We Rescue The Men From The U. S. S. Squalus, by Lt. Comdr. C. W. Shilling (MC) USN

I was in the Dispensary at the U. S. Naval Submarine Base, New London, Connecticut, doing physical examinations on candidates for the submarine service when, at 1300 on the 23rd of May, 1939, my Chief Pharmacists' Mate, Ira A. Everley, called me to the phone. When I answered all I heard was the curt message, "Event one thousand". Cryptic but full of meaning for me because these words meant, "Mobilize for rescue. A submarine has failed to report surfacing on time."

I told Everley to get someone else to finish the examinations and started on the double out of the dispensary, across the short intervening space to the dock where the submarine rescue ship, the U. S. S. FALCON, was tied up. As I hurried to my duty station on the ship I wondered whether this was another drill or whether perchance this was the real thing. I could not know that I was to be part of the greatest underwater rescue feat of our time, and that as a consequence of the rescue and of salvage of the submarine there would be four Medals of Honor, forty-six Navy Crosses and one Distinguished Service Medal awarded to the officers and men of the rescue and salvage team.

As I reported aboard the Falcon the officers and men were working at top speed, preparing to get underway -- this was no drill! Unfortunately, the cry for help had caught the ship in the midst of an upkeep period and with both boilers cold. What steam she had required was being furnished from the dock, and Chief Machinist Paul Cottrell was working with his black-gang force in a frantic effort to get steam in the boilers. The Falcon's young Commanding Officer, red-headed Lieutenant George A. Sharp, was calmly and efficiently getting everything aboard and in readiness for the rescue and salvage operation which might be necessary.

I asked the officer of the deck how much time I had and he said, "Unfortunately you have at least an hour, for it will take that long to get enough steam in the boilers to get underway."

With a "Thank you", I raced down to our little sick bay, asked the Pharmacists' Mate if he had everything in readiness and instructed him to check on the various supplies. I then ran for my car and drove the two miles to our home which was just north of the Submarine Base and actually right beside Red Top, Harvard crew's quarters. Once there, I grabbed enough clothes to last for a week or ten days, said goodbye to Miriam and the two children, and dashed back down to the Falcon.

As I came within sight of the ship I noted that the submarine rescue chamber, the ingenious device called the rescue bell which we discussed in an earlier chapter, was still on the dock. This meant that I was in good time. Since the bell weighed nearly ten tons we needed plenty of steam on the hoisting equipment to bring it aboard, but no matter what else was left behind the rescue bell had to come with us. It was the best hope for bringing out trapped men from a sunken submarine. Just a few minutes after I came aboard Cottrell was able to report enough power to run the winches, and in short order the rescue bell was moved from the dock to the fantail where it was lashed securely in place.

As a matter of record, in just one hour and twenty minutes following the "event one thousand" call, the Falcon was clear of the dock, steaming at full speed down the Thames River. This was a much more important race than the Harvard-Yale boat race held annually on this part of the river, but we had no spectators cheering us on. We passed under the bridges and before long we were in Long Island Sound off Fisher's Light, Unfortunately a fog was beginning to roll in and Lt. Sharp had to go around Fisher's Island and work toward Cape Cod Canal. Captain Edwards, Commanding Officer of the Submarine Base, had already sent word to the Army Engineers who operate the canal to keep the

waterway clear as we were on an emergency mission.

Up until this time no one had had an opportunity to find out more than that the submarine, the U. S. S. SQUALUS, was on the bottom and we were on the way to do whatever we could. We learned that at 0745 that morning while making a routine training dive off Portsmouth, New Hampshire, she had gone down and had failed to report surfacing. She was a new submarine, just finishing her trials prior to making her shakedown cruise. As the messages began to come in we found out that the SCULPIN in nearby waters, had been notified by Portsmouth and had been able to find the buoy telephone released from the SQUALUS. Lt. Comdr. Warren Wilkin, Commanding Officer of the SCULPIN, had talked with Lieutenant Oliver Naquin, Commanding Officer of the SQUALUS, who had told him that there were thirty-three men alive in the forward three compartments. The engine room was flooded, however, and he thought the chances of any of the twenty-nine men there being alive were very remote unless they had been able to close the door into the after torpedo room.

After the rescue had been made and thirty-three men brought safely to the surface, one nationally-known radio commentator told how “lucky” the U. S. Navy had been since other Navies had not been able to rescue their men even under favorable weather conditions. It wasn't a matter of luck--just a case of good planning and training on the part of our Navy. Every submarine that dives at any time, other than in time of war, sends out a diving report to the nearest senior officer. In the case of the SQUALUS this report went to Admiral Cole and said, “Action: Navy Yard Portsmouth, New Hampshire, from U. S. S. Squalus. Diving lat. 4254, long. 7036, course 153, speed 6, duration 1, at 0745.” Obviously he was giving his longitude and latitude, his speed and the time of his dive, and the fact that he planned to stay under one hour.

When the surfacing report was not received, the wheels of the rescue and salvage organization were set in motion. Admiral Cole was notified by his communications officer. He, in turn, notified the Bureau of Navigation. He also notified our Commanding Officer, Captain Edwards, because we had the nearest diving bell and rescue ship.

The FALCON made all of the speed she possibly could but it was a tortuous and difficult route. Down the Thames River, past Block Island, up Buzzards Bay, through the Cape Cod Canal, up the Massachusetts coast, and past Boston and Cape Ann. At the best possible time, we could make the trip in not less than 14 or 15 hours. A long time for men to wait in the cold, black compartment of a submarine on the bottom of the sea!

As we went along messages were flashing back and forth giving us information on what was happening in the mobilization for the rescue of the men known to be alive in the forward three compartments of the SQUALUS. We learned that Lieutenant "Swede" Momsen and divers from the Experimental Diving Unit and the Deep-Sea Diving School were being flown to the scene of disaster. We were told that the Coast Guard had been alerted and would have ships there in readiness, Our own Commanding Officer, Captain Edwards, was on the way up with the experimental destroyer, the U. S. S. SEMMES, Admiral Cole had hastened to the scene on the old yard tug, the PENACOOK, the oldest naval vessel in active service on the coast. Ships were under way from all directions but the only one that really counted, the one that would mean life or death to the men under the 240 feet of water, was the ship on which I was riding -- the U. S. S. FALCON.

