

END OF THE SHINANO

Pride of Japan's carrier force, the 'unsinkable' Shinano was torpedoed and sunk only ten days after being launched

When the keel of the USS *Archerfish* was laid at the Portsmouth Navy Yard, Virginia, on 22 January 1943 and was launched and christened on 28 May 1943, US submarines patrolled off Japanese harbors and harassed Japanese shipping so effectively that the Imperial Navy could not even hold shakedown cruises for their new warships in safety.

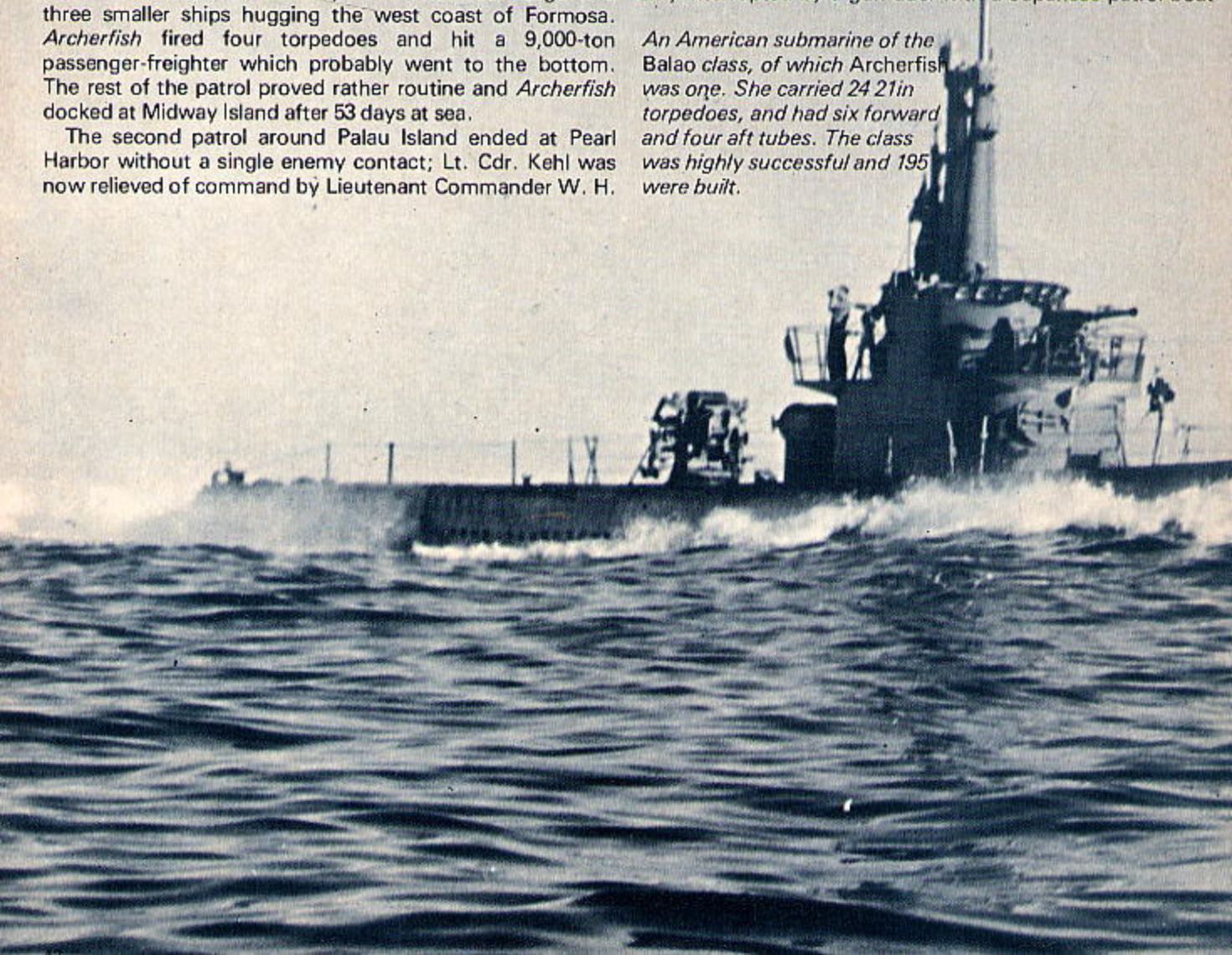
Archerfish was placed in commission on 4 September 1943 and Lieutenant Commander W. K. Kehl, USN, assumed command of the new submarine. After extensive trials and crew training, *Archerfish* left for Pearl Harbor, and for her first war patrol in the vicinity of Formosa (now Taiwan) in the East China Sea on 23 December 1943. On 8 January 1944 the submarine entered her assigned area but heavy weather plagued her first patrol. Finally she reported radar contact on 22 January 1944 with four large and three smaller ships hugging the west coast of Formosa. *Archerfish* fired four torpedoes and hit a 9,000-ton passenger-freighter which probably went to the bottom. The rest of the patrol proved rather routine and *Archerfish* docked at Midway Island after 53 days at sea.

