

O. EVINRUDE.  
MARINE PROPULSION MECHANISM.  
APPLICATION FILED SEPT. 16, 1910.

Patented Aug. 22, 1911.  
2 SHEETS-SHEET 1.

1,001,260.

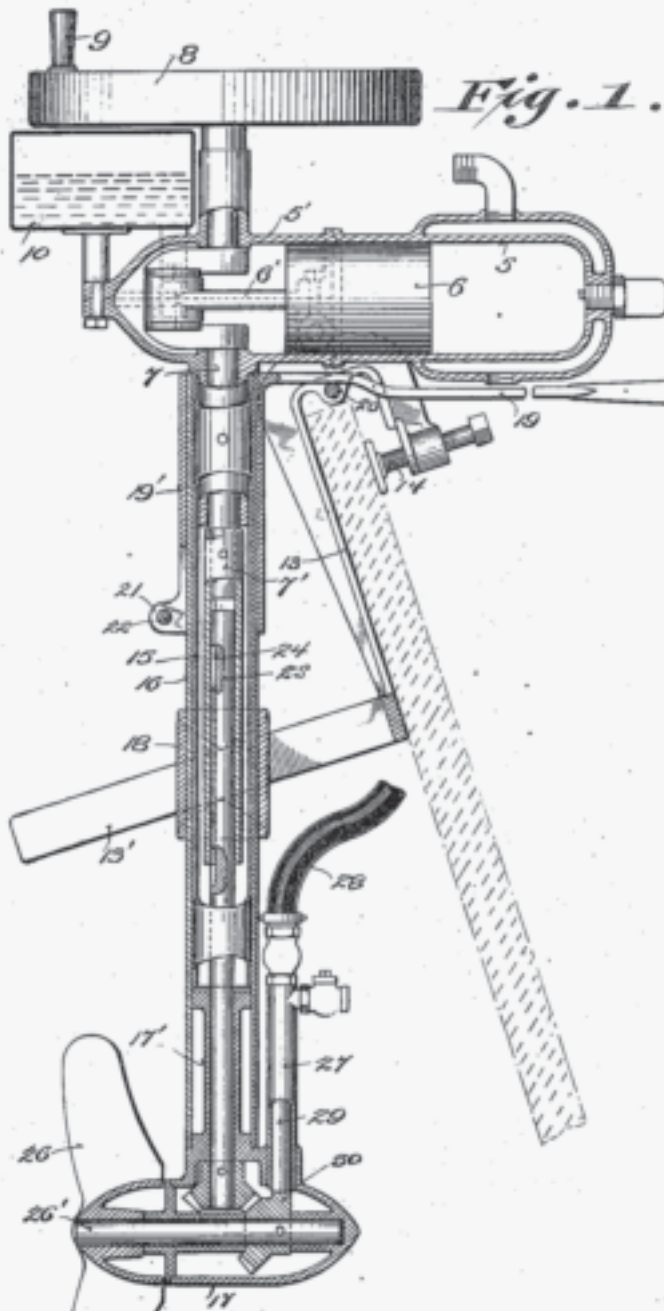


Fig. 1.

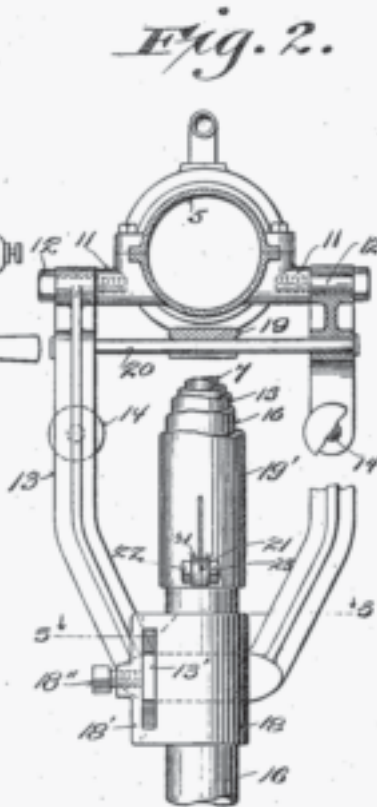
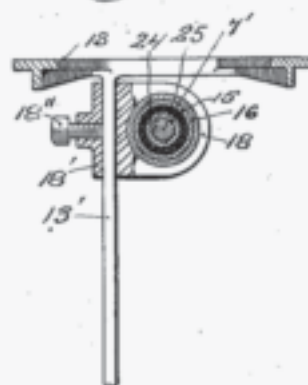


Fig. 2.

