.



The deckhouse with the funnel added.

magnetic compass, painted copper. In the prototype the compass was visible at the wheel by means of a periscope arrangement.

"I've often wondered if this fitting was named after an intrepid fisherman called Mitch!"

Mitch board

I also made and fitted a 'Mitch board'; this was a decorative crutch fitted at the fore end of the wheelhouse roof, which supported the lowered foremast when fishing. I've often wondered if this fitting was named after an intrepid fisherman called Mitch!

Detailing

But onwards, as there is still a considerable amount of detail to be completed: the engine room skylight and ventilators, the galley door, the funnel, the sidelights. The latter are bracketed off the galley house and need to be painted, red (port) and green (starboard); I must admit to actually getting the colours on the wrong sides! This probably something I should be keeping very quiet about – I mean, I'm a Master Mariner! I'm sure my secret is safe with you, though – and besides, these the light boards have since been repainted in their correct colours.

My funnel came courtesy of a recycled Steradent tube. This was exactly the right diameter, but it did take a considerable amount of sanding to erase the branding/ instructions/etc – obviously, I didn't want these to remain visible after painting. Cut to length, the bottom edge was filed to give the correct rake of the funnel. The cap for the tube was also repurposed, to form the funnel base, where it was mated to the engine room casing. This base and the funnel top were painted black, and the main part of the funnel white. Brass wire and rod of different diameters was used to form the steam pipe and whistle. Once fitted, the four funnel stays were rigged.

A brass bell was then fitted to the aft face of the wheelhouse, and two brass lamps to the forward corners.

Drifters always carried a ladder. Often, especially at low water, the quayside would be considerably higher than the deck. This ladder would be lashed to the boiler casing rails on the starboard side. Now, some time ago I built a shipyard diorama (the Dandy Score yard) which included a row of terraced houses. To provide a wooden paling fence between the shipyard and the house, I used some plastic fencing intended for scenic effects in 00 scale model railways. As I had some left over, I took a length of it, removed every other paling, and was most pleased to find it formed a very acceptable ladder!

When making the mizzen mast, this needs to be tapered, varnished, and then fitted with a small wire pin in the heel. A hole needs to be formed in the galley roof to take the mast, and another small hole drilled in the deck beneath to take the heel pin. It's imperative you get the position of this hole right as the mast needs to locate vertical athwartships with a small forward rake. Eyebolts need to be located in the galley roof to accommodate the mizzen mast stays.

We must now construct the steering gear. The vessel had a rod-and-chain system connecting the wheel to the rudder yoke. On the model, wooden strips can be attached to the sides of the engine room casing to simulate the tubes carrying the rods. A deck box also needs to be constructed to take the rudder yoke, the arms of which protrude port and starboard. The upper surface of this box should be planked, then fitted with the after cradle chock for the small boat.

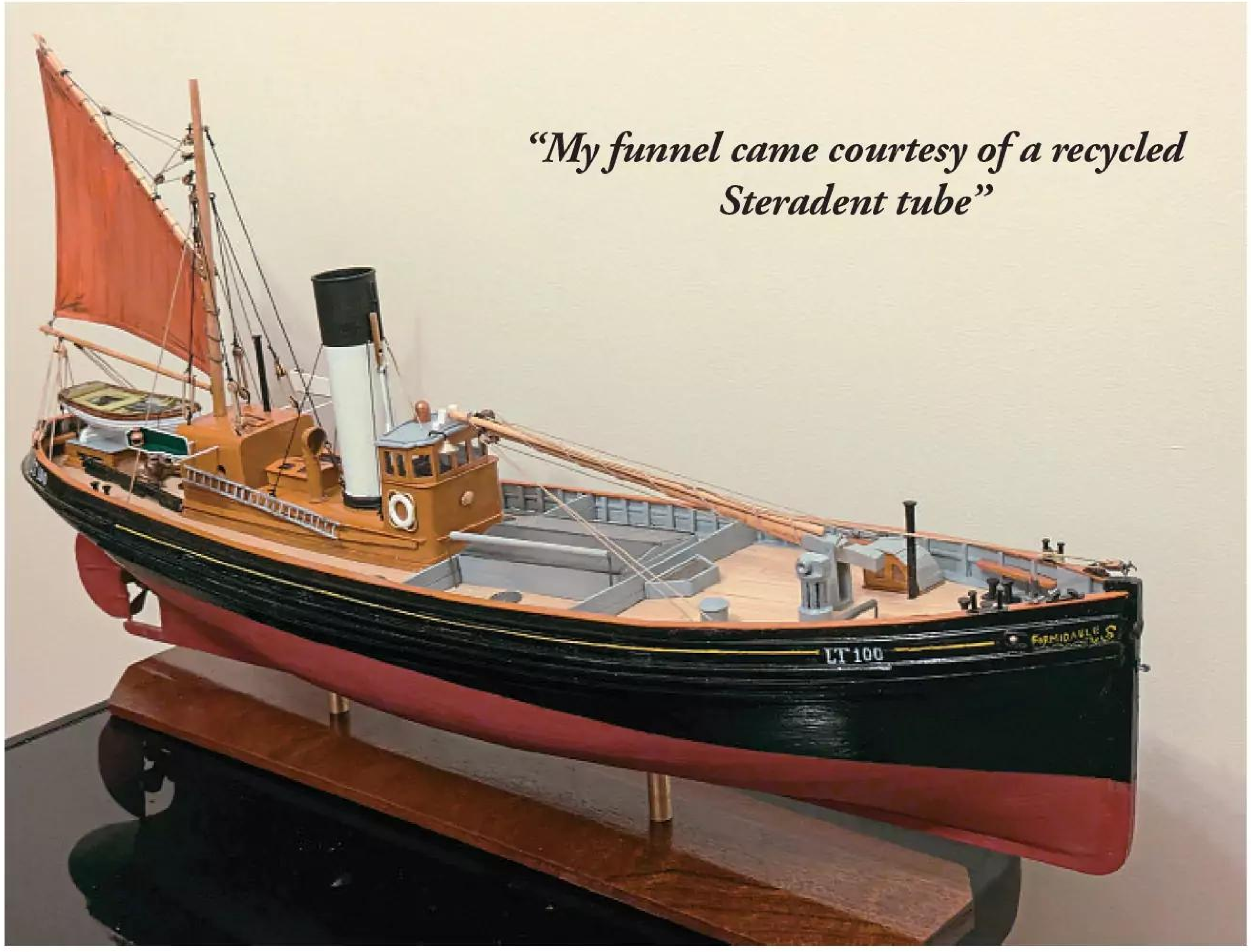
The ends of the yoke were connected to the system by chains which run in channel section. On the model, these need to be made and fitted, with the aft ends of the chain connected to the yoke arms. The forward ends of the channels butted up against the galley bulkhead corresponding with the tubes carrying the 'rods'; on the model, however, there is no connection between the yoke and the rudder as at this point the rudder has yet to be fitted.

The forward end of the small boat will be supported on a pivoting chock, mounted on a post on the deck just abaft the galley bulkhead. This needs to be made, painted and fitted, as does the spare propeller mounted on bearers on deck. A few eyebolts need to be fitted to the deck to take the mizzen boom guys and the small boat gripes. A set of mooring bitts (double bollards) also need to be made and painted. Two are fitted at the stern and five at the bow; three on deck and two on the bulwark rail.

The rudder is constructed from thin plasticard, planked on either side. Once glued to the rudder stock (2mm brass rod), a number of gudgeon straps can be fitted. Before assembly, the rudder stock needs to be reduced to 1mm for a few millimetres at the bottom end and located into a small hole drilled into the keel sole piece. The rudder and stock are purely visual and do not connect to the above-deck yoke. A 40mm propeller also needs to be fitted, but, again, this will be purely decorative, and non-rotating.

For my model of *Formidable*, I purchased a Quaycraft resin moulding of a scaled down 14ft workboat of the type carried by fishing vessels. These are beautifully detailed mouldings, which once painted can be carefully secured in place, upright and level fore-and-aft, in the chocks.

The mizzen mast can now be rigged, with the forestay and four shrouds set up on deadeyes and lanyards. Before this, however, three mast hoops must be made from brass wire and painted. Dropped onto the mast before rigging the forestay and shrouds, these will be laced to the luff (leading edge) of the sail. A gaff now needs to be made and fitted with jaws to sit against the mast. After the gaff boom and mast are stained and varnished, they can be fitted with the variety of brass eyes to take the running rigging. The peak and throat halyards, topping lift, sheet and boom guys can now all be rigged. My sail was made from thin plasticard cut to shape, with the



The Formidable complete.


Detail to the deckhouse on the completed model.

The foredeck. Note the companionway, mast tabernacle and steam capstan.

Another view of the foredeck. Note the rope room hatch (round) and warp roller.

The wheelhouse. Note the lifebuoys, acetylene lamps and mitch board.

The starboard side of the deckhouse. Note the ladder and bunker manhole doors.

edges (luff, head, leech and foot) reinforced by thin plasticard strips. Holes were drilled in the head to take the throat and peak earings and the head lacing. Three holes were drilled in the luff to allow lacing to the mast hoops.

The sail can be painted using acrylics. A rich tan colour, with smudges of black and ochre, will give the sail a typical weathered appearance. The sail is 'fitted' by earings at the peak, throat and tack (the lower forward corner), with an outhaul at the end of the boom. The sail needs to be laced to the gaff along its upper edge; note, the lower edge of the sail is *not* laced to the boom, being 'loose footed'. Finally, the three mast hoops are laced to the leading edge (the 'luff'). I found all this to be quite fiddly, but worth it as once my sail was secured in place it did look really good.

A variety of fittings can be made or sourced from your scrap box. I've been building ship models for over 50 years off and on, so my scrap box has a great selection of 'left-overs'.

After making and installing my hatch and kit boards, I fitted a horizontal net roller over the starboard coaming. Driftnet fishermen always cast their nets on the right side of the boat, as instructed in the Bible!

> ***"Driftnet fishermen always cast their nets on the right side of the boat, as instructed in the Bible!"***

I also fashioned my own scaled down Elliott and Garrood steam capstan and fitted it to the foredeck. Made in their thousands at the Beccles works, this was a brilliant piece of equipment. Steam from the boiler passed from underdeck up through the middle of the capstan. A two-cylinder steam engine on top drove the barrel by means of a bevel gear and crown wheel. The capstan was immensely powerful, considering the size of the engine components, and was used for many functions, including hauling the net warp, lifting the baskets of herring onto the quayside using the foremast derrick, and, most importantly, hauling the ship up to the quay. During the herring season (October/November in Lowestoft and Great Yarmouth) there could be several hundred drifters all vying to land their catches. With the boats mooring bows on to the quay, it was, therefore, often necessary to squeeze vessels in between already moored boats by throwing a rope onto one of the bollards ashore, switching the engine to full power and forcing the incoming boat's way up to the quay.

Elliott and Garrood also built the boiler and engine for many drifters and trawlers locally. It developed the ingenious 'monkey triple' steam engine especially for drifters. This was a very efficient triple-expansion engine. In a conventional triple expansion engine, the three cylinders are in-line, but with the monkey triple, the HP cylinder was mounted atop the IP cylinder, sharing a common piston rod. The LP cylinder was adjacent. This made the engine shorter in length, and the engine room could be a bit smaller. The crew cabin immediately abaft was thus a bit bigger.

For my model, the capstan was turned up from brass on the lathe and fitted with representative upper casing and small warping drum end on the top. Once painted, this can be fitted to the foredeck making sure it is vertical to the waterline; the deck itself has considerable sheer and camber at this point.

The fo'csle companionway also needs to be made, painted and fitted, as does the tabernacle for the foremast. Next, the foremast and its derrick need to be made, stained, varnished and fitted with eyes and bands for the rigging. Fitting and rigging are straightforward. We show the mast lowered onto the mitchboard atop the wheelhouse. Often, the mast was only raised when needed in port for discharging the catch.

The model can now be finished off by painting a very narrow gold line along the bulwarks and giving her a name and fishing number (in this case, LT 100).

As intended, the finished *Formidable* makes a fitting companion to my sailing trawler *Master Hand,* completed two years ago, and the Yarmouth lugger *Gypsy Queen* that I built in 1977.

Putting the t(ea) in history

For the crews, drift fishing was grindingly hard graft. Fraught with danger, conditions of work would not be deemed acceptable today. Pay was often uncertain. Fishermen were renumerated with a share of the catch returns. But, sometimes, even if their haul had delivered a huge catch of the 'silver darlings', lots of other similarly successful drifters arriving back at the fish dock around the same time resulted in a glut of herring, meaning prices would fall and therefore the crew's pay off significantly reduce.

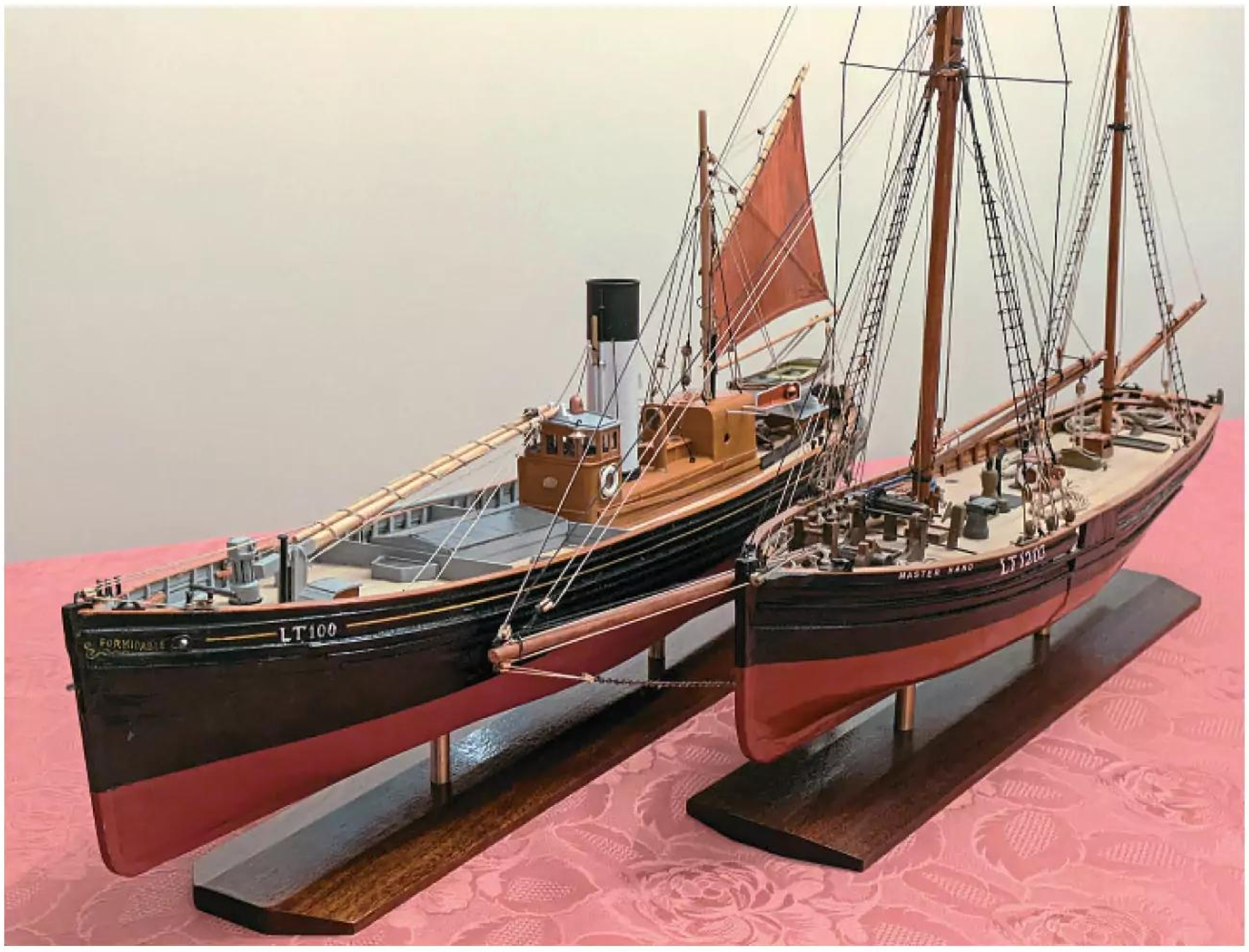
Formidable was known as '*Fidget*' locally. She fished UK waters until the outbreak of war in 1939, when she was commandeered for service in the minesweeping fleet. She was sent to Dunkirk in 1940 and rescued several hundred tommies from the beaches. After the war she was sold to Norway.

No wooden-hulled steam drifter has survived into preservation. The last one was the Yarmouth boat *Wydale*, which sadly I can remember leaving the harbour at Yarmouth heading for a scrapyard in the Netherlands.

The huge industry that was herring fishing is now but a memory. Herring stocks are miniscule compared to the multitudes that fed the world very cheaply prior to World War I. Nevertheless, longshore-caught herring are often found at my local fishmongers during October and November, and there is nothing I like more than a brace of fried herring, fresh crusty bread and a big cup of tea! ●

FURTHER READING

- *From Tree to Sea* by Ted Frost. Published by Terence Dalton, 1985.
- *Living from the Sea* by David Butcher. Published by Tops'l Books, 1982.
- *The Driftermen* by David Butcher. Published by Tops'l Books, 1979.
- *Herrings, Drifters and the Prunier Trophy* by Malcolm R. White. Published by Coastal Publications, 2006.



Formidable (left) and Master Hand (right). Although David modelled Master Hand first, her full-size counterpart was actually built in 1920, three years after Formidable (which was built in 1917).

The mizzen mast with sail fully rigged, and the small boat complete with oars.

A TAYCOL TALE

Charles Oates explains why what should have been a quick and easy side project turned out to be trickier than anticipated…

Like many modellers, I have a long-term project that will take me a couple of years to complete. Those in the same boat will be aware that there are times when spending hours and hours on jobs with little obvious progress can become wearisome. When this happens, I like to take a break and turn my hand to building something simple, fun and easy to finish. Past distractions have been a springer and a couple of models from the Dodgy Geezers Eezebilt website, plus I've motorised a 1:72 scale plastic *Schnellboot* – and a fantastic little runner it is too!

So, while doing a poor job of rubbing down the varnish on my long-term project's peculiar hull, I realised it was time for a hiatus and decided to get out my ancient Taycol Meteor wound field electric motor, clean the brass and generally give it a good fettling.

60 years ago, Taycol motors were the ones to have. They boasted solid, old-fashioned engineering, but were too expensive for a youngster, especially as they weren't much use on dry batteries. In later years, when these motors had long been surpassed by decent modern designs, I bought a second hand Taycol Meteor from a shop that was closing down, purely for the nostalgia of having something the schoolboy me couldn't afford.

Subsequently, this motor spent years in my display cabinet, next to some other bits and pieces, having only ever been tried once in a boat, Vic Smeed's *Mistral* (see **Photo 1**), before being swapped for something with more oomph. There wasn't really much point in that trial as I couldn't see or hear the motor when the boat was running.

Remembering this while cleaning the brass bits, a virtual light bulb over my head lit up brightly. So that the motor *could* be seen running, why not make an open launch in which to fit it? Out came a vintage Basset-Lowke handbook, and I began to pore through some of the offerings from companies such as Bowman, Hornby and Bing. Certain features were common in the ones I liked: a turtle foredeck, large open cockpit area and a raised hull profile towards the bow. Models like these were intended to be simple and cheap to manufacture, so the designs lend themselves perfectly to a quick home build.

I won't go into lots of detail about the construction, that's not what this article is about, and it's so easy almost anyone can make something similar. I will, however, give you a brief outline of what I did.

The easy bit

Laying out the motor on my bench, with a stern tube and modern radio gear, it seemed like a length of about 70 cm and a beam of 14 cm would be about right. This also fitted with what a childhood book, *Power-driven models* by Ron Warring, recommended for the motor. The hull would be flat bottomed, with vertical sides near the bow that tapered inwards toward the stern.

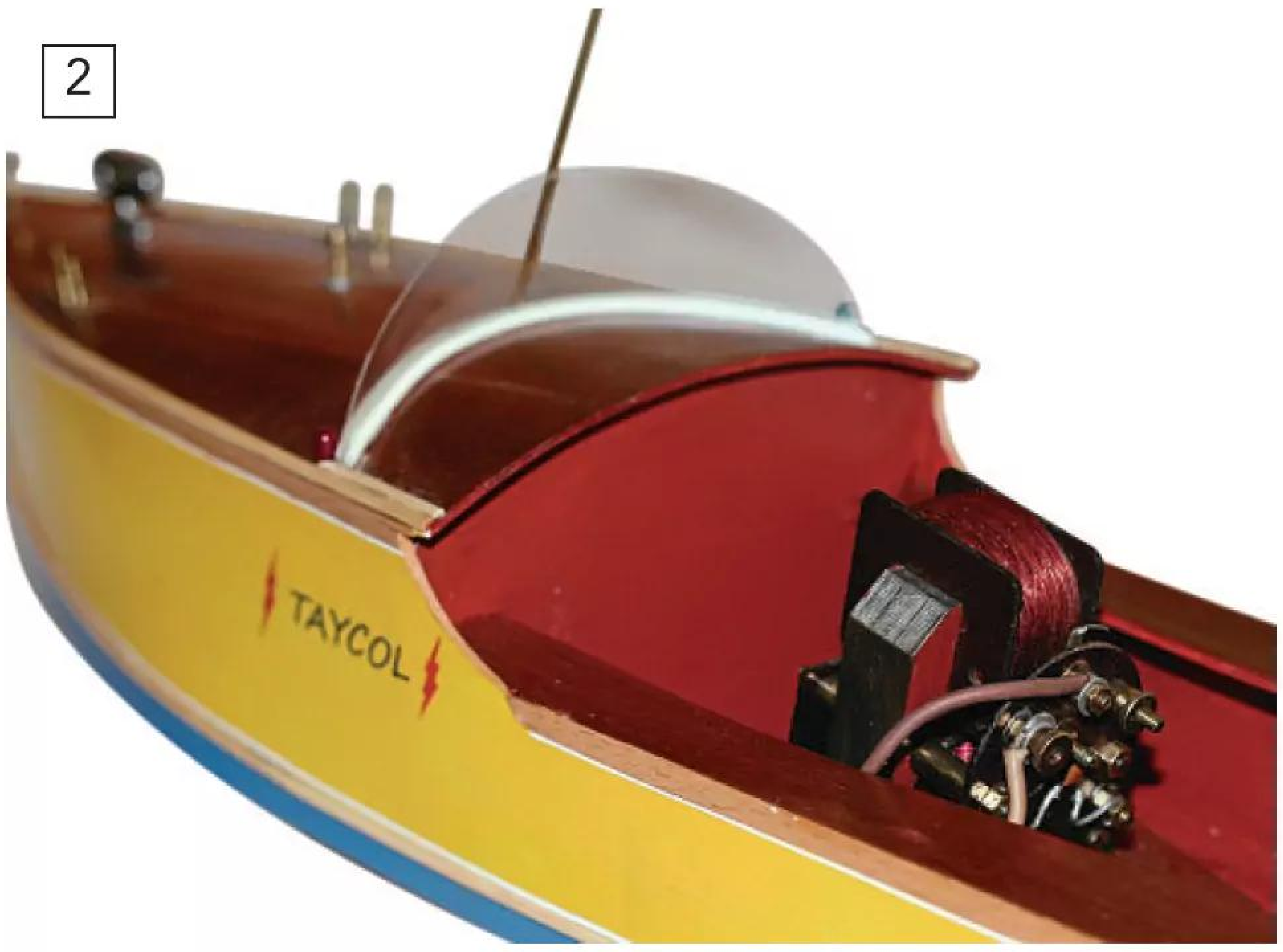
This was as far as I had got before Christmas was upon us, and my son arrived in Spain for a family get together. I must have brought him up properly because his gift to me was many styrene sheets, of decent quality too. I was grinning like a Cheshire cat. So, after the New Year, when he had returned home with a suntan and a hangover, I settled back into the work room ready to make good use of that styrene.