The second patrol around Palau Island ended at Pearl Harbor without a single enemy contact; Lt. Cdr. Kehl was now relieved of command by Lieutenant Commander W. H.

Wright, USN. Under her new skipper *Archerfish* left Pearl Harbor for her third war patrol on 28 May 1944 and reached her assigned life-guard station on 14 June 1944. The submarine patrolled the area for about two weeks and on 28 June 1944 fired four torpedoes at a Japanese destroyer in full view of the Iwo Jima beach. Two torpedoes hit and sank the Type D 740-ton escort vessel No. 24, the type of warship being rushed into service to combat the US submarine offensive. A week later, *Archerfish* attacked a convoy and probably hit a 10,000-ton transport with troops and equipment on board. The patrol ended at Midway after a 48-day cruise.

The next and fourth war patrol was conducted by *Archerfish* in the home islands of Japan — east of Kyushu and south of Shikoku. The rather uneventful operation was only interrupted by a gun duel with a Japanese patrol boat

An American submarine of the Balao class, of which Archerfish was one. She carried 24 21in torpedoes, and had six forward and four aft tubes. The class was highly successful and 195 were built.



on 13 August 1944. *Archerfish* scored several hits but after two hours Lt. Cdr. Wright broke off the engagement.

On 29 September 1944 after 53 days on patrol, *Archerfish* entered Pearl Harbor. Wright was relieved as commanding officer by Commander Joseph F. Enright on the same day. Enright had made his first patrol in USS *Dace* and had later asked to be relieved of the command because he lacked confidence. He did shore duty for nearly a year before he took command of *Archerfish*. It fell to this reticent commander to sink the largest warship ever sunk — the largest ship ever sunk by a submarine in two world wars.

The patrol started on 30 October 1944. *Archerfish* left Pearl Harbor to operate off the Japanese coast near Tokyo Bay. On 9 November 1944 the submarine moored alongside the submarine tender *Fulton* at Saipan Island to carry out minor repairs.

In company with the submarine wolf pack 'Fennomints' consisting of *Pampanito*, *Seacat*, *Searaven* and *Scabbardfish*, *Archerfish* left Saipan on 11 November 1944. She parted company with them next day. By this stage of the war targets were scarce for the US submarines in the Pacific, even in the Japanese home waters, so that the primary role of *Archerfish* was to act as lifeguard for the first B29 bomber raids on Tokyo. On 14 November 1944 Enright got the first order for lifeguard duty for the US planes based in the Marianas but the planned raid on Tokyo was delayed so that for the next days *Archerfish* had no guard duties to perform. When the B29 Superfortresses made the first bombing runs over the Japanese mainland USS *Scabbardfish* and *Archerfish*, which were patrolling off Tokyo Bay, were ordered to act again as lifeguard for these attacks but neither of them was called on for rescue operations.

