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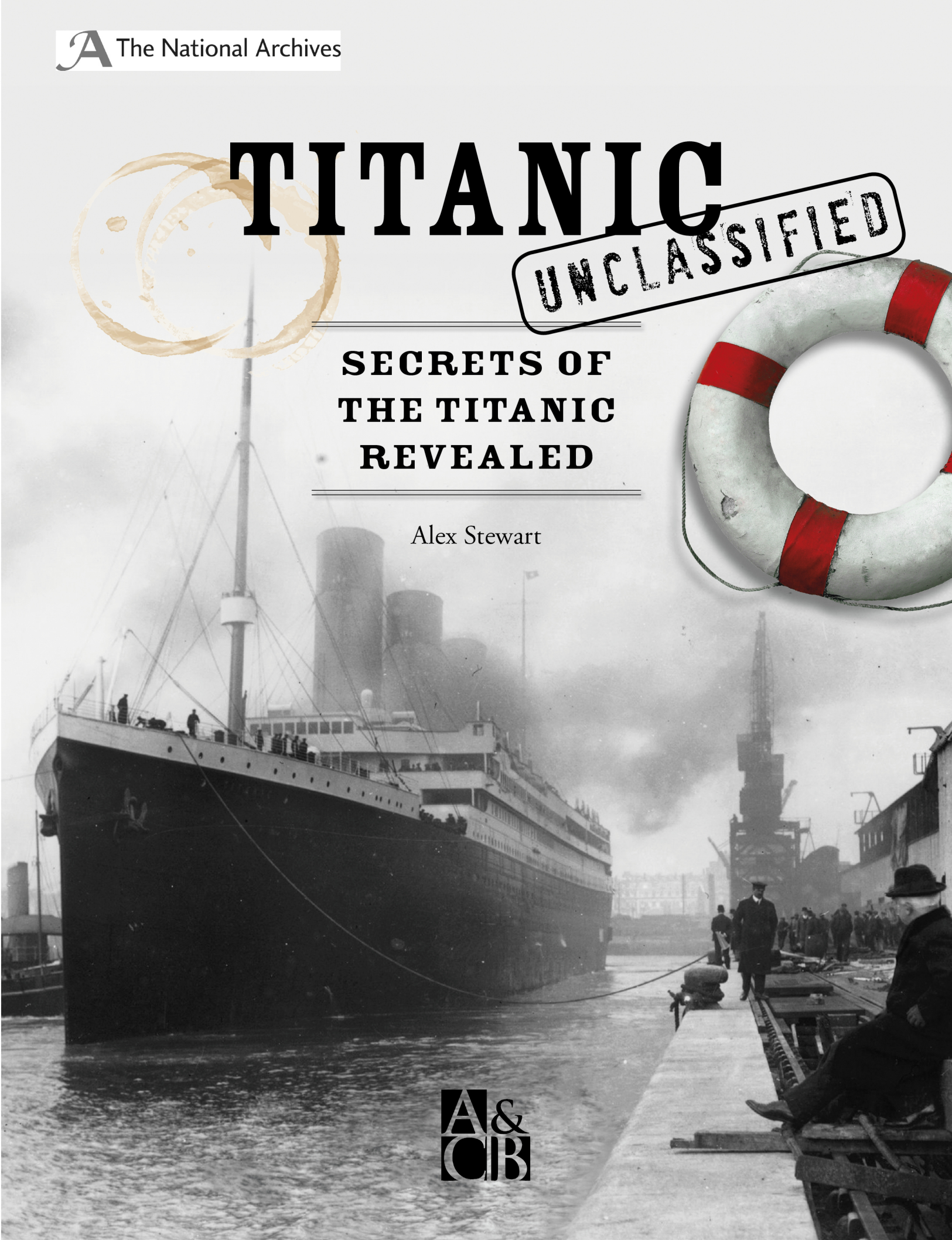
Alex Stewart