> *"For any modeller who's past the raw beginner stage, a model like this is easy"*

For any modeller who's past the raw beginner stage, a model like this is easy. It's just a flat hull bottom, some bulkheads, a deck with a large rectangular hole, and the sides glued on. The deck I made a little wider towards the bow and a little narrower near the stern, so that moving the deck forward relative to the bottom gave a rake to both bow and stern. The next task was to cut some stringers from the 1.5 mm sheet and glue them along the edges so that when the sides were glued on, I'd have a good, strong joint. All this boiled down to a rectangular box that was pointy at one end!

I'd cut out most of the parts in a short morning's work. After lunch, the bulkheads were glued in and allowed to dry, and in the evening the deck was put on. Next morning I offered up some


Vic Smeed's Mistral.



The shaped hull sides of Charles' open launch.


The battery box.

1 mm styrene to the sides and marked off the shapes, allowing some extra for errors. Glueing these into place was simple, and afterwards trimming off the excess was as easy as it sounds, so by lunchtime I had a basic model boat hull. Over the next couple of days, I made the foredeck into a turtle back shape with a couple of formers topped with .75mm styrene and put a curve on to the side skins where the raised foredeck meets the lower part; little tweaks like these completely change the character of the boat (see **Photo 2**). A bright shade of yellow paint that I remember my dad using in the 1950s was complemented with blue undersides and some bits of veneer stuck to the decks. The transfers were printed on my computer and the boat named *Meteor,* after the motor. I'm glad I wasn't using the Taycol Standard, that would have made a rotten boat name!

The not so easy bit!

Now the real fun began, making everything work properly. Cutting a slot for the stern tube, no problem. Motor mounts, no problem. The same with lining it all up, testing and checking. All was well, so it was time to put in some radio-control. I made a simple plasticard box that holds two li-ion batteries; this tucks in neatly behind the motor and has a power socket to make removal and charging simple (see **Photo 3**). The wires from this go down one side of the boat, while the return from the speed controller (see **Photo 4**, in which the battery box is in place) goes up the other side. This was my attempt at good practice in keeping signal wires away from power wires. A micro servo tucks nicely into the stern, close to the rudder (see **Photo 5**). A quick test, and all was OK, so on to the motor control – and several weeks of bad language!

At this point I should say I'm no stranger to very basic electronics and electrical installation. I started my radio-control life with a home-made valve set (more radio affected than radio control). Also, as I'm from the Meccano generation, I am very familiar with wound field motors. For most people today they seem like odd things, mainly because when you reverse the batteries polarity, the motor doesn't reverse, it will keep running in the same direction. This is because they use an electromagnet (the wound field) instead of permanent magnets, so the power goes through both the armature and the electromagnet together. Swapping around the battery connections makes no difference. To reverse a motor like this we used to insert a switch on to the field coils, and, on some models, Taycol installed a little lever switch to facilitate this.

These days, to use a modern radio and speed controller with an old Taycol involves a little bit of electronic tweaking. We put diodes or a rectifier

The batteries in place.


The steering servo.

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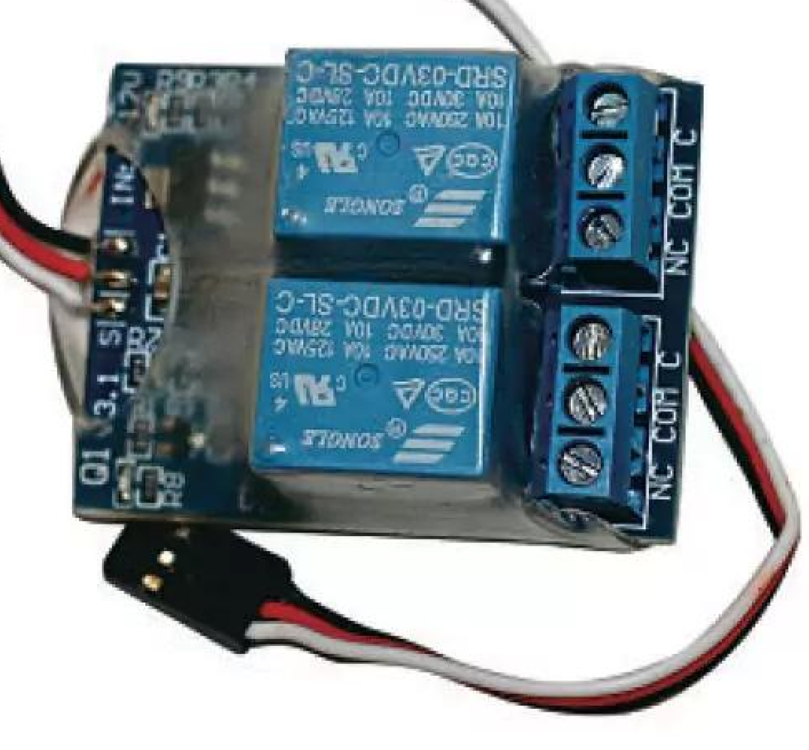


The electronic two-way switch purchased by Charles.

7

Clever use of a few bits and bobs to stylishly enhanced the model.

into the circuit so that when reverse is selected the electricity is sent in the right direction to the correct bit of the motor. This has been covered in these pages before, so I won't go on about it, but anyone wanting to know more can have a look at another of Dodgy Geezers web pages all about the Taycol range: just Google 'Taycol motors'.

I duly installed the diodes and a capacitor to suppress the motor; Taycols are very sparky things and suppression is essential. Then, after connecting everything up and checking I hadn't done anything daft, I switched on. So far, so good. The rudder was fine. I moved the throttle a bit and the motor turned. I went into reverse, and that was OK too, so my diodes were fine. Next, I gave it full forward and, as the motor started to give that wonderful droning noise, everything went crazy, motor stuttering, rudder servo trying to screw itself into a knot – a very unhappy mess. After hastily switching off and disconnecting the power, it was time to have a think. The symptoms were classic interference from the motor, something anyone using older radio-control will be familiar with but almost unheard of with the 2.4 GHz radio gear I was using – seeming almost impossible because of the frequency difference. Anyway, it was time for some logical problem solving. Out came the motor, substituted with a normal 385 type which I wired up, switched on and checked. This motor was fine, the speed control was fine, but the rudder servo had striped a gear. Another tirade of bad language left my mouth as I fiddled around to get the old servo out and a replacement in, metal geared this time. Another check with the 385 and all was well, so the problem was clearly with the Taycol and/or my diodes. I try to be sensible with issues like this and work through things stage by stage. So, was the suppressor OK? A quick check with my multimeter verified this to be the case. Was it connected across the brushes, not the power terminals? Oops, what a daft mistake to make! More cursing and a quick rewire. While I had the motor out, I re-oiled the motor brushes. Yes, you read that right: on Taycols you should oil the brushes – a huge no-no on any other motor.

On putting the motor back, I hoped all would be well. I connected up, switched on, and before I could stop myself was spouting a particularly fruity stream of ripe Anglo-Saxon expletives. The only upside was that at least this time the servo was undamaged. Once I'd calmed down, I went through everything but simply couldn't find anything wrong. So, out came the motor, again, and I ran it directly from a battery not connected to the radio, switched on said radio with the motor almost on top of the receiver and… Perfect, no interference at all. To me this suggested that the problem was coming down the wires between the speed controller and the motor. A rummage around in my bits box turned up a couple of ferrite ring RF filters, which I simply clamped around the wires going from the motor. I also put one on the battery leads. I switched on. No difference. What the heck was happening?

Over the next couple of days, I tried two different makes of speed controller, with no joy. I then tried my Spektrum radio gear, again, nada! Finally, I went out and bought one of those two-way switches that plugs into a servo socket on the receiver (see **Photo 6**). I wired this to give forward, stop and reverse, thus bypassing the diodes on the motor. This is effectively doing what Taycol intended 60 years ago. No speed control, but at least I'd have reasonable control over the model. So, I diligently checked everything and then wired in the Taycol and switched on. You've guessed it: total haywire, again! Frustrated, I checked and re-checked the motor and re-read Doggy's web pages, all to no avail – I just couldn't work out where I was going wrong.

Suddenly, rubbing down varnish seemed a blissful occupation by comparison. Consequently, my open launch was pushed to the back of the bench and a couple of weeks later the hull of my main project had that lovely deep shine that only many coats of varnish will give.

> ***"Eventually, I decided to give something I should tried much earlier a go…"***

I couldn't get the Taycol problem out of my head though. Back in the day, I'd seen many a Taycol powered boat working beautifully with the old-fashioned gear we used to use. Eventually, I decided to give something I should tried much earlier a go… I just set the motor running directly from a battery and plugged a servo into the speed controller socket on the receiver. This would tell me for certain whether the speed controller was in fact having problems with the Taycol. *Eureka*! Neither servo twitched, everything functioned as smoothly as it should. Maybe I should've paid more attention to a paragraph on Dodgy's website that mentions problems with Rf interference coming down the power wires and affecting some ESCs, because it's most likely this was cause of all the problems. Someone has suggested back emf as a contender, but I'm far from competent enough in these matters to make a judgement on that.

As the second servo was working perfectly plugged into the throttle channel, I attached a couple of micro

8

Meteor, going at a decent speed considering her veteran motor!

9

switches operated by the servo arm; these were wired to give forward, stop and reverse. If you ever do something similar (I use the same idea for a bow thruster on a different model), do make sure the microswitches are rated well over the amps drawn by the motor – microswitches vary a lot.

As this had given me a reasonable degree of control, I left the situation like that and finished off the bits and bobs that make a boat look nice: few bits of white pin striping, some brass fittings made from oddments of rod, a searchlight recovered from an old model and of course, a windscreen (see **Photo 7**).

I needed a cover for the rear compartment to keep water away from the radio gear, but a flat cover just didn't look right. A simple plasticard frame was therefore made to slot into the opening, while the shiny metal top was cut from the inside of a coffee tin.

Olé

Shortly after this my son came over to refresh his hangover, so we took the boat down to our club water in the Park of Nations in Torrevieja (we meet every second Sunday of the month if you're in the area, 10am to 12 am). The boat performed perfectly and was a joy to sail. It also looked good on the water, the two li-on cells giving a good run (see **Photo 8**).

I found it quite liberating making a model just for fun. Keeping the build simple meant I didn't have to keep checking against plans to ensure all the gubbins were in the right place, finished in correct colour, *etc*. And, as an added bonus, the model looks very different to everything else out on the water (see **Photo 9**). Seeing this oddball old motor thrumming away is really nice, too. Old machines make a great addition to any display cabinet, but they really are best appreciated when seen in working mode.

Watch this space!

Finally, a couple of quick footnotes…

- At our next meeting, my mate Mel gave me a boxed Taycol Standard. It looks unused, so maybe there will be another fun build in a year or so…
- While reading this article through for me before submission, my wife very astutely pointed out that I haven't actually mentioned/ described what my strange long-term project is. She's right, of course, but you'll have to wait for that!

John's two tugs in happier times.

A tale of two tugs

John Parker tells a story of disaster and determination

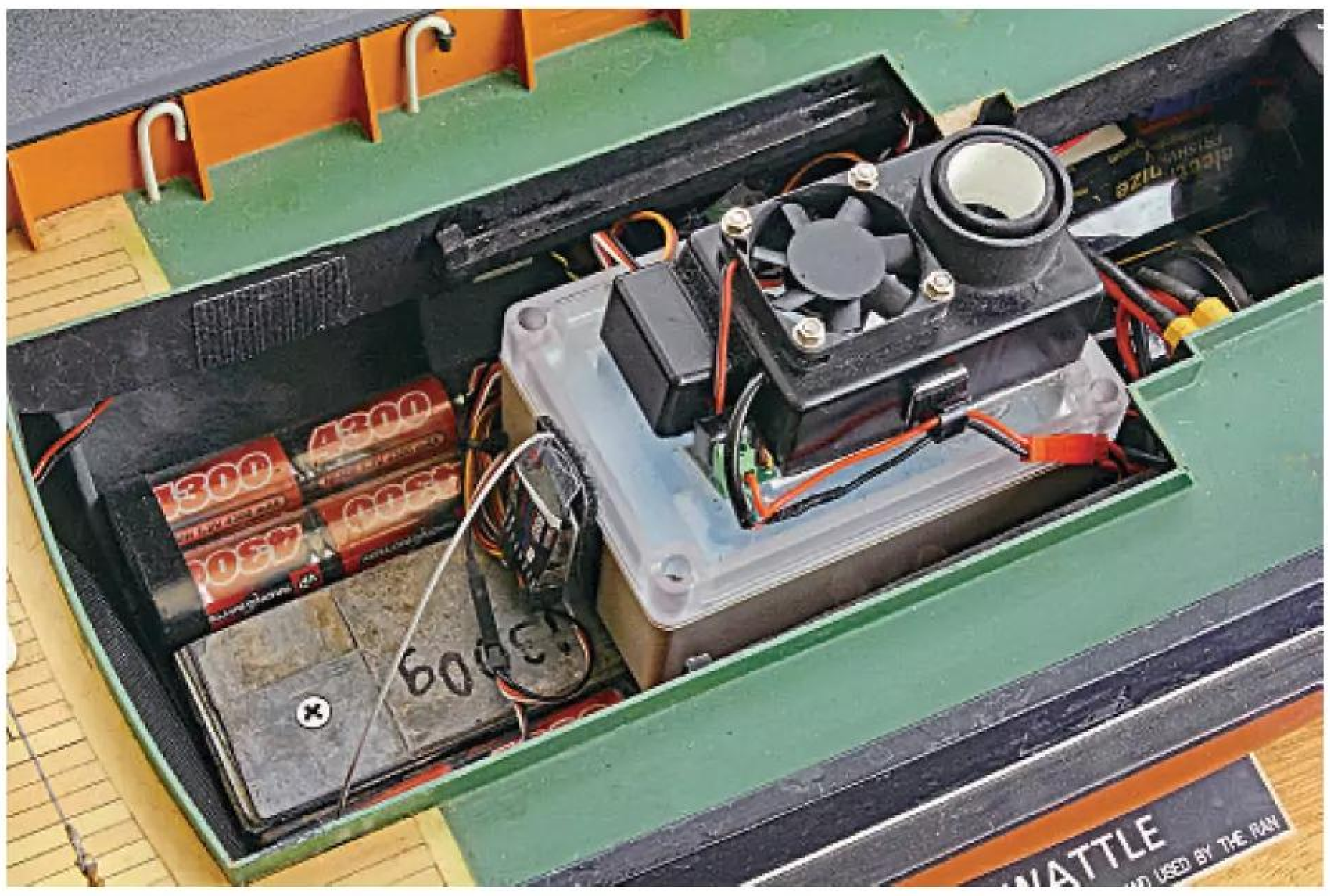
For a long time, I had two 1:24 scale tug models in my fleet: the 1924 American diesel tugboat *Craig* (as featured in the Model Boats 2008 Tug and Warship Special) and the 1933 Australian steam tug *Wattle* (see the Model Boats Winter Special 2013). That is no longer the case. As I shall explain, an unfortunate incident struck *Craig* from the register, and the *Wattle* has had to undergo a certain amount of modification and refurbishment to enable it to take on the *Craig*'s role as a camera craft.

Loss of the *Craig*

One warm and windy day last November, I was sailing *Craig* in the company of warships of the Task Force 72 Association at Albert Park

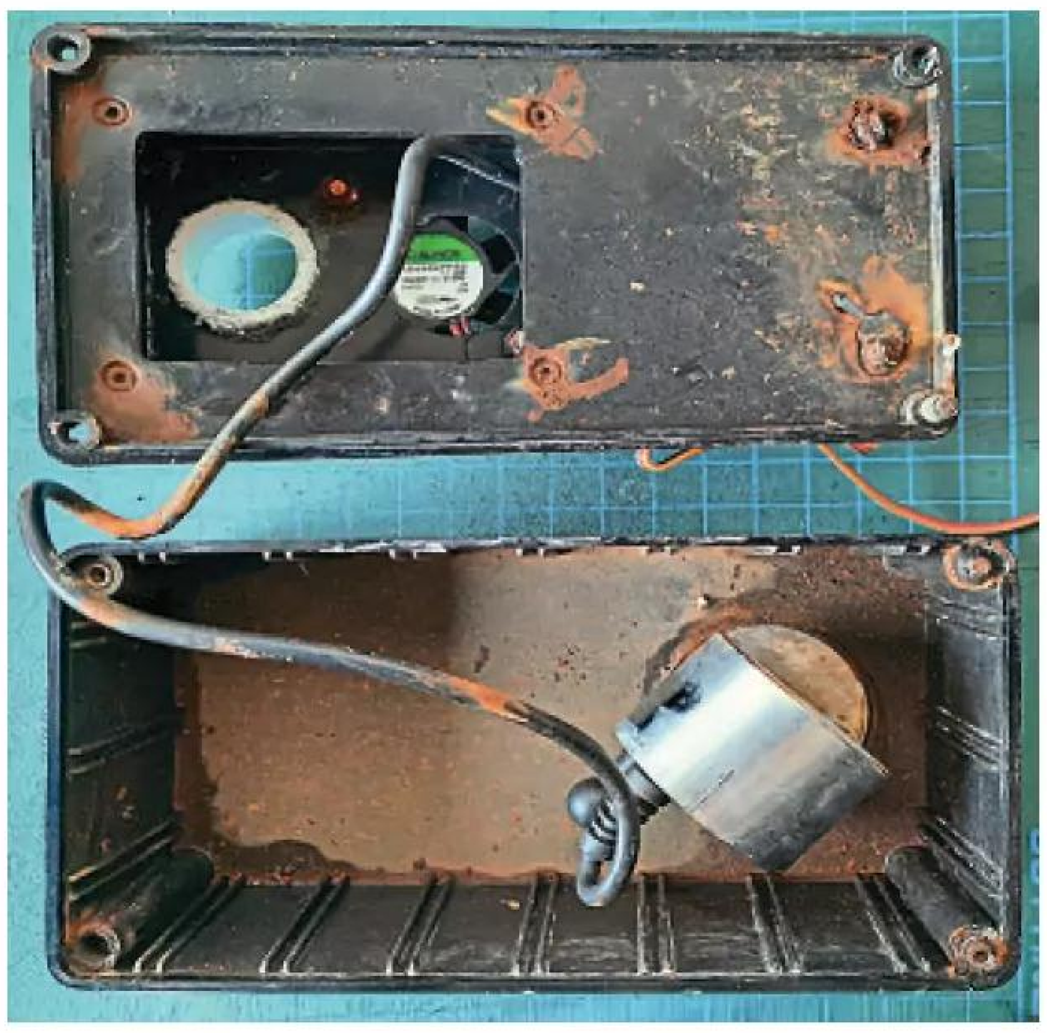
One of last known photographs of Craig (image courtesy of Haig Jansz).

Albert Park Lake, Victoria, Australia – the scene of the sinking (modified Wikipedia image).

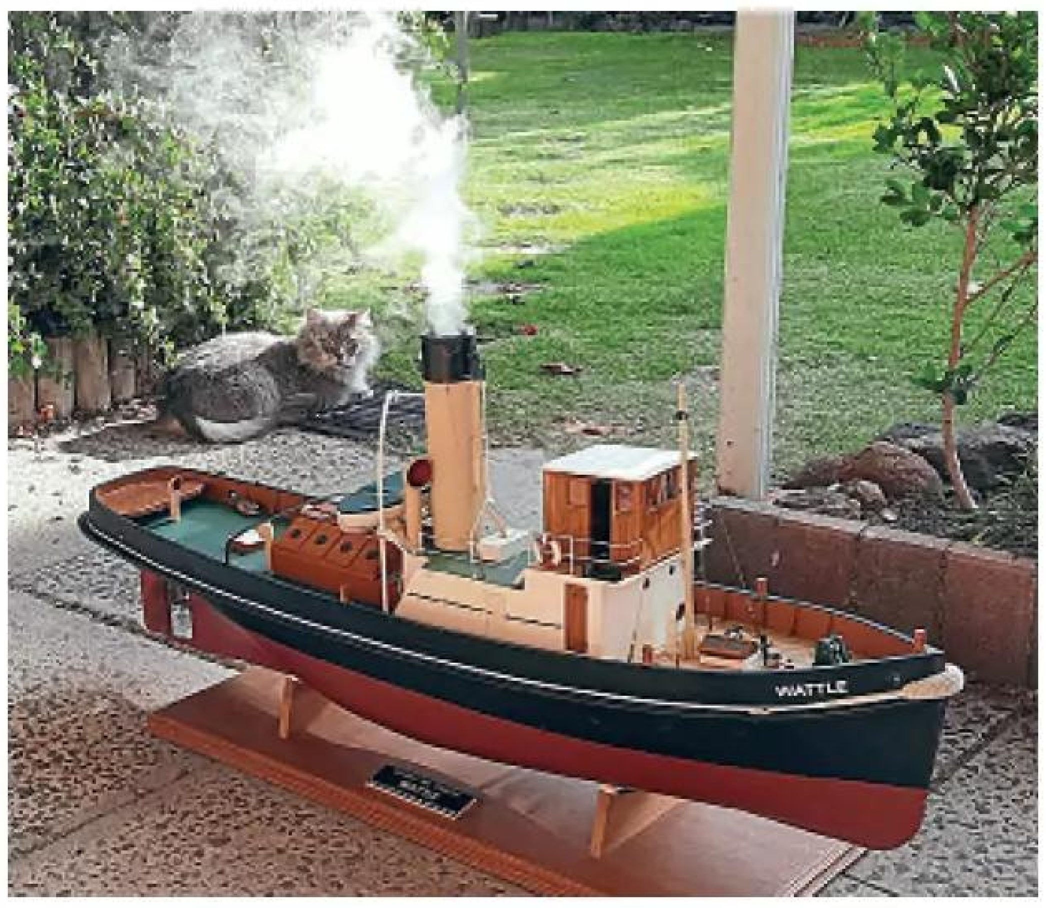


The Wattle's revised battery and new smoker arrangement.

