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INSTITUTE

DOSSIN GREAT LAKES MUSEUM
Belle Isle, Detroit, Michigan 48207

MEMBERSHIP NOTES ●

In the January issue, we stated that a list of publications available from other Great Lakes organizations would be printed in the May issue. Because that maybe considered "advertising" by the government, we will refrain from printing such a list until we receive clarification.

The Michigan Nautical Time Capsules booklet should be available in mid-May. After watching visitors view the exhibit, several subjects became more popular than anticipated. Besides reprinted articles on the *Fitzgerald, Morrell, Nielsen, Dunderberg, Barnum* and *Ward*, we added short stories on the Detroit River Cannon, schooner *Alvin Clark*, steamer *Pewabic* and the *Goliath*. The cost for the 44-page book will be $5.00 plus $1.00 for postage.

The Dossin Great Lakes Museum will celebrate its 25th anniversary on July 24, 1985 at the museum. More details in the July issue.

The Curator Robert E. Lee Dinner will be held on the *Lansdowne* again this year on Friday, September 20th. Our guest speaker will be shipwreck diver David Trotter of Undersea Research Associates. Invitations will be sent to members in August.

MEETING NOTICES ●

Friday, May 17th will be members slide night at the museum. The subject will be shipwrecks and because members may have a limited number of actual shipwreck slides, the subject also includes vessel collisions, groundings and accidents. The museum will provide the slide carousals for members. The meeting begins at 8:00 p.m. and allow extra traveling time if Belle Isle will be hosting the bike marathon the next day. The Belle Isle bridge is still reduced to one-lane traffic each way for the remainder of the year.

The Annual meeting of the Board of Directors will be held on Friday, June 21 at 7:30 p.m. The executive board will be elected by the Board of Directors at this meeting. No meetings are scheduled for July.

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OUR COVER PICTURE. . .More about the Calumet River appears in this issue. Great Lakes Towing tug with "cherry picker" auxiliary pilot house helps the *John J. Boland* as she backs in for a load of coal, to be poured in at Rail-to-Water Transfer dock. □

Telescope is produced with assistance from the Dossin Great Lakes Museum, an agency of the Historical Department of the City of Detroit.

THE CALUMET

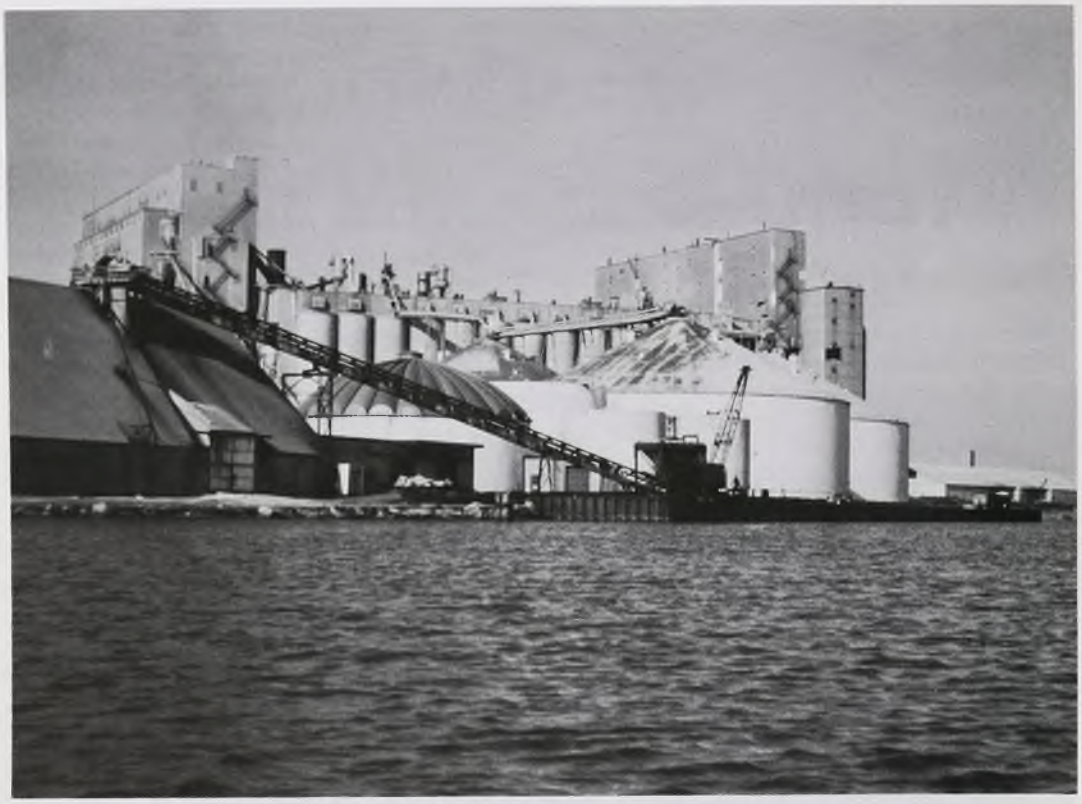
A LITTLE RIVER WITH A BIG JOB

by
BOB JOHNSON
Part 2

Steel production has always been highly visible in the Calumet area, but coal, limestone and other bulk commodities figure heavily. Grain is of major importance; there were elevators at 92nd Street bridge, between the Skyway and the infamous Five Bridges, south of 100th Street, Irondale Elevator at 106th Street and Cargill Elevator across the river from the south end of the Republic Steel property. Built as Northwestern Elevator, that one lost its distinction as the world's largest when a gigantic elevator was erected in Kansas. When the vestige of Lake Calumet was under development as a Seaway har-

Author's Collection

Continental "A" Elevator burning fiercely in January, 1957. Blazing frame structure created enough light that one could read a newspaper by it a half mile away.



Author's Photo

Cargill Elevator as it appeared in 1978. Concrete silos are part of original Northwestern Elevator, dating back to the 1920's.

bor, two large elevators were constructed there; both lakers and salties loaded alongside. Now only General Mills, Cargill and the idle elevators at the harbor remain. Explosions and fires have claimed all the rest, including the modern, monolithic concrete elevators at 92nd Street and at the Skyway slip.

My wife and I attended two spectacular grain-structure fires. Late in the evening of January 31, 1957, a five-alarm blaze erupted in a Continental elevator, lighting brilliantly the area around the turning basin south of 92nd Street. Wooden elevator and contents burned fiercely, and fire fighters poured in tons of water. The wet grain smoldered for many days afterward, but delighted pigeons flew in anyway to feast on what had become a fermenting grain mash. Many of them became drunk enough that flight was impaired! In the summer of 1953 a vacant grain structure on a site slated for Skyway construction took fire and burned to ashes. That one disappointed the pigeons. Within memory is the dust explosion and ensuing fire which removed a large wooden elevator from the south end of the Rail-to-Water Transfer property in 1939. The few remaining elevators have brought in some considerable vessels, such as *Montrealais, Comeaudoc* and *Murray Bay*, which could haul in ore, wash and dry holds and get a return load toward tidewater.

Ship building and repair had their place along the Calumet. The old Chicago Ship Building Company at 100th Street, with two graving docks, a slip, a riverside crane and ample machine shop facilities launched 77 vessels between 1892 and 1911. Its last was *Pere Marquette 18 (ii)*, rushed to completion after its like-named predecessor foundered. Minnesota Steamship Company was a major customer; *Mariposa, Maritana, Marcia, Malta, Mauna Loa* and others of that fleet came out of the Chicago yard. Ultimately purchased by the American Ship Building Company, this yard closed in 1982, but some of its products remained in service until the deluge of thousand-footers engulfed them. At least one still floats as a storage hulk at Goderich. In its time the yard lengthened *Johnstown*,

Sparrows Point and *Cliffs Victory*, and converted the attractive *J.A.W. Iglehart*, in addition to performing repairs, inspections and improvements on many of the Lakes fleet.

Across the river from the yard once stood an open-end mill-type building, obviously equipped with an overhead crane and lettered "Lehigh" on the gable end which faced the river. It has fascinated me these many years, and only when I learn of its use and disposition will that obsession be removed.

Nearer the river mouth, the Calumet Ship Yard and Dry Dock Company operated along a slip adjacent to 95th Street. It performed the alterations on the sand sucker *Gilbert*, long familiar to workers in downtown Chicago. It also produced the small package freighter *Glenshore*, in service on the Michigan side of our lake. The company folded quietly after 1957.