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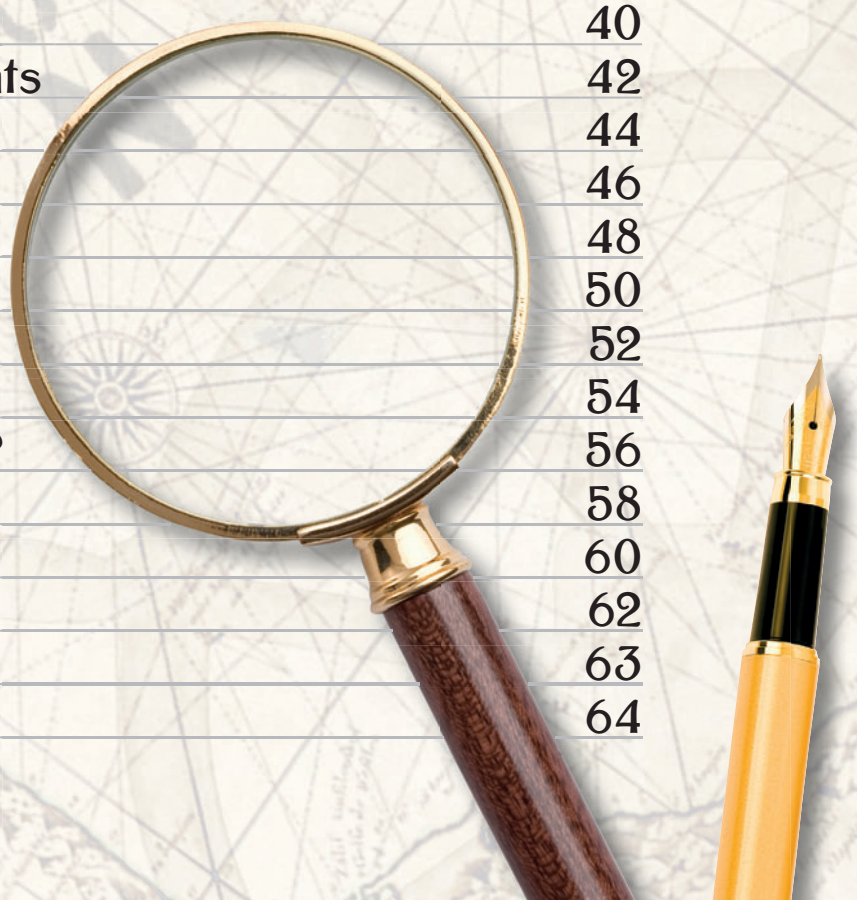


Designing the *Titanic*

The White Star Line designed and built three *Olympic*-class liners: the *Olympic*, the *Titanic* and the *Britannic*. They were not as fast as their Cunard rivals, the *Lusitania* and the *Mauretania*, but they were bigger and more luxurious. The first-class facilities were as good as a five-star hotel, and second-class and third-class passengers were remarkably well provided for. The liners also had to look good on the outside – a factor that would play an important part in the *Titanic* tragedy.

Top designers

The plans for the *Titanic* were drawn up by two of the finest ship designers of the time, Lord Pirrie and Thomas Andrews. Pirrie, an extremely successful businessman and politician, was a director of the White Star Line and ran the renowned Harland and Wolff shipyard in Belfast.

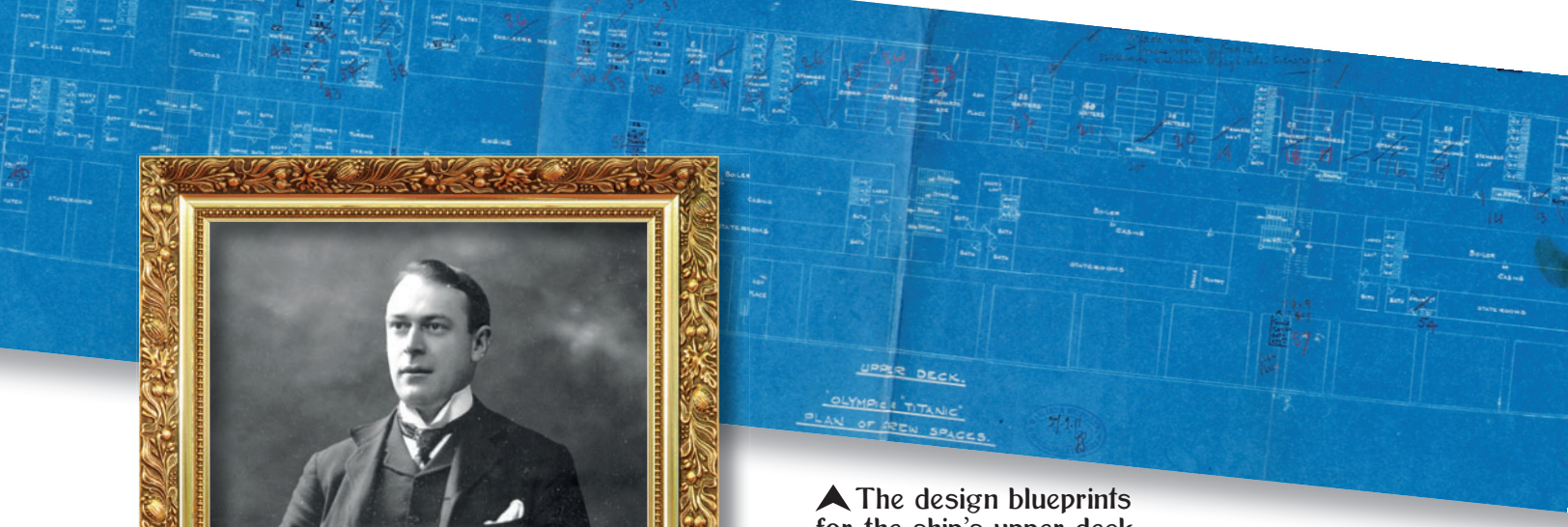
Andrews had spent most of his working life designing ships. He came along on the *Titanic*'s maiden voyage, and went down with the ship. A third designer, Alexander Carlisle, was responsible for the *Titanic*'s decoration and equipment.

