

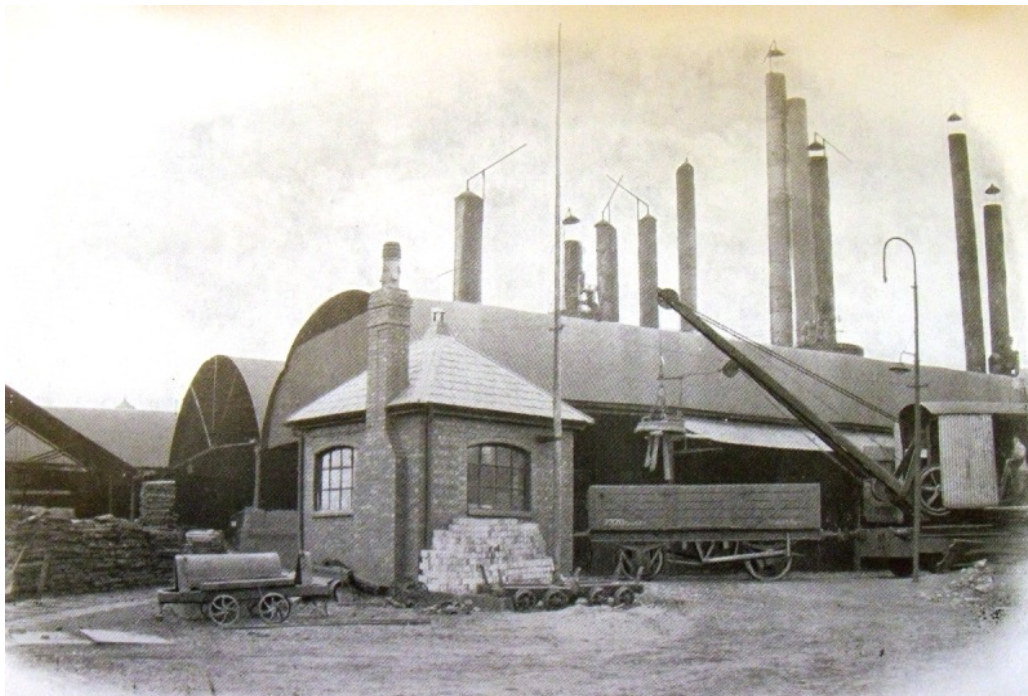
Titanic: The Hingley Anchors

By

Jonathan Smith

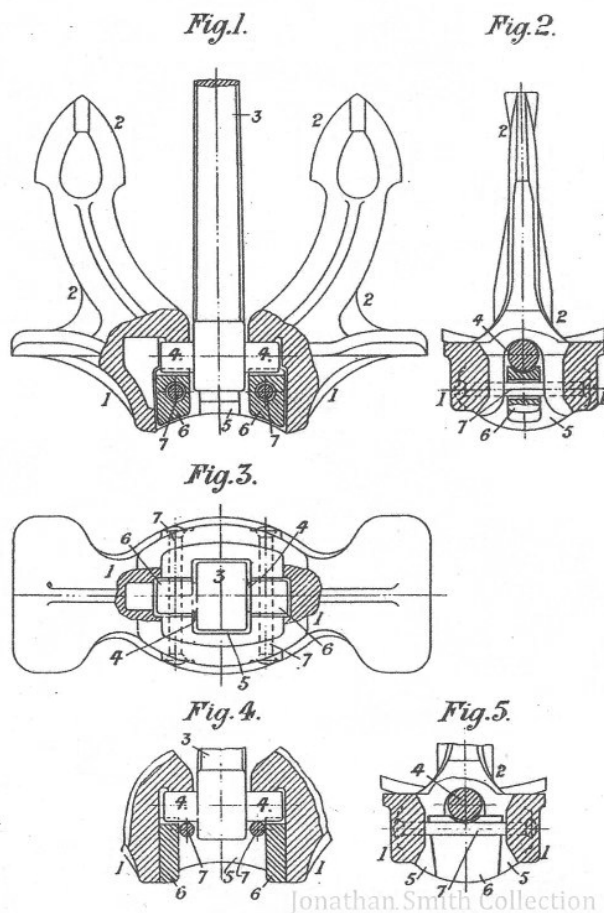
Titanic's centre anchor was at it's time and for some time to follow, the worlds largest anchor ever forged by hand. In it's overall size, the anchor measured an impressive 18ft. 6inch in length. The cast steel head of the anchor was 10ft. 9inch in width and the anchor weighed an incredible 15ton.16 cwts.