Rail-to-Water Transfer Corporation transships Illinois and Kentucky coal, unloaded railroad hopper cars through its dumping machinery, into lake vessels for movement to Wisconsin, Michigan and other powerplants sites. *Joseph H. Frantz*, long a star performer on runs to Oak Ridge and Port Washington, south and north of Milwaukee, still call in the Calumet. At times it was joined by the old *Crispin Oglebay* and the stentorian *W.W. Holloway*. Attractive *McKee Sons* frequently took trans-lake hauls. Salties sometimes load kaolin here, a process so dusty that it's performed only on dark nights.

Thruster-equipped lakers entering the Calumet to load at Rail-to-Water usually go astern from the harbor to the loading plant, a slow-motion procedure. A tug takes a stern cable from the vessel, supplying a bit of extra muscle and more importantly, steering the boat! With no quickwater on the rudder, a backing vessel can exert little leverage, and when a single screw is a right-hand wheel, backing to port is at least difficult. (Operators of small boats can testify that it's usually impossible.) With the tug handling the stern, the bow thruster keeps the sharp end of the laker in the chosen path. Outward bound, the vessel usually needs no tug. The rudder is effective when going ahead, the thruster is on tap and, in a pinch, an anchor can be dropped to pin the bow while the stern goes around.

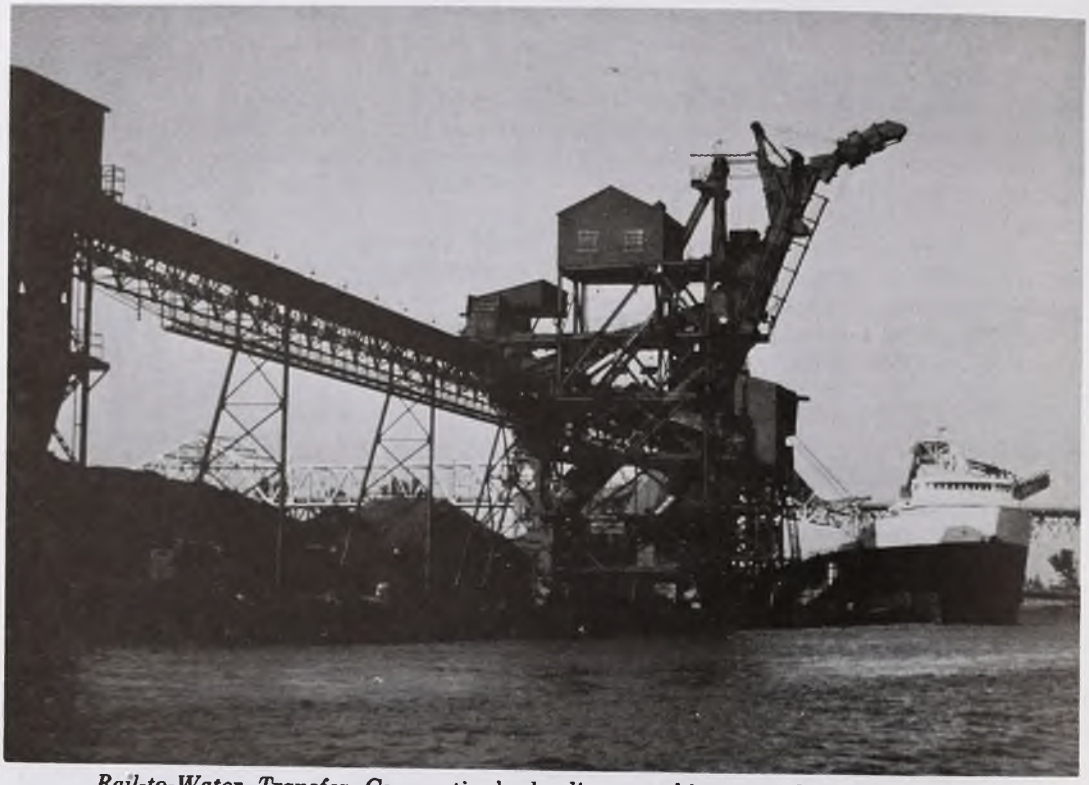
Early in the century, the ill-starred Lake Michigan Car Ferry Transportation Company ran from an indentation in the north bank of the Calumet between 92nd Street bridge and the E J E Railway bridge. Traces of this rudimentary slip appear in an aerial photograph of 1936 vintage, and its was still represented on a chart I purchased in the 1960's, even though by that time it had been filled. The Rock Island Railroad had switched the ferry landing. The company failed after three of its impractical car-ferry barges were lost in violent Lake Michigan weather, and its attempt to operate with *Pere Marquette 16* also came to grief.

Bulk cargo represented the greater part of lake traffic in the Calumet area, but such crane boats as *Clifford Hood* and *G.G. Post* appeared at times. One riverside industry, Ford Motor Company, had plans which apparently didn't mature. Its Chicago Assembly Plant lies south of the river at Torrence Avenue. By the late 1920's, Ford had constructed a concrete wharf with railroad trackage connecting to the plant. A whirler crane on a four-legged gantry was installed; whether to unload components shipped in by water or vehicles bound outward was never plain. The only utilization I know of was the tying off there of the Ford barge *Lake Inaha*, which lay in the dock for years until it was sold off-lakes.

In the optimistic early years of the Seaway, the lovely *Prinses Irene* attempted regular passenger-freight service out of Lake Calumet Harbor. Also, in the days before containers, one could purchase a bill of lading and be shipped out of the Harbor to Montreal or beyond. My wife and I enjoyed such a trip in *Transpacific*, learning about *Gemuss eintoft, ei, lauchs*, Halsten beer (from Hamburg - where else?) and the dubious joys of battling a *fedderteufel* in a narrow bunk. All such activity has fallen to technology by now.

Another of the many vessel types to trade in the Calumet was the self-unloading crane barge, *Marquis Roen*. Little heralded, it has sailed away unnoticed. Astern, this one bore gear into which the bow of a powerful tug, usually the *John Roen V*, could be fitted to power the long haul. In the river, *John* hauled from the bow while a local tug handled the stern. This combination long pre-dated the *Presque Isle* set and deserved more notice than I have known it to have received.

Where there is water, humanity wants to "go for a boat ride". The Calumet offered this opportunity. In source material I found a



Author's Photo

Rail-to-Water Transfer Corporation's loading machinery with the ADAM E. CORNELIUS *in the north dock. Contrary to usual practice, the* CORNELIUS *headed in for this visit.*

picture of an old steam launch of about 35 feet, listing heavily to starboard so its passengers could get into the camera's eye. Name and date, sadly, are lacking. At another time, the stern-wheel steamer *Tourist*, 87 x 17 x 4, built at St. Joseph, Michigan in 1897, came across to the Calumet. It ran out of Riverdale in 1909-1911, and burned there in the later years. Mr. Louis Pakieser of Evergreen Park, Illinois, operated a motor vessel, *Luella Belle*, named for his vivacious spouse, for a few years about 1960. The flat-bottomed, all-steel, screw-propelled boat sported two diesel engines and, for flavor, pilot house, stacks and non-functional stern wheel. Its route was from Riverdale around the horseshoe, through the big bend, through the lock and back. Lou sold the boat to an Ohio River entrepreneur, but enjoyed his experience.

The Little Calumet doesn't fail to attract pleasure boaters. The Grand Calumet, with least depth charted at 12 inches, seems immune, but "river rats", as they are termed by Lake Michigan boaters, keep the Calumet buzzing on weekends. Alas, malice, unsafe practices and stupidity are not exceptional, and some of them deserve the pejorative aspect of the term.

On a Summer Sunday in the 1960's, for example, a river boater, running on automatic pilot, plowed southward near 106th Street, holding the right side of the river. One person below decks and no one was on watch. A northbound towboat with several barges needed both sides of the river to negotiate a turn. With no one at the wheel, the yacht was run down and a life was lost. Later that year my erstwhile skipper has his small cruiser westbound near the Sag Channel junction in Blue Island. East out of the river, his destination, came a United States Coast Guard patrol boat. The two were set up for a normal red-to-red passing - one whistle. At less than thirty feet, the Guardsman, a reserve chief petty officer, suddenly blew two whistles, indicating his intention to cross under our bow and enter the Sag Channel! Skipper had time only to go hard astern. When all was sorted out, it became apparent that Chiefie wasn't

playing "Boat" but "Street Car". (On a trolley, two whistles meant "Go ahead".) That man really deserved to wear his insignia the fouled anchor. Actions like these among boats bearing a U.S. Power Squadron burgee could bring a sharp rebuke, or even a hearing resembling a naval court martial.