◀ The *Titanic*'s deck plans were changed and added to by different people.

▲ Thomas Andrews (1873–1912), one of the *Titanic*'s designers, was probably the first man to realise the ship would sink, once the extent of the iceberg damage became clear.

Built by the best

The *Titanic* was built in Northern Ireland, in the yard of Harland and Wolff, which at the time was the biggest shipbuilding company in the world. As Lord Pirrie was chairman of Harland and Wolff, his shipyard was the obvious place for the construction of the *Titanic*.



▲ The design blueprints for the ship's upper deck.

Looking good

Appearance mattered in a ship that prized itself on being the height of luxury. Because four funnels were said to be more impressive than three, the *Titanic* was fitted with a fourth funnel used only for ventilation.

More importantly, the number of lifeboats on the vessel was reduced from 64 to just 20, which was still more than the number required by law for a ship of the *Titanic*'s size. This was done to keep the decks uncluttered and to make the ship look more streamlined. We do not know for certain who made this fateful decision.

▼ Workmen leaving the Harland and Wolff shipyard in Belfast, with the *Titanic* under construction in the background.

Launch and trials

The *Titanic* was launched in Belfast, Northern Ireland, on 31 May 1911. It was a magnificent occasion. Special viewing platforms were erected so crowds could watch the great ship slide slowly down the slipway into the water. American and British flags fluttered overhead, while signal flags spelt out the message 'Good Luck'. After the launch, parties, lunches, and dinners were held all over Belfast to celebrate the historic event.

Early tragedy

One Belfast family was not celebrating that afternoon. Shipyard worker James Dobbins had the job of knocking away the wooden supports around the *Titanic*'s hull as it was launched. The ship was then one of the largest moveable objects ever made, and its supporting timbers were as big as trees. As one fell, it injured James very badly, and he died in hospital shortly afterwards.

➤ The *Titanic* begins its long-awaited sea trials.

Fitting out

The ship floating high in the Laffan River was little more than a partitioned hull containing engines, boilers, and furnaces. The long process of 'fitting out' now began. This meant building the rooms inside the ship, and making them ready for people to stay in. The process took a whole year. First, the superstructure, cabins, public rooms, and staircases were constructed. Then came plumbers and electricians to install miles of pipework and cabling, followed by carpenters, carpet fitters, and painters. Finally, the moveable objects were loaded on. These ranged from thousands of tonnes of coal to the bed linen, plates, pots, and pans.

▲ Ticket holders only – the launch of the *Titanic* caused great excitement.

Sea trials

On Tuesday 2 April 1912, just eight days before the ship began its maiden voyage out of Southampton, tugboats guided the *Titanic* into open water, steam was fed to the mighty engines, and for the first time the great ship sailed under its own power. On board were 199 crew members, some dignitaries and officials, and a Board of Trade surveyor. It was the latter's job to see that everything worked, so he could give the *Titanic* a certificate of seaworthiness. By 8 p.m. that evening, having seen the ship stop, start, turn sharply to port and starboard, drop anchor, and steam at full speed, the surveyor signed the certificate. The *Titanic* was now officially seaworthy.