Camera attachment, stern deck.



Corrosion in the original smoker unit.



Wattle on test with the new smoker.

Lake in Melbourne. I was eager to try out my new action camera, which I had fitted to the aft deck. Conditions were a bit rough but nothing I thought that *Craig* couldn't handle. After about 30 minutes taking video of the other models, I spotted a large black swan and headed off mid-lake to take some close-up footage of it. I never got there, for as *Craig* turned beam on to the waves, the whole model shuddered, gave a final squawk from its sound system and sank rapidly beneath the waves, stern first, taking my camera, two new batteries and my best sound effects system with it.

After a few minutes of stunned silence, I remembered to take an approximate bearing of its last known position and sought advice from my fellow sailors. "*Go jump in the lake!*" was their response, which I like to think was well-intentioned. So, this I did, grabbing a life jacket from the nearby sailing club. Being a man-made lake, it had a constant depth, and I could just keep my head out of the water as I waded out and began a square search with a probing stick. But the visibility was very poor, and clammy tendrils of reeds grew up from the bottom, a metre or more long in places and thick enough to conceal the largest of model shipwrecks. Alas, I never found the lost *Craig*, despite coming back the following week better equipped and having the use of a boat.

My best guess as to the cause is that the boat had been taking on water for some time unnoticed in the rough conditions, most likely through the engine house portholes (which had been left unglazed for better sound transmission), until there was insufficient buoyancy to counter a large wave on the beam. The 'black box' camera, if it ever turns up (perhaps it will one day in the jaws of the weed harvester), would most likely provide some clues.

Wattle refurbishment

After ten years, the four 6-volt sealed lead acid batteries in the *Wattle* were in need of replacement. In the meantime, I had acquired two 12-volt NiMH batteries for use in my model submarines so I decided these could be used in the *Wattle* too. (A 24-volt supply is needed for the smoker unit). This should have been a simple modification but was made more complicated by the slight extra length of replacement batteries (relative to the SLAs laid flat), meaning I had to relocate the shelves for the speed controller and terminal blocks further aft.

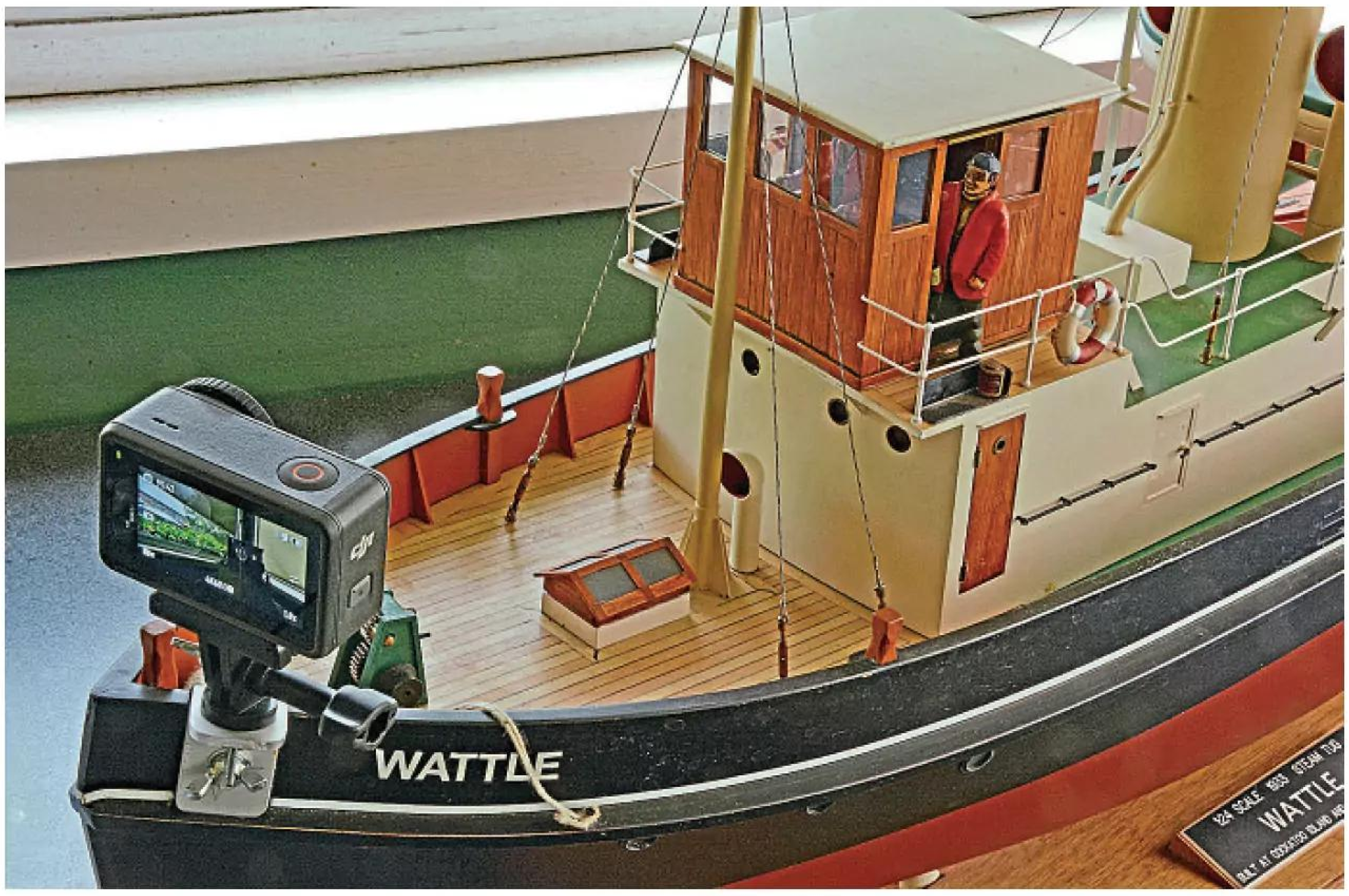
> ***"While I was carrying out the battery modification I decided to give the nebuliser smoke unit a check over. It's just as well I did…"***

I also had to add 1.3kg of extra lead ballast to compensate for these lighter NiMH batteries, but their lower profile and the fact that this enabled the smoker unit to sit lower meant better stability through a slightly lower centre of gravity. Although of similar nominal capacity (4.3 vs 4.4 ampere-hour), their much lower internal resistance results in a considerably longer run time. I have still to tidy up the wiring, which remains a bit of a mess after the alterations.

Smoker unit

While I was carrying out the battery modification I decided to give the nebuliser smoke unit a check over. It's just as well I did, for when I tried to remove the screws holding the top of the reservoir on, they were seized – the heads just snapped off to reveal extensive corrosion inside. I put this down to the fact that after the level sensor has registered 'low water' and switched off the mister unit, enough water still remains in the cavities of the tank to cause corrosion between sailing sessions.

Weighing up my options, I decided to make a new smoker. These are, after all, quite simple devices and the parts needed to make one are cheap and commonly available. My version has the advantage of a clear top that makes checking the water level simple and speeds evaporation of any residual water that may remain after use. I used stainless steel fasteners throughout so corrosion should no longer be a problem. The unit draws 650mA at 24 volts and smokes for about 50-60 minutes on 200ml of water. Low-cost voltage inverters are commonly available now that will enable it to run from, say, 12 volts at a current of around 1.6A. If there is sufficient interest I might provide full details of the smoker in a separate construction article.



Camera attachment, bow.


Sailing day at Valley Lake.

Camera fitting

Being large and stable, with a quiet motor, the *Wattle* would be quite suitable for equipping as a camera craft to replace the *Craig*. The challenge would be designing and making suitable attachments that could be removed when not required, without leaving any trace to detract from the scale appearance.

> ***"This camera is waterproof to 8 metres depth without an extra housing, and the stabilisation keeps the horizon dead steady even when the boat is rolling through 45 degrees either side of upright"***

At the stern, a fiddley grating, as commonly seen on tugs, covers the rudder linkage. By making this easily removable and fitting some threaded hard points on the deck below it, I had the means of screwing on a metal plate with a bracket to attach the camera. Because the minimum focusing distance of a typical action camera is some 400mm, the bracket extended over the stern to keep everything in sharp focus, but in practice this didn't really prove necessary, and I later substituted a shorter bracket. Looking forward, this vantage point takes in the smoking funnel. With the bracket removed and the grating refitted, there is no evidence of the mounting points.

For filming from the beam or bow, the obvious attachment points were the two hawseholes provided in the hull above the belt line. These only required a simple angle bracket bolted to them to mount the camera in various configurations: at the bow, looking forward; at the bow looking aft, with the wheelhouse in the foreground; on the beam, either looking out or across the deck – and so on. It hurt having to replace the camera that went down with the *Craig*, but I did so with the same type, a DJI Osmo Action 3. This camera is waterproof to 8 metres depth without an extra housing, and the stabilisation keeps the horizon dead steady even when the boat is rolling through 45 degrees either side of upright. The battery is good for about 90 minutes of 1080p video.

Other items

When I built the *Wattle*, I didn't put handrail stanchions in the obvious location at the front corners of the bridge deck because it seemed to me that they would be in the way of the navigation lights. I have since come across an early photograph which shows that the navigation lights were actually mounted just off the sides of the bridge deck where their illumination was unimpeded, so I have reinstated the missing corner stanchions, but have yet to move the lights outboard. At some later time in the history of the tug, the navigation lights were re-located to the wheelhouse roof.

I have been told also that a ladder, perched against the tall funnel, was once a permanent feature, but would like to see photographic proof of this before committing to making and fitting one. The foremast, after countless impacts with an overhanging pier that progressively reduced its height, now has a replaceable top section.


Ship-to-ship shot of a paddler tug by Gordon Ray.

The full-size *Wattle*

At the time of building my model in 2013, the 1:1 scale *Wattle* was expected to be returned to service and earning its keep ferrying passengers around the Melbourne dockland area in just a year or two. Sadly, that has not proven to be the case. The restoration team has had to battle with endless difficulties and setbacks, including the Covid epidemic, a shortfall in funding and difficulty sourcing parts. It now seems the hull, which was extensively renewed during 2015, will need yet further work done on it to achieve survey. But, in the nature of restoration teams worldwide, they press on with a spirit of determined optimism. ●

Relocation of the full-size Wattle after hull restoration, 2015.

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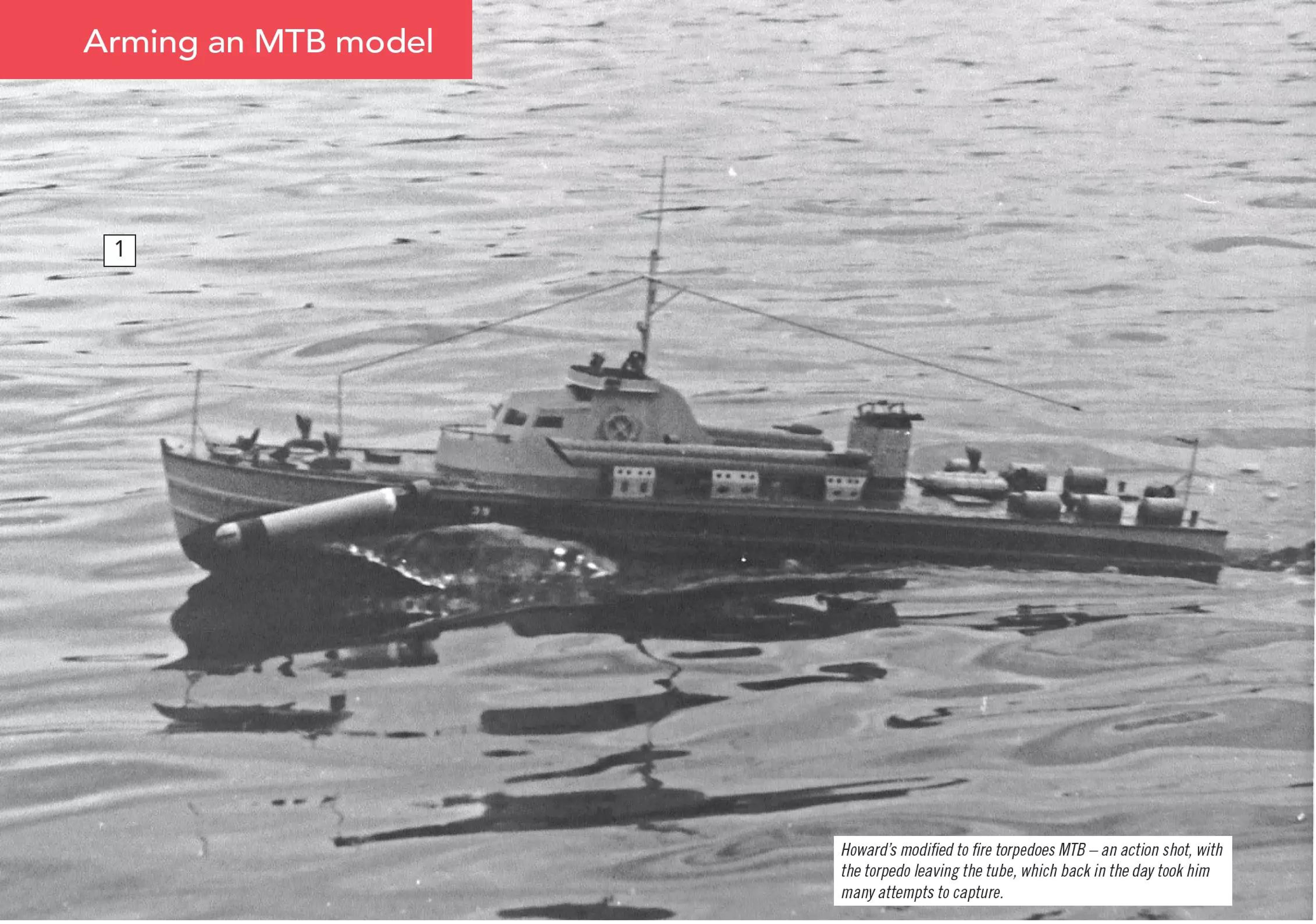


Howard's modified to fire torpedoes MTB – an action shot, with the torpedo leaving the tube, which back in the day took him many attempts to capture.

DAMN THE TORPEDOES!

Howard Blackledge reflects on a project that turned his MTB model into a torpedo firing triumph…

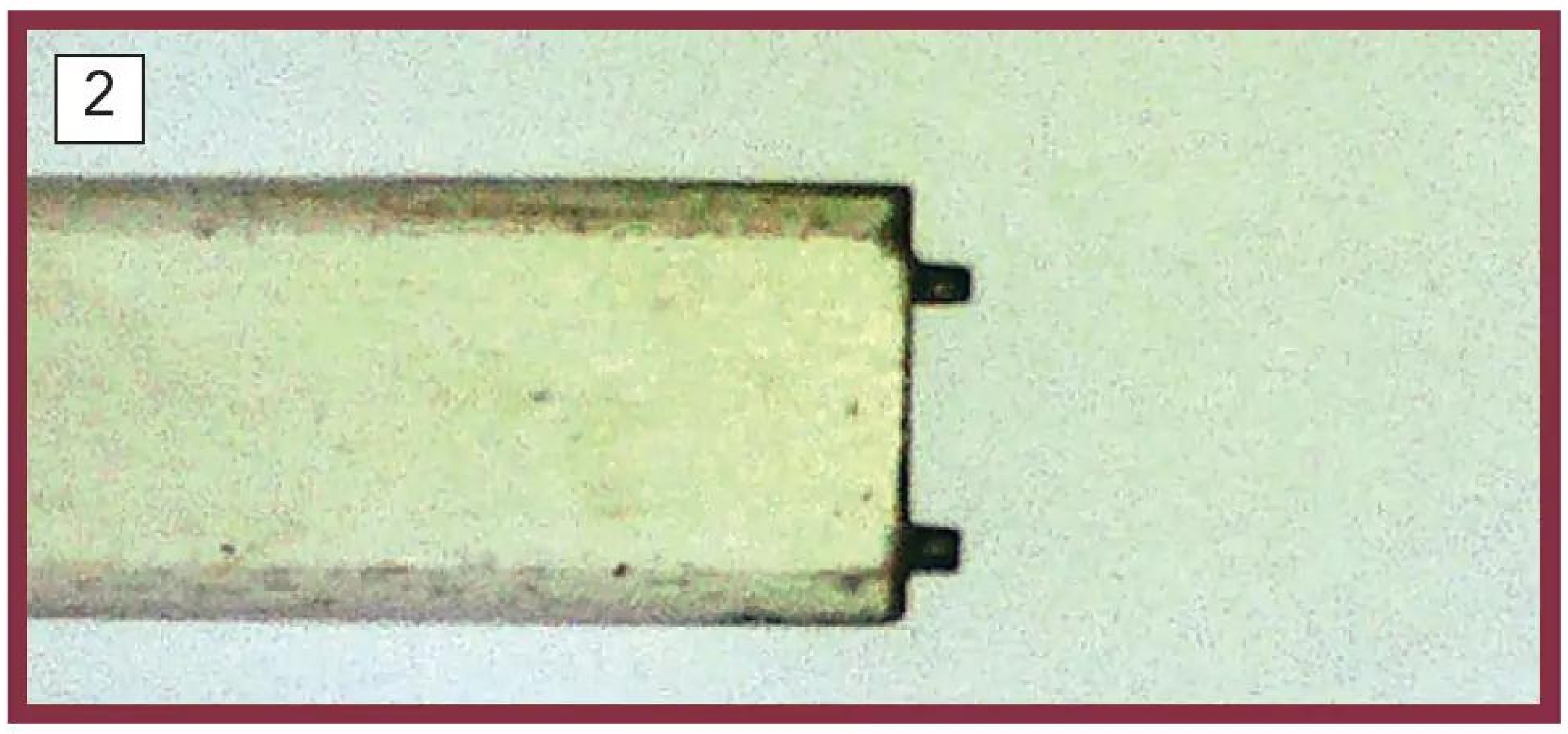
How difficult could recounting this tale be, I wondered? A few photos, maybe 800 or 900 cogent words? I could do that, couldn't I? So, although not entirely convinced, I applied to be considered as a nascent journo…

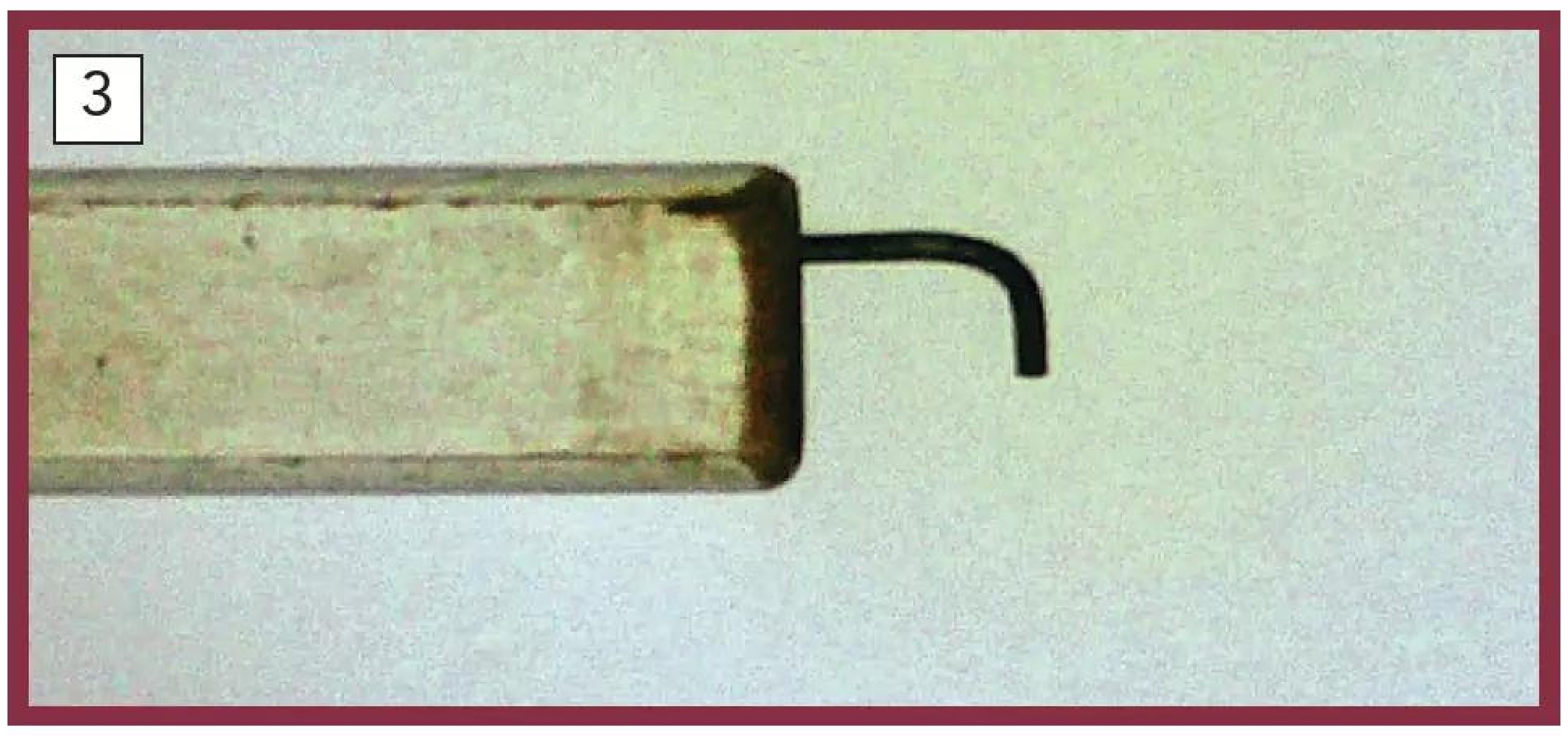
To my surprise, my proposed pitch was met with enthusiasm, and I was duly provided with a check list of 'do's and 'don'ts, along with a few other pointers, the first of which concerned 'The Heading'. Okaay… Something short and pithy, I thought, a real attention grabber. Hmmm... A headline that would play on the words 'torpedo' and 'something else' didn't exactly trip off my tongue.