Maybe this explains my preference for Power Squadron over Coast Guard for learning safe boating. Naturally, not all Calumet boaters behave like river rats; I took my Advanced Piloting course with Calumet Squadron and met fine people, but not all Calumet boaters are with the Power Squadron.

What happens today, and what may be ahead? Evidently the glory days of the American Ruhr are behind it. After International Harvester Company sold its Wisconsin Steel Division to Envirodyne, a protracted strike at IH deprived that mill of its largest single customer. Thought by some to be too old and too small to be economical, Wisconsin had to shut down. 3000 workers lost jobs; some 150 acres of land stand idle and the mill buildings are unused and deteriorating. Sprawling South Works, where five furnaces were once in blast, feeding a fine basic-oxygen plant and a full range of blooming, slab, merchant, plate, beam and strip mills today operates one electric furnace and one small mill. There are whispers that unused parts of the mill itself are going into the furnace. Only one blast furnace still stands, and idle. One looks in vain for the unloaders which stood at South Slip, and the vast open-hearth shops with their ranks of stacks have vanished, as have 9000 more jobs.

Whispers concern another mill which was beset by a gadfly attorney in the 1960's. The making, shaping and treating of steel demands heat, best obtained by burning some sort of fuel. Any combustion also produces oxides, some visible and odorous. Steel production is no silent process either. The gadfly "articulated concerns for the environment" by filing lawsuits, an activity encouraged and funded by the government; whether the suits were decided for the steel maker or the gadfly, the latter drew the same federal grant! The mill reacted by closing one department after another, removing the various offenses, and with them, the workers' jobs. Was South Works put into this situation? Who know? At any rate, the

Author's Photo

Fire Tug JOSEPH MEDILL *pours water on a smokey fire in the material yard east of Torrence Avenue.*

Author's Photo

National Steel's converted T-3, LEON FALK, JR. *got a new after house and attractive stack in repairs conducted by American Ship Building after the 1971 season. Replacement of the original smoke pipe surely beautified one end of this vessel!*

air is cleaner and the environment quieter than it was when the open-hearth stacks belched red smoke; this is small satisfaction to those who tended the mill, however.

American heavy industry today presents a different picture than it did when the Calumet was growing. In the Deep South, minimills operate one scrap-fed electric furnace each and roll out the strips, plates and shapes which were once the forte of the large Calumet mills. Efforts to revive part of South Works with a new rail mill were thwarted; it's not the place of *Telescope* to join in the finger pointing which ensued. It appears, though, that Silverstackers have been seen in Calumet Harbor for the last time.

Salty traffic to Lake Calumet is virtually nil. That seven-mile haul through ten bridges is merely the cap on the long voyage up the Seaway, especially with two tugs which are needed one each way. There has been some activity at the terminal alongside 95th Street, and a serious effort is being made to develop Iroquois Landing at the river mouth, into a container facility. Two vessels at a time can moor in the river. Ironically, though, a prime cargo into the area is foreign steel. Evidently the east, or harbor side of the area will also become a wharf, and be one to which some salties could maneuver without tug assistance, a notable cost-reducing measure.

Farther into the river, Interlake's furnaces continue to operate. Republic Steel, now part of the LTV conglomerate, keeps at work. The resurgent economy has helped both, and at least one is currently reducing taconite to iron. A new cement-handling plant has been established at 95th Street, and Medusa *Challenger* now trades in the Calumet. If there has been difficulty with any bridges, it has escaped press notice. I feel optimistic that this strange little river will continue to be vital artery of commerce, although never again to the degree it knew when the Bessmers spouted orange flame.

Back aboard the *Cash,* now, you've tied off safely and the Wellman bridges have begun biting at the pellets you've delivered.

The Chadburn shows "Finished with Engines" and you can relax. Joe, who has watched your performance grins a bit. "Cap", he says, "My brother-in-law works here and I can borow his car. Why don't we drive over to Carl's Vienna on South Chicago? He's supposed to serve the best hot dog in town."

You're reluctant. "No Joe, I think I'll read the Pilot for a while and then get my head down. You ought to watch Eddie direct the unloading; you've got enough service that maybe you can work Second Mate when he goes on vacation."

"Good idea," he responds. "I can knock off in time to see a little television. There's supposed to be a rerun of 'Showboat' tonight."

"Hot Dog?" "Showboat?" You think twice about the close shave at Red 2 and turn toward the ladder. "How sharper than a serpent's tooth," runs your thought, "Is a smart-aleck third mate!"

Let the Calumet find its destiny; tomorrow you may have to run that Gap again to make up a bit of time upbound. □

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Author's Photo

NICOLET, *outbound at 95th Street, smokes exultantly in this 1970 view. She has just negotiated "The Five" successfully. The vertical-lift bridges often inflict long delays on vessels and were despised by Lakes people who had never even seen them.*

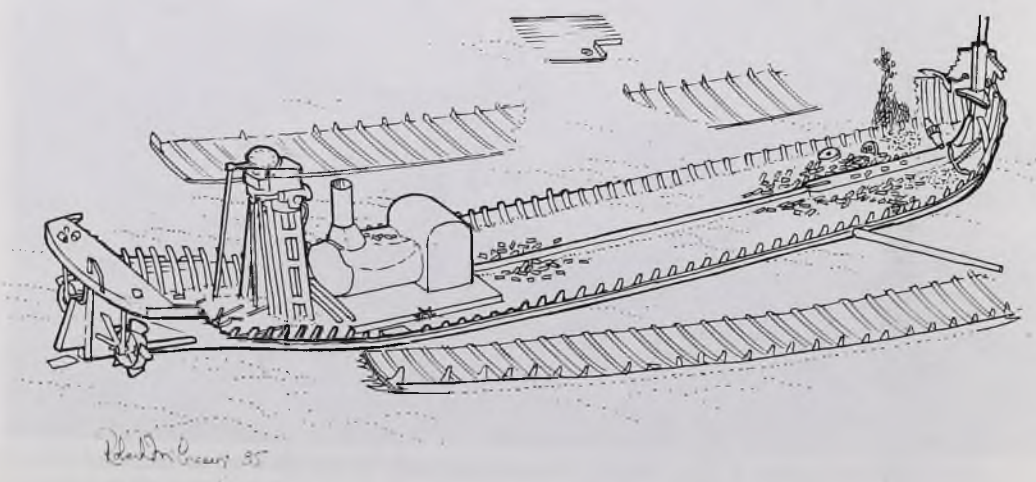
THE PROPELLER GOLIATH:

A PIONEER OF THE LAKES

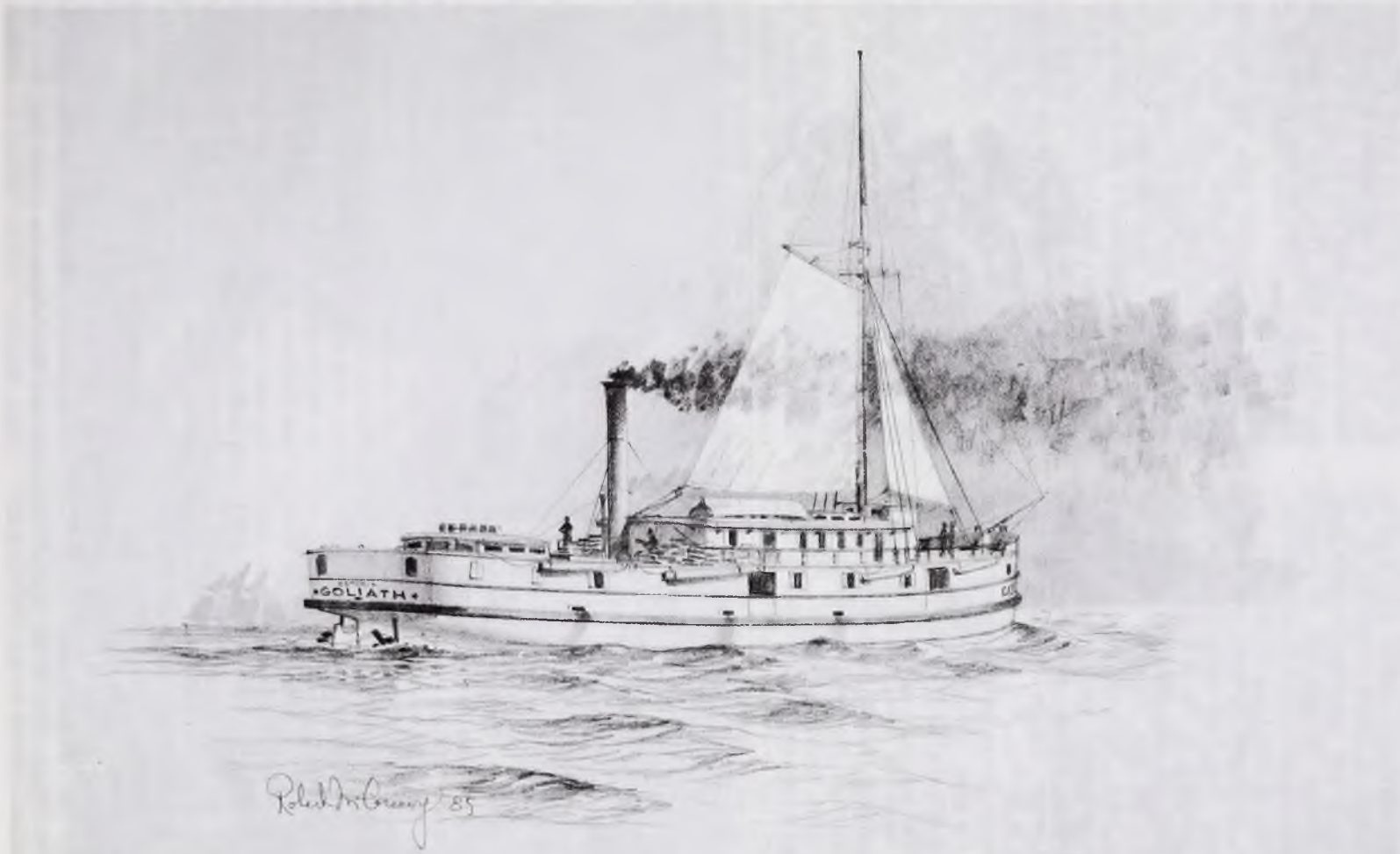
by
P. SCOTT GEGESKY
Undersea Research Associates

This article would never have been possible without the knowledge, research and assistance of the Great Lakes Historians: Walter Hirthe, Marine Historian, Milwaukee, WI; C. Patrick Labadie, Curator, Canal Park Museum, Duluth, MN. and John Polacsek, Curator, Dossin Museum, Detroit, MI.

The introduction of a steam powered ship on the Great Lakes was a rather novel idea in the early 1800's. The first steamer on the upper Great Lakes was a sidewheeler named *Walk-in-the-Water*, built early in 1818 at Black Rock, N.Y. However, in the early 1840's, the sail borne schooners still handled the bulk of the freight and passenger trade on the



Marine artist Bob McGreevy illustrates the GOLIATH *as she lies on the bottom of Lake Huron today.*



Marine artist Bob McGreevy's sketch of how the GOLIATH *may have looked. Note the twin screws, tall stack and sparks, cord wood stacked on the deck and the position of the ship's lifeboat.*

Lakes. This was to soon change. John Ericsson was a pioneer in steam propulsion in the Lake boats. He was determined to make them fast and efficient. Up until 1841, all steamers on the Lakes were propelled by paddlewheels. In the winter of 1840-41, a wooden, sloop-rigged craft christened *Vandalia* was built in the Oswego, New York shipyards. She was the first propeller in the northern lakes and grossed only 138 tons when she arrived in Lake Erie. She was propelled through the water by early Ericsson, screw designed propellers and steam engines. Later in 1842 the propellers *Chicago* and *Oswego* were built in Oswego, and in 1843, the *Hercules* was built in Buffalo, and the *Sampson* built at Perrysburg. These early ships were prototypes of the great 1000-foot Lakers of today, but at this time in history, they were but an experiment.

In the winter of 1845, Wesley Truesdell, an attorney from Detroit, commissioned shipwright Burton S. Goodsell to build a twin screw wooden package freighter. Propeller and engine design were still evolving in these early years, but Truesdell evidently had the foresight to see that Ericsson's dreams were the vision of the future. Truesdell's friends and business associates, however, had a different perspective. Their attempts to discourage him in his project reached the point of ridicule and it was suggested that the new ship be christened: Truesdell's Folly.

The wooden propeller was named instead, *Goliath* when she was launched on March 28, 1846 at Goodsell's Palmer, Michigan shipyard. She carried twin Ericsson high pressure steam engines with a 16 inch cylinder and a 28 inch stroke rotating her twin Ericsson propellers. The propulsion machinery was manufactured in Cleveland, Ohio. She was enrolled in the Detroit Customers District on June 24, 1846 as a "steam propeller with one deck, one mast, a plain head and round stern". She cost Truesdell $46,000 to build, and was the first steam barge to be built exclusively for freight on the Great Lakes. The *Goliath* was 131 feet long with a 25'6" beam, a hold depth of 9 feet and a gross weight of almost 280 tons. Thus, in just four short years, the gross weight of steam propellers had almost doubled from that of their predecessor the *Vandalia*.

The Propeller *Goliath*

Her first master was M.H. Easterbrook who remained in charge for the first two years of the propeller's life on the Lakes. He guided her first cargo of 3000 barrels of flour and miscellaneous freight into the port of Buffalo on July 14, 1846. This began the short, but not uneventful career of this prototype of future Lakers.

Barely two months from her heralded maiden voyage to Buffalo, the *Goliath* met her first disaster. She left Sandusky Bay on September 14, 1846 with a cargo hold full of 8000 barrels of wheat and flour destined for Buffalo. She encountered a heavy gale on her route, and sprang a fatal leak around 2:00 a.m. on the 15th. In an attempt to save the ship and themselves, the crew threw overboard more than 800 barrels of flour while heading for shore. She was successfully beached in the early morning hours near Black River, N.Y. on Avon Point and filled and sank in fifteen minutes. The wreckers finally released her from the grasp of the Lake two weeks later when they refloated the *Goliath* on October 1, 1846.

As a result of the accident, the *Goliath* was either abandoned to her underwriters or claimed for the amount of her insurance. At the end of the month, October 29, 1846, she was enrolled in the name of the Michigan Insurance Company with H. H. Brown indicated as Secretary of the company. Sixty days later, she was sold by the insurance company to Stephen Grinn of Hudson, N.Y. The *Goliath* was again registered on December 28, 1846 at the port of Detroit by Grinn's attorney, William Truesdell. W.M. Easterbrook was still named as master of the ship.

The *Goliath*, with Easterbrook as her captain, sailed through the 1847 season without further mishaps. As a matter of fact, her luck seemed to be on the rise. *The Lake Superior News* noted on August 14, 1847 that the *Goliath* loaded 164 tons of native copper in the form of ore, at the wharf of Tinker and Company in Sault Ste. Marie. This was the heaviest cargo of mineral belonging to the Pittsburg and Boston Company, that had ever been shipped from the port. Eighty tons of cargo was comprised of masses weighing from 500 to 2900 pounds, and estimated to be 80 percent pure metal. It is interesting to note that the lock at Sault Ste. Marie had not yet been built, so the *Goliath's* cargo, in these massive chunks, had to be portaged around the falls to be transported from the Lake Superior copper mines to southern

ports. Most of this effort was contained by manual labor. Secondly, the copper was not yet smelted in the area. It had to be transported to be refined to base metal.

The *Goliath* changed captain for the 1848 shipping season when Captain Palmer took over the helm. She spent most of the season in the mining trade between Buffalo and Sault Ste. Marie. The newspapers of the day regularly misspelled *Goliath* in reporting her travels. She carried ore out of the Sault and supplies for the northern mining ports on her return trips.

The shipping season was drawing to a close on September 13, 1848 when the *Goliath* cleared Port Huron for Sault Ste. Marie with a full load of mining supplies and staples to sustain the Lake Superior towns through the rapidly approaching winter. She was loaded to capacity with 200 kegs of black powder, 20,000 bricks, 30,000 feet of lumber, 40 tons of hay and about 2,000 barrels of provisions and merchandise. For some unknown reason, Captain Palmer was not at the helm for this trip. Instead, Henry Cottrell was the master for this fateful trip.

