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# Flying Scotsman. Iron paddle tug

by Hillro

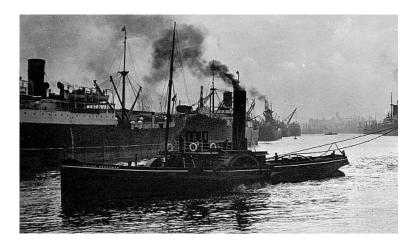




### 18th Mar 2019

### Flying Scotsman. Iron paddle tug

This is a scratch build using plans from Brown, Son & Ferguson Ltd. plans come on three A1 sheets which include hull profiles, plan and elevation views, and details of two types of paddles. A straight forward one and paddles fitted which an excentric mechanism. The latter is supposed to be the most efficient with the paddles turned to maintain max area to the water. While researching found this web site with more detail. However the text is in German but it has loads of detailed drawings in PDF format. http://www.john-tom.com/RcS hip/Strongbow%20Paddle%20Steamer/StrongbowPlansComplete.pdf Research showed that lots of these tugs were built in the late 1800, using the same design. My build was named because it was one of the last built for a Glasgow shipping company. Taken from tynetugs web site Name: FLYING SCOTSMAN Launched: 12/09/1898 Completed: 1898 Builder: JP Rennoldson & Sons, South Shields Yard Number: 188 Dimensions: 177grt, 29nrt, 118.0 x 20.1 x 10.1ft Engines: SL1cyl (38.25 x 56ins), 90nhp, 400ihp Engines By: JP Rennoldson & Sons, South Shields Propulsion: Paddle Construction: Iron Reg Number: 108767 History: 1898 Clyde Shipping Co Ltd; registered at Glasgow 13/05/1948 Christopher & Richard Jennings, London; renamed CAMBRIAN 16/01/1951 Broken up Comments: Last paddle tug built for the Clyde Shipping Co 1898: Cost £4650 25/08/1939 to 16/10/1939: On War Department service 13/05/1948: Sold for conversion to a yacht. Subsequently abandoned at Oban 16/01/1951: Arrived at Troon for breaking up



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12th Jul 2020

### Update of project

I just remembered that I have not continued the build of this project. As you can see from the photographs that it is now complete. Almost 100% scratch built.



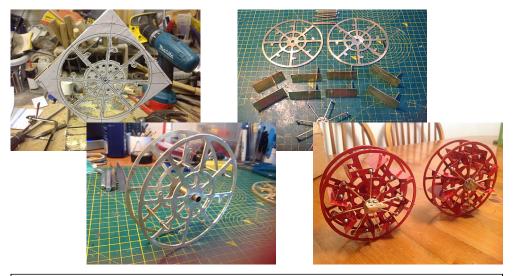
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# Manufacturing of Paddles

I started with the paddles. Main reason was that I was not sure the final product would work. I ordered all the brass parts using eBay and google. Templates were photo copied from the drawing (paddle frames) and stuck to 1/32 brass sheet. Centre punched all the points that needed to be drilled. Holes drilled used a jewellers saw to cut out the frames and finish off using files. I had not done anything like this before but patience was need to replace all the broken blades. I note that the saw came with 120 blades. I then made all the paddles, the spider gear, etc using soft soldering technique. The wheels were then assembled and tested. small adjustments had to be made with a file as some of the paddles were fouling each other. Disassembled them and painted them using car spray paint. I was quite pleased with the paddles so could start thinking about the tug hull.



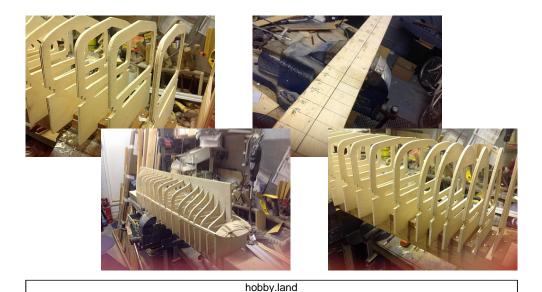
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### Preparing the frames for the hull

The drawings came with the hull profiles to scale so I photocopied them enough times to when cut out gave a template for each one. I decided to build the hull upside down so I marked out the templates to allow for this and to allow the frames to be cut when the hull is complete. The frames were made from 4mm Birch Plywood. Templates glued to the plywood and cut out using a scroll saw. The interiors of the frame were also cut out where there was sufficient material to allow a 10mm web. A 50x75mm batten was marked out from the drawing for the frame positions. frames had blocks glued to them to allow the fixing of them to the batten. The keel was also cut out from 4mm plywood and glued to the frames.





19th Mar 2019

## Planking the hull.

After shaping the frames to the hull profile and glueing shaped lime wood block to the bow and the stern, planking started at deck level. I happen to have a length of lime plank. So using a bandsaw cut lengths approx 2mmx10mmx a bit longer than the boat. I planked each side two planks at a time, glueing and pinning to each frame. Where required I soaked the ends of the planks to assist in the bending. Planks were shaped as required. Ones close to the keel needed a lot of trial and error. This all took a bit of time (4 planks a night). Once the planking was complete, the hull was sanded to smooth out the plank transitions and any bumps. The hull was then coated with car body filled, sanded, etc until happy with finish. A couple of coats of grey primer was applied using spray cans.



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