And then out of nowhere, "*Damn the torpedoes!*" – a quote famously attributed to USN Admiral David Bushnell sprang to mind. When, during the Battle of Mobile Bay (American Civil War) in 1864, the monitor USS *Tecumseh* struck a mine and sank, the other ships in the fleet began to pull back. "*What's the trouble*?" Farragut shouted through a trumpet to USS *Brooklyn*. "*Torpedoes*", came the yelled reply. "*Damn the torpedoes*", commanded Farragut, "*Four bells, Captain Drayton, go ahead*".

Although, of course, the devices referred to were nothing like torpedoes as we know them today, instead being the tethered keg type explosive devices (mines) devised by American inventor David Bushnell during the American Revolution. The first self-propelled torpedo would not be developed until 1866 by Robert Whitehead, from a rough design conceived by Giovanni Luppis of the Austro-Hungarian Navy.

Right, that's the history lesson over with, back to the real nub of the matter: the strange manner in which the successfully working mechanism permitting the firing of torpedoes (minus the explosive warheads, that it – let's not be silly) from my Motor Torpedo Boat (MTB), as demonstrated in **Photo 1,** was


The loading stick locator.


The loading stick latch hook.

developed. I could describe this as a tortuous process, but actually many of the ideas, the components required, and the techniques employed, came together as if by magic. Oh, alright then, coincidence!

"Surprisingly perhaps, a vital component of the firing mechanism was, basically, a stick"

Surprisingly perhaps, a vital component of the firing mechanism turned out to be, basically, a stick; this helping to arrange the torpedoes in the tubes so that everything lined up just as it should, ensuring successful firing. The stick I used is not, by the way, illustrated here, as hopefully we can all imagine what a stick looks like! Suffice to say, mine was a white painted batten, which I seem to recall came from one of my daughter's dolls' cribs. The beauty of this was that it had radiused edges and proved a comfortable fit in the tubes without any adjustment required. At one end there were two short subs of piano wire (see **Photo 2**) that engaged the holes in the front of the plunger, thus aligning it with the vertical trigger mechanism; without this, the system couldn't have worked. Equally vital was the hook (see **Photo 3**) at the other end of the stick, kept in a drilling to ensure it didn't get lost; this was essential to controlling the hammer when locating the latch over it.

The MTB

Thorneycroft offered an MTB design to the Royal Navy, three of which were made, and all survived World War II, but weren't as successful as rival designs by Vosper and Hubert Scott-Payne's British Power Boats. Without going into any more detail, we'll leave the 1:1 boats there.

Thorneycroft's design has, however, proved very popular with model boat enthusiasts, and indeed a plan is still available from Sarik Models (Ref. MM 337). I may have to shell out for another copy, as for the life of me I cannot remember how the final siting of some of the components were arranged… For the purposes of this article, therefore, you will simply have to trust my recall!

I was lucky enough to have owed two MTBs models, these being separated by about 20 or so years.

The first was donated to me as a lad of about the age of 14, when I was a member of the Walthamstow Marine Club (I can still remember my MPBA number, WT22). This was ready built and although missing some details, such as the torpedo tubes, it proved a good straight-runner – essential in those pre-R/C days – being powered by a marine ED 2.46 Racer (a lovely engine, that one!).

The second (to which this mechanism was fitted) I built myself from plan about 20 years later. This was similarly powered by the immortal Racer, and boasted the benefit of digital R/C, but with only one channel, on the rudder. I was a poorly paid fireman back then, having quit my toolmaker trade/ senior lab tech job in order to be done with the hundred miles a day commute. I figured that working in the company of trained personnel was probably safer than putting in all that mileage, and it did indeed prove a happy, if not lucrative, move. Indeed, I can honestly say joining the fire service resulted in some of the best and most memorable years of my life.

Anyway, moving swiftly from fire back to water, great fun was had thrashing around until, after not too long, the throttle was finally controlled by the birthday present of a second servo. Of course, the Racer, having come from a control-line KK Spectre, needed water-cooling and a modification to the back plate to accept a variable throttle. It's still there, still with evidence of the epoxy securing it, but I have no idea where the throttle originally came from.

My DIY torpedo firing mechanism

Well, that's the bones of this screed. The main intention, however, is to explain how I achieved what can be seen in **Photo 1** (which may be only image of an MTB model actually firing a torpedo, as I've trawled and trawled more than all the fisherfolk on the East coast and drawn a blank).

"The 1:12 scale missiles were ejected using a system similar to the trigger mechanism of an air gun…"

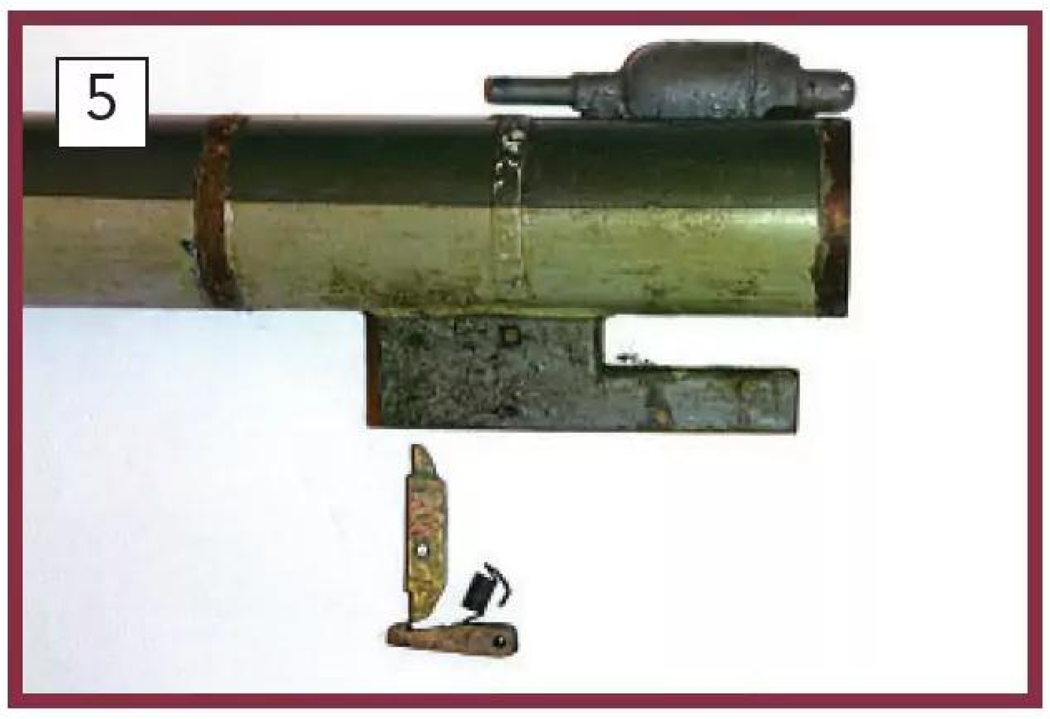
Briefly, my 1:12 scale missiles were ejected using a system similar to the trigger mechanism of an air gun. These were fired using the lost motion on the throttle control of the R/C – a 'gate' limiting the throw of the lever for speed regulation, with one missile on full throttle, the other on slow (which was more scale-like). That transmitter (Futaba 2-channel brown plastic case) is long gone sadly, it having moved on to other pastures.

On leaving the tubes, the torpedoes passed over a small magnet which operated a reed-switch and kept the tiny electric motor that propelled them running, until they hit the bank. On one occasion one of them made two splashes, but I got both bits back.

Stripping the mechanism down to show the works here was fun, and I was grateful for the versatility of the modern 'phones we all now carry. Oh, how I now wish I'd had one back in 1975/6.

I should, however, point out that I would perhaps never have achieved my end goal had my next-door neighbour not seen me running some trial and error (mostly error) experiments in the garden. This prompted a little chat, during which I mentioned the trouble I was having finding some suitable tubes for the project. Not long after that, he turned up with two fine thin-walled brass tubes of just about the right O/D [Outer Diameter].

The plunger latch.



The trigger group.

Having mentally noted I owed him a drink, the 'Big Idea' then struck, which as luck would have it coincided with another useful contribution to its fulfilment. Aware I was a modeller, a work colleague kindly offered me some tiny electric motors that he'd come across somewhere (possibly from an old Mattel toy or such like). Rectangular, and with a shaft protruding from each side (likely to take a pair of wheels), these proved a neat fit inside a white plastic plumbing tube, which in turn proved a sliding fit into the brass tubes supplied by my neighbour.

It was time then to get busy. I was fortunate to have a workshop facility in the corner of an extension to the kitchen. This housed a small Myford lathe and is where my plan really started to come together. Yes, people remarked on machinery having been set up in the kitchen but working there was so handy for cups of coffee, *etc*, and the occasional bacon 'samidge'!

Firing was via a plunger (see **Photo 4**), this being cylindrical with a spring-loaded latch at one end, which when primed to fire was held by a sear and cable-operated trigger (see **Photo 5**). When released, a (very) basic home-wound coiled spring pushed the torpedo with enough force to eject it from the tube. For this to happen, the missile had to be oriented within the tube so that the stick engaged with the two holes in the front of the plunger, and with the tube end cap (plunge-moulded from ABS offcuts) removed a visual check to establish the latch had indeed hooked securely onto the hammer needed to be made.

The torpedo group.

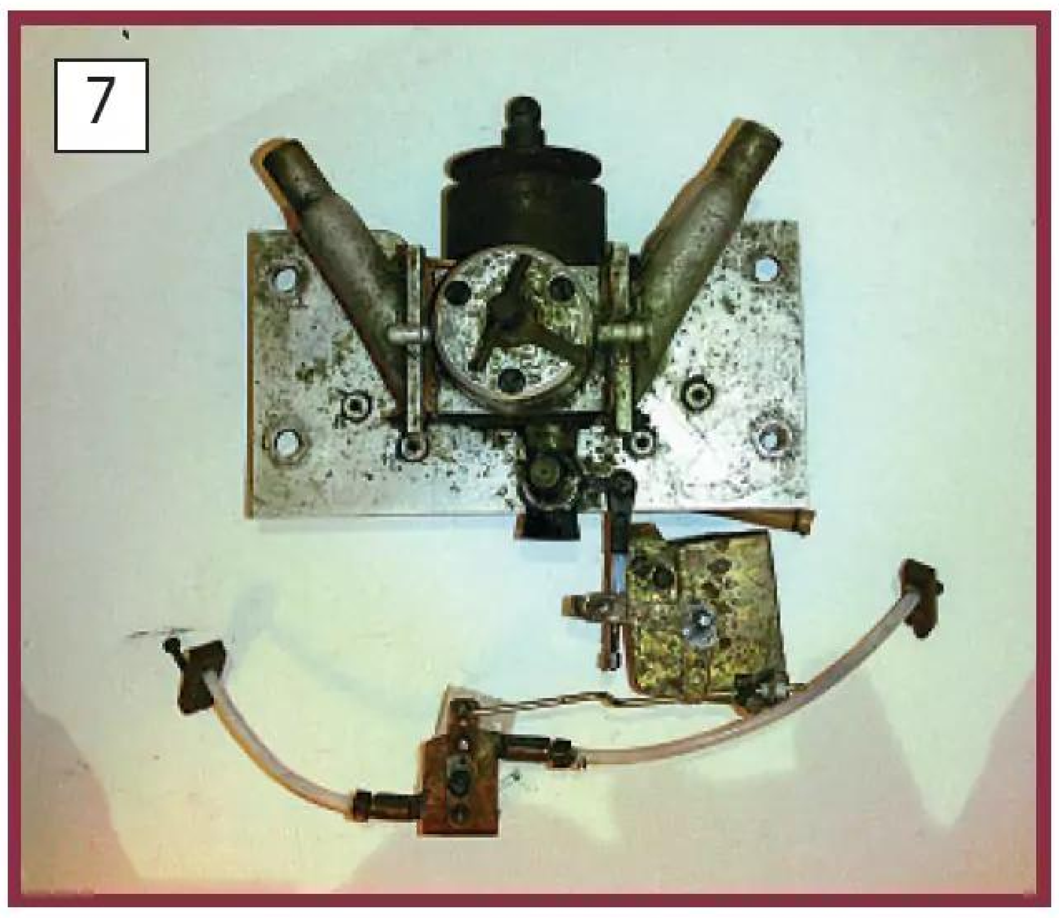
The torpedoes were prevented from rotating away from the magnets by spring-loaded ball-ended plungers in their front caps. You can still faint traces of the strips of carefully cut insulating tape that made them safe to fire. Where would I have been without that versatile stuff!

"Where would I have been without that versatile stuff!"

The whole object of the project was a lesson in development on the hoof – otherwise known as making it up as you go along. With each problem overcome, another would present itself. For example, the latch on the end of the plunger needed to be hinged to assume its firing position. OK, I thought, I'll hinge it. Yes, but what about keeping it the correct position? Alright, I'll spring-load it. Sorted! So, as the plunger was pressed into place, the latch over-rode the sear and snapped back down into position.

"With each problem overcome, another would present itself"

I was now ready to test the firing mechanism, but not before for the creation of the real reason for all this brain-pain, the torpedoes themselves (see **Photo 6**.)



The firing mechanism.

As previously explained, these were just simple tubes with a nose cone and a tapered wooden tail piece, along with a prop shaft, prop and shroud. Inside I fitted a simple AA battery, contained in the plastic vac-formed tray it had originally come in. With the appropriate contacts placed and the battery installed, this was 'tucked' back inside and the nosecone taped in position.

The release, as noted earlier, was managed by a 'lift and move gate' glued in position around the throttle stick, taking advantage of 'lost-motion' engineered into the system – either minimum speed or maximum firing from port and starboard individually.

A broad view of the engine and system is presented in **Photo 7**, hopefully, affording a bettering understanding of how it all worked.

A sinecure?

I feel I really must apologise for the state of some of the items illustrated in this article. Hopefully, you will appreciate they've only recently emerged, blinking, into the harsh 21st century light from the furthest reaches of the Shelf that Time Forgot. I did my best, however, to clean them up a bit before they were photographed for the purposes of this article, so hopefully I can be forgiven!

BOILER ROOM

Richard Simpson tests and reviews Chiltern Model Steam's Vertical Maine Single Cylinder Engine kit

Last month's instalment of Boiler Room provided a round-up of the suppliers currently serving our hobby and the model steam related items they offer. This month we will be focusing more closely on one of those suppliers: Chiltern Model Steam (CMS).

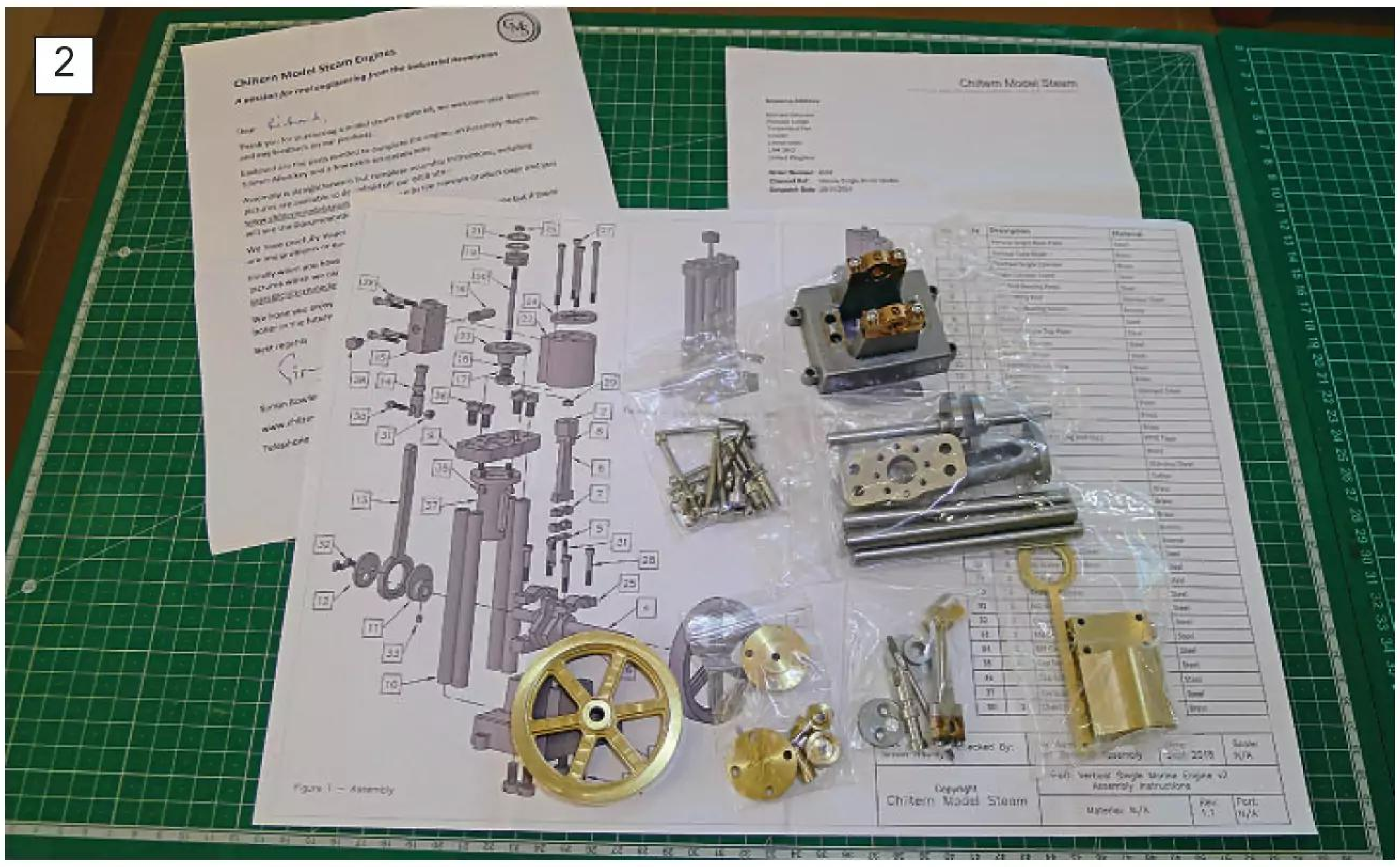
This company has been supplying the market from its manufacturing base in Staffordshire for 12 years now, having been founded with the express aim of providing affordable products that can also be of educational benefit for people with less model engineering experience and equipment (all of its kits are fully machined and ready to assemble). Profits are deliberately kept lean in order to pass on savings to the consumer, and the business remains very much at a cottage industry level. That said, I have found customer service to be excellent and response to e-mail enquiries very quick. Chiltern's catalogue includes an impressive range of engines, boilers and accessories, one of the more unusual products, bearing in mind Chiltern's remit, being an electric boiler, which could also be used to power a static plant for display or educational purposes.

The marine-related steam engines Chiltern offers tend to be slightly larger than most small of the oscillating twin cylinder engines you'd typically expect to find in a model boat, but the range also includes a single cylinder engine. I am also reliably informed that Chiltern is currently considering manufacturing a smaller twin cylinder engine, specifically aimed at model boat use. In the meantime, however, I placed an order for the Vertical Marine Single Cylinder Engine Kit...

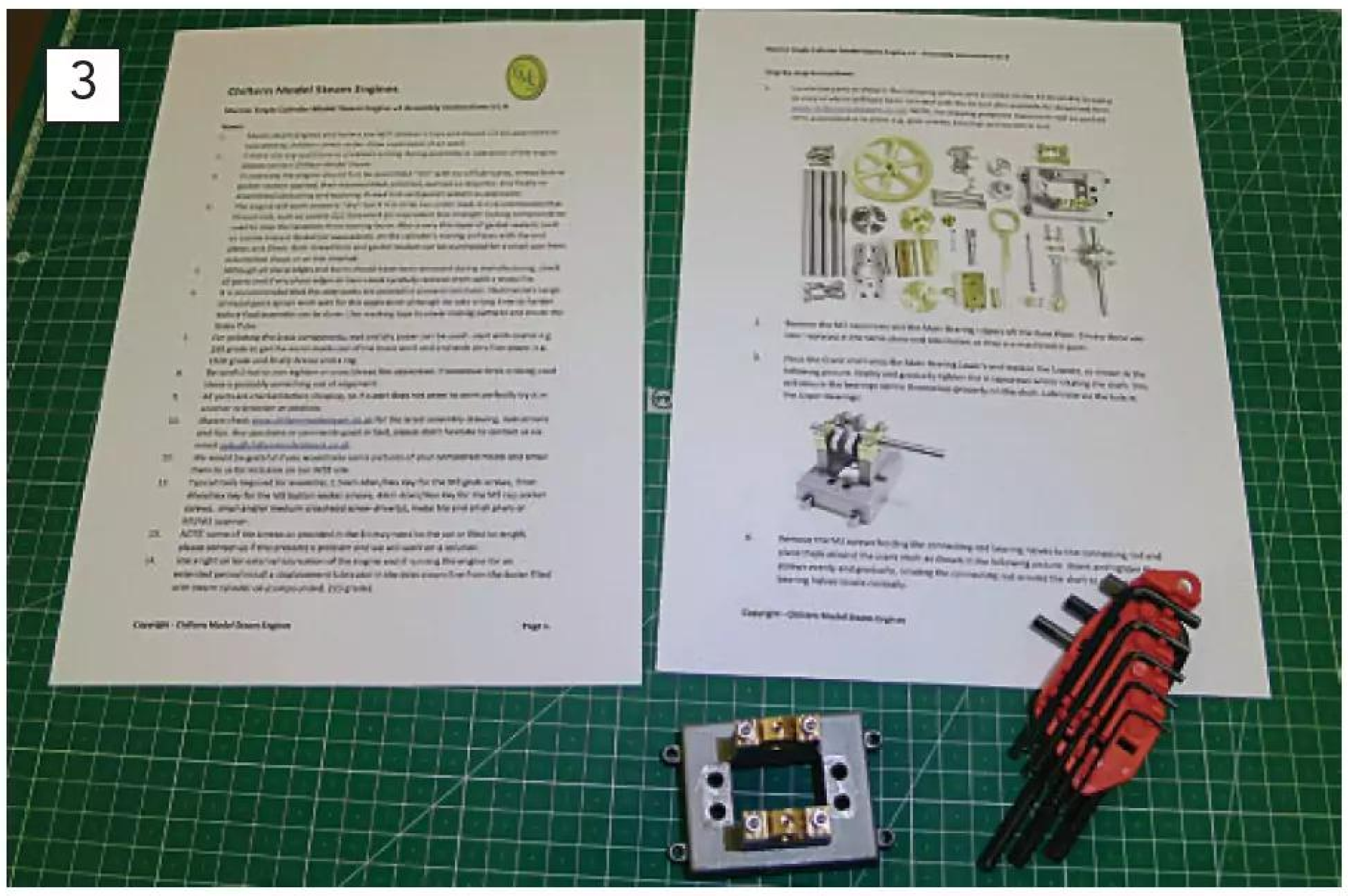
First inspection

It took just a few days for my kit to arrive. Having opened the small sturdy box in which it came (see **Photo 1**), I removed its bubble-wrapped contents – which included all the components, a cover note, and a large, exploded view drawing with a full parts list (see **Photo 2) –** and laid them out for inspection. My first observation was that no instructions were included; these instead need to be downloaded in digital format from the company's website. Initially I found this a little disappointing, but then I considered the company philosophy of keeping costs to a minimum and started to appreciate that printing off your own instructions is fair enough considering the very reasonable price point of this kit. Mind you, I did have to spend an hour trying to get my printer to work, so I wasn't quite so positive during that time! But I should point out, Chiltern will happily forward a set of printed instructions on request should your printer also decide to have a bad day (see **Photo 3**).