The order for the anchors, both side and centre, were received from Harland & Wolff in late 1910 to the West Midlands largest forging company Noah Hingley & Sons Ltd in Netherton, near Dudley. However, not every part of the anchors were to be produced by Hingleys. The head of the anchor was cast by John Rogerson & Co in Newcastle-upon-Tyne upon the request of Hingleys and manufactured to the 1906 Hall's Patent. The steel hand and drop forged anchor shank went to the neighbouring company to Noah Hingley & Sons; Walter Somers Ltd. The job was given to 'Somers' by Hingley largely as Somers had a much more powerful hydraulic drop hammer compared to the one in use at the Hingley works in 1910/11. The Noah Hingley works however went on to manufacture themselves the anchor shackle and pin, anchor head locking pins and retaining blocks, anchor attachment links, anchor chains (for the side anchors), mooring swival chains and anchor chains deck stoppers.



(1) Part of the 'Noah Hingley' chain manufacturing sheds (Jonathan Smith Collection)

The head of the anchor was to be cast in a bed of sand and clay. The process was typical of late Victorian and early Edwardian casting, but on a much larger scale. The bed had the shape of the anchor head dug-out while sitting at the foot of the furnace. When ready, liquid metal was flowed through a channel from the furnace and into the mould. Cooled down the whole cast head was lifted from the mould and cleaned up. If the head of the anchor was incorrect in weight, pig-iron was blasted onto the head when it was received by Noah Hingleys.