The *Goliath* truly became a ghost ship on the thirteenth of September as she sailed into oblivion. Her loss was not reported in the papers until more than two weeks later. Reports of an explosion on Lake Huron filtered through the frontier communities, but it was not until wreckage started coming ashore at Goderich and Kincardine on the Bruce peninsula that the fate of the *Goliath* was recognized. The insurance companies and owners of the cargo chartered the *Scott* on October 2, 1848 to "proceed to the wreck" to secure the articles that came ashore and search for the bodies of the crew and passengers. Almost three weeks had passed since the accident occurred. Finally, 250 barrels of flour and cornmeal were recovered near Pine River above Goderich. No bodies were ever recovered nor was the wreck ever found. The charred upper works of the *Goliath* came shore at Pine Point and the mast came ashore at Kincardine.

The propeller *Goliath's* violent death was shrouded in bits and pieces of second hand information. Not a single man of the eighteen sorry souls on board lived to tell the tale of

Author's Photo

Clay pipes were found with the initials "T.D." on them.

Goliath's final hours. The first stories that indicated an accident had occurred, came from sailors that heard and felt a violent concussion from several miles off. When the *Goliath* went missing, her owners immediately feared that this explosion was her death knell, since she was carrying black powder for the mines.

On Thursday morning, September 13th, soon after daylight, the propeller was seen about eight miles from shore, with her mast and smokestack overboard. The wind was blowing southeast by east, and the steamer drifted toward shore. It was evident to the observers, from the large volume of smoke that issued from her that she was on fire. She drifted to within ten miles of the shore. The surf was reported to be very high and the wind subsided. About 9:00 a.m. the wind shifted to southwest, and the burning hull receded from the shore, and exploded with a tremendous noise, throwing fire and fragments high in the air. Efforts were made by a Mr. Whitcomb and others to launch a boat and render assistance to the crew, but the heavy breakers prevented them from getting the boat beyond the surf.

When the ship's yawl was found perfectly intact, the papers of the day assumed that the ship's company took the boat and perished in their attempt to reach the safety of the shore. It must be remembered that the land surrounding Lake Huron was a vast wilderness in 1848, with scattered logging, trapping and fishing settlements sparsely distributed along the shoreline. There was no telephone, nor even regular mail service to transmit information. Thus, unless there was a survivor to tell the tale of a mishap, the information was poorly transmitted and sometimes "constructed" to make a story. The fate of the *Goliath* and her crew is cloaked in this misinformation and the final violent minutes will forever remain a mystery.

No reports of foul weather were listed in the papers on September 13, 1848, But, we might assume that the *Goliath* possibly encountered near galeforce southeast winds as she left the Flats at Port Huron on her final trip up the Lake. The smokestacks of the 1840's were tall and narrow and, as a result, offer significant mechanical advantage to the closely spaced waves of Lake Huron. Secondly, the metallurgy of the early 1800's was poor in comparison to today's standards. Thus, there was a good probability of smoke stack failure due to wave action and metal fatigue. Once the stack blew down, the crew would have to go into furious action. When the stack failed, the firebox for the boiler would lose draft and the ship would start to lose power as the steam pressure in the boiler declined. Worse, however, would be the shower of sparks which continuously belched forth from the wood burning steam system and landed on the decks and crew. Fires on board the wooden ships were quite common and most often fatal. The *Goliath's* crew had to immediately recognize what grave danger they had encountered. They may have attempted to abandon ship as the winds of the lake fanned the flames into an inferno. It is more probable, based on multiple accounts of other accidents, that they attempted to battle the blaze and save the ship. If this was fact, then they were burned or blown to pieces as the *Goliath* met her violent death. This would account for the lack of bodies recovered with the wreckage, since the men would have all been feverishly working around the powder.

In all, eighteen mortals met their end on this fiery day in September. Captain Palmer, the *Goliath's* normal skipper, named them as best he could for *The Buffalo Morning Express*. Some men died anonymously since they shipped out of Buffalo, and the clerk of the *Goliath* held the records aboard. They will remain unknown for eternity.

- Henry Cottell, Captain, left a wife to whom he was married only three days before the departure. They resided in St. Clair County.
- John E. Schwartz, clerk, son of Adjutant General in Detroit.
- Silas Campbell, first mate from Detroit
- Alvah McNatt, second mate, left a wife and family in Detroit and a large circle of friends.
- Busha, first engineer, a Frenchman, long time resident of Detroit.
- Edward Griffon, second engineer from Detroit.
- Richard Cooley, cook, had a father residing in Detroit.
- John Murphy, deck hand, and the only one whose name was known.
- Wm. Pregon, fireman from Detroit.
- Richard (last name unknown), waiter from Detroit.
- Two wheelsmen, names not known, shipped from Buffalo.
- Two deckhands, names not known, shipped from Buffalo.

Author's Photo

The initials "M.F.B." were the markings from the brick manufacturer.

● One fireman from Buffalo.

● Edward Cook, clerk in the employ of S. McNight, Esq. of Sault Ste. Marie on his way up, a long time resident of Detroit and a well thought of young man.

● Wm. Dodge, carpenter, also a passenger on his way to the Sault, a young man with many acquaitences in Detroit.

● Capt. Beckley of Cleveland was reported to have been on board the propeller, but this was an erroneous report.

The *Goliath* was insured for $9,000 (original cost $46,000) with the Columbus, North West and another insurance company holding liability for $3,000 each. The cargo was also partly insured by the North West and Chicago insurance companies of Detroit for about $8,000. The extent of Buffalo insurance coverage was unknown.

The history-making *Goliath* lay in her Lake Huron grave for 136 years before the sonograph of Undersea Research Associates depicted her broken bones on the bottom. The stainless torpedo of the sonar towfish pulsed its high frequency sound wave across the barren wasteland of the deep of Lake Huron on a sultry July day. Slowly the brown tones of the sonograph outlined the stern, engines, boiler and hull of a small steamer.

The Undersea Research crew of Keith Gattis, Pam Kateu, Dave Trotter, Sam Heath, Ken Maurer and Scott Gegesky was decimated by commitments to the outside world on the occassion of the auspicious find. Only "Doc" Maurer and the author could share the initial thrill of the find. However, it wasn't long until Michigan Bell transmitted the good news. More than a month later the conversion from research vessel to dive boat was accomplished, and Dave Trotter descended down the long mooring line that led to the *Goliath's* final resting place in the turquoise of Lake Huron's bosom. That dive and the many that followed, revealed much of the *Goliath's* lasting secrets.

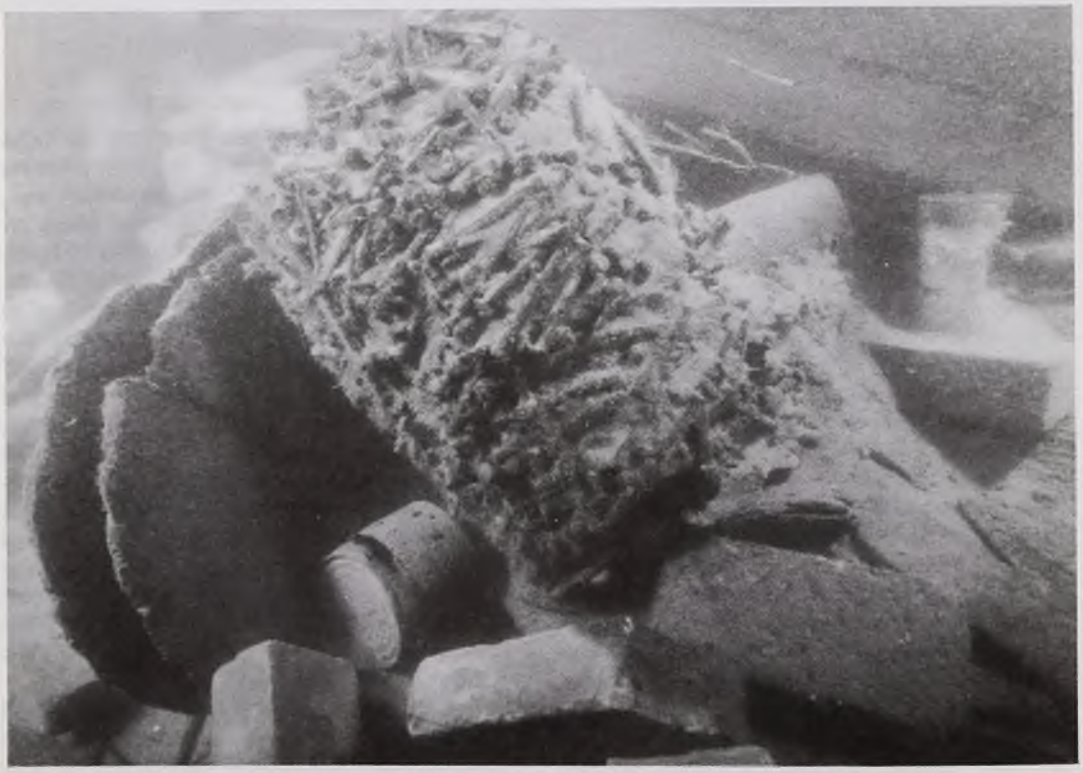
The center section of the *Goliath's* hull is intact from stem to stern post. Thus exact measurements of length and depth of hold could be taken, and the beam estimated on the basis of curvature of the hull. Many por-