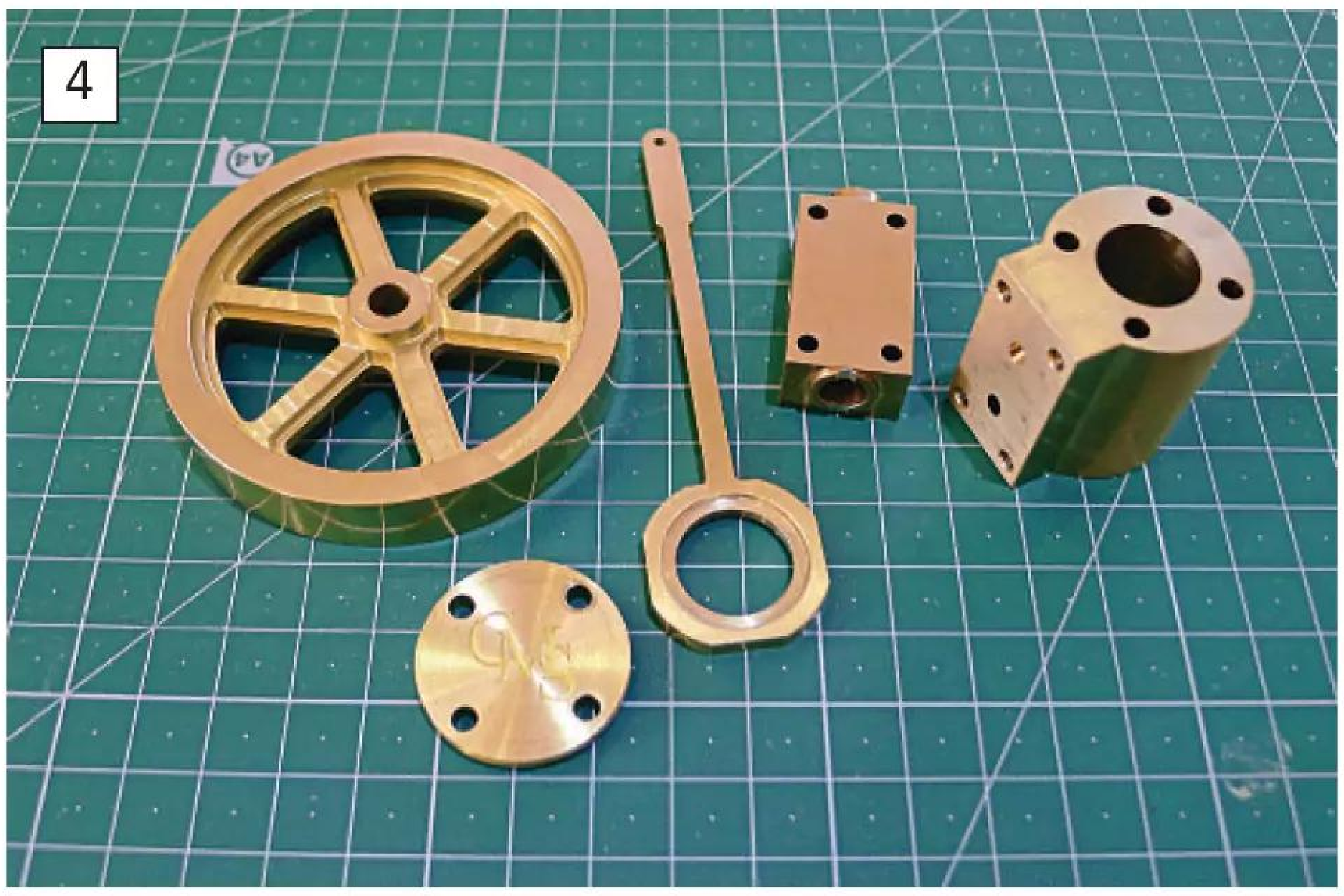
As the engine arrives, with all parts bagged and bubble wrapped. The sturdy box should ensure the best protection from rough handling during shipping.



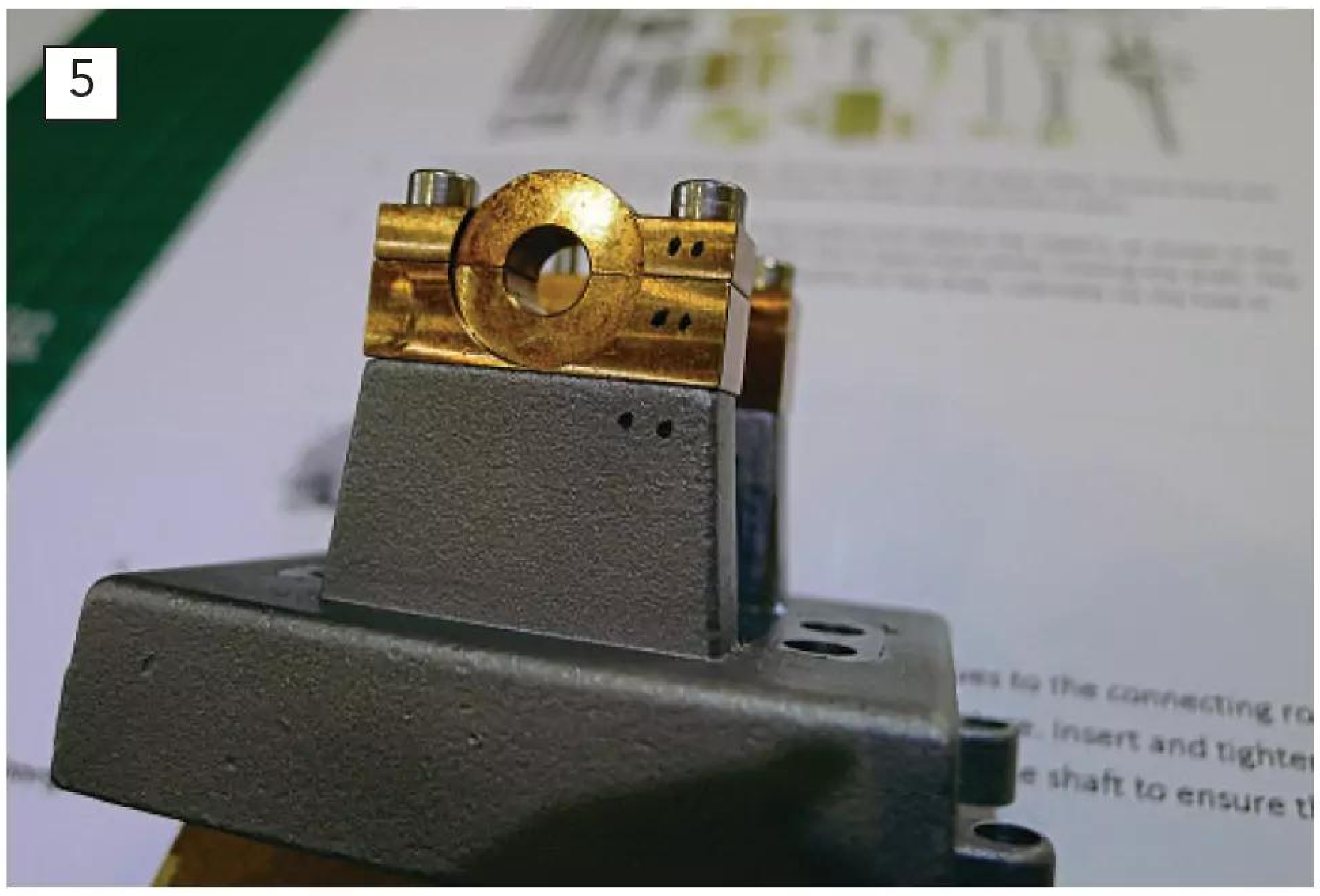
Once unpacked, the separate bags allow a thorough inspection of the components without the bits getting scattered/misplaced. The engine base comes pre-assembled with the main bearings, which are machined together so must be kept both together and the same way round.



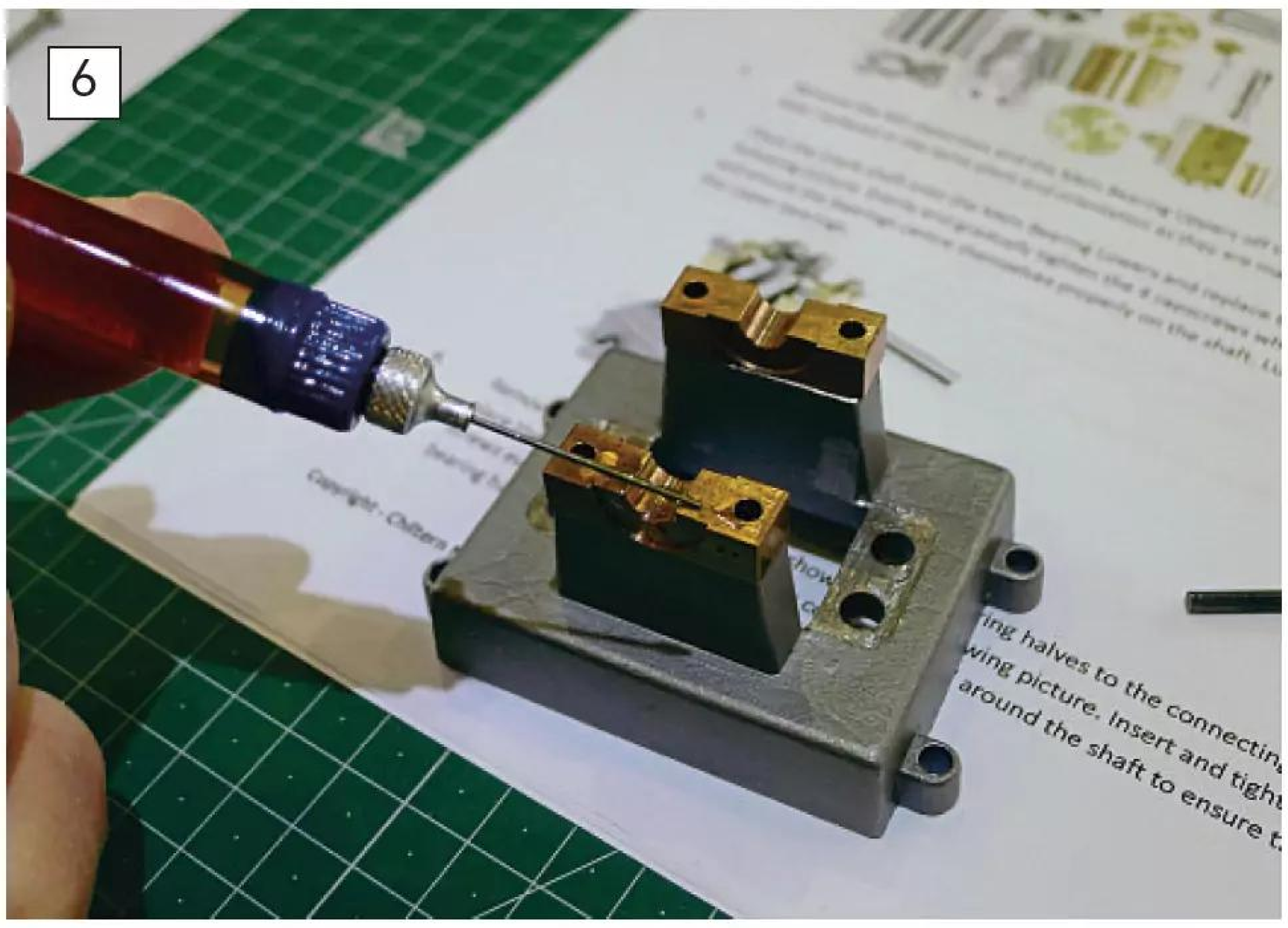
A set of instructions, complete with illustrations, to guide you through the process can be downloaded from the manufacturer's website and printed out. As always read through these carefully before getting started.



The quality of all the casting and machining is first class, as you can see from these brass components. Interesting to note is that all screw holes have screw head scuffs around them, so the engine has obviously already been assembled to verify everything is OK.



For final assembly Richard may use a centre pop to mark the bearings, although this will need to be done with great care so as not to deform the brass shells. For this first test assembly, though, a fibre pen was used. Check the quality of the cast metal surface.



Remove the keeps, oil, and drop the crankshaft in place. Then tighten up slowly and evenly and turn the crankshaft to ensure everything settles in alignment.

As I started to open the individual bags, I was immediately struck by the excellent quality of the components contained. The surface of the cast parts is fine and even, with no sign of any imperfections or visible seams. I cannot say for definite what the cast metal is, but it appears ferrous judging by its colouring and weight. The machined areas show a very fine grain structure, which has been beautifully finished, with no apparent inclusions or porosity. The brass parts are, again, impressively machined, with a superb standard of finish, to the point that they require little work to polish, if that's your preferred finish (see **Photo 4)**.

The instructions recommend – and so do I – a test assembly before using thread locks or sealants, simply to be sure everything fits and works together and that there are no concerns, and a stub pipe is provided to enable the initial trial run on air (the engine doesn't come with a lubricator, so this *will* need to be added ahead of moving on to a steam run). Following this, the engine can be dismantled for finishing, by either painting or polishing.

> ***"The instructions recommend – and so do I – a test assembly before using thread locks or sealants, simply to be sure everything fits and works together and that there are no concerns, and a stub pipe is provided to enable this initial trial run on air"***

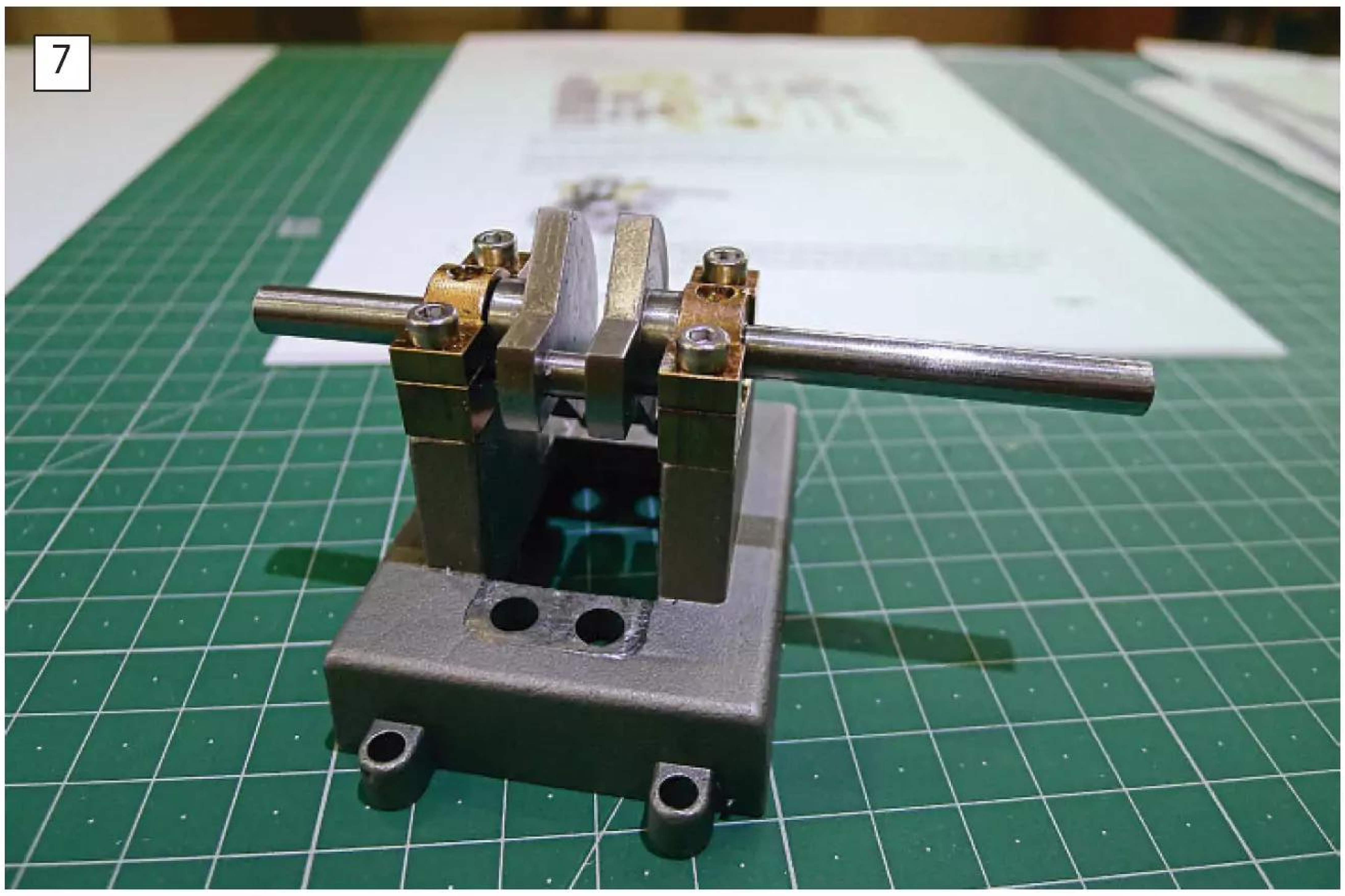
I decided to go for the recommended approach so I could get a feel for the quality of the parts, the ease of assembly, how good the instructions are, and whether you do actually get a running engine.

Assembly

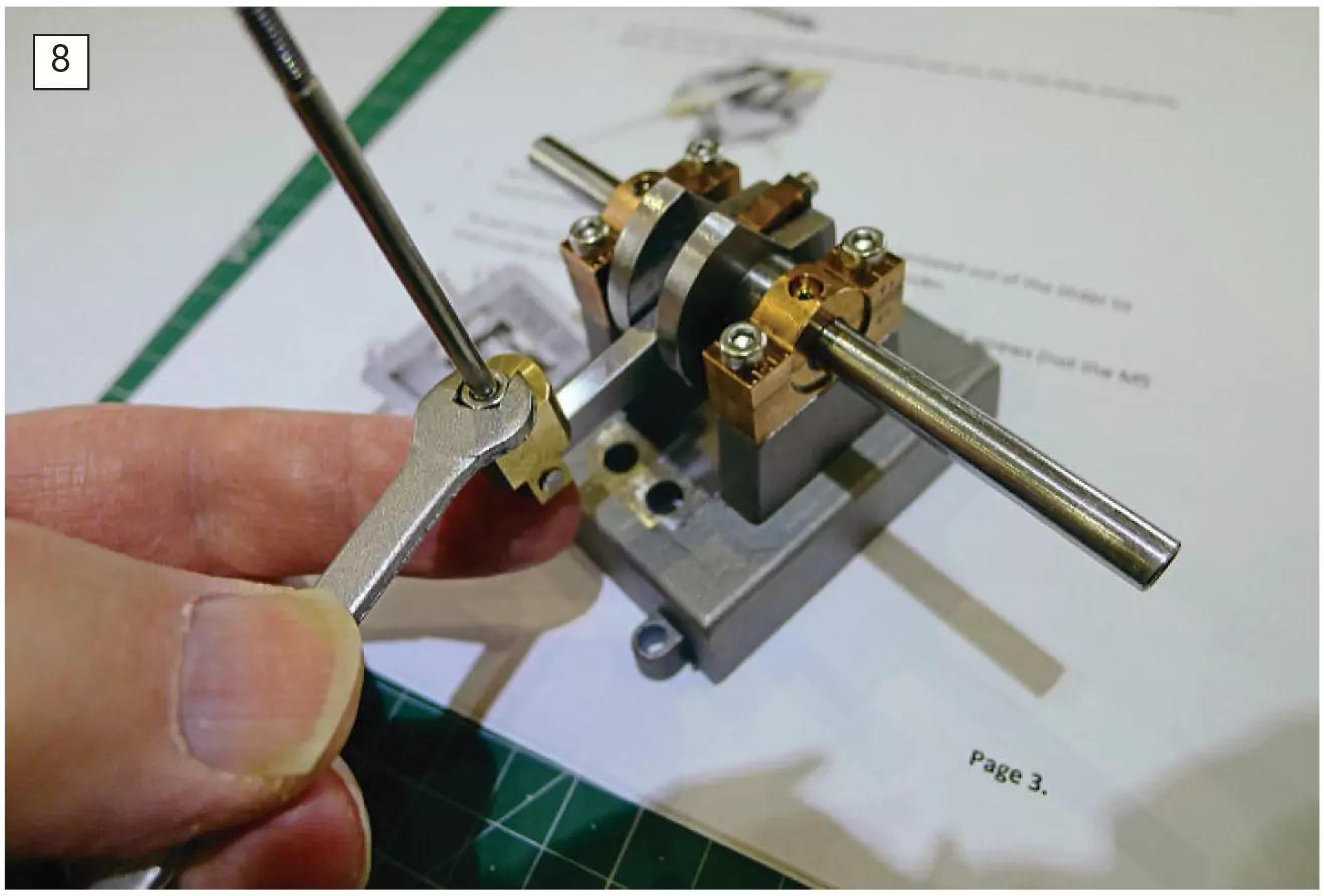
The first page of the instructions provides general assembly guidance and details of the tools required. Surprisingly, a metric allen key set, a flat screwdriver and a 3mm open ended spanner are all that you need!