Fig. 3.



Witnesses:  
Casimir J. Aug.  
May Downey.

Inventor:  
Ole Evinrude  
By *Alphonse Young*  
Attorney.

*A Wisconsin Legend*

**OLE EVINRUDE  
AND  
HIS OUTBOARD MOTOR**

by *Ralph E. Lambrecht*



WHi Image ID 36551

*Ole Evinrude, undated*

Without question, the cheese and beer industries are closely associated with Wisconsin. However, another product, the outboard motor, has undergone continuous development and enjoyed great popularity for nearly one hundred years. The world-renowned name in outboard motors had its humble beginnings in Wisconsin. Designed, developed, and manufactured in the Milwaukee area, *Evinrude* was founded in 1909 by Ole Evinrude.

The story of Ole Evinrude begins with his birth in Norway April 19, 1877, and continues with the emigration of his family to Wisconsin in 1882. There they settled on a farm in Jefferson County near Cambridge, Wisconsin, along the shores of Lake Ripley. Ole was one of eleven children born to Andrew and Beatta (Dahl) Evinrude. In his homeland, Andrew, who came from a family of seafaring men, was a farmer and landscape gardener. The men in his wife's family had been machinists and blacksmiths for generations. The Evinrudes settled into a life much like that of thousands of other Scandinavian and German emigrants who came to Wisconsin, Minnesota, and the Dakotas. These settlers were an industrious, thrifty, and self-reliant group of pioneers. Ole's formal schooling, in which he learned to read, to write, and to perform basic math skills, ended with the third grade.



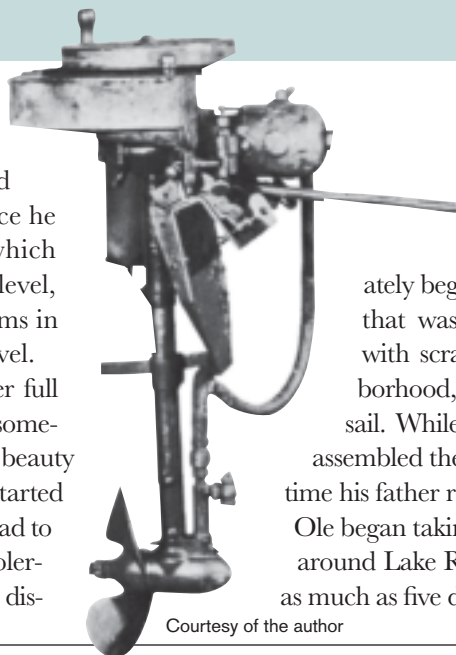
Norwegian Emigrant Museum

*Above: Ole Evinrude making good use of his invention*

*Below: Evinrude's production prototype of his first line of motors. This version of his initial 1907 model would sell for \$62 in 1909 and jumpstart his company.*

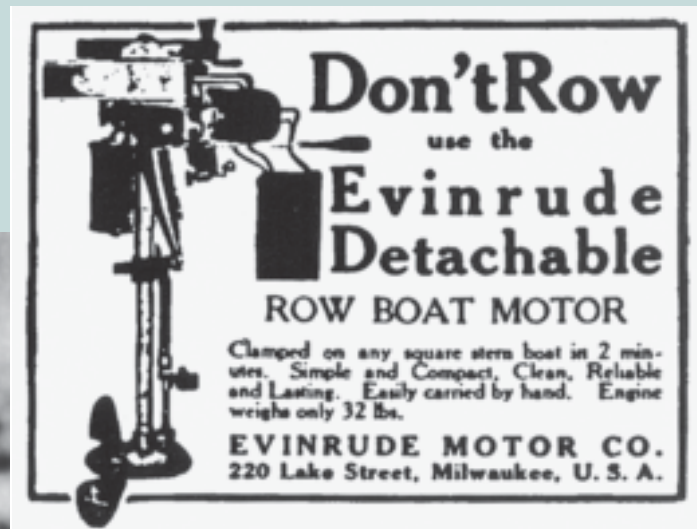
However, during his school days, Ole had access to more than third grade arithmetic since he attended a single-room schoolhouse, which instructed students through the eighth-grade level, and it was said that he could do all the problems in the arithmetic book up to that eighth grade level.