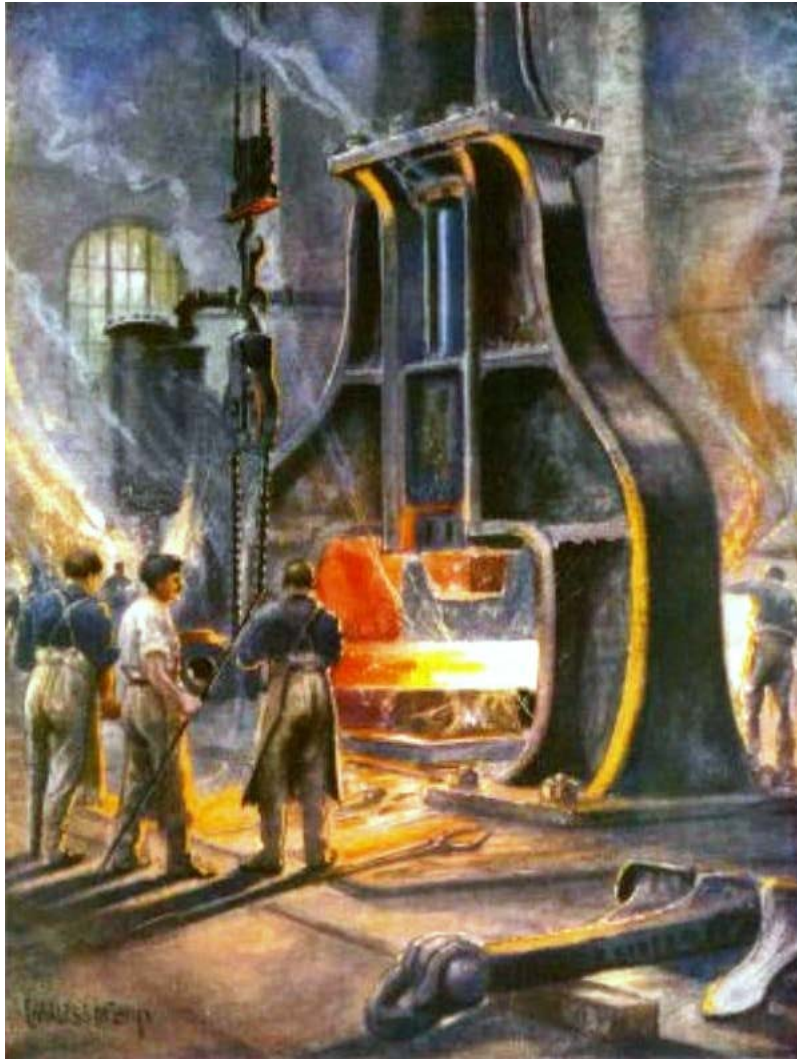


(2) *The Hall's Patent 1906 Anchor (Jonathan Smith Collection)*

The anchor shank was a much more daunting process. After pig-iron bars were created by similar process as the anchor head, the bars were sent to the manufacturing shops. Each bar was heated up again in a blast furnace. Each bar or block was removed when white hot and laid down on a bed of sand. Another block of heated metal was layered upon the previous block. A group of men with hand 'jimmy' hammers then took it in turns to hit (fuse) the metal together. The lump was then heated again and placed into a drop forge hammer to compact the structure. This process would happen time and time again until the shank took shape. All seams were then filled with liquefied metal to fill the gaps. Each time it went through the same long process of heating

and hammering into place. Once the shank was in a shape of a long solid bar, sections again were heated and hammered to form the shanks integral shape.





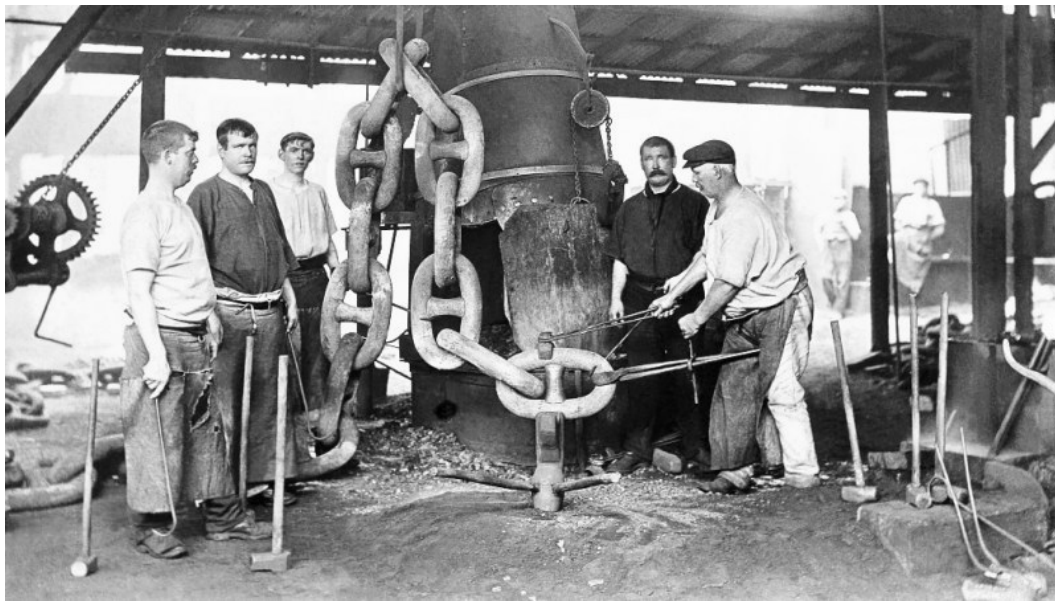
(3) **a:** The pig-iron slabs are taken from the blast furnaces as seen in this period photograph taken at 'Noah Hingley & Sons'. **b:** Sections of a anchor shank takes place as hand operated hammers are used (still from the 1924 'Noah Hingley' Promotional Film). **c:** Colour painting of a hydraulic drop forge hammer at 'Hingleys'. All images (Jonathan Smith Collection)

For the eyelets at both ends of the shank for the securing pins to be passed through to secure both head and shackle, the eyes were forged into the shank during construction. Once a rough shape was achieved, the shank was lifted into a lath and the eyelets were cut-out cleanly.