Running gear

The base of the engine comes pre-assembled with the two main bearings, caps and screws. The instructions warn you to keep the caps and lower shells together as pairs and the same way around, as they have been machined together in a single operation, so I simply marked them with a pen for this assembly (see **Photo 5**). The caps must then be removed and the bearings oiled with a light machine oil (see **Photo 6**), before the crankshaft is fitted and the caps are again replaced. I found clearances very close. I could feel no play whatsoever in the shaft and bearings and very little between the crankshaft



Richard notes his surprise at how little axial clearance there is, while the shaft rotates perfectly smoothly. This is all testament to the quality of the machining.



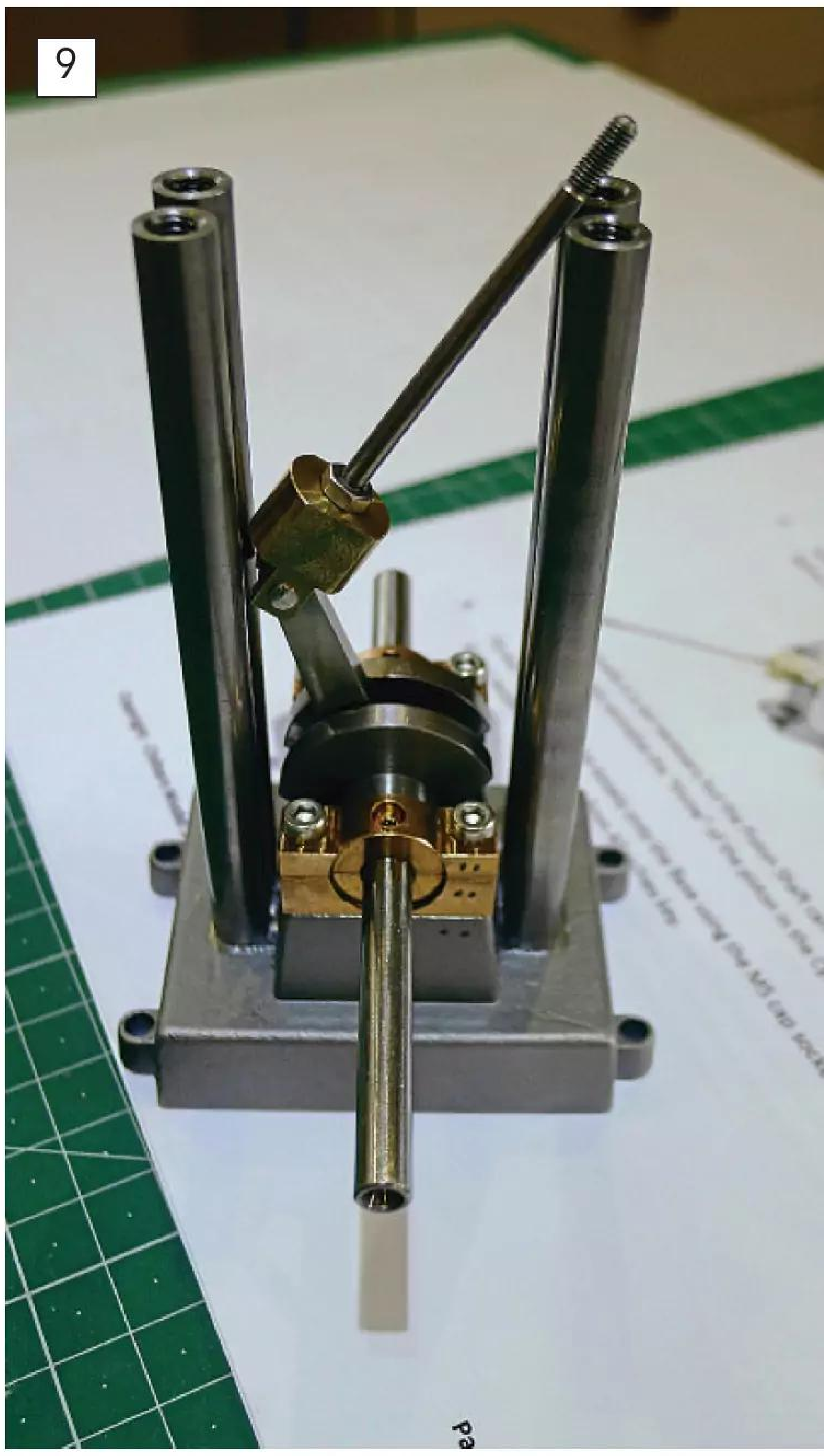
The bottom end bearing is simply split and placed on the bottom end pin, again paying attention to the fact that the bearing must be replaced in the same attitude, and the piston rod can be attached to the crosshead. The locknut was simply nipped for Richard's assembly.

webs and the bearing faces. Rotation was smooth but with a bit of resistance, only to be expected with a brand-new engine (see **Photo 7**). With the crankshaft in place, the con rod can then be fitted by splitting the bottom end bearing and fitting it around the crankshaft pin. Again, I noted very close tolerances, but rotation was very smooth once I'd tightened the bearing cap. The piston rod is fitted next by screwing it into the crosshead (all the way in) and then locking the pre-fitted nut to the top surface of the crosshead (see **Photo 8**).

> ***"The first page of the instructions provides general assembly guidance and details of the tools required. Surprisingly, a metric allen key set, a flat screwdriver and a 3mm open ended spanner are all that you need!"***

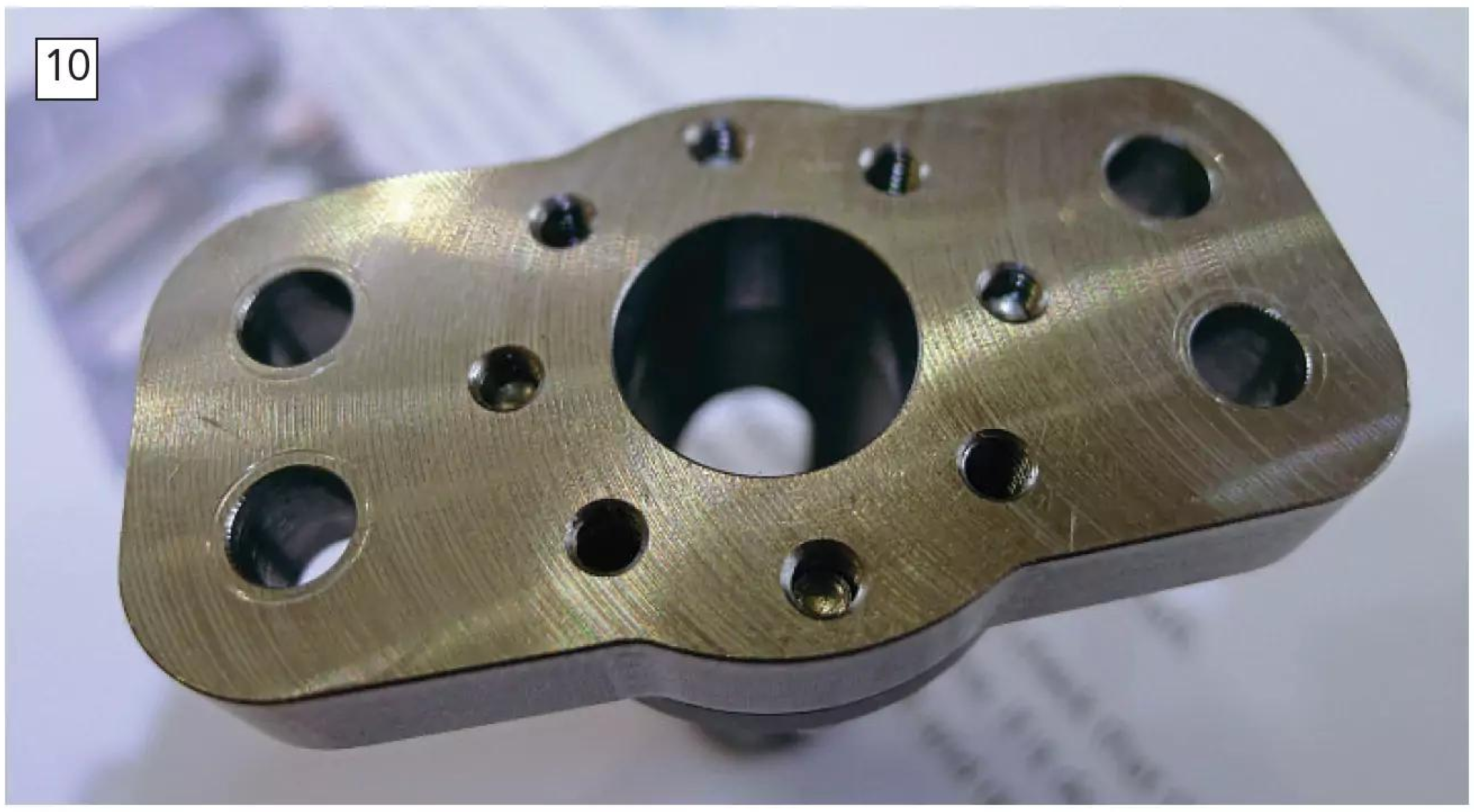
Cylinder

The upper part of the engine is supported by four columns which are

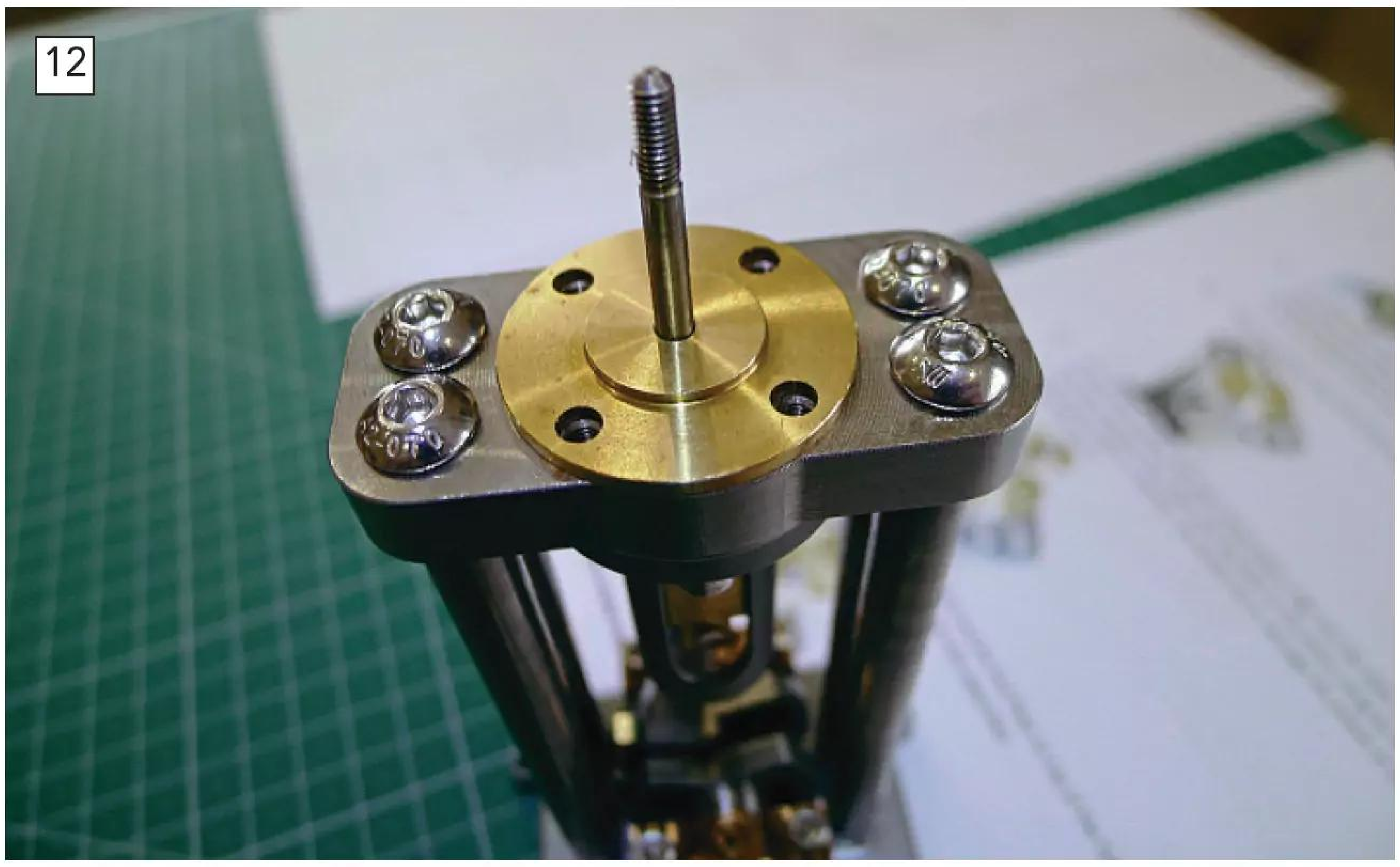


The four supporting columns are attached to the base by cap head screws underneath. The instructions advise they should not be tightened at this point to ensure everything aligns when the top end is also attached.

first attached to the base with four cap head allen screws (see **Photo 9**). The top plate with the cylinder sat on it must have the crosshead guide fitted first. The instructions warn that the screws should not protrude above the base, and it may be required to file them down. The screws in my engine, however, were a good couple of millimeters below the surface when fitted (see **Photo 10**). With the crosshead guide fitted to the lower side of the baseplate, the plate is fitted to the top of the four columns while placing the crosshead into the pre-oiled crosshead guide in the process. Four button head allen screws are then fitted to attach the baseplate to the tops of the four columns. Again, the screws must all be tightened up gently, continually checking free movement (see **Photo 11**). This done, the crankshaft rotates perfectly smoothly with no tight spots anywhere. The actual cylinder can then be added, but first a gland nut needs to be placed into the cylinder base cover before the cover is dropped onto the main baseplate (see **Photo 12**). For steaming



The cylinder baseplate with the crosshead guide fitted. The instructions warn to check that the screws are not proud of the holes, as this would interfere with the cylinder base cover, but Richard's were well sunken.



For the test assembly no packing was put in the piston gland. Richard simply put this in place and dropped the cylinder base cover into the main baseplate.

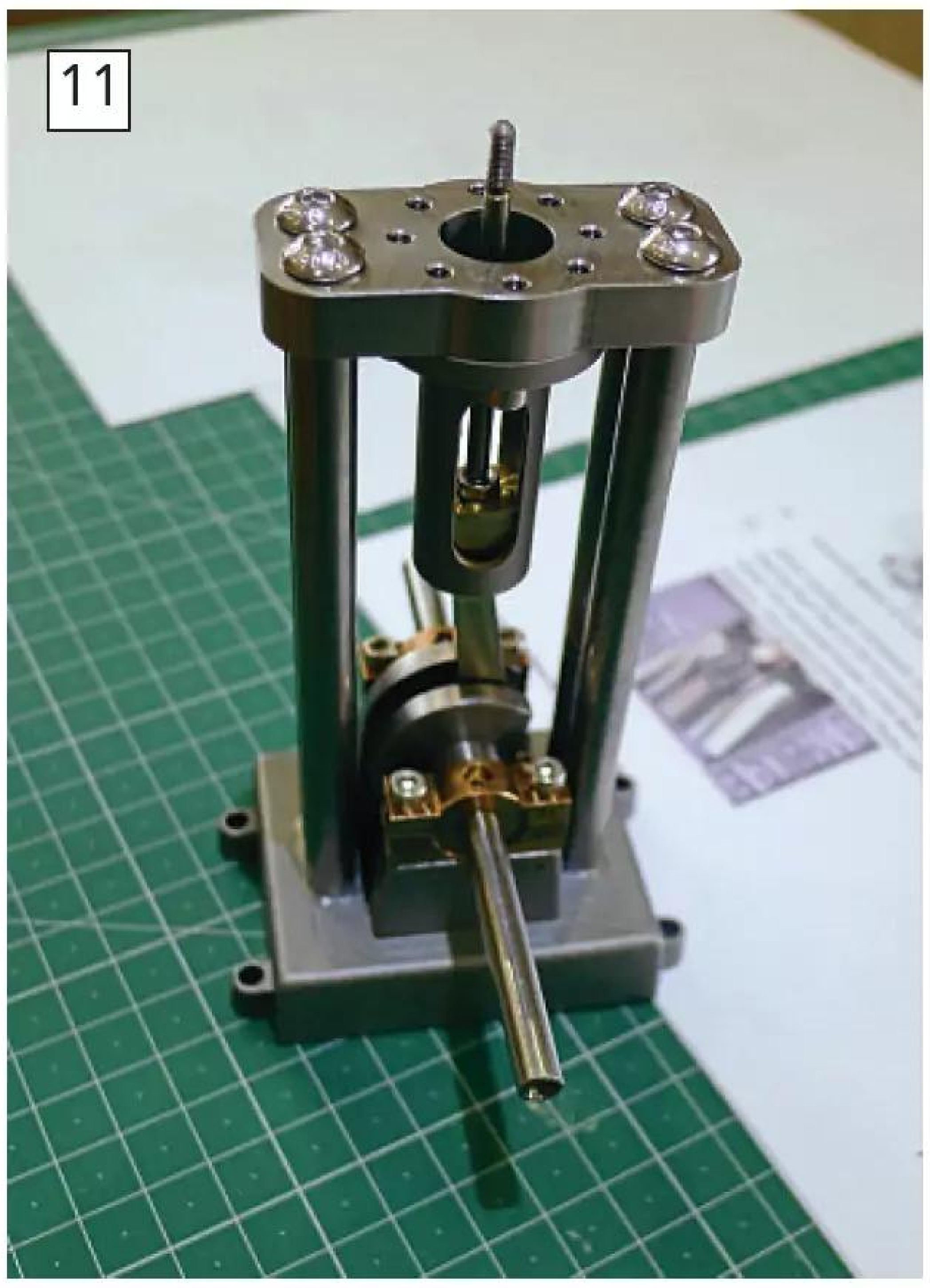
it is recommended to put some PTFE tape into this gland, but for my dry run it was left out. The piston is fitted next by simply screwing it onto the top of the piston rod. The instructions specify that you should screw this all the way in, but if you do the piston lands on the lower cylinder cover, so I suggest backing off slightly. Once the crankshaft rotates freely, the piston can be locked in place with the locknut (see **Photo 13**). The cylinder and cylinder cover can then be simply dropped over the piston, taking care to ensure the two piston rings are compressed into the cylinder without damage, and the four cylinder cover screws fitted. Again, you should find everything turns over nice and smoothly.

Valve

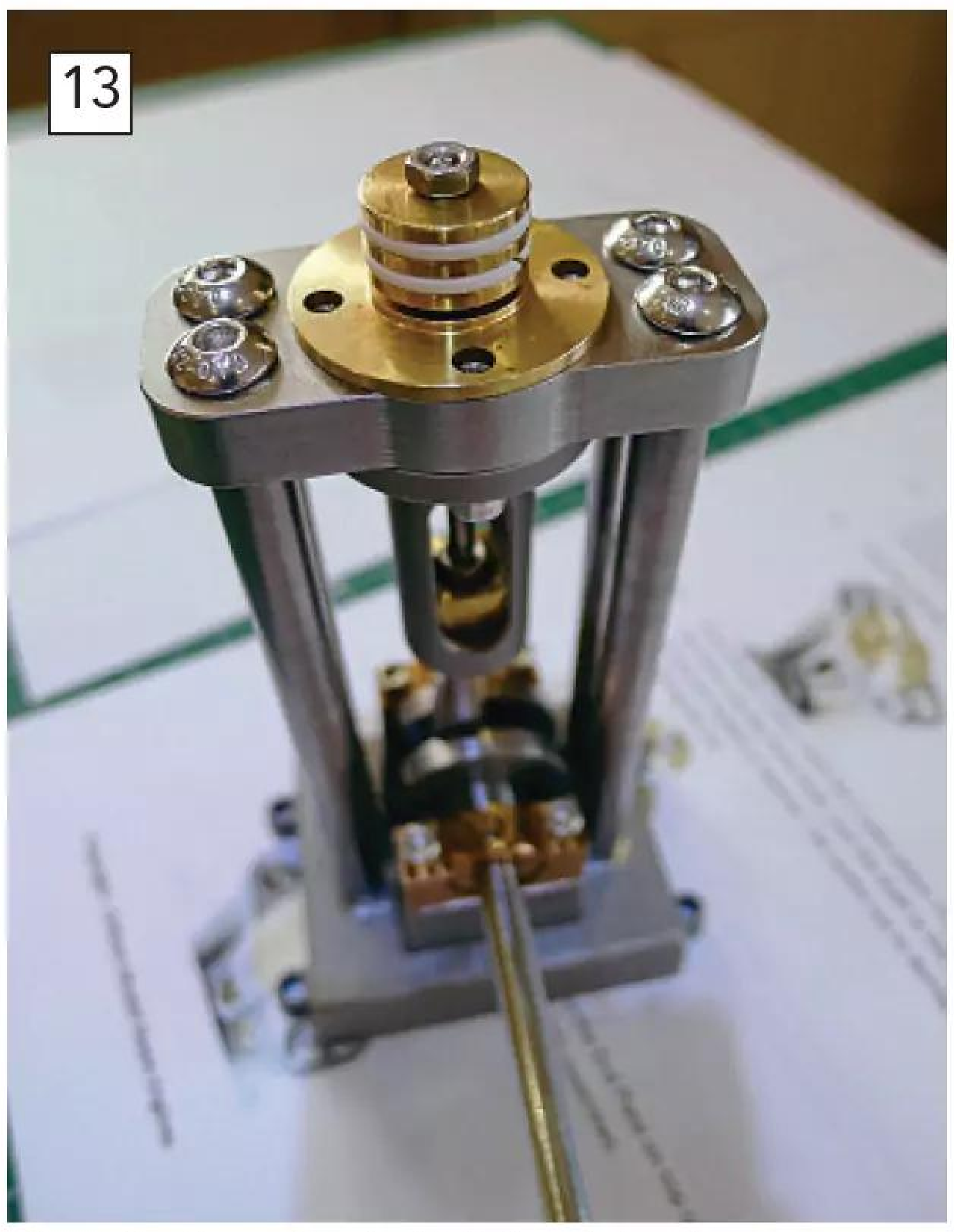
This engine is a piston valve engine, as opposed to a slide valve engine, so there is no lapping in of a slide valve to play with. First, the two halves of the eccentric must be placed into the bottom of the valve rod and held together with the two countersunk screws, ensuring the eccentric with the countersunk holes is on the correct side (see **Photo 14**). To be sure everything is perfectly aligned, it is best to tighten these screws with the eccentric on the crankshaft (see **Photo 15**). The valve itself then needs fitting to the top of the valve rod with a screw and a nyloc