Would this trip be as heartbreaking as the trip the FALCON had made when the S-51 was rammed by the S. S. CITY OF ROME, and went to the bottom? Would the men in the forward torpedo room on

the SQUALUS slowly die of suffocation as had the men in the S-4 when she went to the bottom, rammed by the destroyer, U. S. S. J. K. PAULDING? These and many other thoughts raced through the minds of all of us in the submarine and salvage crews of the Navy. These men had practiced and drilled and developed equipment for many years for an opportunity such as this. Would they now be able to rescue the men or would they fail again as they had in the S-4, when a raging storm had prevented any type of rescue work. Would nature be kind to us this time as we tried to get the men out of the SQUALUS?

One message we received was not as heartening as the messages telling of the mobilization. While Wilkin was talking on the buoy telephone with Oliver Naquin, a wave had lifted the small boat he was in and had snapped the telephone cable, severing all direct contact with the SQUALUS. Of course, dragging operations were started immediately in order to maintain the location of the submarine, and the PENACOOK had grappled and caught what they thought was the submarine and they had fastened a buoy to it. But as we plowed through the water the officers and men worried whether we would ever be able to find the submarine again after losing contact with it.

Another series of messages concerning a conference that was going on at the scene of the disaster. They were considering whether the officers and men should make an attempt to escape with the submarine escape appliance, the "lung". Of course, all of the men in the SQUALUS had been trained in the use of the "lung" as an escape apparatus, and we could assume that they would know how to use it. But there were many reasons for skepticism regarding the chances of their successful individual escape from a depth of 240 feet in water as cold as that off Portsmouth. The temperature of the water on the bottom around the SQUALUS was 35 degrees Fahrenheit, and that is cold enough to cause shock. It certainly is cold enough to cause the teeth to chatter, and that would make holding the “lung” mouthpiece most difficult. And the depth of 240 feet would exert a pressure great enough to cause mental clouding so that the men would probably not be able to function normally. The unpleasantness of ruptured eardrums for a few men, and the danger of air embolism due to holding their breath during the escape to the surface were also deterring factors. And then there was the imminent danger of compressed-air illness. We had shown by experimental work, at a depth of 240 feet, that they could not safely take more than ten minutes to flood the compartment and escape. This was obviously impossible in their situation.

I took an intense interest in this particular exchange of messages because this was an area in which the medical group had done a tremendous amount of work this was the area of our contribution and of our knowledge. We added our bit in advising against the use of the "lung" and in favor of using the bell, even though they would have to wait a long time for it. We endorsed the bell as a sure method of getting the men out of the submarine and up to the surface. There was a time later when we wondered how we ever could have been so sure about the functioning of the bell, but the decision was reached that the men in the submarine should be as quiet as possible, conserving their energy and more importantly the small amount of oxygen they had, while awaiting the arrival of the FALCON with the bell.

Since there was nothing more that I or many of the others could do, we decided to get some sleep; it was obvious that there would be no sleep for some time after we arrived. I remember turning in as we began to transit the canal and the next thing I remember was that I woke with a start and said to my roommate,"What's that noise?" Actually I had been awakened not by noise but by the lack of it. The engines had stopped. We had arrived. I looked at my watch--it was 4:30 in the morning of the 24th of May. I hurriedly threw on some clothes and was on deck in a matter of three or four minutes. Ahead I

could see the riding lights of the anchored fleet, in readiness to assist in the rescue operations. Streaks of dawn were just beginning to show. I went up on the bridge with my good friend Lieutenant George Sharp and, standing at one side, watched him perform the most superb job of seamanship that it has ever been my previlege to witness.

In order for the diving and rescue work to succeed, the FALCON had to be held firmly moored directly over the stricken submarine, This meant that George had to set a four-point moor with the points equidistant in order to hold the FALCON in position. As he eased the ship forward I watched Boatswain Raikes walk around the deck and inspect the four anchors tied with manila line over the side ready for release. Attached to these heavy anchors by a steel hawser were four long wooden buoys. I know from past experience that the men would be standing by with axes ready to cut the anchors loose when the command was given from the bridge. Lt. Sharp had asked for plenty of maneuvering room and the fleet had complied by moving well out of the way; only one small tug continued to circle the area where the buoy was attached to what everyone fervently hoped was the SQUALUS. In spite of heavy seas, the FALCON was maneuvered so as to drop the four anchors in beautiful precision and then the return trip, even more difficult to accomplish, was made to pick up each one of the buoys and attach a line which would then be used to pull the FALCON into position over the submarine. In spite of the prodigious amount of work entailed in this operation, at 0650 the Falcon was in her moorings with the lines standing out hundreds of yards in four directions, we thought we were ready to put the first diver over the side.

At about this time, however, the lookout in the wheelhouse shouted to Lt. Sharp, "We're dragging, Sir." And sure enough the heavy seas had proved too much for the anchors. An attempt was made to offset the drag by manipulating the strain on the lines but the ship still moved slightly and drifted away from the buoy marking the position of the SQUALUS. By this time Captain Edwards had come aboard as had Lieutenant Momsen, who had been named as officer-in-charge of the rescue and salvage operation. It was decided to call for the U. S. S. WANDANK to come over, pick up another anchor from our fantail and drop it to give us additional steadying force to windward. It was a tricky maneuver for the tug had to come alongside in a heavy sea and we had to shift a five-ton anchor from our deck to the tug. But it was accomplished without mishap.

Even with the extra anchor in position, another round of bearings indicated that we were again falling to leeward. There was nothing to do but to turn the FALCON ninety degrees so that she would head into the wind and sea. This would give her an easier heading so far as the elements were concerned, but would put her at right angles to the apparent position of the sunken submarine, which was not as advantageous insofar as the divers were concerned. The shift was accomplished and just as the work was finished a remarkable change came over the weather. It almost seemed as if it were an act of Providence for the sun broke through the clouds, the wind died down and the sea abated. All hands felt that this was a good omen.

We were now ready for the first diver to go over the side and attach the down-haul cable of the rescue bell to the ring in the center of the forward torpedo room hatch on the submarine. This steel cable would be used by the bell to pull itself down into position directly over the torpedo room escape hatch. Boatswain's Mate Martin Sibitsky had been picked for the crucial dive and was dressed and resting on the fantail. He was a six-foot-four giant, thirty years old, and a first class diver in every sense of the word -- a regular member of the crew of the FALCON.