By the age of ten, Ole was helping his father full time on the family farm. Nevertheless, there was something else on Ole's mind; perhaps inspired by the beauty of nearby Lake Ripley. At the age of fifteen, he started to fashion the parts of a wooden boat, which he had to keep hidden from his strict father who did not tolerate adolescent foolishness. However, his father dis-



Courtesy of the author

covered the boat parts, chopped them up, and consigned them to the wood stove. Undaunted, Ole immediately began to construct another boat on a woodlot that was rarely frequented by his father. There, with scrap lumber from the farm and the neighborhood, he created an eighteen foot boat with a sail. While his father was away for a few days, Ole assembled the boat and had it floating in the lake by the time his father returned. This time his father relented, and Ole began taking people for Sunday afternoon excursions around Lake Ripley for twenty-five cents a trip, realizing as much as five dollars for the day's efforts. His mother had



Courtesy of the author

*One of Bess's early efforts at advertising, and her first national ad, featuring the "Don't Row" slogan, 1910*



*Bess Evinrude,  
Ole's wife and business partner*

Courtesy of the author

always supported Ole, and his father, too, came to understand that farming would never be Ole's specialty.

At the age of sixteen, with his father's consent, Ole walked the twenty miles to Madison and found a job at Fuller and Anderson, a farm machinery manufacturer. His starting wage was fifty cents a day. At first, he was just a helper in the machine shop but before long found himself operating a drill press and later learning the art of the lathe and milling machine. After his ten-hour days, he returned to his rooming house and read all the books and magazines he could find on mathematics, mechanics, and engineering. He had discovered the library where he could borrow these wonderful books for nothing. He worked for several other Madison

machine shops, the last of which made electric motors, where he discovered and learned to operate a variety of machine tools. Subsequently, Ole moved to Pittsburgh and found work in the rolling mills where he learned about steels and metallurgy. Returning to Wisconsin, he gained experience in engine building first with Fairbanks and Morse and then with Frazier and Chalmers. He learned to make patterns, to use a drawing board, to design, and to invent. In 1900, now 23, he moved to Milwaukee to become the head of the pattern shop of the E. P. Allis Company.

In Milwaukee, Ole found lodging at Mrs. Doyle's boardinghouse on the corner of Florida and Grove (now South 5th Street) on Milwaukee's south side. With a steady income and



WHS Museum 1997.35.3a-d

*The 1939 Elto Cub weighed only 8.5 lbs. and was advertised as the “world’s lightest” outboard.*

some spare time, he turned his thoughts to building engines. He built his first engine in Mrs. Doyle’s basement; a two-cycle, single-cylinder, air-cooled affair. While some of the boarders made fun of him, Mrs. Doyle recognized that spark of genius that lay beneath the shy, serious Norwegian exterior and supported Ole’s efforts. At the same time, Ole had also attracted the attention of another person two doors down the street; a slender sixteen-year-old, blue-eyed girl named Bess Cary. Her father had died when she was fifteen and, being the oldest of the six siblings still at home, she took a stenographic course at the Spencerian Business College to gain the

skills necessary to aid in the support of the family. Ole also noticed her but was too shy to let on.

Ole’s engine took shape and one evening the engine was ready for its first test run, but Ole had forgotten to buy gasoline that day. To compensate, he hooked it up to the illuminating gas pipe in the basement of the house. It started on the second turn of the crank with, in Ole’s words, “more noise than a shotgun.”<sup>1</sup> The others, already at the dinner table upstairs, were suddenly cast into darkness as the muffled explosion shook the house, and the gas lights went out. The engine had immediately consumed all the gas coming into the house. Mrs. Doyle was equal to the occasion and order was soon restored, along with the lights. Ole never fired up the engine in the basement again.