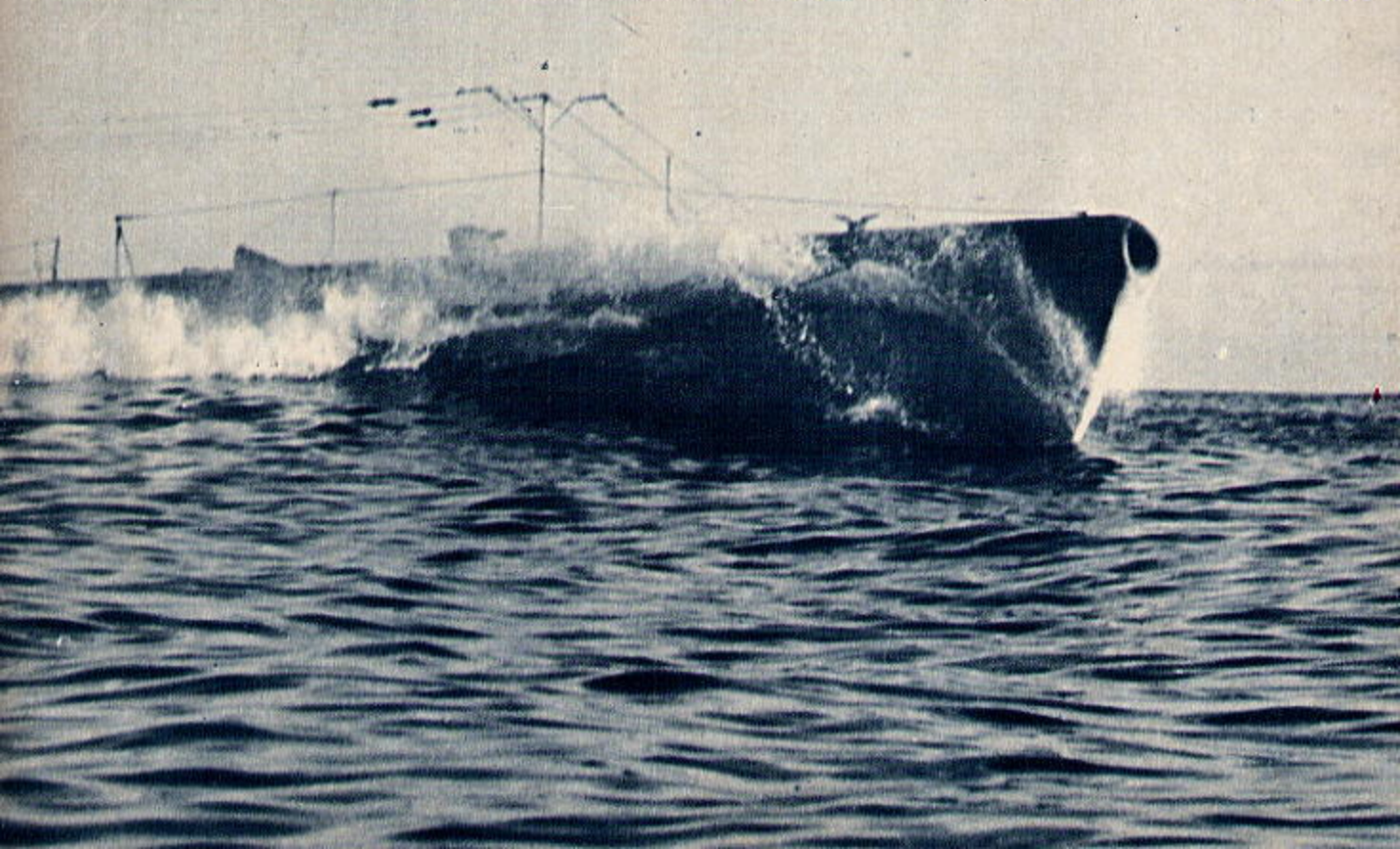
Archerfish was therefore released again and ordered to conduct her regular anti-shipping operation near Tokyo Bay so that the submarine moved closer to Honshu. No ships

had previously been sighted by the submarine except some small escorts or patrol boats; Cdr. Enright avoided them because they were too small for torpedoes.

Then came 28 November 1944. *Archerfish* surfaced at 1718 and sighted Inamba Shima — an islet about 90 miles south of the entrance to the Tokyo Bay — at 2034. Meanwhile the visibility had decreased to such an extent that Enright thought it possible to conduct a surface patrol. At 2048 *Archerfish* got a radar contact on something approaching from the north — distance about 24,700 yards (14 miles). The Officer of the Deck immediately turned the bow of the submarine towards the contact and stopped her so that the plotting party got an indication of the direction of the target movement. Then *Archerfish* roared off on a course that would bring her ahead of the unknown object. She increased speed to 18 knots. Enright identified the target as an aircraft carrier at 2140 and could now determine the course of the ship as roughly 210°.

The carrier's speed was 20 knots — two knots more than the submarine's best speed. It appeared to Enright that the carrier was escorted by only one destroyer or similar vessel. The carrier was zig-zagging and made a very large 'pip' on the radar screen, indicating an important target. The chase so far seemed hopeless but Enright was doggedly following the carrier and took advantage of the overcast sky and the dark horizon on the surface.

Archerfish's 18 knots was not enough and Enright gave orders to make all speed and 'All ahead flank'. The sky remained overcast and, hidden by the dark horizon to the north, *Archerfish* started a surface approach on the starboard flank of the carrier. By 2140 Enright decided that there was little chance of reaching a firing position. The submarine was now hammering along at 19 knots and later even faster. Enright sighted an escort on the starboard beam at 2230. It was impossible for the submarine to make



this approach on the surface. *Archerfish* therefore changed her course back to the base course.

