The Vestal Fires

by Captain Charles F. House, SC, USN (1882-1972)

The swift precision with which the Fleet in Pearl Harbor went to work that morning of December Seventh is one of the real romances of naval history. This was mainly due to the many years of training at sea which has been given us, and, most likely, the patriotic fervor and fighting blood of our men which does not permit their enthusiasm to be smothered by the eternal grind of drills and task force assignments.

The attendant glory is reflected equally on the combatant forces, the battleships and aircraft carriers, cruisers, destroyers, submarines, and also the ships of the Base Force.

The *Vestal* is a repair ship, distinct in its own purpose and mission. She served with distinction and kept the *Vestal* fires burning all through World War I, fulfilled her mission in all the intervening years, including the salvage of the S-51 in 1925, and on that Sunday morning a list of 100 job orders was on the Repair Officer's desk covering work to be commenced on the *USS Arizona* on Monday morning. *Vestal* was moored with her bow opposite *Arizona's* quarter deck.

The *Arizona's* Number One Turret blew up at 0810. The armor piercing bombs which dropped on both ships contained magnesium, which fused and burned into a boiling conflagration. Awnings and boats on the Repair Ship were on fire. An armor piercing bomb had exploded in the lower GSK Storeroom forward and that was on fire. Another bomb had gone through the deck aft at frame 111 and was later found to have left the ship at frame 109. Captain Young of the *Vestal* was blown over the side with several others, but at 0813 climbed back aboard over the starboard gangway. The after lines had burned off, the bow lines were cut adrift and in ten minutes the *Vestal* shoved off for the comparative safety of the stream. The Chief Engineer and his "black gang" were on the job. They could hear the noise overhead, but they had a job to do. *Vestal* anchored at 0828 to observe the degree of settling and list, but at 0900 the Captain decided to up anchor and run the ship aground in the mud off Aiea.

Clearly the *Vestal* had suffered damage. The extent of it could not be proved until she could be docked. The ship's diving gear was broken out and when the diver came up, he said the hole was about 4 by 2 1/2 feet. The Captain said, "Let's put on a caisson and float her."

Although hours seemed to elapse since the first bombs and torpedoes hit, in fact the interval before actual salvage action was taken was only about an hour and forty-five minutes, and even then, the Japanese bombers were dropping "scrap" for the second time. The ship had a list to starboard. Every officer and man on the *Vestal* has been indoctrinated to execute, with skill, his share of the Repair Ship's job. This is especially true of the Repair gang, organized to repair damage on all units of the Fleet even when operating at vast distances from home bases and sources of supply. She carries steel and metals of all sizes and shapes, nuts, bolts, rivets and spare parts. Tools, machines, power and M-E-N! She has a complete machine shop, electric, shipfitters, blacksmith, pipe, welding, pattern and carpenter shop and a foundry.

This was the situation which the Repair Officer found, and he even seemed to like it. He didn't say "it can't be done" or "maybe we can fix it". He merely said, "it will be done", and that was the slogan adopted then and there. There never was a time in the history of our country when the use of this slogan was more vital.

Now to build the caisson. Chief Machinist Hesser, (during the war was promoted, and most deservedly, to Lt. Cmdr.) who had previous experience on work of this character, was assigned to the work of designing the caisson and putting it in place. He asked for Chief Carpenter Ray to take charge of diving operations and the actual closing of the bomb hole after the caisson was in place.

The water had risen in the after hold to a depth of twenty-two feet. The oil tanks had been pierced and two thousand barrels of oil were lost. It wasn't a grand sight, those fine ships submerged in oil. But the battle was on. The steel plates which were badly needed to plug up this hole were at the bottom of this oil pond. The Supply Officer sent his outside men to the Navy Yard, and before the plans for the caisson were completed, the 3/4" plates were aboard. During the intervening time, welding machines had to be removed from the after hold, due to fire hazards. Heavy machine tools were moved in the machine shop to give the caisson room to grow. And work had to be done at night when blackout would be in effect, and no one knew when the "brown brothers" would return.

Welders, burners and machinists mates went to work. Curious shipmates stuck their heads into the tent over the hatch to watch the progress and, in a few profane words, gave their approval.

During the construction period a cable was fished through the bomb hole. This was done because the ship was setting on a nest of coral and mud, and it was decided to eliminate the time needed to tunnel under the ship, so that a hogging line could be used. The method used for getting the cable through the hole was accomplished in a clever way. Sections of pipe were joined together with a shackle on the outer end; and when the pipe had passed through the hole in the outer skin of the ship, a diver went down and secured two cables to the shackle, after which the pipe was withdrawn. This left the cables threaded through the hole, and a harder job than threading a needle, if you can believe this sailor.

The gang worked Sunday and Monday nights, reminding us of the poet's line "But they, while their companions slept, were toiling upward in the night". By Tuesday afternoon, December Ninth, the caisson was completed, but by good planning, it was decided to belay the task of putting this big box over the side until the following morning. It was natural to hear comments from topside, that the hatch was too small to allow the caisson to be hoisted on deck in one piece. Like the man who built the boat in his basement, and then had to move the house to get the boat out. Much to the surprise of the "doubting Thomases" it came out with an inch to spare.