A few years later, Ole formed a partnership with a man named Clemick to produce gasoline engines. Bess Cary, now 18 and working days at a machine shop, came in the evening to keep the books for Clemick and Evinrude. The firm received an order for fifty engines from the U.S. government, and the partnership appeared to be on its way to becoming a success. However, Clemick and Evinrude differed on which course the company should follow, and the partnership ended. Ole tried to go it alone with the newly-formed Motor Car Power Equipment Company but was unsuccessful. Overextended, physically and financially, he returned to the trade of pattern making, setting up his own shop on the second floor of John Obenberger’s forge business on Lake Street (now Pittsburgh Street). With Beth’s assistance, (their partnership was becoming more than a business arrangement) Ole started to make headway. Ole had learned something from his previous ventures.

Not long after, on a Sunday afternoon, Ole, Bess, and some friends had taken a picnic lunch out to Lake Okauchee west of Milwaukee. After lunch, Bess expressed an interest in getting some ice cream from a shop on the other side of the lake. As the story goes, Ole jumped into a boat and rowed across the lake to get the ice cream at a place called Schatz’s that was some two miles away. The ice cream melted on the trip back across the lake, and everyone had a good laugh except Ole. For him, the seed of an idea had been planted: why not push the boat with a motor that you could clamp on the stern? The seed, however, would not immediately germinate. By this time, marriage was the most prominent thought in Ole’s mind. A few months later, he mustered up the courage to pop the question, which Beth answered in the affirmative. On November 21, 1906, Ole, now 29, still shy and wanting to avoid a big wedding, and Bess, 20, slipped away and were married. They were now partners in whatever happened next. They both worked with determination, and Bess still supplied partial support to her mother. While his pattern shop prospered, Ole settled down to his next sideline project—an outboard motor.

### The Evinrude Motor Company

In spite of his early idea, Ole Evinrude did not invent the outboard motor. In 1896, the American Motors Company of Long Island City, New York, began building its “portable boat motor with reversible propeller.”<sup>2</sup> Little is known about this first gasoline outboard, but the company allegedly made 25 marine motors before the turn of the century. There were several other attempts at outboard design between 1900 and 1907, but none was successful until Cameron Waterman of Detroit, Michigan, introduced his Waterman “Porto” outboard in 1906. Twenty-five sold that first year, and sales rose to 3,000 in 1907. The motor had a vertical cylinder behind the transom of the boat with a horizontal crankshaft and two sets of bevel gears to produce rotary motion of the horizontal propeller shaft. The motor, the first successful gasoline outboard, continued in regular production by Waterman’s company until 1917.

In 1907, Ole designed an engine unlike any that had come before. It had a horizontal cylinder projecting forward into the boat, a vertical crankshaft, and a flywheel above the water. The driveshaft and gear housing below water were enclosed in a bronze housing. This mechanical arrangement is used on all outboard motors today, except that the cylinders are behind the boat transom. Ole and Russ Cary, his brother-in-law, carried the creation to the Kinnikinnic River and rented a rowboat, clamped on the motor, and took off with a roar that brought dozens of people to the river bank. At first critical of the effort and practicality of the project, Bess later encouraged Ole to clean up the design and offer it for sale. Ole refined the design by adding a muffler and an aluminum manifold, and polishing the bronze parts. He made enough parts for twenty-five motors. A friend’s demonstration on Pewaukee Lake in 1909 netted ten orders. The hand-built,



Courtesy of the author

*Evinrude advertisement for a canoe motor with a through-hull design.  
The text reads, “Won’t you come Evinruding with me?”*

## WISCONSIN MAGAZINE OF HISTORY



*Business boomed for Evinrude in the 1910s, and the company rapidly expanded in factory space and staff. The Evinrude day force, pictured here in 1916, numbers well over a hundred.*

two-horsepower motor weighed 62 pounds and sold for \$62. Bess wrote an advertisement which appeared in the Milwaukee papers: *Don't Row! Throw the Oars Away! Use an Evinrude Motor.* The remaining fifteen sets of parts were purchased in short order, and Ole had to scramble to cover the nearly 1,000 orders received in 1910.