Twenty minutes later the carrier with her escorts was closing but *Archerfish* was too far from her track to submerge and move into firing position. The big ship turned on red lights for nearly 10 seconds, then off for 20 seconds and on again for 10 seconds. The range to the nearest escort was now 6,100 yards (3.5 miles) and to the carrier 15,000 yards (8.5 miles). *Archerfish* was still not in an attack position. Because of the red lights flashing from the carrier Enright supposed that the escorts had spotted the submarine and he ordered the lookouts below. He kept watch for gun flashes but nothing followed. Evidently, the escorts had not spotted *Archerfish*. The look-outs took up their positions again.

Enright surmised at 2300 that the enemy group was made up of the large carrier with four escorts — one of them on each beam of the carrier, one ahead and one astern. But there was still nothing for *Archerfish* to do than to parallel the carrier's course and wait for better luck. At 2330 Enright sent a contact message to Pearl Harbor where it was immediately delivered to the Commander Submarines Pacific, Vice Admiral Charles A. Lockwood. He got the message early next morning and, with his operations officer, Lockwood laid the necessary plans to destroy the Japanese carrier. All US submarines which might be in a position to intercept the Japanese warship were ordered to strategic points and to lie in wait there. Lockwood then sent a famous signal to Commander Enright: 'Keep after him Joe, your picture is on the piano'. 'Uncle Charlie' as Lockwood was called by his subordinates knew his submariners and how to handle them.

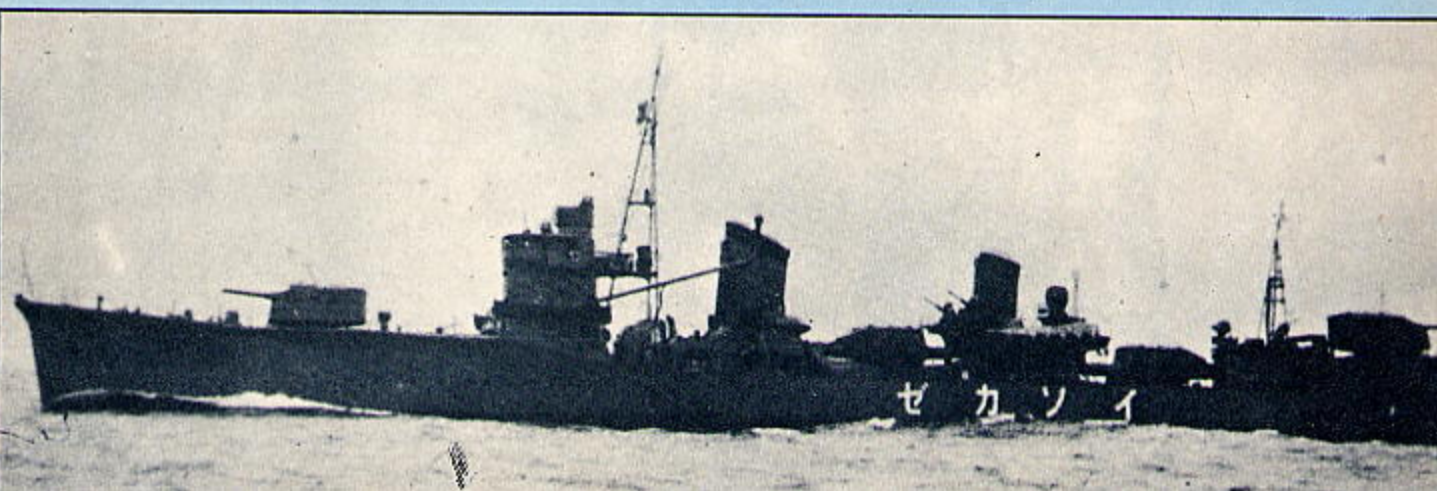
Meanwhile the pursuit continued relentlessly. The carrier's speed was still tracked at 20 knots. By 2400 Enright was on the port flank of his zig-zagging quarry — steering course west — and further off the track than before. He therefore changed his course to 270° and tried to detect the carrier's base course and parallel it so that he would finally be in a position to overtake the fast running warship. This was a risky maneuver but *Archerfish* had to get around the target. Enright wrote in his report: 'From here on it was a mad race for a possible firing position. His speed was about one knot in excess of our best, but his zig plan allowed us to pull ahead very slowly'.

By 0241 on the morning of 29 November 1944 there seemed no chance of reaching an attack position. Enright sent a second contact message to Vice-Adm. Lockwood:



△ Map shows site of *Shinano's* end, 32 degrees N, 137 degrees E. She left Tokyo Bay at 1800 on 28 November 1944.

◁ By 1944 Japan was running very short of experienced officers for carrier duty. Commander of *Shinano* was Captain Toshio Abe, who showed signs of inexperience when he overestimated the huge ship's 'unsinkability'.