Earlier in the morning, Sibitzky and the other divers had been over on the deck of the sister ship, the

SCULPIN, studying all the fittings and location of the various parts of the superstructure. He wasn't worried about this; he wasn't worried about the 240 foot depth; he wasn't worried about any part of the dive except where did that line attached to the buoy lead to? Was it really on the submarine or was it attached to some old hulk? No one could be sure until he put his feet down on the object holding the drag anchor. Everyone was speculating on the same thing. As we all knew, even though the anchors were attached to the submarine, the sub was 310 feet long and we had to have the downhaul cable attached to the forward torpedo room hatch. Manipulating his own air hose and telephone cable on the deck of a submarine at 240 feet is a difficult problem for a diver. How close would he come to the forward torpedo room hatch even if he landed on the submarine? As Lieutenant Commander Momsen said, "To expect Ski to land by the proper hatch is like drawing to an inside straight." Sibitsky went down at 1014 and everyone literally held his breath, and listened to the telephone box loudspeaker to get the first word from him. When he reported, "On the submarine" a great sigh of relief went up, but when a moment later he said, "Six feet from the forward torpedo room hatch" we knew that we had filled that inside straight. It was nothing short of a miracle to all of us.

The next move was to send the downhaul wire to him so that he could attach it to the ring in the center of the escape hatch. While he was waiting for the wire to slide down his shot line he looked around the escape hatch to make certain that nothing was lying on the steel circular ring onto which the rubber gasket on the bottom of the rescue bell had to fit. It was a good thing he did for there directly across the platelike surface of the ring was part of the broken telephone cable that had once been attached to the forward telephone buoy. It would have fouled the seat of the rescue chamber and we would have had a serious time, with hours lost in getting it clear. It was quite a haul for him to pull it clear. No one who has not been in a diving suit at sea or even under pressure in a diving tank at great depth has any idea how hard it is to do the simplest task. Not only is one very weak and awkward but one's mind functions so slowly that it is hard for the people topside, or outside the diving tank, to believe what they see. Slow motion, or no motion at all, is usually the order of the day unless tremendous will power is exerted toward getting the job done. No wonder that when the downhaul cable came sliding down his line and the shackle hit his hand he lost it as he cut the marline which held it fast the FALCON rose with a heavy swell and out of his hand flew the shackle. It sailed out of sight and he groped in bewilderment but of course couldn't reach it, The decision as to what to do was taken out of his hands by Momsen's order to pull the wire up and send it down again. This was accomplished in short order, and on the second try Sibitzky reported that he was shackling the downhaul wire to the swivel in the center of the hatch. In a couple of minutes more he reported that he was ready to come up. It was 1039 when he left the tender; it was now 1104. The job had taken 25 minutes including the time of descent and the sending of the downhaul wire to him twice.

The problem now facing the men on deck was to bring him safely to the surface. In order to come up without developing the dreaded "bends" he had to take a hundred and forty-six minutes for the slow step by step ascent from the bottom to the surface. By this slow decompression he would be able to eliminate the nitrogen gas which would otherwise bubble out of the tissues and the blood and cause serious difficulty or even his death. Obviously, it was impractical to take all of the one hundred and forty-six minutes decompression time in the water. This problem had been faced years before. We had done enough experimental work to know that it was safe and feasible to bring a man up to a depth of 90 feet below the surface and hold him for a couple of minutes and then to 80 feet for a little longer; then to 70 feet, then to 60, then to 50 -- and then, at the 50 foot level it was safe to whip him out of the water quickly and get him into the decompression chamber and back under air pressure for the final long period of decompression at 50, 40, 30, 20 and l0 feet. Safe, that is, if the maneuver could be accomplished in less than three minutes; there had to be precise action and perfect timing. Once again

experimental work was to pay off.

Sibitzky found and got aboard the diving stage at 90 feet without any difficulty. The diving stage is a type of elevator that makes it easy to lower a diver into the water or to lift him to the surface. He made his routine stops at 80, 70, 60 and 50 feet which took a total of 42 minutes, and then he was whipped out of the water; his helmet was jerked off and he was helped into the recompression chamber -- the entire maneuver taking less than two minutes. I was in the chamber waiting for him and stayed with him during the hour and three-quarters of final decompression. Everything went well and he felt fine, exhilarated by the knowledge that he had accomplished one of the really remarkable diving feats of all time.

As we went into the chamber at 1124, the bell was just going over the side for its memorable first trip down to the submarine, 240 feet below, on the bottom of the ocean. Commander McCann had made all the last-minute checks of the bell, which he had been so largely instrumental in perfecting. He had flown up from Washington and, like Lieutenant Commander Momsen, had arrived ahead of the FALCON. The bell, as you will recall, was an old friend of mine -- I had worked with the group during its early trials. I know the two men chosen to operate the bell, John Mihalowski, Torpedoman, First Class, and Walter E. Harmen, Gunner's Mate, First Class. Both of them were divers of long experience and both of them were well versed in the operation of the bell. Mihalowski was one of the smallest of all of our First Class divers. This was good because the bell; as you remember, was not tall enough for a person inside to stand up, and with seven or eight men being brought up from the submarine, quarters would be close. As a matter of fact, I well remember experimental trips in the bell when we had fewer men than that, and we were so packed in that if one person decided to move and cross his legs, all hands had to follow suit in order to find places for legs and feet.

The winches topside on the boat deck started up and the boom hoisted the bell clear of the rail and swung it out over the water. It was lowered gently until the sea was just washing around the top. I have often wondered what Commander McCann thought as he watched the piece of equipment that he had helped perfect going over the side for its first life-saving mission.

The two men who were to operate the bell climbed over the rail and stood on the outer edge as the bell was brought alongside. As you recall, the fantail of the FALCON is very low in the water so as to make it easy to handle divers and diving operations. When the bell came alongside they stepped on its top and climbed down through the hatch and into the brightly lighted operating compartment. Everyone watched as they dogged the upper hatch securely and in our mind's eyes we were with them as they sat down amid the pipes, valves, and control gauges that were an integral part of the operating compartment. I could see them bending over and looking down through the eye port of the lower hatch which led to the central lower compartment of the bell and in which the reel that wound the downhaul wire was located. This compartment was simply a cylindrical extension open to the sea at the bottom. It could be flooded by allowing air to escape, and water could be blown out by building up the air pressure to be slightly greater than that of the surrounding sea. Around this lower compartment was a ballast tank which could be either filled with water or blown empty.