'Mathematical certainty'

The slight judder that ran through the ship as it struck the iceberg might not have been noticed by many of the passengers, but to an experienced sailor like Captain Smith it was an ominous sensation. He hurried to the bridge, found out what had happened, made sure the engines were stopped, and set about assessing the damage.

Third Officer Bert Pitman recalls the collision:

Mr. Pitman: *Well, the collision woke me up.*

Senator Smith: W*as there any special impact to awaken you?*

P: *No; there was a sound that I thought seemed like the ship coming to an anchor – the chain running out over the windlass.*

SS: *Did this impact jar the ship?*

P: *No; it gave just a little vibration. I was about half awake and about half asleep. It did not quite awaken me.*

▲ Third Officer Bert Pitman (1877–1961) and Second Officer Charles Lightoller (1874–1952) were key witnesses at the inquiries into the *Titanic*'s sinking.

Six gashes

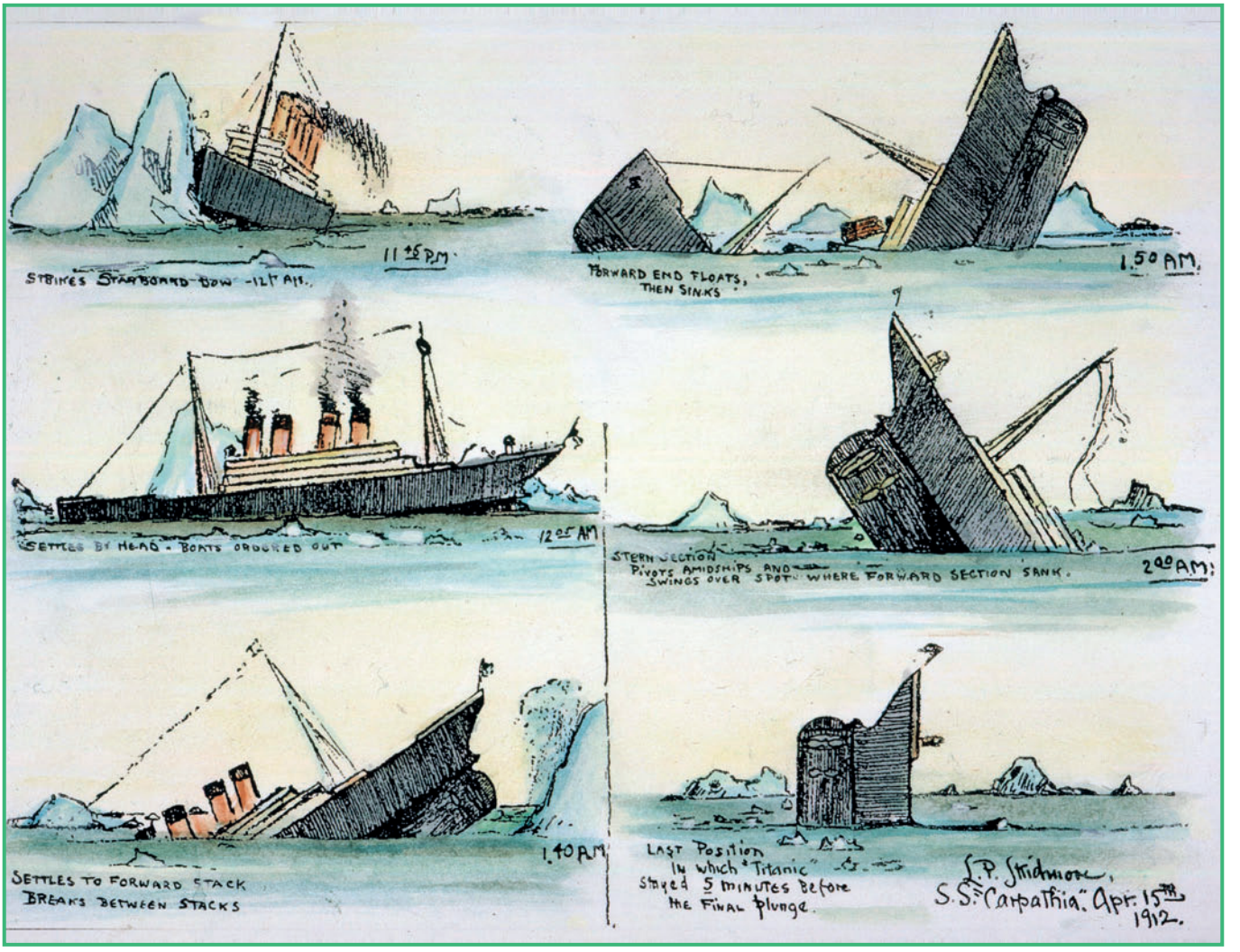
After a quick look at the front of the ship, Fourth Officer Joseph Boxall said things did not seem too serious. But when a carpenter, possibly 26-year-old John Hutchinson, and the ship's principal designer, Thomas Andrews, made a closer inspection, the true extent of the damage became horribly clear. The force of the liner crashing against the iceberg opened six gashes in the ship's side along a distance of 90 m (299 ft). There seem to have been two reasons for such serious damage. First, the low temperature made the *Titanic*'s steel likely to break rather than bend. Second, the ship's steel plates were joined to each other and to the main frame by rivets. Under enormous strain, these rivets simply broke or popped out. The resulting holes allowed seawater to pour into 6 of the vessel's 16 compartments.