Commander,
US Submarine Service,
Pacific Area,
World War II



He wears the silver leaf badge of a Commander, the submariners' 'Dolphins' badge, and three medal ribbons, the Congressional Medal of Honor, the Navy Cross, and the Silver Star. It is doubtful whether these ribbons were worn on shirts as well as on tunics.

◀ Another of Shinano's experienced destroyer escorts, the Isokaze. Commissioned in 1940, Isokaze was on duty for the four years she lasted. She had survived the Battle of Leyte Gulf (23-26 Oct 1944) and got back to Japan as had her two consorts. Destruction overtook her on 7 April 1945 when she was scuttled after being badly damaged by Task Force 58 150 miles SW of Nagasaki.



'Urgent — for Comsubpac and subs in area — target course 275 speed 20 — am trailing left flank — do not expect to reach firing position by dawn — continuing chase'. Lockwood replied: 'Archerfish from Comsubpac — keep after him Joe — all submarines in the force are pulling for you and are backing you up'.

By now the chase had lasted for about seven hours. At exactly 0300, as luck would have it, the radar plot reported another change of course for the carrier — a big zig to the south towards *Archerfish*. Now the range was closing rapidly and the submarine was finally dead ahead of her target.

Five minutes later *Archerfish* changed course to 100° and dived for a submerged attack. The range was 11,700 yards (6.6 miles) when the antenna of the submarine disappeared under the waves. Enright sighted the carrier in the periscope at a distance of 7,000 yards. *Archerfish* had to change course to the left now to keep from closing the track too much because it looked as if the target would pass too close for a good shot. One of the escorts was nearing the carrier and received a blinker message from her that could be seen through the submarine's periscope. The escorts passed ahead of *Archerfish* at 400 yards.

Six torpedoes on the way

The question now was: would the carrier continue her present course so that *Archerfish* would be put in an unfavorable firing position — a too small starboard angle — or zig to the right or to the left which will enable the submarine to get a broadside shot at her from the bow tubes? Indeed, at 0316 the carrier zigged about 30° to the left. Prospects were improving for *Archerfish*. She had been too close to the carrier, but was now in an excellent firing position; the distance was about 1,400 yards. One minute after the carrier's change of course torpedoes left all six bow tubes of *Archerfish*. The first hit was observed and heard near the props and the rudder of the huge target 47 seconds later. A large ball of fire shot into the air. Ten seconds later Enright (almost 0318) spotted the second hit about 50 yards forward of the first.

A destroyer was about 500 yards on *Archerfish's* quarter so that she went deeper. On her way down four more hits could be heard. Six hits seemed to be certain. The destroyer dropped 14 depth charges in all and the closest exploded 30 yards from *Archerfish*. It is surprising that the escorts did not try harder to hunt down the submarine. They should have known where the attack came from.

Breaking up noises could be heard from the carrier for about 47 minutes and Enright believed his submarine had sunk a carrier similar to the *Hayatake*-class. At 0405 the last of the sinking noises was heard. When *Archerfish* came again to periscope depth at 0610 nothing was in sight. Enright presumed that his target had sunk immediately.

He sent news of his attack to Pearl Harbor and continued his patrol. He was ordered to act as a lifeguard station, but had no luck in finding or rescuing any downed pilots. On 9 December 1944 the submarine sighted two destroyers and fired four torpedoes, but no hit was obtained.

Two days later Enright received a message to return to Guam for the submarine to be refitted. He arrived on 15 December 1944. When *Archerfish* returned from this outstanding patrol and Enright told his story of the sinking of a *Hayatake*-class carrier of 28,000 tons, some people were more than sceptical. The codebreakers believed they had identified all the remaining Japanese carriers and knew of

their probable whereabouts. Though an earlier reconnaissance of Tokyo Bay had disclosed a previously unknown carrier nearing completion, *Shinano* was believed to be a cruiser. It was taken for granted that the cruiser had been converted to an aircraft carrier. But Enright made a drawing of the carrier he sank and he was credited with sinking a 28,000-ton carrier. It was not until after the war that the US Navy discovered that *Archerfish* sank the 70,755-ton carrier *Shinano*, about which the codebreakers knew nothing. Now the difficulty of explaining six probable hits in a salvo became easy.

How could the Japanese have converted such a huge ship without the Americans knowing? The question is related to the 'unsinkable warships' projected by the Japanese Navy before World War II. In one of the most ambitious projects ever undertaken by any navy, it was decided to build three super-battleships of nearly 70,000 tons apiece to outstrip those of the Royal Navy and the US Navy (see 'War Monthly' issue 12 — 'Yamato and Musashi'). It is still

amazing that the Japanese achieved their construction but more so that their building was completed in absolute secrecy.