McCann ordered "blow ballast" and I could imagine the boys as they opened the line which allowed air pressure from the FALCON'S compressors to blow water out to sea from this circular tank around the lower compartment. Soon we could see air bubbles coming up from the bell and we knew the tank was empty. Simultaneously with appearance of the bubbles we heard the telephone report from the bell, "Ballast has been blown," I knew the next move would be for the operators to flood the lower

compartment. This was easily done by simply allowing the air trapped in the compartment to escape and the sea automatically to fill the space. The reel attached to the downhaul wire had already been placed in position before the bell was lowered over the side; all that remained now was to start the air driven motor which turned the reel in the flooded lower compartment. Soon the wire began to take a strain and the report from the bell was, "On the way down."

We soon lost sight of the bell but received reports from time to time: "We're at 100 feet; we're at l25 feet; we're at l50 feet." They were, of course, reading from the depth gauge inside the operating chamber. At 200 feet they peered through the lower port and reported they could see a large object on the bottom. They moved cautiously, a few feet at a time now, and before long the happy word came, "The hatch is in sight." They then allowed the motor to pull the bell tightly against the steel gasket surrounding the forward torpedo room hatch, thus fitting the rubber gasket on the bottom of the bell directly on the stell gasket. Great skill was required to manipulate the motor so as to pull the bell into position without breaking the wire.

The next two operations were practically routine for this well-trained pair. They flooded the circular ballast tank in order to gain weight and took in on the downhaul wire during the flooding period so that the bell was snugly held to the submarine. Then they blew the air out of the open ended central compartment. After making certain that all of the water was blown out of this lower compartment they vented the air to the surface, and thus they had atmospheric pressure in the lower compartment. In doing this they secured themselves with the entire pressure of the sea pressing against the bell and forcing it against the submarine. They knew that the rubber gasket of the bell was now flattened against the circular steel gasket on the deck of the submarine. They were taking advantage of the pressure of the ocean for once rather than battling against it as they had to in their diving suits.

As soon as they could see fog as they looked through the eye port into the lower compartment, they knew that the air pressure had equalized with the surface, and they opened the hatch. Mihalowski climbed down into the area and Harman picked up one of the four steel bars which had hooks on one end and were threaded to accommodate a large nut on the other end, and handed it down to Mihalowski who attached the hook to one of the cat eyes that was permanently attached to the submarine, then the threaded end was slipped into a slot in the lower compartment of the bell and the nut was tightened down. Three times he repeated this process until all four hold-down bolts were secured, and there was no question that the bell was firmly attached to the submarine. Next came the maneuver of reversing the motor and allowing slack on the downhaul wire. Then the bracket that held the reel and the wire was swung out of the way and Mihalowski went on down and unshackled the wire from the escape-hatch spindle of the submarine. All the many maneuvers had been properly performed and all that remained was to equalize the pressure in the chamber to the pressure inside the submarine and open the hatch into the SQUALUS. Many times such a rescue drill had been per formed in practice but this time when the hatch was opened they were to see men whose only hope for life lay in the successful accomplishment of this oft repeated performance.

The Commanding Officer of the SQUALUS, Lieutenant Naquin, had already drawn up plans for evacuating the first load of men. One of the group would be Preble, the civilian from the Navy Yard who was on this trial run, and another would be Lieutenant Nichols for he wanted one officer topside to give a report on the situation in the submarine. The other men were to be picked as those who appeared most to need good clean air as soon as possible.

The conditions inside the submarine were not good, It was very cold -- about 45 degrees Fahrenheit,

the air was heavily saturated with moisture, and the carbon dioxide concentration had reached about three percent. In addition to this, there were thirteen pounds of extra pressure that these men had had to live with. The bell operators vented the excess air pressure and did their best to ventilate the forward compartment by a flow of air from the bell. We had sent down extra blankets, extra carbon dioxide absorbent and coffee which the boys complained was too weak. I knew that the men were still normal when they could complain about the strength of the coffee during such an experience!

No time was lost in getting Mr. Preble, Lieutenant Nichols, and five men into the bell, and in reversing the process for ascent. Before long the bell was on its way to the surface. It took half an hour to make a cautious approach to the surface but they made it, and in good form.

All of us leaning over the rail or looking from the vantage point of the boat deck strained our eyes to see the bell come into view. There was absolute quiet as we watched in fascination for the first glimpse of the bell in its first successful trip bringing actual survivors to the surface. Soon we saw the gray top nearing the surface as it reflected the rays of the sun. The gray top grew larger; the seas began to break across it; on the FALCON, McCann ordered the tenders to take up the slack on the lines and to hold the bell steady. He then telephoned Harman that they were on the surface and to stop the motor and set the brake. It was 1333 on that sunny afternoon of May 24th.

Men leaped from the FALCON to the top of the bell and helped open the hatch and gave a helping hand as first Preble, then Nichols, and then the other five men were helped out of the bell. This was an historic occasion; planes were flying overhead; boats were as close as possible; telescopic lenses were focused; movie cameras ground away to record the pictures of this first group of survivors to come from the stricken SQUALUS.

But I had no time for such activity; Doctors Yarbrough, Behnke, and Willmon, and our Pharmacist's Mates and I were busy taking care of the rescue men. We gave them hot coffee with plenty of sugar, not only to raise their temperatures but also to give them calories. We put hot towels around their bodies; we massaged them, we worked with them until we had their temperatures back to normal. By this time they were feeling much, much better. There was no evidence of hysteria; there was no evidence of anything other than cold and perhaps some mild shock. Soon the men were chattering brightly and even laughing. They got up and walked around. What a joy it was to them to be topside. I remember saying to one of the men whom I knew quite well, "I'm glad to see you." He looked at me and quietly said, "Doctor, I'm glad to be topside." A little later he said, "You know, as I was sitting down there I wondered if I ever again would see sunshine and green grass." What simple things occupy the mind in a desperate situation, and how equally simple the words with which we express our deepest emotions under stress.

While we doctors continued with the men, Lieutenant Nichols who had been released earlier was talking with the senior officers and giving them a summary of what had happened as far as they knew. Altogether they were able to account for thirty-three men known to be alive in the forward three compartments, but there was no way to know the fate of the other men. They were drowned unless they had been able to get into the after torpedo room. Since no sound had ever been heard from them this was a forlorn hope.

Captain Greenlee was the man among the rescue group who felt this most keenly for his son-in-law, Ensign Patterson, had been in the engine room and was one of the men who had not been able to make it into the central operating compartment. Captain Greenlee stood at the rail alone, staring down at the

water. This first actual list of survivors had been a blow to him for he had held onto a faint hope until then.