Slowly filling up

By midnight, Andrews and the carpenter had finished their inspection and reported back to Captain Smith on the bridge. The news was bad. The ship was designed to stay afloat

with four compartments flooded, but not six. The pumps, which were steam-powered and only worked for a limited period of time, could not cope. They needed an hour to pump out the quantity of water entering the ship every five minutes. Worse still, as the forward compartments filled, water began to pour over the top of them into the compartments behind. Grim-faced, Andrews announced that it was a 'mathematical certainty' that the *Titanic* would sink. How long had they got? asked the captain. Andrews reckoned about an hour.

▲ Even the mighty *Titanic* couldn't survive a collision with an iceberg the size of a small island.



▼ With the help of L.P. Skidmore, survivor John B. Thayer drew this diagram of the *Titanic*'s sinking immediately after he was rescued. The sequence of events it shows is controversial, as there was debate over how the ship sank.

The *Titanic*'s last moments

At 1.30 a.m. on Sunday 14 April, almost two hours after striking the iceberg, it is clear that the *Titanic* will not remain afloat much longer. There are signs of panic, and Fifth Officer Harold Lowe fires his pistol into the air to stop passengers jumping into an already-full lifeboat. Still in the radio room, Jack Phillips signals desperately, 'We are sinking fast … Cannot last much longer.'

19-year-old Helen Bishop, among the newlyweds given priority, tells of her escape in Lifeboat 7:

We had no idea that it was time to get off, but the officer took my arm and told me to be very quiet and get in immediately. They put the families in the first two boats. My husband was pushed in with me, and we were lowered away with 28 people in the boat.

Trapped inside

Half an hour later, the forward part of the liner is entirely submerged and the stern is rising out of the sea. Collapsible Lifeboat D gets away, half-full. Below decks, hundreds of passengers and crew trapped by the rising water have already drowned. Some of the third-class passengers are unable to get on deck – although they are not deliberately trapped, no crew member is available to unlock the grilles isolating their part of the ship.

The band plays on

The ship's orchestra is on deck, playing cheerful tunes almost to the end. Finally, their tone becomes sadder. Afterwards, some survivors say the final number was *Nearer my God to Thee*, while others remember *Songe d'Automne* (*Autumn Dream*). As all the band members died, we will never know for sure. Captain Smith is last seen on the bridge, unwilling to save himself. Thomas Andrews, the ship's designer, sits gazing at a painting in the first-class smoking room. Having been refused permission to join his pregnant wife in a lifeboat, millionaire J.J. Astor stands on deck, patiently waiting for the end.