Though Japan more or less observed the Naval Disarmament Treaty, signed in Washington in 1922, the planning for these battleships violated its spirit. After the rise of the War Party in Tokyo in the 1930s Japan declared in 1935 that any extension of the Washington Treaty would be useless and that she would withdraw from it.

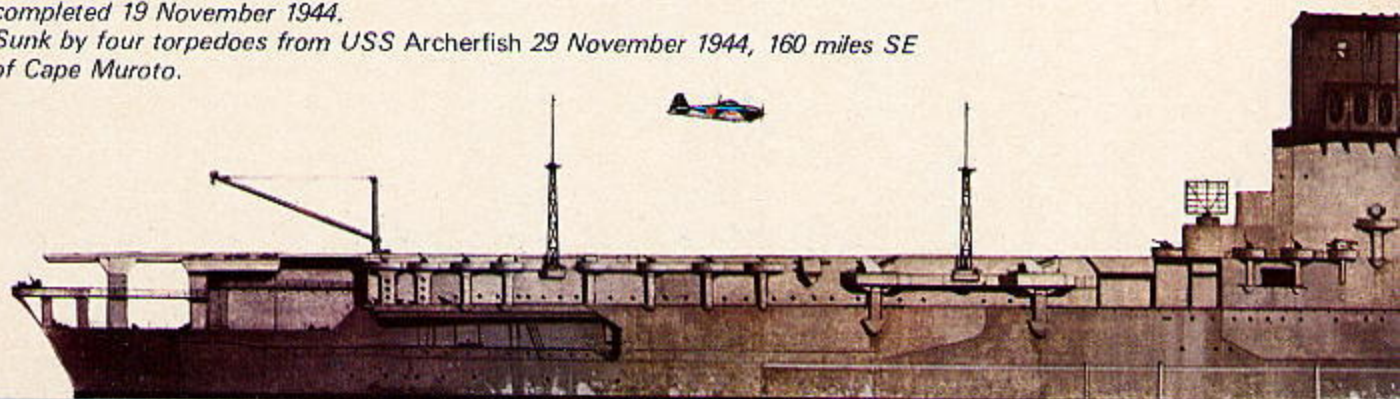
The planning of these giant warships belonged to the Japanese defense program of 1939, or Fourth Supplement Programme. The means for it were appropriated on 6 March 1939 on occasion of the 74th session of the Japanese Diet (parliament) (80 ships for 1,205,780,000 yen — then about £71 million). The battleships *Haruna* and *Kirishima* were to be replaced by two new battleships, Nos. 110 and 111, of the so-called *Shinano*-class (slightly modified *Yamato*-class). Completion was scheduled for 1944. The battleships *Haruna* and *Kirishima* would by then be 29 years old.

IMPERIAL JAPANESE NAVY CARRIER SHINANO

Displacement	Standard	62,000 tons (62,992 tonnes)
	Trial run	66,983.66 tons (68,059 tonnes)
	Full load	70,754.13 tons (71,890 tonnes)
Dimensions	Over-all length	872.7ft (266m)
	Length waterline	839.8ft (256m)
	Maximum width	127.6ft (38.90m)
	Width waterline	119.09ft (36.30m)
	Height (keel-flight deck)	81.39ft (24.81m)
	Draft at trial run up to flight decks	43.73ft (13.33m)
Dimensions of flight deck	Medium draft	33.83ft (10.312m)
	Maximum length	839.88ft (256m)
	Width, fore	72.17ft (22.00m)
	Width, amidships	131.13ft (40.00m)
	Width, aft	98.42ft (30.00m)
Elevators	Numbers	2
	Position	1 fore, 1 aft
	Length x width	15 x 45.9ft (14m) (fore) 13 x 42.6ft (13m) (aft)
Aircraft (never carried)	Numbers (+ spare)	42 (+ 5)
	Fighters (+ spare)	18 (+ 2)
	Bombers (+ spare)	18 (+ 2)
	Scouts (+ spare)	6 (+ 1)
Aircraft storage	Hangar	41
	Flight deck	6

Built at Yokosuka N.Y.; laid down 4 April 1940; launched 8 October 1944; completed 19 November 1944.

Sunk by four torpedoes from USS *Archerfish* 29 November 1944, 160 miles SE of Cape Muroto.