There was a great deal of discussion about how many trips we would have to make. Obviously, if only seven men in the thirty-three were brought up at a trip, we would have to make a fifth trip to bring up the last five men. The operators of the bell contended that they could bring eight, or even nine. Sure, it would be a little crowded but they could get them up and thus save a fifth trip, Finally it was agreed that for the next trip, the second, they would be allowed to try eight. If this was successful, then they could add an additional man for the last two trips, making nine each.

The second trip was completely uneventful, but a little longer than the first. The first trip had taken only an hour and forty-three minutes, the second two hours and sixteen minutes. But the interesting fact was that when they surfaced and opened the hatch and the men came out all of us counted nine men! The bell operators pretended great surprise and even consternation but they didn't fool me -- they had decided against advice from topside in order to show us that they could bring up nine men at a time. How fortunate it was that they had made this decision, we were to learn later.

It was decided that I should take the first two groups of survivors to the hospital. The hospital had been chosen not because they needed hospitalization but because they could be protected there from the reporters and photographers, and just plain thrill seekers. There families only were to be allowed to see them in the hospital -- at least until we had rescued all of the men and until the situation was a little more clearly defined. These were my instructions and as the men came out with blankets draped over their head and shoulders, I helped them down into the picket boat which was to transfer them over to the Coast Guard Cutter, HARRIET LANE. The men were then transferred from the picket boat to the cutter, and just before getting underway I took another count to make certain I hadn't lost anyone. Much to my surprise I found that instead of the sixteen men I should have had, there were seventeen. It wasn't too difficult as I looked them over, to single out a strange civilian in the group. He turned out to be a reporter by the name of Nat A. Barrows. He tells the story of how cleverly he managed to get there in his excellent account of the SQUALUS entitled Blow All Ballast. He blames the picket boat skipper for spotting him; actually if he had known that it was the doctor who spotted him he probably wouldn't have mentioned me so kindly in a couple of incidents, and certainly wouldn't have autographed his book for me! But though I couldn't blame him for one of the best trys of all time, I certainly couldn't allow him to be the only reporter with a chance to interview all sixteen rescued men en route to the Navy Yard. I would have been in trouble up to my neck with the skipper. I will admit that I hated to send him back by way of the picket ship to the FALCON, but obviously he had his story. I didn't know until I read his book how he had gotten on the FALCON -- the only reporter there.

As we neared Portsmouth the spirits of the men rose perceptibly. They were all looking forward to getting back to their families and friends -- they had the story of their lives to tell, all right. The HARRIET LANE had to battle an ebbing tide but made the dock on the first try. As we began to tie up, full realization came to me that this had not been just another drill. It had almost seemed so as we went through the routine in which we had been trained so thoroughly and so often. Here, too, for the first time we realized the tremendous emotional response the public had exhibited to this event, Not only were the wives and sweethearts and families waiting behind the Marine guard, but in addition a great mob of people who had come to see the first group brought ashore. Tears of joy streamed down the feces of the women as they watched the arrival of their men. Some of them broke through the Marine guard for a quick embrace and kiss.

We put the men into the waiting ambulances and took them to the hospital. As they went through the Yard they passed the huge cradles where additional submarines were being built. There was no fear in these men -- as a matter of fact, as I listened to them, they were all talking about how quickly they could get back aboard ship and continue the life they loved. Many people seemed to feel, particularly during the war, that we actually had to put a gun in a man's ribs in order to get him into submarine duty. This is not true, The men loved the submarine service, and many times saw strong men with tears flowing down their cheeks beg to be allowed to go back to a submarine when I had to pull them off because of some physical condition. These men were the same. In spite of the experience, they wanted to return.

The civilian, Mr. Preble, slipped away with one of his friends, but I turned all of the military personnel over to the hospital staff and returned to the ship. By the time we made it back to the FALCON the third trip, taking two hours and three minutes, had safely made the surface bringing nine more survivors.

Then came the fourth trip which I am sure will live in the memory of every man on the rescue force long after the rest has faded away. Mihalowski went back again as one of the operators for this memorable trip and our good friend McDonald was the other operator. They made contact with the submarine in routine manner, and the remaining survivors, including the Commanding-Officer, Oliver Naquin, and Lieutenant Doyle climbed into the bell. McDonald was down in the lower compartment and with his feet on the deck of the SQUALUS, he closed and dogged the hatch into the submarine for the last time. With skilled hands he moved the cradle, and the drum that held the downhaul wire, into position and guided the wire so that it flowed onto the drum, Mihalowski turned on the air motor just enough to take up the slack which they had allowed in order to open the hatch. As soon as the downhaul wire was taut between the chamber and the bail of the escape hatch, he removed the four holding-down bolts which were the last firm contact with the submarine. Then he climbed back up into the crowded upper chamber. They dumped all of the portable ballast, which was in the cans used for seats around the outer rim of the upper compartment, down into this lower chamber and closed the hatch. Next they flooded this lower compartment and followed by blowing the ballast tank. This gave the bell its buoyancy an broke the seal to the submarine. It was easy to tell when the seal was broken because the bell swayed slightly as it righted itself from the tilt of the submarine. But it didn't move far because the downhaul cable held it secure.

At 2014 that dark night they reported to the surface, "Starting up." The men in the bell and the men on the FALCON were in good spirits; they had the last of the survivors on the way to safety. The men in the bell were cold and horribly cramped but not worried -- a few more minutes and they would be topside. The bell was worth a million dollars to them right then.

But at the 160 foot level something happened. They slowed down; they stopped. Instinctively, McDonald cut the motor, saying to Mihalowski, "Somethings wrong.' Then they tried to reverse the motor, but the chamber went down only a few feet. It stalled permanently and would not move either way. They immediately disconnected the motor and tried to pay out the downhaul wire by allowing the reel to run against the brake. It did no good. Even with the brake off, the chamber refused to move. By this time those of us listening to the phone topside realized something was wrong. Then word came from McDonald, "The downhaul wire is jammed. We can't move up or down."

McCann's anxious voice came back, "Have you tried reversing the motor and pulling down on the wire?"

"Yes, we've tried that. We've also tried disconnecting the motor and coming up on the brake. Can't get any movement either way."

There was a hasty conference on the FALCON. The preventer wire leading from the FALCON to the top of the bell was a powerful one -- supposed to be stronger than the downhaul wire. Perhaps a little pull on that would release the jam so that they could come up on the brake. It was worth a try. The word was passed to the bell to release the brake. McCann gave the word to the winch operator, "Take her up a little bit. Slowly now. Easy does it." Nothing happened. McCann gave a hurried call, "Hold it. Vast heaving."