The actual work of putting the caisson in place was begun Wednesday morning. The men that did it were rewarded when they saw the "box" unveiled when the ship was docked. The bomb hole was down under the bilge keel, which sticks out three feet from the ship's side. Now the natural time to tighten up a hole this size under water, would be six hours. But we were lucky. It was in place before noon. Due to the way the hull was distorted by the bomb, it was impossible to make the curvature of the caisson fit the hull. This curvature was mostly guess work, but it fit like the third strike in the catcher's glove. There were a few holes that were filled by the divers with white pine wedges and cedar shingles.

At this point, the ship had to be pumped out. While the pumps were running, the diver was casing oakum over the small holes which was drawn into the spaces by the suction of the pumps. The final sealing was completed using sawdust along the edges. A perfect seal.

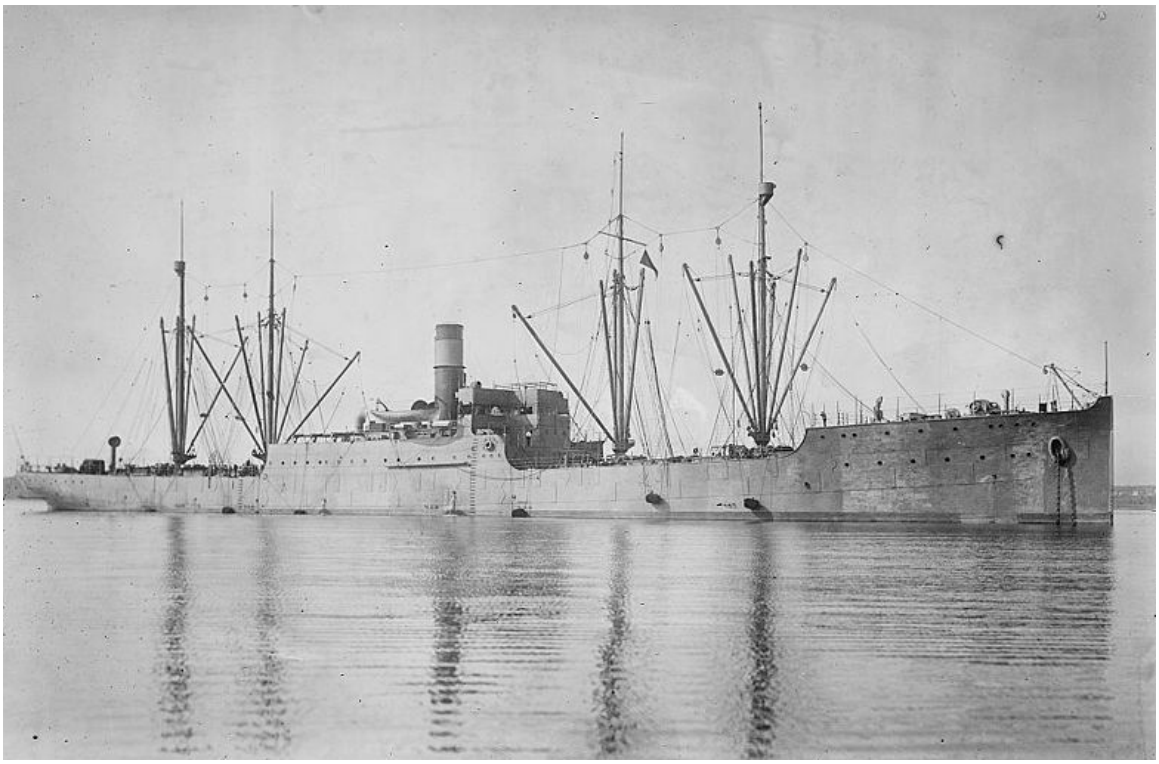
Oil and water now had to be removed from the shaft alleys and other lower spaces. Additional pumps from the Navy Yard were placed on the upper level and discharged overboard. An oil barge was sent alongside which skimmed the oil off the surface. After the hold was pumped out, there was very little leakage. After a wooden framework was built into the caisson, concrete was poured into the hole.

After twelve hours the concrete was set and we were ready to get off the coral bed. With our engines at 1/4 speed astern, two tugs pulled and we were soon tied up to our mooring buoy.

The crew of the *Vestal* now faced many jobs to restore Fleet Repair work after that Sunday morning. All machinery in the submerged shops, all motors, had to be overhauled, and wiring renewed. This was accomplished by the Repair Department's electrical gang. The shops tool rooms and locker rooms were scrubbed clean of oil, and that sounds easier than it was. All pipe and tubing and steel from the hold, 180 tons of it, was removed, cleaned, and restowed. At this time everybody's chin was just a little higher; for the overhaul of the machinery was completed, foundry in shape, and all shops were ready for operation. Many of the shops were carrying on emergency work for the Fleet within two days after the bombs hit Pearl Harbor.

A great job done, and by the men of *Vestal* alone. The entire work, and especially the cleaning up, was of the foulest nature. Shipmates had been killed there, but not a man faltered. All hands had but one objective - Keep the *Vestal* fires burning. The Captain, Executive and Repair Officers all said "a Job Well Done". The whole damn Crew said "Bring on the Work". "Our fires may have dimmed, but were never out. And they will continue to burn for the duration of this war."

C. F. House



USS Vestal (AR-4) first commissioned 1909
(originally a collier until 1912)
Age at Pearl Harbor, 32 years, Speed 16 Knots, Length 466', Beam 60', Draft 18'
Carried complete machine shops and foundry. Fitted with derricks, hoists, heavy cranes. Could perform all repairs except heavy hull jobs requiring docking. Highly trained personnel. Anti-aircraft protection (1) 50 cal. 3" gun.