tions of the interior of the hull shows the ravages of the fire. The upper deck is either burned or blown away. Only a small section of it, with the mast hole, is lying off the port bow. The side of the once proud propeller are cracked off at the turn of the bilge, where the man-made joints make the hull the weakest. Both the port and starboard sides are intact and lie in the silt in close proximity to the hull. The starboard side is at a slight angle to the keel, but the port side is almost exactly parallel. With the upper deck structure destroyed, there is no support for the sides of the hull. When the rapidly descending *Goliath* struck bottom, the sides failed from the impact.

Starting at the bow, the antiquity of the *Goliath* is immediately apparent. The stem is intact and upright from the keel to the top of what was once the rail. The Roman Numeral depth indicators are still clearly visible. Some of the iron rigging for the bowsprit and mast supports are still attached. The hawsepipes, the eyes of the ship, are very close to the stem and are just slightly above the area where the deck was once bolted in place. Just aft of the stem, the port and starboard sides are broken off sharply down to the turn of the bilge. There is evidence of a massive fire, but the hull did not burn to the waterline before it sank. The explosion must have opened the seams and the ill-fated *Goliath* was enveloped by the cold waters of Lake Huron before the fire could consume her.

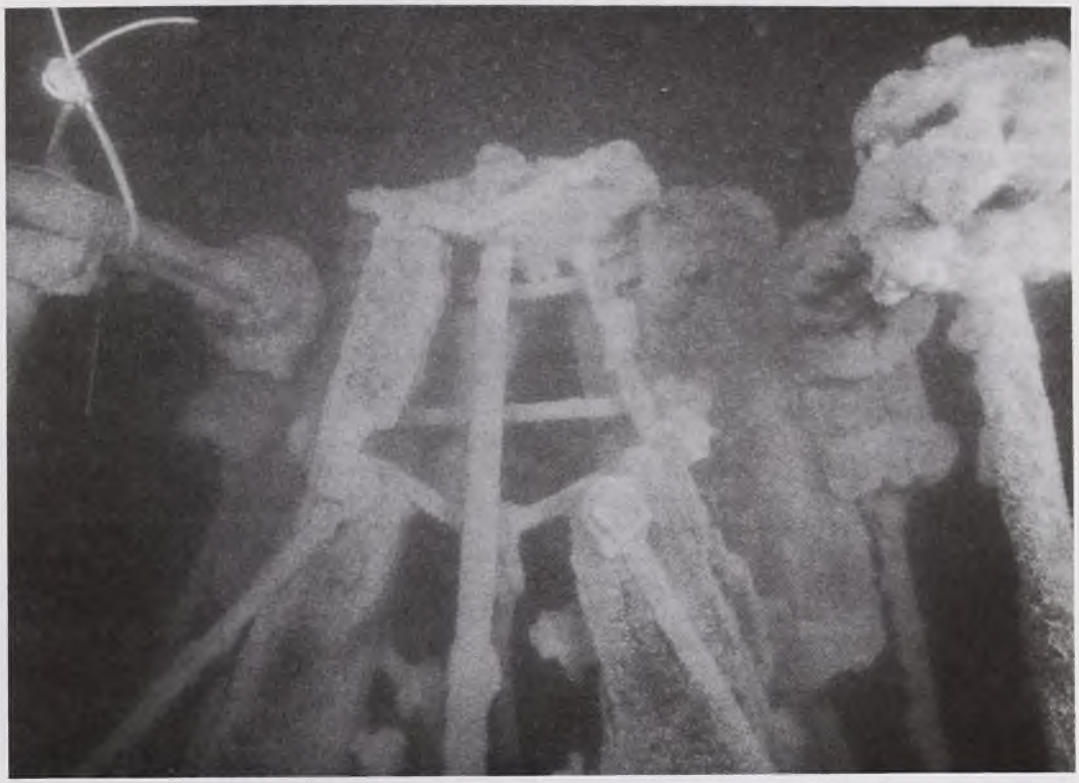
Inside the hull, the remaining cargo is in great disarray. Both anchors are still attached to their chains, but the wooden stocks are burned away. The port anchor hangs by a fluke outside the hull while the starboard anchor rests in a jumble inside the bow. The massive wooden axis of the windlass is burned to a small fraction of its former diameter, and the pressed-on retaining bands and gears hang loosely around what is left. The rusted mass of anchor chain is solidly welded together by fire and time.

Bits and pieces of history are scattered among the silt and fire bricks piled in disarray along the keel. Kegs of ancient square



Author's Photo

The remains of a keg of nails and bellows after the explosion.



Author's Photo

The compact "V" construction of the twin Ericsson designed engines.

nails, the barrel staves long ago eaten by the fire, still retain their barrel shape after being welded together by the heat. The fire bricks, hand formed and stamped with the letters "MFB" are loosely jumbled everywhere by the explosion and impact with the bottom. A three-foot grindstone lies in among the kegs of nails. A bucket and large leather bellows is nearby. China is scattered everywhere; the manufacturer TJ & J Mayer's, still evident in print on the bottom of the plates. A case of long stemmed clay pipes, crushed by the bricks, is buried in the silt, and fragments of bottles, oil lamps, glass chimneys, hand tools and cooking utensils are spread about the bilge. On the port side, the eerie specter of a fisherman's net drifts beseechingly toward the surface, the floats clawing to be free; the deadly net still catching fish that the long absent fisherman will never see.

Following the exposed keel aft, the mast step is evident, notched deeply into the oak. Two-thirds of the way sternward, a massive platform looms into view with the great iron fire box atop. The two firebox doors are dogged shut, and the cord wood has long ago floated away. The horizontal boiler, evidently still hot and sealed when the *Goliath* sank, buckled from the excessive pressure of the water. The large furrows now hold some of the displaced fire bricks. The stack is missing, as described by the witnesses some 136 years ago, and nowhere to be found around the wreck. Large solid copper pipes are scattered about and the exhaust valve and wheel lay at the base of the boiler. The nozzle to a fire hose is close by on the deck, evidently dropped by a deckhand. The fire hose was either rotted or burned away.