The officers on the FALCON faced one another with grave anxiety, There was no question that the downhaul wire was hopelessly jammed; outside help was absolutely essential. The bell was held securely by the wire attached to the SQUALUS. There was only one thing to do. McCann gave the order and outlined the course of action. "Lower the Chamber to the bottom. Send down a diver to unshackle or cut the downhaul wire." Then possibly the bell could be hauled up to the surface by the preventer wire which connected the bell to the winches on the FALCON.

The bell operators were told to flood the main ballast, and as soon as they reported, "Main ballast flooded", McCann told them, "Very well. We're going to lower you to the bottom. Will send down a diver to cut the downhaul wire." The capstan turned slowly and the chamber once more went down to the bottom -- this time not to be sealed onto the submarine, but to sink into the mud. What a predicament! Dark night and a diver must go down and cut a wire at such a depth with no light other than the torch he would carry with him.

Both McDonald and Mihalowski knew the gravity of the situation, but they bravely kept up a line of chatter to cheer the survivors. It was heartening to hear them over the phone as they talked about how happy they were to be in where it was nice and snug and light rather than out there with whoever was going to do the diving to cut the wire. "Boy, he can have that job.", said McDonald. They even talked about how they wanted their steak done when they got topside. But in spite of this attempt at cheerfulness, before long they were all quiet again and sat in the silence waiting, waiting, waiting. This time to find out whether the diver could actually get down and find the downhaul wire to cut it.

The man picked for this desperate attempt was Chief Torpedoman Squire. I watched Squire - an enormous man with powerful muscles - as he sat on the tool box and was hastily dressed for this perilous descent. The helpers dressed him rapidly, but with great care; no errors must be allowed in this dressing job. They put on his heavy shoes; they rigged his belt; they fastened his helmet. Through the open faceplate the last instructions were given by Commander McCann. "Unshackle that wire if you can; otherwise, cut it." Attached to his belt were an enormous pair of wire cutters. Squire was an old hand; he was an experienced diver, but this was a task that would test the courage of the man. He grimly said, "Aye, aye, Sir. It will be done." Then they closed the faceplate, slapped him on the helmet, and he stepped on the stage and was swung over the side and lowered into the water. In a moment he had disappeared from the view given by the searchlight which penetrated only a few feet into the blackness. He slid down the line that had been attached by the PENACOOK when it had grappled and caught the SQUALU5. In less than three minutes we once again heard the good word "On the deck of the submarine." And then we heard no more for several minutes. It wasn't until later that I found out in talking with Squire that he had struggled and struggled, trying to unbolt the shackle. But he was working in the cold with two-finger mittens, with a shackle that had jammed because of the strain that was on it, and he couldn't get the nut to move at all. And remember that with 109

pounds pressure per square inch of his body he wasn't quite the strong man that he was on land; he was more like a youngster with no strength at all, plus the fact that at that depth he was fairly groggy. He told me later that he kept repeating to himself his last instruction, "If you can't unshackle it, cut it. If you can't unshackle it, cut it." After a few minutes working with the bolt he realized that he must cut the wire. Could he make those giant wire cutters work? He reached around, found them still hanging to his belt, cut the marlin line that held them, and started hacking away. He was cold, discouraged, and a little bit confused, but he had strength enough left so that the cutters broke through, the wire parted. Almost hysterically he shouted over the phone, "I've cut it." Momsen who was handling the dive responded, "Good work. Stand by to come up."

Although the people in the bell couldn't hear Squire at work they knew when he had finished because when the wire was released the bell swung slightly toward the SQUALUS and hit with a thump. This gave McDonald and Mihalowski another opportunity to laugh and joke about the rare occasion of a collision between a submarine and a rescue bell on the bottom of the ocean. Although the survivors smiled, it wasn't too funny a joke because they were still on the bottom and getting up was still a gamble.

As soon as Squire was on the diving stage and well clear of the bell, attention returned to bringing the bell to the surface. It seemed reasonably simple now. All one had to do was lift the bell with the preventer wire. Although the preventer wire was not designed for so much lift, surely it would hold. McCann gave the order to the winch operator, "Take her up slowly now. Easy." The drum of the winch turned slowly around and the preventer wire began moving through the fairlee. It had gone only a short distance when several men cried out, "Hold it! Hold it!" and McCann sang out the order, "Vast heaving." They all had seen at about the same time that the wire had stranded and was holding by only a few strands. This was a dangerous spot, if this wire gave way the air hose and telephone cable to the bell would be snapped by the heavy downward motion of the bell and the men in the bell would be lost. McCann gave a series of staccato orders, "Plenty of slack on the air hose and telephone cable. Lower the bell to the bottom. Easy now; don't let the capstan jerk."

The men in the bell didn't know what happened but they could tell by the pressure gauge that they were going down again, and this was certainly a situation to try anyone's nerves. The SQUALUS crew had already suffered enough torture - both physical and mental - but they were calm, and McDonald and Mihalowski kept up a running chatter of what was going on.

I listened to the discussions between Admiral Cole and the other officers as to the next move. I could well understand the situation because of my long association with the bell. I knew what they were talking about when they said it would be very dangerous to try to blow the ballast tanks and allow the chamber to come to the surface of its own accord. I well remembered the crash when we had come up under this same FALCON from only a few feet. If they blew the bell and it came to the surface with ever increasing speed as the pressure became less and it did hit under the FALCON, obviously all hands in the bell would be lost and perhaps the FALCON even would sink. The decision was reached to try and send a diver down to attach a new, heavier wire to the top of the bell. The diving crew had anticipated such a move and Duncan, First Class Torpedoman, was already dressed. Momsen gave him his instructions, which were simple. "Get on top of that chamber and try to shackle on the new retrieving wire."

During this time, Squire had been brought to the fifty foot level and then whipped into the pressure chamber for the remainder of his decompression time. The so-called surface decompression was

getting a real test in actual operation. Squire had done a magnificent job. From the time he left the FALCON until he had cut the downhaul seven-sixteenths plowed steel wire and started to the surface only twelve minutes had elapsed - one of the most remarkable feats ever to be performed in diving. But he was having to go through the long, slow decompression so that he would not develop the "bends".