Chiltern Model Steam contact details

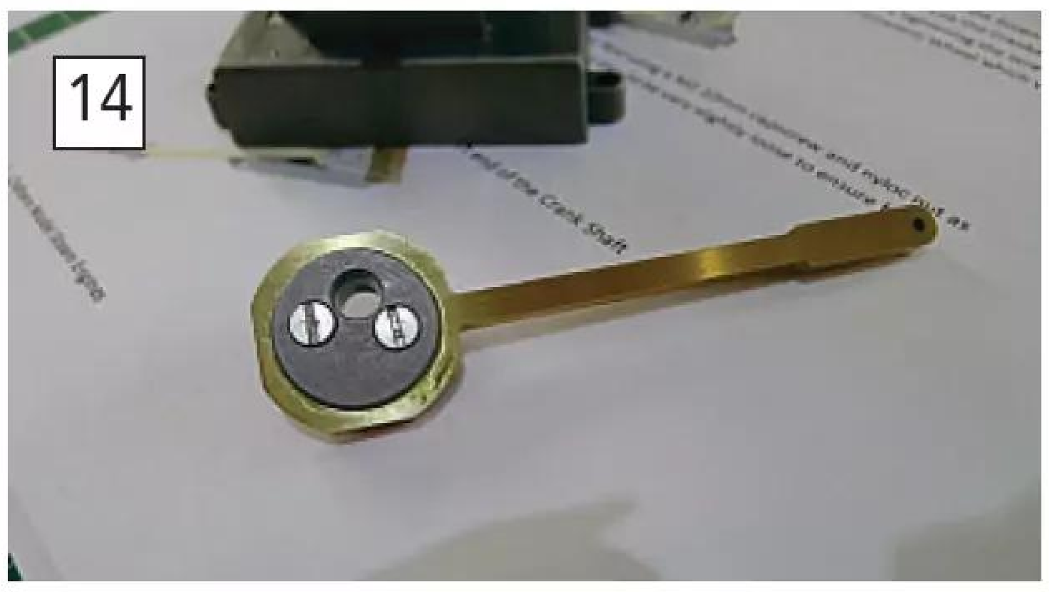
Website: www.chilternmodelsteam.co.uk/
email: sales@chilternmodelsteam.co.uk
Tel: 07941 800103



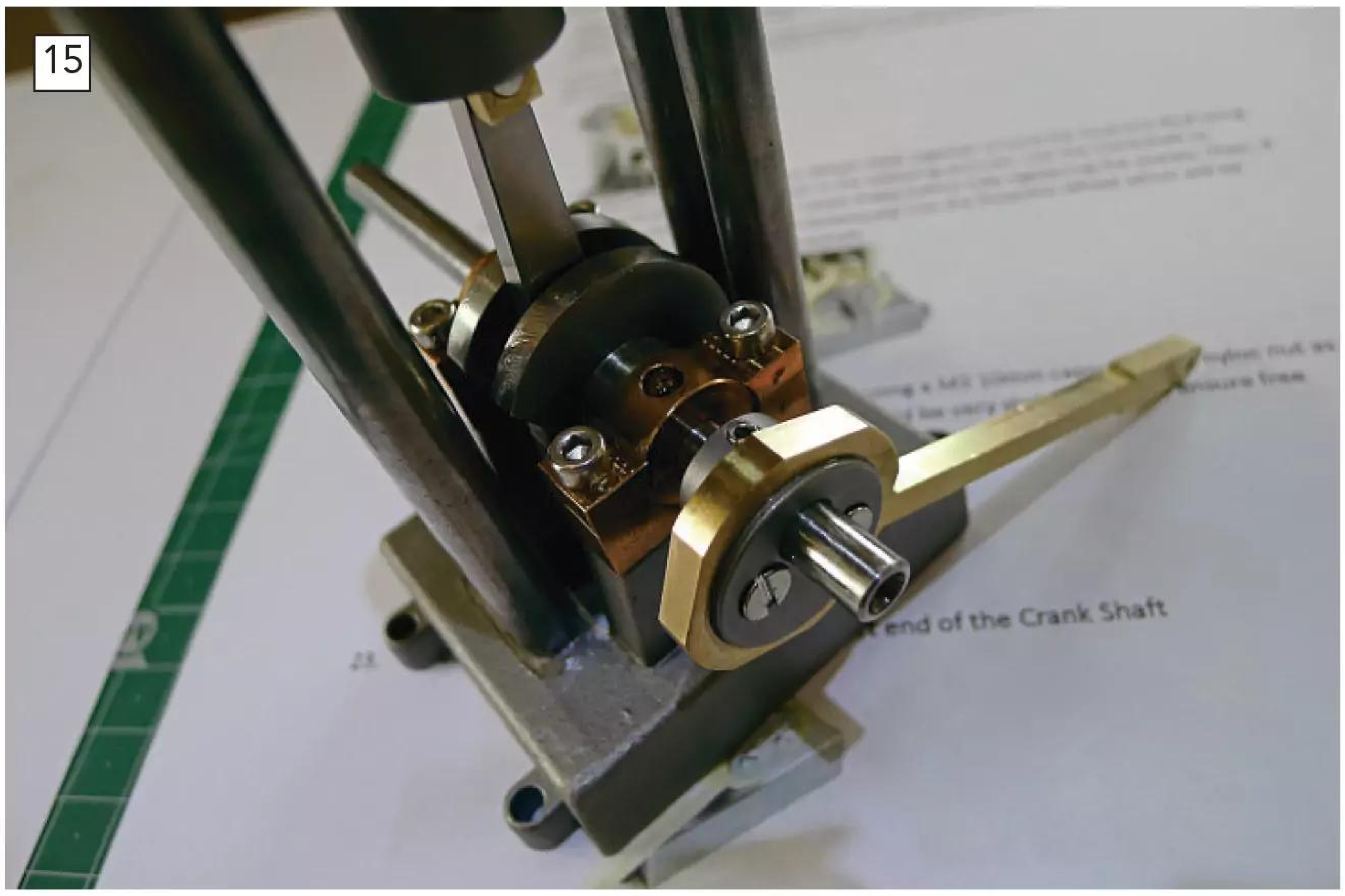
Fixing the main cylinder baseplate to the top of the columns allows the crosshead to be fitted into the crosshead guide. All the column screws can then be tightened while rotating the crankshaft to ensure no tight spots are created.



The piston is pre-fitted with Teflon piston rings, so great care must be taken not to damage the surface of them. Richard found tightening the piston right down caused it to interfere with the baseplate, so it was slowly wound up until the crankshaft could rotate, then locked.

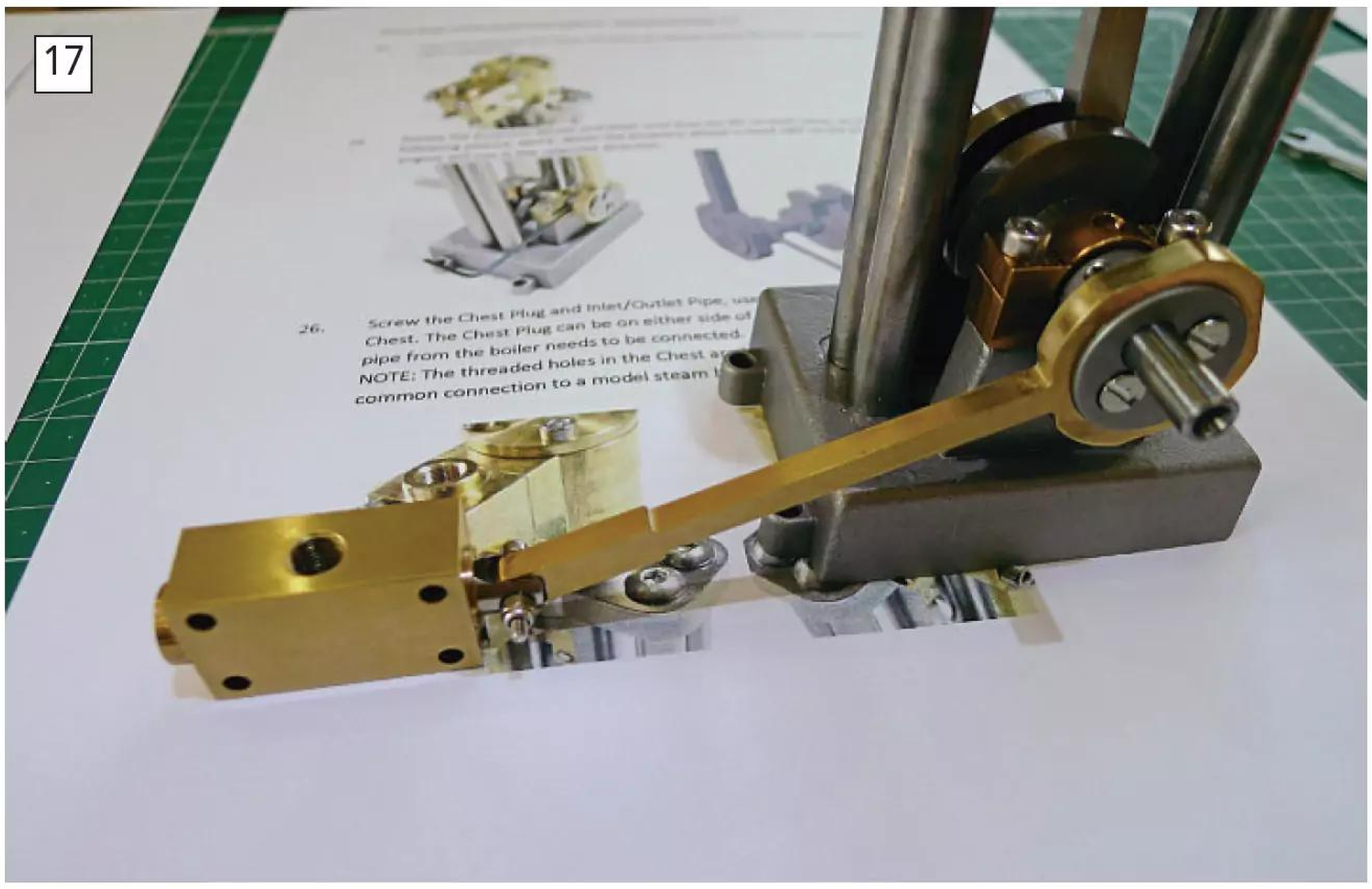


The eccentric for the valve rod comes in two halves, which require fitting together with two countersunk screws. Consequently, it's important that the countersunk eccentric is fitted the correct way round.



The countersunk screws are best tightened with the eccentrics on the crankshaft, thereby ensuring perfect alignment when tightened. Do not tighten the grub screw on the eccentric at this stage.

The piston valve fits to the top of the valve rod with a clevis, which is an extremely close fit. Great care must be taken to ensure no pressure is exerted on the sides of the valve clevis, otherwise the valve will lock up. The nyloc nut will ensure the screws stays in place.



The valve chest is then slid over the valve on the valve rod…

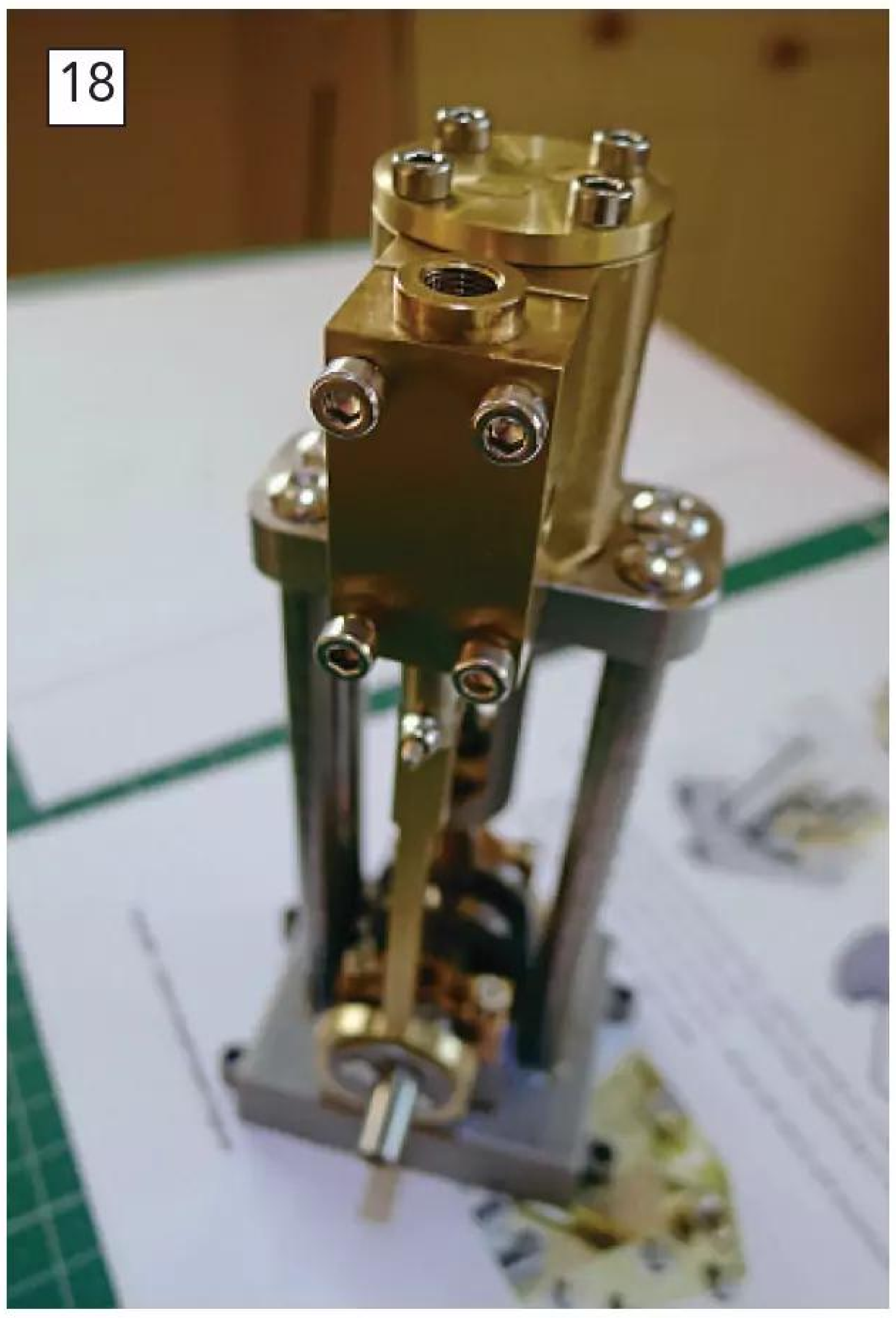
nut. As the bottom of the valve is a very close fit you need to be sure that you don't actually put any pressure on the jaws of the valve with the screw. The nyloc nut will ensure that nothing comes loose (see **Photo 16**). Once the valve is fitted, the valve chest can be slid over it (see **Photo 17**), before it is placed in position on the side of the cylinder (see **Photo 18**). The four cap head allen screws are then fitted to the valve chest and tightened.

The next job is to set the timing, and this has to be one of the simplest engines to set that I've ever come across. All you have to do is rotate the crankshaft until the con rod is perfectly vertical and then rotate the eccentric with an allen key until it's at right angles to it (basically, your allen key should be horizontal). Once you're happy everything is in the correct position, tighten the grub screw on the eccentric (see **Photo 19**). You should then, again, rotate everything by hand to check for smooth operation and no tight spots.

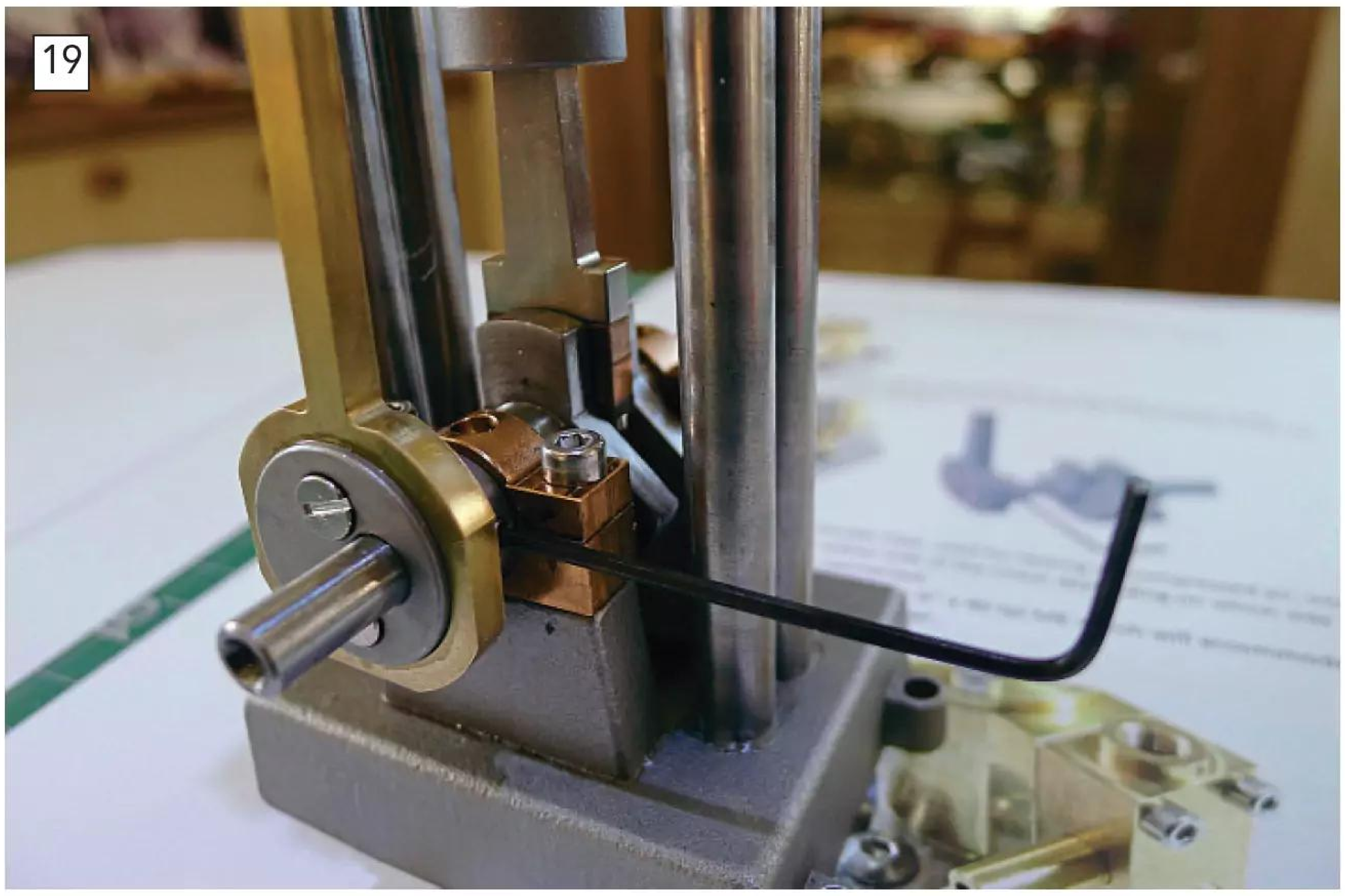
This just leaves fitting the blanking plug to the side of the valve chest that you don't want to use, and then either fitting the supplied stub pipe to the other side or, as I did, a ¼-inch x 40tpi union to connect to an airline (see **Photo 20**).