Business boomed, and the company needed to expand to a larger facility to accommodate the shop force which now numbered 100 employees. Ole borrowed the capital necessary and moved his business to 228 Lake Street a few doors away. Bess and her sister, Dorothy, were handling all the office work until Bess began a national advertising campaign. Within three days of the appearance of the first magazine ad, they had to hire six stenographers to handle the inquiries. They maintained cash only transactions. It kept them afloat, but the working conditions were crowded. Early in 1911, Chris Meyer, President of Meyer Tug Boat Lines, put up \$5000 for a 50 percent interest in the fledgling company, which now moved to a three-story building on Reed Street. In 1911, production increased to more than 2,000 motors. The business was seasonal, however, so Bess contacted several exporters in New York to explore the sale of their outboard motors overseas. At first cast aside, their letter was eventually discovered by Oluf Mikkelsen, a Scandinavian clerk of Mel-

chior, Armstrong, and Dessau, who convinced his boss that the motors had great potential in Norway, Denmark, and Sweden. After a trial order of two motors to be used at a demonstration in Denmark, a firm order for six came—then fifty more. Mikkelsen and another man were sent to Milwaukee to call on “B. Evinrude” and negotiate a better price for a large order. The men were amazed to discover that they were dealing with a young woman. Bess was more than a match for them; refusing to yield on the price, she received an order for 1000 motors. The problems stemming from the seasonal nature of the business were solved, and Mikkelsen became Evinrude’s New York agent for international sales. The Reed Street plant had become too small by 1912, and the company moved to yet another three-story brick building on Walker Street. Ole was factory manager and chief engineer while Bess handled advertising and public relations as well as general supervision of the business. Sales in 1912 rose to more than 4,000 units and doubled that amount in 1913.

The years of relentless work started to undermine the frail physique of Bess Evinrude. Ole had also been working long hours for four years without a break or vacation. Ralph, their son who had been born on September 27, 1907, was six years old, and they wanted to spend more time with him during his formative years. As a result, in 1913, with Bess’ health failing,



Courtesy of the author

Ole sold his interest in the business to Chris Meyer for \$137,500; a large sum in those days. The transaction meant Ole could afford to take some time off. He bought a big Packard touring car, and the family of three embarked on a transcontinental journey. Two years later, Ole bought a cabin cruiser and toured Florida's waterways. When the family returned north, Ole designed a 42-foot cruiser, the "Bess Emily," and toured the Great Lakes. In 1917, they headed down the Mississippi to winter in New Orleans. With rest and relaxation, Bess' health was restored.

### The ELTO Motor Company

By this time, Ole decided that he had been loafing long enough. He had some ideas for a new, lightweight outboard. The processes and techniques of using aluminum had made great strides during World War I, and Ole recognized that its use in an outboard could result in a far lighter motor than the steel, iron, and bronze in the *Evinrude* outboards being manufactured by Meyer at the time. However, Ole had signed a five-year no-compete contract when he sold his interest to Chris Meyer. The contract included the rights to the *Evinrude* name for outboard motors as well. Ole, out of loyalty, took the plans for his new motor to Meyer. The new engine was a two-cylinder model; mostly aluminum except for its two

cast-iron cylinders and its steel internal shafts and gears. It weighed 48 pounds compared to the 72 pound *Evinrude* and produced three horsepower compared to the two produced by *Evinrude's* single-cylinder engine. One of its unique features was quieter underwater exhaust through a hollow propeller hub. Meyer was making money with what he had, however, and turned down the offer of a new partnership. Ole said he would start his own company to which Meyer responded, "You can't compete with us. You'll go broke."<sup>3</sup>

In the fall of 1920, Ole started his new company with the remaining \$40,000 from the sale of his interest in the *Evinrude* operation seven years before. Ole and Bess rented space at 62 Mason Street in Milwaukee, and it was just like starting all over again. Because they had sold the rights to the *Evinrude* name, they needed a new name for the motor and the company. Bess suggested *ELTO*, which stood for *Evinrude Light Twin Outboard*; a simple, catchy name that was easy to remember. Because there was more competition in the market now, the new Elto Motor Company suffered a loss of \$10,500 the first year. Ole was back in overalls, and Bess took over the front office. Then, in 1921, 1000 motors were sold, followed by 2,500 in 1922. Beneath the *Elto* name on the back of the fuel tank (in smaller letters) appeared "Designed by Ole Evinrude." In 1922, Jacob Stern, export sales man-



Courtesy of the author

*These two young women demonstrate the light weight of this Elto motor.*

ager for the Briggs and Stratton Company in Milwaukee, became affiliated with Elto and soon became Bess' right-hand man. Sales rose steadily: 4,000 in 1923, 5,500 in 1924 and 7,600 in 1925.