Now another diver was going down; this time for an even more difficult task because working on top of that slippery, small, rounded bell was all but impossible. Duncan was in the water at 2145, on the way down. Momsen had told him what his job was, but accomplishing it was another matter. He landed on the bell six minutes after leaving the FALCON. The delay in descent was caused by the fact that he caught his suit on the frayed wire of the cable leading to the top of the bell. And worst of all - when he got on top of the bell he found that he was hopelessly fouled, with his lines tangled around the lines feeding air and light to the chamber. In trying to extricate himself, he slipped and almost fell the ten feet into the mud below. Such a fall would have been very serious for he would have been squeezed into his helmet, and if not actually killed, would have been knocked unconscious, and probably lost. Finally, even though he was groggy, tired, and horribly cold, he did work free his entangled lines. He was clear, but he hadn't the strength left to make the attempt to attach a new wire to the rescue bell. Momsen had to give the order, "We're bringing you up," and the tender worked him over until he was on the stage and safely on his way to the surface.

While this was going on the standby diver, who is always dressed ready for such an emergency, was put into the water and sent down to see what he could do about attaching this all-important wire cable to the top of the bell. Clayton, the second diver, got onto the bell but also had the same problem of his lines tangling with the other lines. But he got clear very quickly and worked as madly as he could in an attempt to shackle the new wire onto the bell. But it was no use! He simply couldn't manage it. Before long we heard him mumbling and rambling in his talk and muttering, "If I only had some more light. Light. I need some light." With a despairing look around to the rest of the group Momsen had to say, "It's hopeless at this time of the night. We'll have to bring him up." But this time the situation was not so simple because by then Duncan had been whipped up into the pressure chamber and since there was only one chamber, there was nothing left to do but to decompress Clayton on the stage all the way to the surface. This was particularly trying for him because in that 35 degree water with the fatigue he already experienced, he had a difficult time even holding onto the stage. He tried exercising to get warm but it didn't help much. Momsen told him, "We'll get you up to the surface as quickly as we can, but we can't do a surface decompression on you because Duncan is already in the chamber." Clayton replied, "Aye, aye, Sir. That's all right. I'm in good shape." That group of divers were really men!

Now, what was to be done? Two divers had been unable to connect a new wire. We couldn't wait until daylight; this was too much of a chance to take; a storm might come up; anything might happen. The men could not be left down there that long. Already they had been in the bell for hours. We would have to take the chance of slowly blowing the ballast tanks and trying to get the buoyancy as near as possible just barely on the negative side and then try to haul them up with the frayed retrieving wire. Obviously, this couldn't be done by putting the wire around the capstan and doing it with machine power; we would more than likely break the remaining strands and then we would be in trouble. A hurried conference yielded the decision to try blowing the air little by little and to lift the bell by hand. It was calculated that six men would be able to exert enough pressure to lift the bell if it were barely negatively buoyant.

McDonald and Mihalowski, thoroughly understanding the plight they were in, still kept up a chatter

about how glad they were that they had plenty of light and air, and how everything was going to be all right because the people topside have figured out how to do it. They knew what the order meant when McCann telephoned them "Blow main ballast for 30 seconds. I will give you the time on it." With firm but nervously moist hands, they turned on the air pressure as McCann called, "Mark" and turned it off as he called "Mark" for the second time.

On the FALCON the men took a cautious hold on the half-broken preventer wire. A gentle pull; another gentle pull. McCann said, "It's still too heavy" and told the men in the bell "Blow for another 15 seconds. Remember, I will give you the time. Mark to start and then a second Mark to stop." The roar of the air forced more water out of the ballast tanks. Another slow but cautious pull on the wire indicated that the bell was still too heavy for six men to raise. A second order from McCann to the bell, "Blow again for 15 seconds." By this time all hands on the FALCON were quiet - not a sound as the 15 second blow was repeated. McCann gave the order again, "Give it another try, boys. Easy now. Take a strain on that cable and see if you can lift the bell." The six men gripped the cable and miraculously they felt the movement of the bell. Admiral Cole leaned over the rail and gave the word back that the cable was moving. They gave another light pull, hardly believing their good fortune, they pulled a little more. Again, the cable moved across the rail. The chamber was light enough to be handled by hand. "Slowly now, men," McCann warned. "Remember that wire is almost broken in two. Easy now."

Soon the frayed part of the cable cleared the rail. From then on it was simple enough. The wire could be pulled hand over hand without so much worry. We could hear the men inside of the bell cheerfully reading off the depth gauge. "One hundred and eighty feet"; then pretty soon someone said, "a hundred feet." And when they reached the fifty foot level you could hear the change in their voices as they joyfully shouted, "Fifty feet." As a matter of fact, they began to joke again about that steak they would soon be eating.

Clayton told me afterwards that as miserable as he was, because of failure to attach the cable and because of the physical discomfort from being almost frozen to death, he practically jumped with joy when he saw the light from the bell go past while he was at the 40 foot level of decompression. As a matter of fact, he no longer felt the cold - a glow of warmth flowed through his whole body as he realized that the men were on their way to safety. When the bell broke the surface of the water two men jumped on its top and attached the heavy lifting cable and the bell was lifted another foot or two out of the water. The men joyfully opened the upper hatch on the top of the bell and helped the survivors out. We had a hard time getting to the group because of the crowd around them patting them on the back and welcoming them aboard. But it wasn't long until we had them relaxed with hot coffee, hot towels, and a rub down and they dropped into a profound sleep.

It is really hard to imagine the strain on these men. They had been in the submarine for many hours, and then had spent five hours and forty-two minutes in a bell so crowded they couldn't move and under such desperately trying and dangerous circumstances. Yet not one word of complaint was heard from anyone; nothing but praise for the action of the rescue group. They had been under the water for forty hours from the time the SQUALUS sank until they reached the FALCON. A long and trying time for anyone to spend. I was personally quite surprised at the lack of any real physical difficulty. True, there was some shock; definitely they were cold; but there was no hysteria; there was no evidence of an emotional break of any kind.

The only man to come to my personal attention who had emotional difficulties after the disaster was

Maneff who had had the horrible job of closing the watertight door in the bulkhead between the central operating compartment and the after battery. It was his job to close that door and secure it without any regard for the people on the other side of the door. He had held it open, shouting "Hurry up, hurry up," as eight of his shipmates clawed their way uphill and past the roaring water to safety. He could see no one else coming, but what about his friends? He had left many of them on the other side of that door but since no one was in sight and he had already waited almost too long, he had to close the door. With a superhuman effort and with straining muscles, he pulled with all of his might to close the door. He dogged it tight with a quick twirl of the handle. What about the men on the other side? Maneff wondered particularly about his chum Sherman Shirley. He was to be best man at Shirley's wedding only next Sunday. But there was nothing else he could do. He told himself this over and over. We were able in time to convince him that his action saved 33 lives, which it actually did. If he hadn't done this all would have drowned. This is the training that pays off in time of disaster. None of the other men, as far as I know, had any serious break or any emotional difficulties. I am sure, however, they all remembered vividly their experiences, and undoubtedly there were many nightmares before the keen edge of memory began to dull with time.