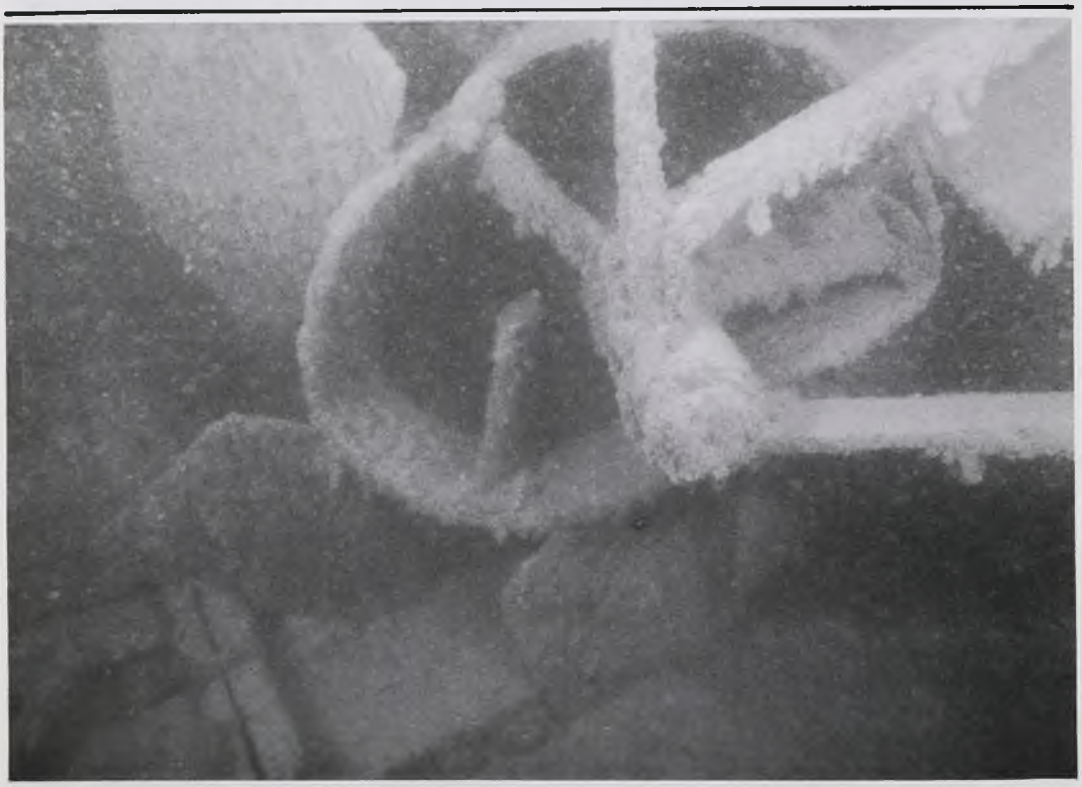
Aft of the boiler, the twin Ericsson steam engines stand some twelve feet above the keel. The cylinders, piston rods, and control mechanism are still intact. The copper piping system was collapsed either by the explosion or the collision with the bottom. The cylinders form a vee which makes the machinery compact and gives the correct angle for the piston rods to meet the gearing for the twin propeller shafts.

Aft of the engines, the stern rises to its full height. It is a massive structure with the cross beams spaced no more than a foot apart. The stern post is bolted through the beams. Spare bronze bushings, steering pulleys, and chain are strewn chaotically around the stern compartment, and the remains of the iron engine room steps are a jumbled mess.

At deck level, the tiller post and arm are bent down and away from the stern post, evidently as a result of impact from pieces of the upper deck and structure. Inspection of the stern of the ship reveals that the rudder is amidships and that the bottom of the iron rudder is broken from its impact with the bottom.

To either side of the rudder, the massive structure of the twin Ericsson propellers are evident. These earliest of propeller designs are magnificent. They are some six feet in diameter with three curved blades attached from the hub to an outer ring. Six buckets are bolted to the outer circumference of the ring. Modern lake freighters have started to utilize a circumferential ring on their propellers, so propeller design has swung full circle from this antique laker to the modern behemoth of the lake trade. The port propeller is badly bent either from collision with surface debris or with the bottom. Both propeller shafts have bearings aft of the propeller which are held by three struts to maintain stability.

Only when these Ericsson screws are viewed in their rusty glory does the antiquity of this steam prototype come into perspective. The *Goliath* is truly a major marine archaeological find. Her violent death trapped, forever, a time capsule of steam propulsion development at its infant stages. To date, the *Goliath's* steam propulsion system is the earliest operating marine engine to be found in fresh water. The fact that she only survived three seasons on the Lakes, lends credence to the observation that the engine/boiler system is unmodified from Ericsson's original manufacture of the system. By comparing the *Goliath* to the *Indiana* much can be learned of the evolution of Ericsson's systems. Her death may ultimately give modern man a true insight into the pioneer efforts of the genius of yesteryear. □



Author's Photo

The broken propeller of the vessel's port side. The propeller had six blades on the outer edge.

PHOTO GALLERY

Massman Collection/Dossin Museum

HOMER D. WILLIAMS *built in 1917 by American Shipbuilding.*

Photo by Peter Worden/Museum Collection

EUGENE P. THOMAS *built in 1930 by Great Lakes Engineering Works.*

EUGENE W. PARGNY *built in 1917 by American Shipbuilding.*

Photo by Peter Worden/Museum Collection

GREAT LAKES & SEAWAY NEWS

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Dec. 31. . .The Yugoslav vessel *Beograd* was drydocked at Montreal. They estimate repairs will be completed by January 17, 1985.

. . .*Ziyas* was the last ocean going vessel out of the Seaway.

Jan. 1. . .The ocean vessel *Ladylike* struck the Canadian tanker *Irving Ocean* at Three Rivers, P.Q. while docking. The *Ladylike* loaded in Chicago and was bound for Algiers.

. . .The British flag vessel *Manchester Challenge* was the first ocean vessel to arrive in the port of Montreal for 1985.

. . .The Canadian tanker *Seaway Trader* will enter the Seaway at Cape Vincent today and lay-up for the winter at Morrisburg, Ontario.

. . .Halco's *Cartiercliffe Hall* was the last upbound vessel in the Welland Canal.

. . .*Ungava Transport* moved to Dock 17 at Port Colborne behind the *Erindale*.

Jan. 2. . .*Ladylike* cleared Three Rivers for Algiers.

. . .*Algowest* was the last upbound vessel in the Seaway when she cleared today.

. . .*Manchester Challenge* opened the season in Montreal.

. . .*Canada Marquis* arrived in Leningrad to unload grain.

. . .*Saskatchewan Pioneer* arrived at Sydney, N.S. to await orders.

Jan. 3. . .*Derrick Boat No. 8* was on the bottom of the H. Lee White Marine Museum in Oswego. She was purchased for use as a display and arrived about six weeks ago. She will be raised in the spring.

Jan. 3. . .The last vessel into Toronto for the 1984 season was *English River*. She arrived from Bath, Ontario with a load of cement. The last saltie out of Toronto was the Cuban vessel *Antonio Maceo* which sailed for Quebec City.

● GREAT LAKES & SEAWAY NEWS

Jan. 4. . .American Steamship has entered an agreement with the People's Republic of China to develop self-unloading colliers for domestic use in China.

. . .From Montreal comes a report that a drilling barge was damaged by fire near the Lachine Rapids in the St. Lawrence River. The barge has no name, but measures 16 x 50 x 4 and is owned by Mr. Gosselin of Levis, P.Q.

Jan. 5. . .*St. Lawrence* is now at Dalien, Mainland China for scrapping.

Jan. 7. . .The Canadian m/v *Mathilda Desgagnes* was surveyed at Baie Comeau in respect to ice damage suffered on July 16, 1984 while on a voyage to the Canadian north.

Jan. 9. . .*Selkirk Settler* arrived in Leningrad with a load of grain.

. . .The St. Louis bridge over the St. Lawrence Seaway has been found to have a similar shaft problems as the Laroque Bridge had at Valleyfield, P.Q. The closing of the Larocque Bridge delayed traffic in the Seaway for 18 days. Other bridges in the Seaway are reported safe.

Jan. 10. . .The Philippine vessel *Transocean Pearl* struck the concrete jetty at Berth No. 8 while arriving at the Islamic port of Jeddah. She was on a voyage from the Great Lakes to Near and Far East ports.

Jan. 11. . .The British vessel *Sea Primrose* arrived in Halifax from Montreal.

Photo by Barry Andersen

PINEGLEN *awaiting upbound passage at Dock 1 near Port Weller harbor on September 28, 1984. She will go to Port Maitland for scrapping.*

. . .At Duluth one of the vessels being scrapped at the Hyman-Michaels yard caught fire. It was feared that the fire might spread to the grain elevators nearby.

Jan. 14. . .*Thorold* was aground at Red Islet in the Seaway near the mouth of the Saguenay River.

Jan. 15. . .The Toledo-Lucas County Port Authority announced the appointment of Nancy Wright as manager of public relations for the port agency.

Jan. 16. . .*Thorold* released and awaiting pilot at Cacouna.

. . .The *Elmglen* was moved from the old Consol fuel dock in Windsor down river to the grain elevator at Ojibway to unload.

Jan. 17. . .The Canadian bulk carrier *Selkirk Settler* struck the m/v *Komsomolets Lat VII* at Leningrad, Russia. The *Settler* suffered damage and was surveyed at Hamburg, West Germany.

Jan. 19. . .Ice is usually the only obstacle for Amoco's *Amoco Michigan/Great Lakes* when entering the Escanaba harbor. Crew members were baffled when they were told to watch for a pick up truck that was in their path through the ice. The truck had been driven out on the ice and fell through and sank up to the hood. Efforts to pull the truck failed, so the Coast Guard warned the tug/barge. Despite passing within 50 feet of the truck, the tug/barge didn't sink it.