### The Competition

Meanwhile, another manufacturer had entered the business: the Johnson Motor Company of South Bend, Indiana, who started marketing their even lighter two-horsepower, two-cylinder outboard in 1922. The four Johnson brothers had been involved in inboard marine engine building since the early 1900s: including V-4, V-8, and V-12 cylinder, two-stroke engines up to 180 horsepower; light motorcycles in the latter half of the first decade of the twentieth century and; even dabbled in aviation. In 1911, they flew their own airplane with one of their light V-4 engines, becoming the first monoplane to fly in the United States. In 1921, they developed a water-cooled version of their light motorcycle engine which resulted in an

outboard motor weighing less than 40 pounds. It was a success and grew into larger models of the same basic design, reaching six horsepower in 1926. This much power could plane off a light, flat-bottom boat, enabling it to run over the surface of the water, and a world speed record of more than 23 mph was soon established. The horsepower race was on!

In 1926, the largest outboards in the *Evinrude* or *Elto* lines were four horsepower. The Johnson Motor Company 6-horsepower *Big Twin* was a challenge that could not be ignored. In 1927, the *Johnson* 27-cubic-inch *Big Twin* was boosted to 8-horsepower. Organized racing competitions began, and, by 1928, Johnson produced two racing models for Class A at 8-horsepower and Class C at 16-horsepower using aluminum pistons to allow higher rpm. They also used aluminum construction extensively on all external parts, except the cast-iron cylinders. The Evinrude Company responded with an 8-horsepower model in 1927 and offered 6-, 8-, 12-, and 16-horsepower models by 1928. In 1928, Ole Evinrude had a more innovative approach, a 7-horsepower *Elto Speedster* twin and a four cylinder *Elto High Speed Quad* rated at 18-horsepower. The *Quad* weighed 92 pounds and

sold for \$275. It was the first four-cylinder outboard and the first of a long line of four-cylinder engines that reached 40 horsepower in 1930 and topped out at 50 horsepower in 1946; versions of which saw much service in World War II. Outboard racing became a common spectator sport, particularly in the Midwest in the late 1920s and on into the 1930s. There were even factory-sponsored racing teams. The 18-horsepower *Quad* dominated competitive racing in 1928.

Conversely, Ole's old company, Evinrude, did not fare well in the mid-1920s. Chris Meyer sold the company in 1924, and his successor registered a \$150,000 loss in 1925 as a result of the competition from the lighter weight *Elto* and *Johnson* motors. Evinrude was sold again to new investors headed by August Petrie. They developed a new, lighter motor that increased sales in 1926. In 1927, Petrie sold out to the Briggs and Stratton Company, the Milwaukee manufacturer of automobile ignition locks and small gasoline engines. Steven Foster Briggs, president and founder of Briggs and

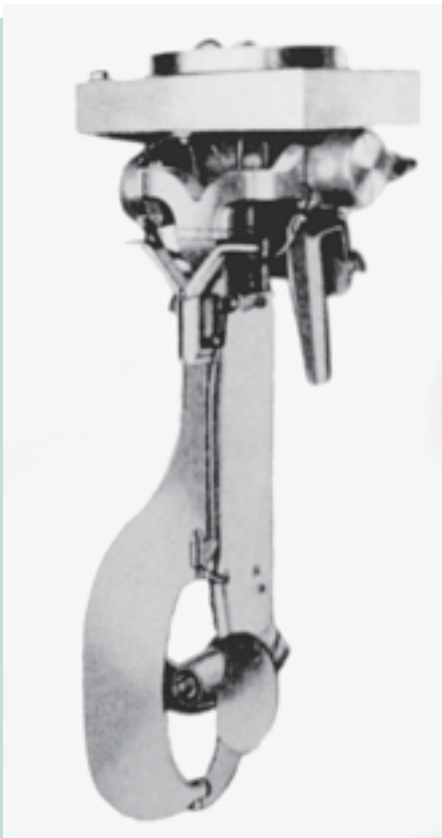
Stratton, consolidated the resources of the Evinrude company and now saw an opportunity to reunite Ole Evinrude with the company that bore his name.