Test run

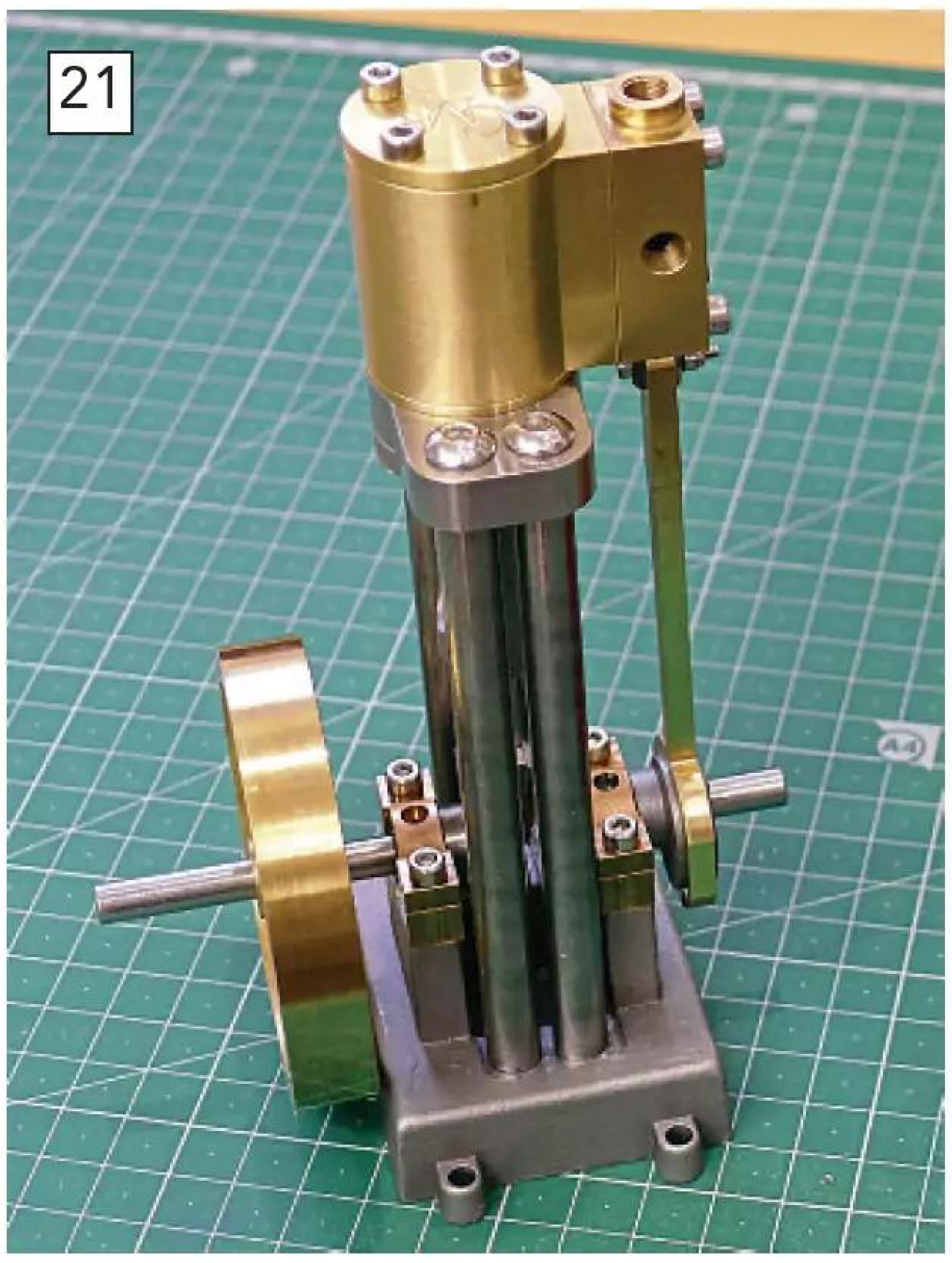
Bearing in mind all I had done was screw the components together, using



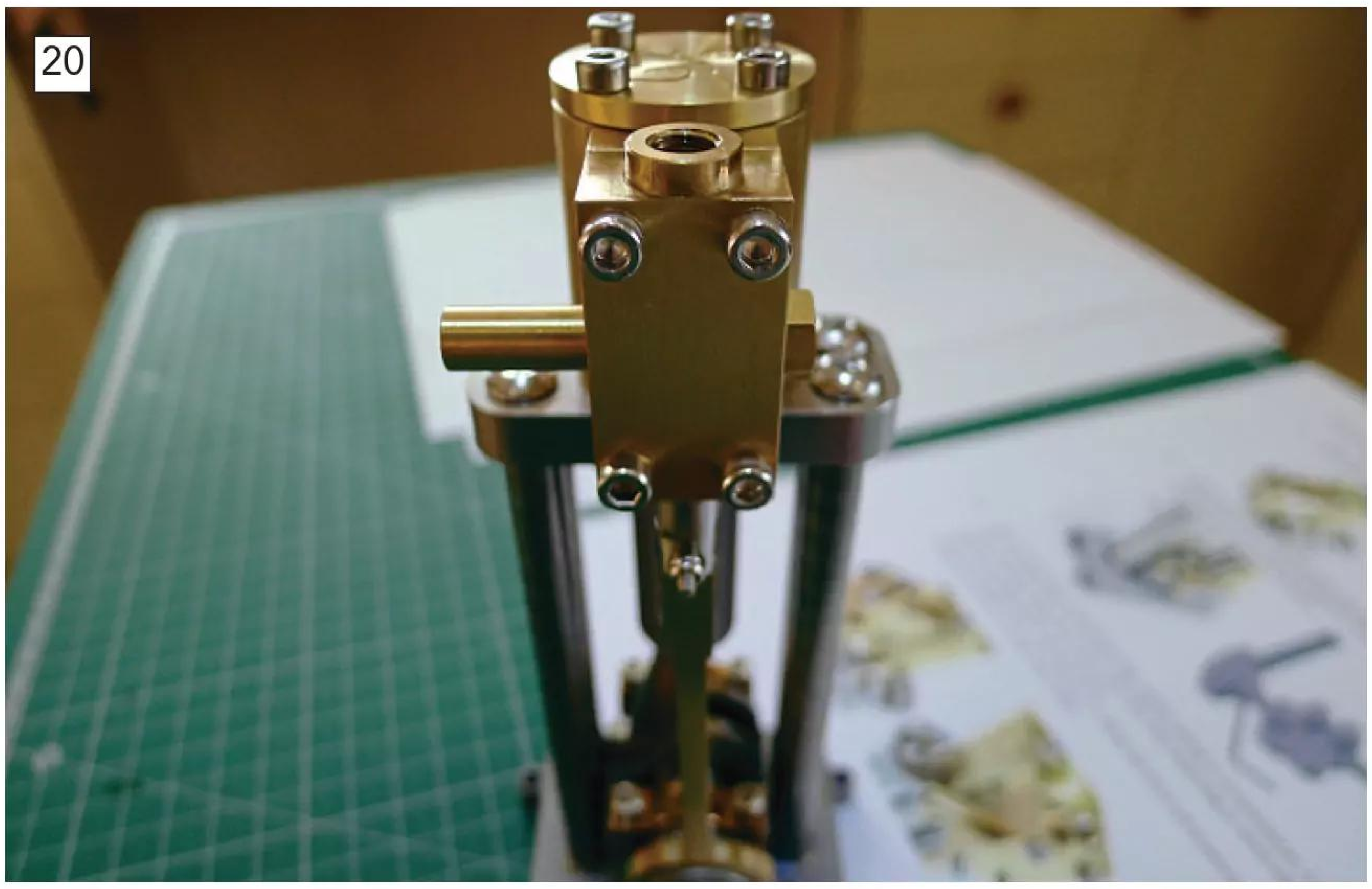
…and rotated into the correct position on the side of the cylinder. Next, the four valve chest screws must be fitted and tightened up gently and in a crosswise pattern to sit the valve chest against the cylinder face.



To set the timing, rotate the crankshaft a number of times to allow the eccentric to find its axial position on the crankshaft. Place the piston vertically and the allen key in the eccentric grub screw horizontally, and gently tighten.



You are now ready to fit the flywheel and give it a test run. Richard was pleasantly surprised at how smoothly this single-cylinder engine ran, and amazed by how little air pressure ran it – and that was before any sealant or piston rod gland seal had been used.



Fit the blank to one side of the valve chest and the stub to the other side ready to connect to an airline. Richard used a pipe fitting to match his airline, which has a conical fitting on it.

no sealant on the valve chest face or cylinder covers and no seal in the piston rod gland, I wasn't expecting much. However, I wound down the pressure on my compressor, opened the air and very slowly started to bring the pressure up. As I did so, and barely before any indication of pressure began showing, the engine simply started running. In fact, not only did it run, but it ran beautifully smoothly and quietly, and there was very little vibration. It ticked over extremely slowly, always a sign of a good engine, and stopped and started every time I reduced and increased the pressure. Normally, I wouldn't consider a single cylinder engine as self-starting, but this one never failed to start – although, of course, it was luck as regards the point at which it stopped. I was, I have to say, *very* impressed.

Conclusions and future plans

Coming from a manufacturer who claims to be more intent on keeping costs down and supporting education than it is on making a profit, it might be a reasonable assumption to expect some corners will have been cut. That, however, is simply not the case with this beautifully manufactured Chiltern engine. As a result of the excellent instructions and quality components, I had it assembled and ready for a test run in around an hour and a half, and I am happy to report it runs very smoothly and reliably. None of the parts required any dressing up, fettling, filing or any other messing around with. Everything fitted perfectly first time. All this for a retail price of £160 is, I think, pretty exceptional (see **Photo 21**).

> *"Coming from a manufacturer who claims to be more intent on keeping costs down and supporting education than it is on making a profit, it might be a reasonable assumption to expect some corners will have been cut. That, however, is simply not the case with this beautifully manufactured Chiltern engine"*

The plan now is to strip this engine down again, paint or polish the parts as required, and reassemble. As per the instructions, this will be with some thread loc and gasket sealant sparingly on the cylinder faces. Then I'm going to run it alongside an old favourite, the Stuart Turner 10V, which is of a similar size, to see how they compare.

I have to say I am now also eagerly awaiting the smaller twin cylinder marine engine, designed and engineered specifically with a typical size model boat in mind, that Chiltern has indicated might be coming soon. Watch this space! ●

Your Models

Whether you're highly skilled and experienced or completely new to the hobby, you're definitely invited to this launch party! So please keep the contributions coming by emailing your stories and photos to **editor@modelboats.co.uk**

Cartoon capers

Greetings from the other side of the pond! I thought you might like to see my rendition of Glynn Guest's *Waddler* (featured in the October 2016 issue of Model Boats). This was an enjoyable build, and the model is a great deal of fun to run.

I did make some modifications to Glynn's design. First, I used geared motors with chain drive to operate the oars. I couldn't find any wooden spoons that I liked, so I made my own oars. Instead of steel rods for the crank assembly, I used 6mm clear acrylic swizzle sticks and made a fixture, employing a heat gun to bend them so I could form the crankshafts that drive the oars. This makes the crankshafts invisible at a distance, so it looks like the figures are actually rowing. I wanted my figures to have some nautical flair, so I fashioned them to look like Popeye and Olive Oyl, officially making this a cartoon scale model! I also added servos so their heads can swivel back and forth. I decked the model over with mahogany strips, which I stained and then finished off with spar varnish.

Operating the model is very simple once you get used to it, and it's quite responsive. It garners a lot of attention everywhere it goes and it's fun to see people's reactions. For readers interested in seeing some on water footage, a video shot at this year's Cabin Fever Model Engineering Expo in Lebanon Pennsylvania can be viewed on YouTube: https://www.youtube.com/watch?v=5Kb3P3j5QzM

It's popularity, however, has involved me in more work, as I've had to build two more (including one featuring Snoopy and Charlie Brown, as shown in the other photo I've sent you) for friends who also wanted one!

DAVE BEAZLEY
VIRGINIA, USA

I'm not surprised you got badgered into making more – love these, Dave. How cool does Snoopy look in those shades, too! **Ed.**

Your Letters

Got views to air or information to share? Then we want to hear from you!

Letters can either be forwarded via email to **editor@modelboats.co.uk** or via post to **Readers' Letters, Mortons Media Group, Media Centre, Morton Way, Horncastle, Lincs LN9 6JR**

Library initiative

On February 15, the North West Scale Model Boat Club took part in the Morecambe Bay Model Group exhibition in Morecambe library, following an invitation from the Morecambe club, issued at 2024 Blackpool Model Show. The event proved a great success and, while not all those who visited this entry free exhibition were modellers, everyone seemed to enjoy what they saw.

DAVE LAWRANCE
NWSMBC

What a great way to promote the hobby, Dave. It would be lovely to see this idea rolled out and similar events hosted by libraries all around the country. Bravo to you all! **Ed.**

The North West Scale Model Boat Club stand at the free exhibition that the Morecambe Bay Model Group hosted at its local library.

Kuwaiti Boom model up for grabs

I wonder if anyone reading would be interested in taking, free of charge, an old model of a Kuwaiti Boom (dhow) off my hands. Originally purchased in the Middle East, it's a nicely crafted and detailed model, although now in need of some TLC, as the rigging is in poor condition and, while it still has its spars, it will need some sails. It does, however, come complete with a stand, a dugout as tender, and even includes some galley utensils.

Due to its weight and fragility, it would need to be collected from my home address in Lymington, Hampshire.

It's nice to see that Model Boats keeps going. I used to know Vic Smeed. He had a small model shop in my home town for a while, and then later in Canterbury.

JOHN HOLNESS
EMAIL

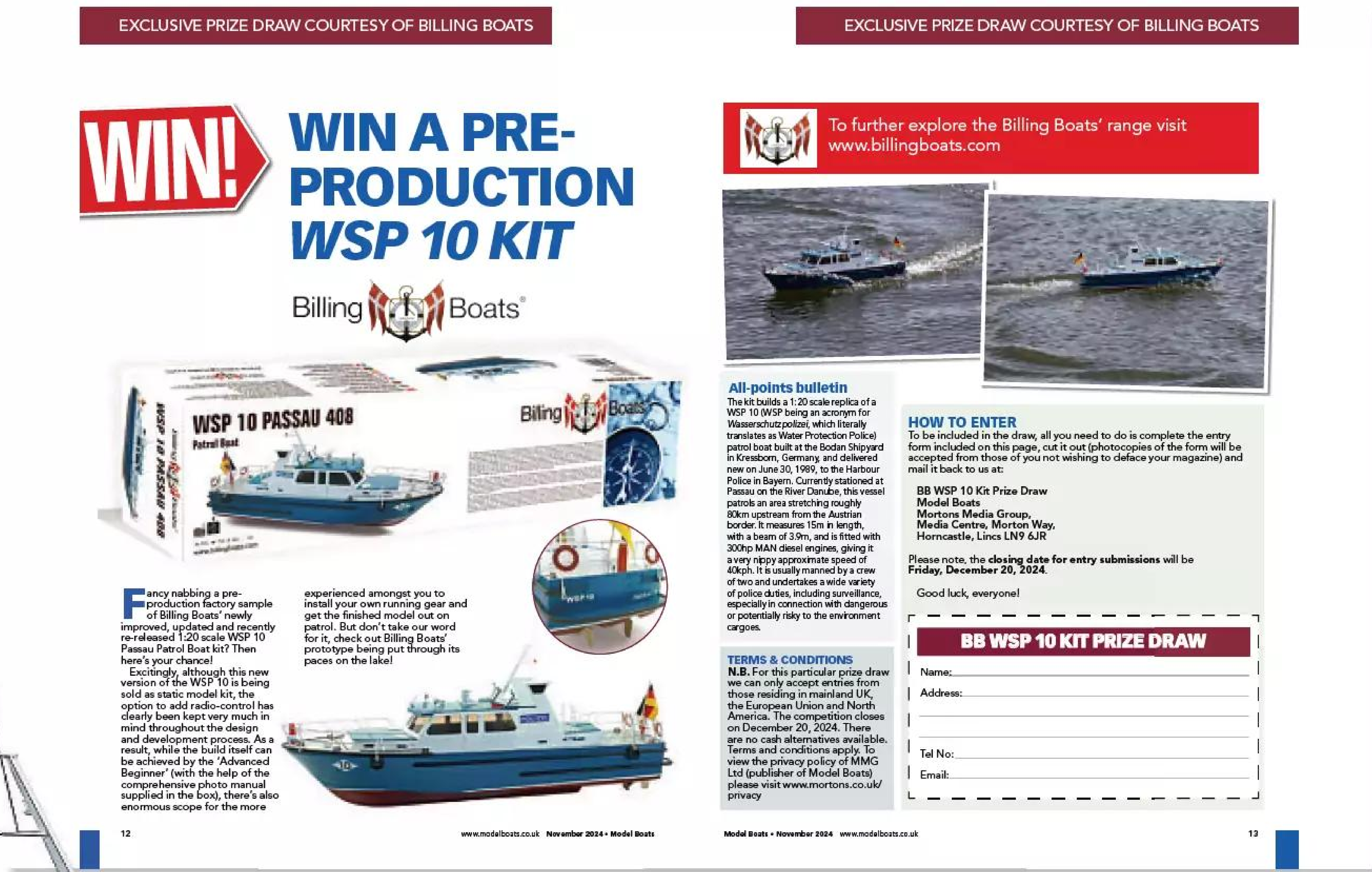
What a very kind and generous offer, John! I am sure this fascinating model will make a wonderful restoration project for someone. Lymington is lovely, so I would imagine that there will be those even outside of immediate striking distance who would happily make the trip. However, rather than publishing your home address, email address and telephone number here, I am instead inviting expressions of interest via email (mboeditor@mortons.co.uk), which I then will happily pass on to you. **Ed.**

WSP 10 win

I've just taken delivery of the Billing Boats' WSP10. I have never won anything ever before, so thank you so much! Thanks, also, for your brilliant publication. I'm new to the hobby and gain so much from each and every issue.

FRED REVELL
EMAIL

Both Jens (of Billing Boats) and I are absolutely delighted for you, Fred. Thanks, too, for your lovely comments on the mag; so happy you are enjoying it and finding it helpful. **Ed.**



EXCLUSIVE PRIZE DRAW COURTESY OF BILLING BOATS

WIN! WIN A PRE-PRODUCTION *WSP 10 KIT*

Billing Boats

Fancy nabbing a pre-production factory sample of Billing Boats' newly improved, updated and recently re-released 1:20 scale WSP 10 Passau Patrol Boat kit? Then here's your chance!

Excitingly, although this new version of the WSP 10 is being sold as static model kit, the option to add radio-control has clearly been kept very much in mind throughout the design and development process. As a result, while the build itself can be achieved by the 'Advanced Beginner' (with the help of the comprehensive photo manual supplied in the box), there's also enormous scope for the more experienced amongst you to install your own running gear and get the finished model out on patrol. But don't take our word for it, check out Billing Boats' prototype being put through its paces on the lake!

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EXCLUSIVE PRIZE DRAW COURTESY OF BILLING BOATS

To further explore the Billing Boats' range visit www.billingboats.com

All-points bulletin

The kit builds a 1:20 scale replica of a WSP 10 (WSP being an acronym for *Wasserschutzpolizei*, which literally translates as Water Protection Police) patrol boat built at the Bodan Shipyard in Kressborn, Germany, and delivered new on June 30, 1989, to the Harbour Police in Bayern. Currently stationed at Passau on the River Danube, this vessel patrols an area stretching roughly 80km upstream from the Austrian border. It measures 15m in length, with a beam of 3.9m, and is fitted with 300hp MAN diesel engines, giving it a very nippy approximate speed of 40kph. It is usually manned by a crew of two and undertakes a wide variety of police duties, including surveillance, especially in connection with dangerous or potentially risky to the environment cargoes.

HOW TO ENTER

To be included in the draw, all you need to do is complete the entry form included on this page, cut it out (photocopies of the form will be accepted from those of you not wishing to deface your magazine) and mail it back to us at:

BB WSP 10 Kit Prize Draw
Model Boats
Mortons Media Group,
Media Centre, Morton Way,
Horncastle, Lincs LN9 6JR

Please note, the **closing date for entry submissions** will be **Friday, December 20, 2024**.

Good luck, everyone!

TERMS & CONDITIONS

N.B. For this particular prize draw we can only accept entries from those residing in mainland UK, the European Union and North America. The competition closes on December 20, 2024. There are no cash alternatives available. Terms and conditions apply. To view the privacy policy of MMG Ltd (publisher of Model Boats) please visit www.mortons.co.uk/privacy

BB WSP 10 KIT PRIZE DRAW

Name:
Address:
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1:350 scale appeal

I've recently returned to the hobby (being in recovery from a stroke I had last year) and am now in the process of building 1:350 scale models of HMS *Ark Royal* 139 and HMS *Beagle* (of Charles Darwin fame). I am, therefore, writing to you as, while I thoroughly enjoy the magazine, coverage of both 1:350 scale and wooden kits is currently very limited, and I feel this is an area that could be improved on.

STEVE REEKS
EMAIL

Glad to hear you are on the road to recovery and thank you so much for this feedback, Steve. Being a niche title, we are largely dependent on the model boat building community to submit articles for publication, as opposed to commissioning freelance journalists (virtually none of whom would have the requisite hands-on experience and knowledge). I am, therefore, hoping that your letter will nudge others into coming forward with pitches for features that will help fill this gap. **Ed.**

Next month in model Boats

In our May 2025 issue, on sale from Friday, April 18, 2025, don't miss…

▲ FREE PLAN FOR *INVICTA*

With a fully illustrated guide to building this Thames Waterman's Launch

▲ *PLASTIC MAGIC*

How to turn the Airfix 1:72 RNLI Shannon Class Lifeboat kit into a little R/C gem

▲ *ZEELAND* MADE EASIER?

A hands-on build review of Billing Boats' newly updated 1:35 scale kit

PLUS A thematically varied selection of feature-length articles, all your favourite regular pages – including Your Models, Your *Letters, news, reviews – and lots more* (*Please note: content may be subject to change*)

You will find more about the exciting content coming next, features of particular interest you may have missed in past editions and details of the very latest subscription offers on our website at www.modelboats.co.uk

You can, of course, order you copy of the May 2025 issue, which goes on sale at all good newsagents from Friday, April 18, 2025, now, but why not treat yourself to an annual subscription, as monthly copies will then be delivered directly to your door.

What's more, if you opt for either a digital subscription or a combined digital/print package, the unique subscriber number allocated to you will also provide website access to our digital archive of back issues, along with exclusive bonus content.

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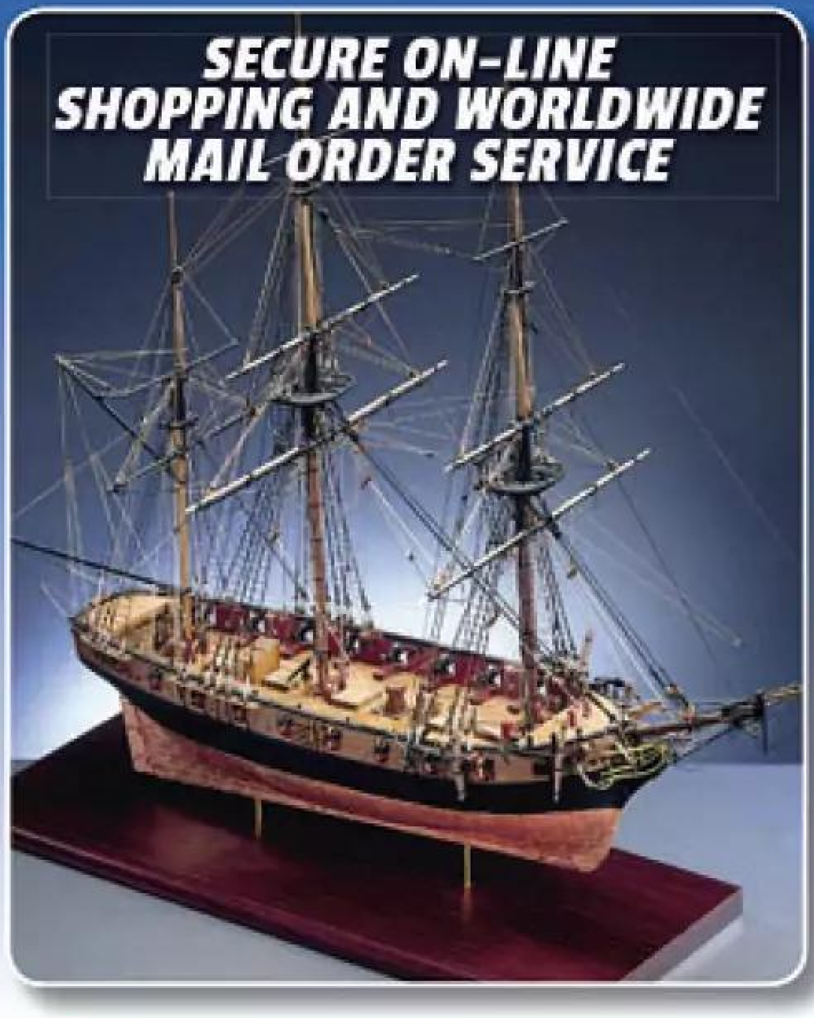

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