Finale

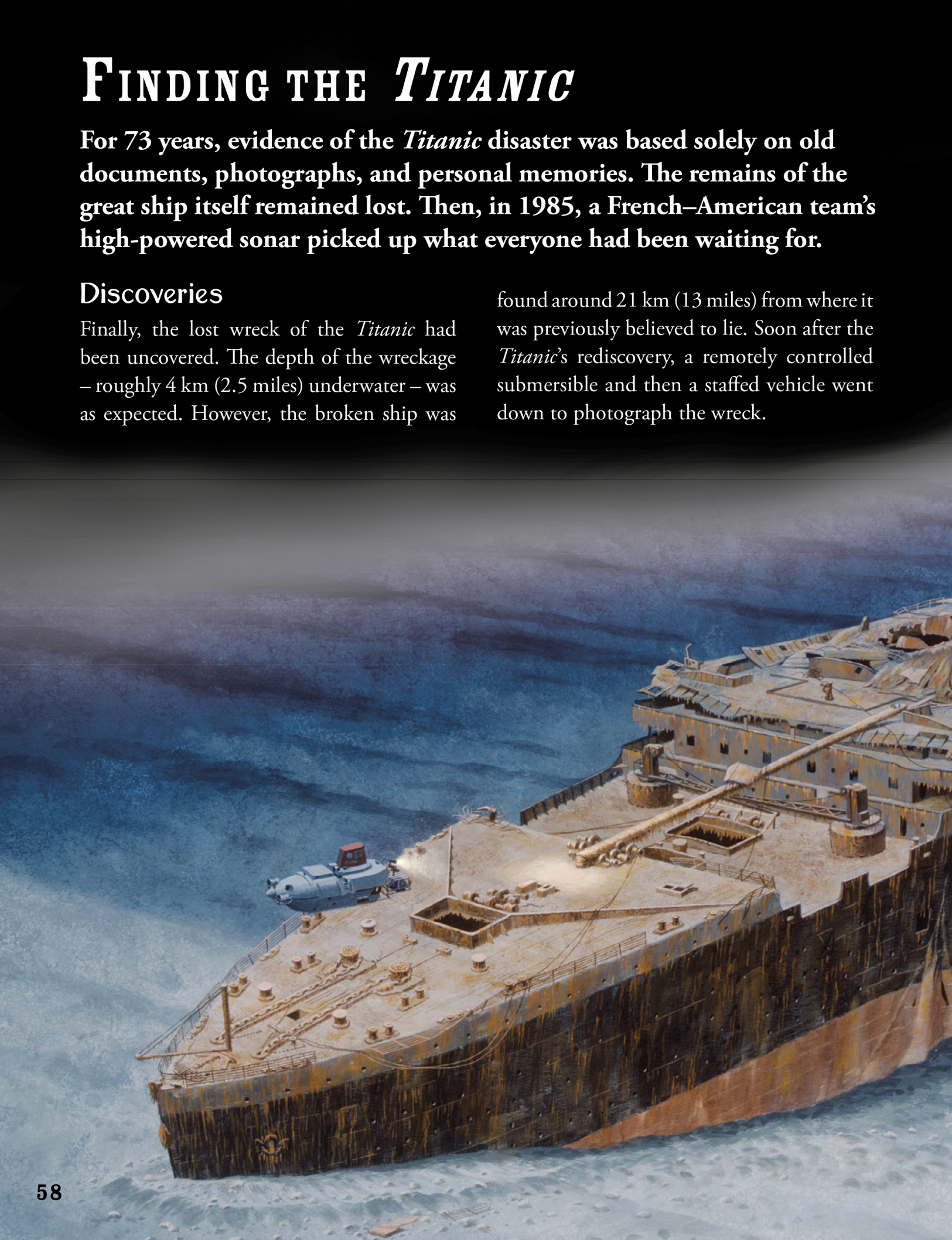
At around 2.10 a.m., the propellers rise out of the water. Shortly afterwards, as the sea swirls around the boat deck, the last two collapsible lifeboats (A and B) float clear. One of the massive funnels then breaks off, crushing survivors struggling in the water. The stern rises higher and higher until the great ship cracks in two under the strain, and the forward section disappears into the inky depths. The stern floats normally for a few moments before it too stands vertically and dives down towards the seabed 4 km (2.5 miles) below.

Finding the *Titanic*

For 73 years, evidence of the *Titanic* disaster was based solely on old documents, photographs, and personal memories. The remains of the great ship itself remained lost. Then, in 1985, a French–American team's high-powered sonar picked up what everyone had been waiting for.

Discoveries

Finally, the lost wreck of the *Titanic* had been uncovered. The depth of the wreckage – roughly 4 km (2.5 miles) underwater – was as expected. However, the broken ship was found around 21 km (13 miles) from where it was previously believed to lie. Soon after the *Titanic*'s rediscovery, a remotely controlled submersible and then a staffed vehicle went down to photograph the wreck.