### The First OMC

Elto had nothing to gain financially from a merger with Evinrude. They closed out 1928 with a profit of \$300,000, the highest in the industry. Nevertheless, Evinrude had the name and a factory on North 27th Street, which Chris Meyer had built during Ole's retirement. Therefore, when Briggs approached, Ole was willing to listen. On February 23, 1929, a merger united Evinrude, Elto, and the Lockwood-Ash Company of Jackson, Michigan, with a combined worth of \$4,000,000. The name given to this union was Outboard Motors Corporation (OMC). The management consisted of

Ole Evinrude, president; S. F. Briggs, chairman of the board; Jake Stern (from Elto), vice president and general manager. Finn T. Irgens, a brilliant engineer and Purdue graduate, came over from Lockwood as chief engineer. OMC and Johnson now dominated the outboard industry.

The Great Depression hit the outboard industry hard. Outboards were primarily for seasonal recreation and leisure in the northern states. Coming out of the merger with a debt of \$500,000 in bank loans, this was increased to \$600,000 when operating deficits totaled \$550,000 from 1930–1932. Ole Evinrude gave up his \$25,000 salary and never drew another paycheck. In fact, he later contributed \$50,000 of his own money to keep the company afloat. Wages were dropped as much as 65 percent and the factory's hours were down to 18 per week. Lockwood, the weakest of the group, was



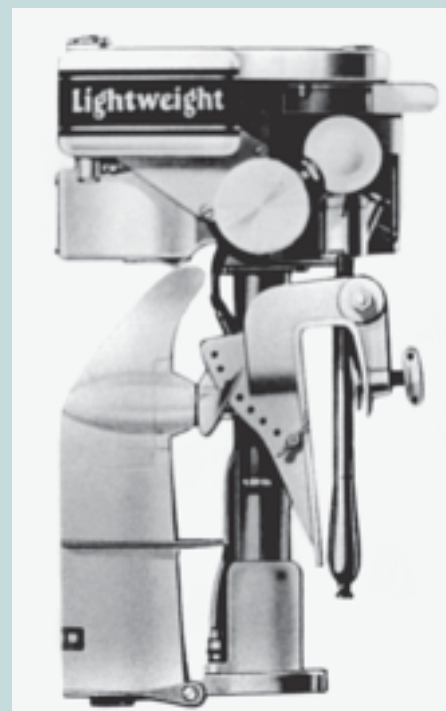
Courtesy of the author

*Another innovative design from Ole, this first Elto "Rudder Twin" with through-prop-hub exhaust debuted a feature in which the exhaust gases from the engine were routed down through the motor housing itself and out through a hollow hub on the propeller, burying them under water behind the boat. Previously, all motors had noisier above water exhaust systems. This is the 1920 motor that launched Ole's new Elto Company.*



Courtesy of the author

*The 1928 eighteen horsepower Elto Quad was the first 4-cylinder outboard motor. Ole's son Ralph worked extensively on this model, dropping out of college to finish it.*



Courtesy of the author

*The 1929 Elto Lightweight folding outboard was an effort to make outboards more compact for easier storage and transportation; an owner would only unfold the motor to full length when he or she was on the boat.*

## WISCONSIN MAGAZINE OF HISTORY

dissolved in 1930. The all-time low was in 1933, however, and in 1934 OMC made money for the first time, not to be in the red again for sixty years. During this period, OMC added new products to their line to help smooth out the seasonality of the marine business. These new products included gasoline driven pumps, small, two-cylinder inboard engines, the Evinrude *Lawn Boy* lawn mower, an Evinrude camp stove, the Evinrude *Speedibike*, and the Evinrude *Shop King* (a multi-purpose woodworking unit).

In 1933, Bess' health took a turn for the worse and she died that year. Ole was devastated by the loss. She had been his partner in everything since their marriage. He drifted in loneliness and, in 1934, fourteen months after Bess' passing, Ole died at the age of 57.

Ole Evinrude's son, Ralph, had attended the University of Wisconsin through the end of his sophomore year in 1927. During the summer, he worked seven days a week at the plant on the new four-cylinder *Quad* model. The following fall, he asked his parents if he could stay out of school "for just a semester" to finish up the project. He got wrapped up in the business and never returned to college. He worked in many

departments into the early 1930s and had learned the business thoroughly. After his father's death, Ralph assumed his position as President.