Jan. 22. . .Repairs were begun today on the *Thorold* at Lauzon Drydock.

Jan. 23. . .Marinette Marine Corp. has been awarded a $7.1 million contract to build two torpedo weapons retrievers to be delivered in mid-1986.

Jan. 24. . .The Propeller Club - Port of Duluth elected Mr. Thomas Caine of American Marine Company as president for 1985. The other officers elected were Dale App - 1st vice president, Patrick Labadie - 2nd vice president, James Marshall - 3rd vice president. Eben Spencer was re-elected secretary and John Ethan was re-elected treasurer. This group has served the Head of the Lakes Marine fraternity for over half a century. Its original port charter dates back to October 6, 1933 and is one of the oldest chapters of this international organization on the lakes.

Jan. 25. . .*Canadian Pioneer* left the lakes with potash for Baltimore. She loaded at New Orleans for Mexico and returned to Mobile, AL. with stone.

. . .*Sea Primrose* left Halifax for Ethiopa.

Jan. 26. . .*Atlantic Superior* was operating on the east coast in the gypsum trade.

Jan. 27. . .*Selkirk Settler* and *Canada Marquis* were employed delivering European grain from Hamburg to Leningrad. *Saskatchewan Pioneer* was laid up on the east coast.

Jan. 30. . .The Philippine vessel *Transocean Transport II* was surveyed for damage suffered when she struck the concrete dolphin while entering the port of Green Bay on October 24, 1984. Repairs will be made at Saseho, Japan.

. . .The St. Lawrence Seaway Development Corp. has opened a midwest office in Toledo, Ohio.

. . .The tug *Challenger*, ex-*Au Sable* was placed under arrest at Duluth by the U.S. District Court of Minnesota. The case will be tried in March.

● GREAT LAKES & SEAWAY NEWS

Photo Courtesy of Fednav Lakes Services

Fednav Lakes Services has purchased the AVON FOREST *and will rename her* FEDERAL LAKES. *She will be the largest deep-sea vessel to fly the U.S. flag.*

Jan. 31. . .*Black Bay* was scorched by a propane explosion levelled at a nearby shed in Montreal. A truck was demolished by the explosions.

Feb. 1. . .Ice conditions in the Gulf of St. Lawrence has hampered the service of *Camille Marcoux* between Matane and Baie Comeau.

Feb. 2. . .The Panamanian freighter *Topaz Express* recently suffered slight damage in an air raid in the Persian Gulf. She visited the lakes as *Nikatas Roussos* and *Zoodohos*.

. . .*Transocean Transport II* cleared Saseho for Vancouver, B.C.

Feb. 4. . .*Stefan Batory* will offer three one-week cruises on the St. Lawrence and Saguenay Rivers in July.

Feb. 6. . .The Marquette Federal District Bankruptcy Court has granted the Superior Shipbuilding Co. a one month extension to recover $150,000 in earnest money deposited during the Wisconsin firm's unsuccessful bid to purchase the Upper Peninsula Shipbuilding Co. last summer.

Feb. 7. . .The Liberian m/v *Federal Calumet* was in drydock at Malta for repairs to damage received in 1983 and 1984 while transiting the Seaway.

. . .The Belgian m/v *Federal Huron* went aground off Panama City, Florida, but was freed later with the assistance of three tugs.

Photo by Barry Andersen

PONTIAC *at Ramey's Bend for scrapping on November 11, 1984. Alongside of her are the remains of the* E.G. GRACE.

● GREAT LAKES & SEAWAY NEWS

. . .Halco's *Frankcliffe Hall* was drydocked at Montreal for repairs to damage received in the 1982 and 1983 season.

Feb. 8. . .Ontario Shipbuilders Inc. has been awarded a $2.5 million contract to convert the *Arctic* to carry bulk oil and ore. The company is a consortium of Canadian Shipbuilding and Port Weller Dry Docks.

. . .The U.S. Coast Guard announced that they will close the following stations to save $5 million per year. Air Station Chicago, Ashtabula, Harbor Beach, Holland, St. Clair Shores and Marquette, North Superior and Sheboygan, Wisconsin. The following stations will be converted to seasonal operations: Alexandria Bay, N.Y., Bayfield, WI., Frankfort and St. Clair Flats in Michigan. The Stations in Duluth, Oswego, Port Huron and Two Rivers will be expanded.

. . .At the International Shipmasters Convention in Ashtabula, Ohio, Capt. Vic Anderson was installed as Grand President. Capt. James Daleski was 1st Grand Vice President and Vic Chamberlain was elected 2nd Vice Grand President. Capt. Kurth Grainger was elected secretary-treasurer.

Feb. 10. . .The *Beograd* completed repairs and departed Montreal for Santos.

Feb. 10. . .Fednav Lakes Services, Inc. of Detroit, MI. announced the introduction of a monthly roll on - roll off service between the Great Lakes and Europe beginning in 1985. Fednav has acquired through their Canadian associate, the Fednav group of Montreal, the 20,500 ton vessel *Avon Forest*. She will be renamed *Federal Lakes* and will be registered under the U.S. flag. The crew will be all Americans and will be the largest U.S. flag deep sea vessel ever to serve the Seaway. She was built at the Port Weller Dry Docks in St. Catharines, Ontario in 1973.

. . .The U.S. flag vessel *Marjorie Lykes* was drydocked at Galveston, Texas to repairs damage suffered on May 7 in Milwaukee during heavy weather.

Feb. 12. . .The tug *Malcolm* with railroad and marine salvage crews worked through a snowstorm to lift a 50-foot tank car filled with toxic and flammable chemicals from the bottom of the St. Clair River near Sarnia, Ontario. The car was filled with 160,000 pounds of propylene oxide and slid off the Chessie rail barge and sank in 23 feet of water.

Feb. 15. . .Park Construction Co. begins to remove the old Arrowhead Bridge which spans the St. Louis River between Duluth and Superior.

Feb. 19. . .The Cyprus vessel *City of Cammeray* was surveyed at Chandler, P.Q. in regard to ice damage suffered between February 11 and 13th while on a voyage between New York and Chandler.

Feb. 21. . .There is hope to restore ferry service between Muskegon and Milwaukee in May, 1986 using the idle British Columbia ferry *Sechelt Queen*.

Feb. 22. . .At Port Weller Dry Docks the *Royalton (ii)* now bears the name *Ottercliffe Hall* on the stern and the Halco stack markings have partially returned.

Feb. 23. . .The Canadian freighter *Lady Franklin* was loading 3,200 tons of flour at Quebec City for Ethiopia on charter to World Vision.

Feb. 24. . .C.S.L. is suing the Seaway for $275,000 for the losses incurred by the *J.W. McGiffen* during the shutdown last fall. This is the first of many such suits.

. . .Tugs *Barbara Ann* and *Glenada* began ice breaking operations in the Chenal Ecarte and Sydenham Rivers to relieve extensive flooding in the Wallaceburg and Dresden Conservation Authority.

. . .Tug *Atomic* began similar operations in the Thames River with extensive flooding along the river watershed.

Feb. 25. . .The *Ungava Transport* was having her cabins stripped out at Port Colborne.

Miscellaneous. . .
. . .Canadian and American members of a Seaway trade mission representing shipping interests and the administrators toured Europe from January 28 to February 12. The officials began their tour in London and visited Paris, LeHavre, Antwerp, Rotterdam and Hamburg. The trade promotion groups was the first to combine Canadian and U.S. Seaway authorities, representatives of two provincial governments and eight states. Interest in the facilities of the Seaway, the length of the season and capacity of the waterway have been the primary interest to the shipping interests at every stop. The Seaway officials had hoped to strengthen relations with Seaway customers and develop new areas for trade.

The Great Lakes Maritime Institute, Inc. promotes interest in the Great Lakes; preserves items related to their history; encourages building of scale models of lake ships and furthers programs of the Dossin Great Lakes Museum, repository of the Institute's holdings. The Institute was organized in 1952 as the Great Lakes Model Shipbuilder's Guild. It is incorporated under the laws of the State of Michigan as a non-profit corporation and donations to the Institute have been ruled deductible by the Internal Revenue Service. No Institute member is paid for services. □

Telescope© the Institute's journal, is published six times per year and covers Great Lakes topics. The Editor welcomes the opportunity to review articles for publication, send to:

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