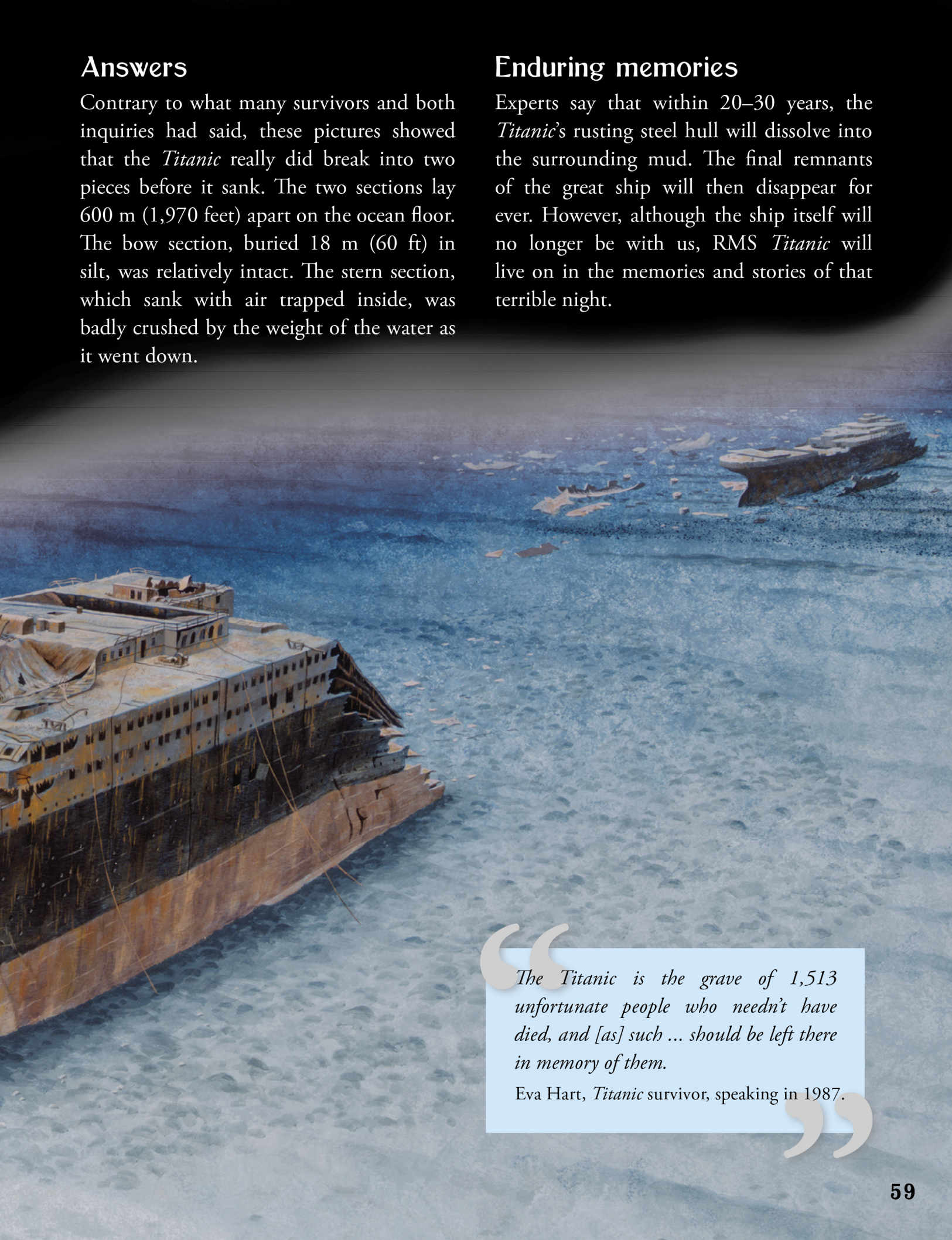


Answers

Contrary to what many survivors and both inquiries had said, these pictures showed that the *Titanic* really did break into two pieces before it sank. The two sections lay 600 m (1,970 feet) apart on the ocean floor. The bow section, buried 18 m (60 ft) in silt, was relatively intact. The stern section, which sank with air trapped inside, was badly crushed by the weight of the water as it went down.

Enduring memories

Experts say that within 20–30 years, the *Titanic*'s rusting steel hull will dissolve into the surrounding mud. The final remnants of the great ship will then disappear for ever. However, although the ship itself will no longer be with us, RMS *Titanic* will live on in the memories and stories of that terrible night.



> *The Titanic is the grave of 1,513 unfortunate people who needn't have died, and [as] such ... should be left there in memory of them.*
>
> Eva Hart, *Titanic* survivor, speaking in 1987.