The keel of the first super-battleship *Yamato* was laid in the Kure Naval Yard and the one of *Shinano* (No. 110) as third ship on 4 May 1940 in the Yokosuka Naval Yard. Enormously high fences shielded the construction areas. Millions of feet of wood from the forests were brought to the yards and thousands of carpenters were employed to build and erect these gigantic barriers. Even the houses for the 50,000 people involved with the building of these ships were fenced in to keep secret what went on inside the yards. So it was little wonder that the US codebreakers failed to locate either the battleships *Yamato* and *Musashi* or later the *Shinano* — all the more so since late in the summer of 1940 no personnel whatsoever were allowed to leave the naval yard. Even during the war the US Navy did not know the main armament of both the completed monsters.

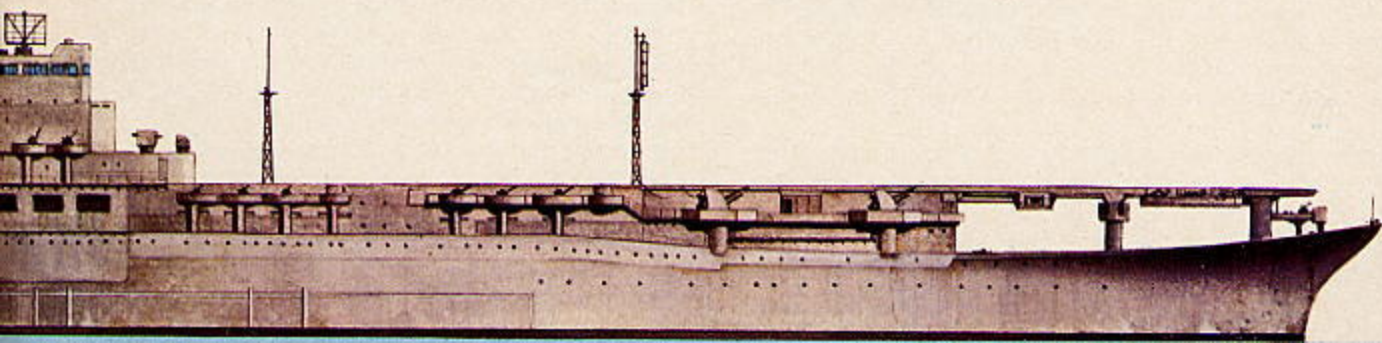
Work on the *Shinano* as a super-battleship went ahead until December 1941. After the attack on the US Pacific Fleet in Pearl Harbor the Japanese Admiralty discussed the future role of the battleships. The admirals proposed to

suspend further building but *Shinano* had already been completed up to the main deck. Therefore work on her was at first slowed down and when Japan lost four of her big attack carriers during the Battle of Midway the completion was stopped. It was at last decided to convert the half-finished *Shinano* to a carrier. On 30 June 1942 the Secretary of the Navy decided the so-called Wartime Construction Programme, which was accepted during the 81st session of the Diet. Based on this decision the Imperial Navy enforced this conversion all the more so because at that time construction had been completely discontinued. However, the ship should be completed in such a way that the hull could be floated.

Shinano was now redesigned and among other modifications the tremendous side armor plates were removed and the weight thus saved used for an armored hangar deck. Thus *Shinano* became the only Japanese carrier except *Taiho* with an armored deck. Work on *Shinano* was as before very slow so that it was only on 8

Armament	16 - 5in (127mm) Type 89 DP (8 x 2)	
	40 - .98in (25mm) Type 96 (single)	
Rocket launchers	105 - .98in (25mm) Type 96 (triple)	
	336 - .47in (120mm) (12 x 28)	
Storage	Bombs (nos. and weight)	120 - 1,763.7lb (800kg)
		120 - 1,102.3lb (500kg)
		240 - 551.1lb (250kg)
		456 - 132.27lb (60kg)
		144 - 66.13lb (30kg)
		80
Machinery	Torpedoes	
	Four Kanpon geared turbines	
	Boilers	12 Kanpon
	Shaft horse power	150,000
	Bunkers	8,904 tons (9,046 tonnes)
	Shafts	4
	Speed	27 knots
	Radius	10,000 miles / 18 knots
Armor	Flight deck	.78in (20mm) of DS-steel (Ducol)
		plus 2.9in (75mm) NVNC armored plates
	Slopes	5.9in (150mm) NVNC (20°)
	Armor deck	7.87in (200mm)
Crew		
	2,400	

This illustration of the *Shinano*, drawn by Peter Sarson and Tony Bryan, is based on original material kindly supplied by Hans Lengerer





The Japanese Kagero-class destroyer Hamakaze, one of the three escorts of Shinano on her last voyage. Hamakaze was the first Japanese destroyer fitted with Type 22 surface-warning radar. But it did not detect the US submarine Archerfish. Five months later, on 7 April 1945, aircraft from the US carrier Hornet bombed and sank Hamakaze too.