Although 1935 was another good year for OMC, that was not so for Johnson now located in Waukegan, Illinois. They became overextended financially from building inventory too long into the depression years. By 1935, they were operating in receivership. S. F. Briggs and Ralph Evinrude bought Johnson out of receivership in 1936, arranging to make a cash purchase 80,000 of the 120,000 outstanding shares of Johnson stock for \$10.35 per share. The new group was christened Outboard Marine and Manufacturing Corporation (OMMC); the world's largest producer of outboard motors. Their product line included outboard models from a tiny 1/2-horsepower model weighing about 10 pounds up to a 40-horsepower, four-cylinder, 150-pound model. By 1937, Johnson Motors Division of OMMC was again profitable. The OMMC benefited financially during World War II from the sale of many components as well as finished products to the military; including outboard motors, emergency fire pumps, aircraft superchargers, and instruments.

After the war, business boomed. The *Elto* line was incorporated into the *Evinrude* line since the models had been similar for several years in the late 1930s. The post-war pent up demand for boats and motors was enormous and growing. In the 1950s, new models were introduced with features such as full gearshift, remote fuel tanks, and electric starters. The top horsepower increased from 25 in 1951 to 75 in 1960. By that time, OMC, as it was again called (Outboard Marine Corporation), was producing nearly 400,000 outboard motors per year with plants in: Milwaukee, Waukegan, and Galesburg, Illinois; Peterborough, Ontario, Canada and; Brugge, Belgium. They were employing more than 12,000 people and were ranked in the top 500 companies in the U. S.

*Evinrude* and *Elto* were not the only outboard brands born in Wisconsin. Among the others were the Submerged Electric Motor Company of Menomonie in the early 1900s; the *Amphion* of Milwaukee in 1915; the 1916 Burroughs of Milwaukee; the *West Bend* by West Bend Aluminum of Hartford, who also made the *Elgin* brand for Sears; the *Flambeau*, made



Courtesy of the author

*Ole Evinrude together with Stephen F. Briggs in 1929, the year OMC (Outboard Motor Company) was formed from the merger of Elto, Evinrude, and Lockwood-Ash Company.*



WHi Image ID 36553

*Promotional photo from the OMC Company, maker of Evinrude motors, ca. 1938*

by Metal Products Corporation in Milwaukee; the *Koban* of Milwaukee, introduced in 1913; the *Lauson* of 1940 also of Milwaukee; and *Thor* in Cedarburg, closed in 1938, then purchased by E. C. Kiekhaefer who brought out the *Mercury* outboard in 1939. Moving after the war to Fond du Lac, and Oshkosh, Mercury Marine has prospered. Today, *Evinrude* and *Johnson* outboards are manufactured in Sturtevant, Wisconsin as a part of Bombardier Recreational Products Corporation. Of a dozen or more old outboard names, most of which were located in Wisconsin, Minnesota, and Michigan, *Evinrude*, *Johnson*, and *Mercury* are the only survivors and are the only manufacturers still producing outboards in the United States. The Evinrude legend and name lives on in Wisconsin and around the world. ❧

### Notes

1. W.J. Webb with Robert W. Carrick, *The Pictorial History of Outboard Motors* (New York: Renaissance Editions, Inc., 1967), 33.
2. *Ibid.*, 20.
3. *History, Outboard Marine Corporation*, in-house publication (Milwaukee: Outboard Marine Corporation, 1959), author's collection.

### *About the Author*

**Ralph Lambrecht** is a retired engineer (1987 from Outboard Marine Corporation) living in Lake Bluff, Illinois. A Purdue University graduate with a degree in Mechanical Engineering, he joined OMC in Waukegan in 1951. While growing up in Oshkosh on Lake Winnebago and the Fox River, his father introduced him to boating and outboards. At OMC, he held various positions in engineering, in management, and in executive capacities where he also made the acquaintance of Ralph Evinrude, Steven F. Briggs, and Clarence Johnson, the youngest of the four Johnson brothers. He now occupies himself developing boating safety standards in association with the American Boat and Yacht Council and the International Organization for Standardization (ISO). He collects and restores antique outboards as a hobby.