The anchor heads were put through tests to establish strength and agility. The anchor head was lifted to a height of 12 to 15 feet and dropped on its edges. If no damage occurred with the cast, the anchor head was passed and stamp marked.

Each link for the anchor chains were of an impressive scale and made from steel which Hingleys proudly claimed 'Hingleys Best'. The largest link was situated within the anchor attachment and measured 36 inches. The others were forged at 33 inches. Each link was forged from pig-iron bars, heated up and run through a machine known as a mandrel. The mandrel gave the link its distinctive shape, but both end

of the link did not meet. The link would then be heated while a centre stud was hammered into place. The link, still open, was then hooped into its neighbouring closed-up link. The "chain gang" would then close the link and fuse the ends together. Before this process, sections of chain were made for testing purposes. Lengths of the chain were tested at the Hingley works in hydraulic pulling beds. One end of the length of chain was secured to a stationary clamp. The other was fitted into the jaws of the machine. The machine would then apply pressure upon the chains to a set tonnage recommended by Lloyds. If the link broke *past* the set tonnage, the link was passed and approved for continuation of manufacture. After each section of chains were forged, Hingley workmen had the lengthy task of checking each link. Almost 1,200 feet of chain were forged for the *Titanic*.

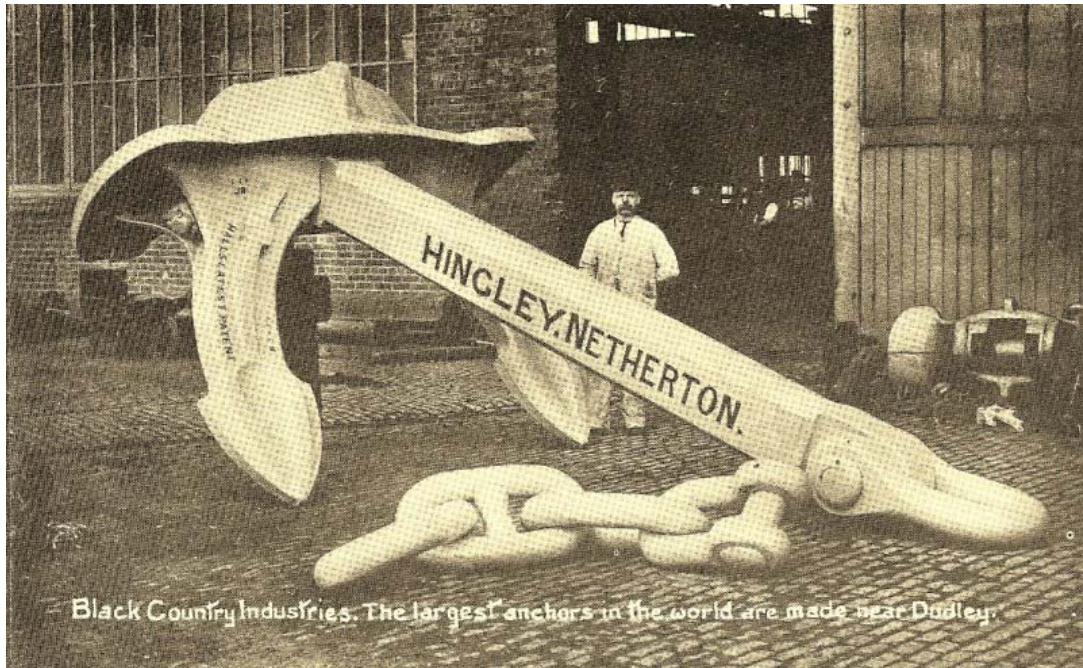


(4) Period postcard of the 'Hingley' chain gang, photographed during the manufacturing of the huge chains for the *Titanic* (Jonathan Smith Collection)



(5) One of the 'Hingley' mandrels at work on small scale chains (Jonathan Smith Collection)

Once all the parts were manufactured, they were then collected together at the Noah Hingley works and sent to the Lloyds Proving House that resided on the grounds of the Noah Hingley works. Once there, each part was checked and then fully assembled into a fully working anchor. After final checks, the anchor shank and head was stamped marked with manufacturer, date and initials of inspector.