October 1944 that she was finally launched and completed on 19 November 1944.

It had also been intended to use her as a floating base for the other carriers, which no longer existed. She was designed to carry out repairs to damaged planes and supply and replenish the carrier fleet of the second and third line. Because of their armor both *Shinano* and *Taiho* should withstand attacks by dive bombers, torpedo bombers and horizontal bombing without affecting their further operational use. The flight deck could withstand 500kg (1102lb) bombs and 8in shells could not penetrate the side armour when fired at a distance of 10,900 yards.

For self-defense *Shinano* carried only 47 planes but had a very powerful armament of guns. Though she was on completion the largest and most powerful aircraft carrier of World War II *Shinano* could never prove her value. The Japanese knew that the air raids by B29 Superfortresses on the Tokyo area would increase in severity. There was the possibility that the monster carrier would be seriously exposed during her outfitting. Besides US Intelligence could discover the existence of the gigantic carrier so that the US Navy might make special efforts to destroy her before the ship was ready for trials. Therefore *Shinano* was commissioned on 18 November 1944, before her final testing. Her crew had not been trained to handle such a complex ship. They did not know their ship which contributed a great deal to her final sinking. But the ship had to be moved to the Inland Sea to avoid the danger of air attacks and to install all the remaining equipment. Until now her watertight integrity such as the watertight doors, had not been tested. Nobody knew whether they could be closed. The electrical installation of the ship was incomplete and the cables were not insulated or their conduits sealed. The pumps had not been delivered so that the fire main could not be used in case of need.

But the Imperial Navy thought it imperative that the unfinished *Shinano* should sail to the Inland Sea to put into Matsuyama near Kure. The workmen were still on board when the carrier left Tokyo Bay at 1800 on 28 November 1944.

Course was set for the south and then west around the SE tip of Honshu into the Strait of Kii Suidos to enter the Inland Sea. It was only a few hundred miles trip, but dangerous, because American submarines prowled the seas off the coast of Japan. The Japanese took the risk and gave *Shinano* an escort of three (not four as thought by Cdr. Enright) battle-hardened destroyers: *Hamakaze*, *Isokaze*

and *Yukikaze*. The first day was uneventful but during the first half hour of the following day the lookouts believed they saw a dark object on the horizon. *Shinano* and the destroyers immediately steered a zig-zag course but it was decided that the smudge on the horizon must be a low-hanging cloud and not a submarine. But at 0317 the lookouts spotted the first of the six torpedoes fired by *Archerfish*. The wake of the torpedo was only 120 yards off *Shinano*'s port side. There was no time left to comb the deadly fish. The torpedo hit beneath the waterline. Three more hits followed. They tore a gaping hole in the center and thousands of tons of water flooded into the carrier.

Captain Toshio Abe, *Shinano*'s CO, still believed in the invulnerability of his proud ship. He steamed on at 20 knots. *Shinano* could have grounded or reached the nearest port but Abe did not think of it. Gradually the huge ship listed until a foothold was impossible. Water had poured from damaged compartments into undamaged ones through watertight doors without gaskets. The engineers tried to start the pumping system, only to discover that no pumps existed. A bucket brigade was organized but to no avail. Abe and his officers lost control of the ship and of the crew. The men deserted the bucket brigade and the engineers abandoned their efforts to save the *Shinano*. The crew went to the flight deck hoping to be rescued by one of the escorting destroyers. Four hours after the first hit the carrier stopped and the picture of the Emperor (*Tenno*) was transferred to a destroyer.

At 1055 on 29 November 1944 the largest aircraft carrier in the world capsized to starboard and went to the bottom at the position latitude 32°N, longitude 137°E — approximately 160 miles SE of Cape Muroto. Captain Abe was last seen on the bridge when *Shinano* rolled over. More than 500 men perished from a crew of nearly 1,400. The Imperial Japanese Navy held a board of inquiry into the sinking of the carrier in December 1944 but the records of it were destroyed at the end of the war. The loss was nevertheless attributed to Abe's overconfidence in the belief of her unsinkability. He should have made for port or have run his ship aground. Furthermore it was a great mistake to sail *Shinano* at night. It was known that American submarines were operating off Honshu. The ship could have been saved by counter-flooding her and reducing her speed.

USS *Archerfish* had set a record for tonnage in a single kill by a submarine. After the war Commander Enright was awarded the Navy Cross for his outstanding success.

Guenter Schomaekers