The fifth trip to the after-torpedo room was a desperate one. A diver was once again sent down and the downhaul cable attached to the after-torpedo room hatch. But seating the bell this time entailed a great deal more danger than any of the other trips because there was every reason to believe that the after-torpedo room was flooded and therefore under the pressure of the sea on the bottom. This meant that the men in the bell would have to equalize the pressure with air on their side before the hatch could be opened. They would have to do their work under high-pressure air rather than under almost atmospheric conditions as they had on the other trips. But this trip to the after torpedo room was necessary to make certain that there was no one alive there. Fastening the downhaul cable to the after-torpedo room hatch had been a rather difficult and time-consuming task for the ship had to be remoored to be in a better position and LT Morrison, our skipper at the lung training tank at New London, had tried and failed to make the attachment. The second diver, Gunner Baron, had messed up his gear and couldn't finish the dive and finally Baker from the FALCON's diving crew successfully made the attachment. Baker had been one of the S-4 divers so he was an old hand at this sort of thing.

For the chamber operators, Mihalowski was again chosen, and this time Badders went with him. The same procedure was used except that the problem of equalizing the pressure when the chamber was seated on the after-torpedo room gasket had to be vastly different. This time they built up air pressure in the chamber until the petcock between the chamber outside indicated that the pressure had apparently become equalized. They gave a slight twist to the lower hatch and a stream of water came rushing in on them. Obviously they needed more pressure, but just a little more so as to equalize the pressure. Finally they had it so that the water was not coming in and the air was just flowing out. No seal on the submarine could be made and it was a very risky matter to climb down into the lower hatch at such a depth and open the door leading into the after-torpedo room. Badders climbed down into the water in the central lower compartment and with nothing holding the chamber to the submarine except the downhaul cable, attached the first holding-down bolt. Skee told me the whole story afterwards, but it was a touch-and-go, perilous situation. After the holding bolts had been fastened, Mihalowski gave a little slack to the downhaul cable and Badders swung the drum out of the way. The boys were glad of the new downhaul cable that the FALCON crew had worked the rest of the night putting in. It was a nice new heavy one and with it they felt reasonably safe. But as they cracked the hatch of the submarine they got a real shock, for a blast of air poured up around the rubber gasket and into the bell. They knew then what had happened; there was no pressure inside the submarine as there was in the bell and, of course, this meant that the after three compartments were under sea pressure. No one

could be alive in there!

But Badders got a real scare. As the air blasted out from the submarine hatch it caused the pressure to rise rapidly and a spurt of water came from around the gasket. The water rose suddenly almost to his waist, but Mihalowski was equal to the occasion and acting with instinctive speed, he blasted more pressure into the chamber. This forced the sea back and everything was well. Badders mumbled a heartfelt thanks for the FALCON air compressor. In spite of the danger entailed, they were instructed from topside to look down inside the submarine, which they proceeded to do. They now were sure they had enough air pressure in the bell to be greater than the pressure in the submarine, so they undogged the hatch, opened it and looked down. They saw only the black water. The torpedo room was flooded to the top of the hatch. Obviously, no one could be alive in that compartment.

Both men were groggy from the pressure they were under but realized without question that there were 26 dead men under their feet in the after three compartments of that submarine. They had to work fast or else they would be decompressing for an unduly long time. They quickly reversed the procedures but had quite a time handling the wrench to release the holding-down bolts. Although they tightened the downhaul cable as much as possible, the bolts were very tight. Both of them were tired and the carbon dioxide was building up, so they quickly ventilated the chamber and with superhuman effort completed the task of removing the hold-down bolts. They both told me afterwards that the thought went through their minds that unless they worked fast there would be 28 men down there (26 in the submarine and two attached to the submarine with no way to get out). When they had finally closed the hatch leading from the upper compartment of the bell to the lower or central compartment, they heaved a sigh of relief and were delighted to find that they were both there and in good shape.

But they still were under high-pressure air and just as if they had been in diving suits they had to decompress in order that they would not develop compressed-air illness. The nitrogen gas that saturated their bodies had to be eliminated slowly, and unfortunately they had stayed well beyond the 20 minute limit which had been set for them. LT Momsen read them their new cable and had to repeat each step several times for they were in no mental condition to do any calculating or even to remember what was told them. They had to spend almost four hours in the bell and for Mihalowski this was a second four hours within 24 hours. He was learning to know the inside of that bell whether he liked it there or not. But as he said, he joined the Navy to be a diver and this was certainly being one. While Badders and Mihalowski were slowly decompressing, the group topside were talking about the salvage of the SQUALUS and the hope they would be allowed to do it! The rescue was over. Now came the long salvage operation.

True to my assignment from Captain Edwards, I was allowed to return to the Submarine Base at New London as soon as the last boat load of survivors went ashore. I left them there at the hospital and made my way back down to New London. I realized that an epic had been made in submarine history. How thrilled I was to have been part of it!

The salvage job was decided upon and immediately undertaken. It required three and a half months. Since this is a story of my activities only, I will not tell anything of the salvage. It's secondhand information. But it took--as I say--three and a half months and from all the stories I have heard, and from the pictures I have seen, it was quite a remarkable feat. The poor FALCON was practically foundered by the weight of cables, chains,- with each link weighing 76 pounds - eight and twelve inch manila lines, wire and hundreds of feet of air hoses. But it was accomplished despite the heartache of having it surfaced and dropped down again, and was in drydock on the 15th of September. Another

salvage epic - 302 dives to a depth of 240 feet; 640 total dives with no serious casualties. A monumental task in diving, with a successful climax.

I was not allowed to forget the rescue of the men from the SQUALUS for several groups around New London asked me to talk to them about it. I developed a talk which became so popular that I rescued these men 86 times throughout New England. I took along my little dummy diver "Little Jake" and we talked over the exciting episode of the rescue. But no matter how it is told, no matter how many times it is told, it will always remain a thrilling story in naval history.