

Sink Their Hopes in Submarine They Are Building in Fieldhouse

LAZY DIVERS BUILD U-BOAT FOR SALVAGE

Plan to Swim Inside It After Flooding

The thrill of exploring lake bottoms, photographing marine life and possibly salvaging sunken boats, has prompted two northwest side residents to build their own submarine. The boat, under construction in the craft shop of the Humboldt park fieldhouse, is scheduled for completion this month.

Fred Gundersen, 32, of 2305 N. Tripp av., a tuckpointer who had tired of swimming around the bottoms of lakes with an under water "lung" strapped to his back, thought of the idea of building the submarine to make his diving expeditions less tiresome. "I'm lazy," he said.

He interested Bill Vaughn, a 25 year old bricklayer friend, in the venture. The two men began building their sub five months ago. Vaughn lives at 3138 North av.

Seek Outboard Motors

The men began diving three years ago, and soon interested more friends in the sport. The group now makes regular trips to small lakes in Chicagoland, as well as to locations in Lake Michigan.

"While diving we saw a number of abandoned boats and outboard motors which had fallen off boats," Gundersen said, "but we never had any way to bring them to the surface. Then we began thinking of a submarine."

Gundersen, who served with the merchant marine in World War II, saw similar boats the Italians had used during the war. "One variety of that Italian submarine is now being sold in this country, but when I saw the \$8,000 price tag, I decided to try to build my own," he stated.

Builds Experimental Sub

Last year, Gundersen built a small submarine in a week and a half. This experimental model was powered by a starter motor and a wet cell battery, both taken from an automobile. Gundersen said the model worked out successfully, but was not powerful nor large enough to carry anything other than the man operating it.

The new submarine is made of plywood, covered with a glass-plastic cloth, over a framework of mahogany and oak. It will be driven by two electric motors which originally operated bomb bay doors of a B-29 bomber. The motors, which will deliver the equivalent of four horse power, will be powered by a 12 volt, 350 plate, wet cell battery, all contained in watertight boxes.

The boat has an over-all length of 8½ feet, stands 4 feet high, and 2½ feet wide at the top. It is equipped with a propeller, rudder, and fins to control upward and downward travel. The entire cost of construction is estimated at \$600.

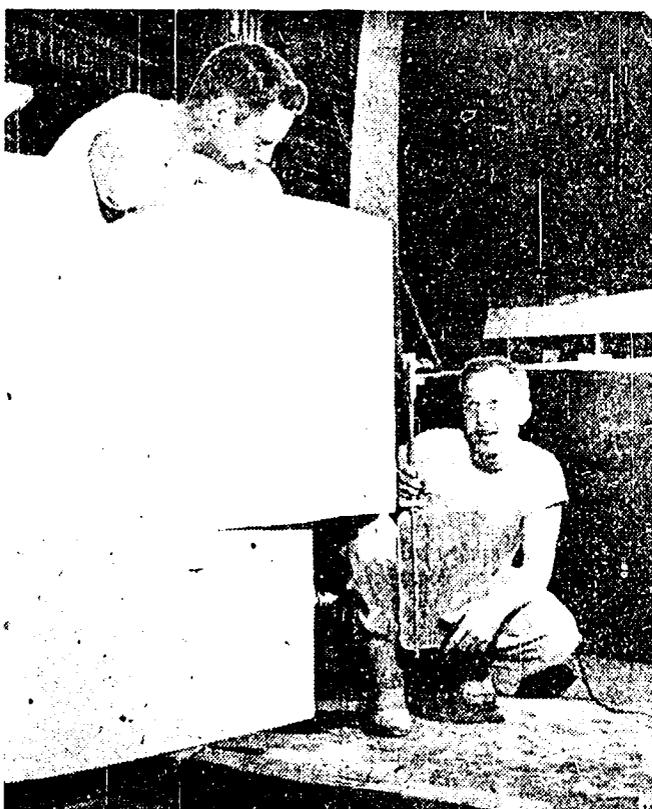
Will Swim Inside

One or two men, wearing underwater breathing "lungs," can control the boat from the inside. To submerge, they open a valve, and flood the boat. Once the boat is under water, it has little weight, and is therefore easily controlled," Gundersen said.

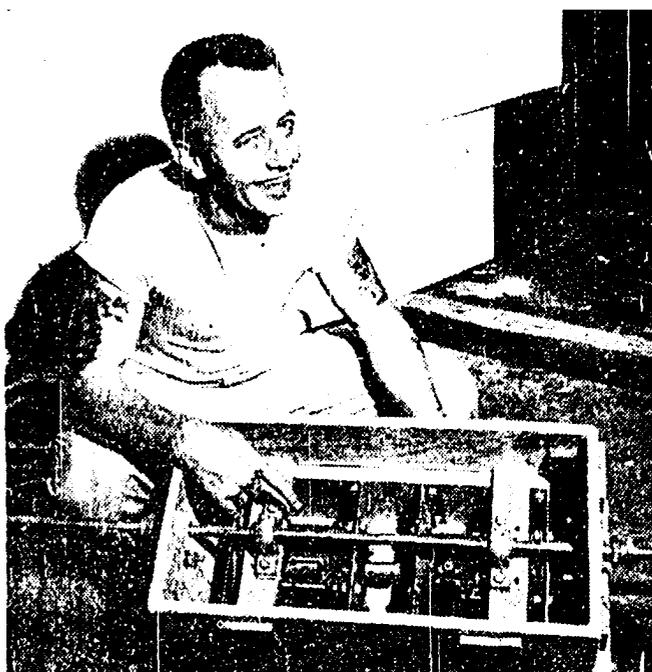
The boat will be equipped with water ballast tanks and a compressed air tank powerful enough to fill them. If the operator picks up anything he wants to bring to the surface with him, he has to fill the tanks with air to counteract



Bill Vaughn, 25, of 3138 North av., stands in submarine he is helping build in craft shop of Humboldt park fieldhouse. Boat is scheduled for launching later this month.



Vaughn (left) watches Fred Gundersen, 32, of 2305 N. Tripp st., submarine owner, adjust rudder. Controls can be operated from either front or rear.



Motors, which will be sealed in box, will be powered by 350 plate wet cell storage battery. Motors are expected to propel boat at 6 miles an hour.

out. When the submarine is empty of water, it can be driven on the surface like a conventional boat.

Limited Breathing Air

"The only limit on how far down this boat can go, is how much breathing air the operators can carry," Gundersen explained. "I have gone down nearly 300 feet with my 'lung,'" he said, "and hope to ride the submarine deeper." Gundersen said the average air supply in a "lung" tank lasts an hour. The battery will supply full power to the boat's engine for 4 hours. The boat can travel about 6 miles an hour.

Filling the ballast tanks with air would force the boat to the surface if it ever developed motor trouble. The operator, wearing a "lung," could swim to the surface without the boat.

Gundersen's wife does not feel the same enthusiasm as her husband. "She thinks I spend too much time working on it, and not enough time at home," he said. "She is not afraid of the submarine, however. She and Mrs. Vaughn like to go diving with us."

weight of the object he has taken on board.

Once the boat has surfaced, the water inside is pumped