(6) Period postcard showing the 'Lloyds Proving House' foreman standing alongside the huge centre anchor and attachment chain for the *Titanic* (Jonathan Smith Collection)

All three of the Olympic-Class liners had their centre anchors painted matt white while at the Hingley works. But *Titanic* was the only one of the three that had the name '*Hingley.Netherton*' painted upon the shank. Both side anchors of the *Olympic* were painted matt white and sent that way to Belfast. Both *Titanic*'s side anchors were painted matt black and *Britannic* side anchors were painted matt white.



(7) Period postcard of *Titanic*'s centre anchor as it sits on top of the heavy haulage dray loaned by 'W.A. Ree' before its departure from 'Lloyds Proving House' (Jonathan Smith Collection)

Transportation for the *Titanic* anchor came from the Great Bridge (West Midlands) haulage company 'W.A.Ree'. The company sent a large heavy duty haulage cart more commonly known as a dray and 8 fully grown shire horses to help pull the cart. These huge horses had the pulling strength of 3 tonnes each and were a common sight on inland waterways/canals and roads of the Midlands. The horses were connected to the cart after the huge anchor had been lowered upon it while at the Lloyds Proving House. As the town of Dudley lay upon a higher point to that of Netherton, the Hingley works decided to attach 6 of their own horses to the head of the lead to help take extra strain as the horses and cart made their way up hill and cobbled street. The anchor was to be taken to the goods yard at Dudley Railway Station and sent via rail down the North West coast to Fleetwood in Lancashire. From Fleetwood, the anchor was to be put aboard the passenger/cargo steamer *Duke Of Albany* and sent across the Irish sea to Donegal Quay in Belfast. From there it went on to the Belfast shipyards of Harland & Wolff via Harlands own horses and cart, painted black then fitted aboard the liner.



(8) Period postcard of Titanic's anchor on the dray with the original line-up of 'Ree' eight horses, before 'Hingleys' attached their own to the line. Her bow side anchors are just visible to the top left corner (Jonathan Smith Collection)

From Dudley Station goods yard, a worker for the L.N.W.R (London North Western Railway) had walked the 2 miles from the station to the Hingley works with a team of 6 horses. Upon arrival at the Hingley works, employees at Hingleys joked about the horses the L.N.W.R worker had brought with him; "you can send them poor specimens back". The L.N.W.R horses were attached to the head of the pulling horse team, only by shackles and chains, but not like the group of 14

other horses which were rigged with additional bars to assist with hauling. As people lined the streets, free lance photographer Edwin Beech who had set up his camera on its tripod stand started to take snap-shots of the departing procession.



(9) Period postcard of one of Edwin Beech's iconic Titanic anchor photographs showing the 20 horse procession as the team leave the 'Noah Hingley' works for the two mile journey to Dudley Railway Station & Goods Yard (Jonathan Smith Collection)

As the team of 20 horses pulling the huge dray with *Titanic's* anchor began to move, it was indeed a great spectacle to all those who lined the roadways from the Hingley works, through the cobbled streets of Netherton, through Dudley market and down the hill past Dudley's historic Castle. Little did Beech know how iconic his images would be to the folk of the West Midlands. For decades to follow, his famous photograph portrayed to those who did not know, some 20 horses pulling that mammoth anchor. Little did people realise that it was but 14. History books however tell a different tale. The sinking of the *Titanic* was a night to remember. The journey from the Hingley works to Dudley Railway Station was, for the town's people of Dudley and Netherton, a day to remember.

Jonathan Smith
TRMA Trustee

This is a condensed version of a much larger detailed work currently in progress to be published.