

# *The* **ANTIQUÉ OUTBOARDER**

**The Pioneering Authority**



**April**

**1976**

The Antique Outboard Motor Club, Inc. is incorporated in the State of Texas as an Educational Institution. The Club is devoted to people all over the world who are interested in the search for, restoration and preservation of old time outboard motors. Regular membership dues are \$12.00 per year. Other membership information is available on request from Jim Nixon, 4781 Fifth Avenue, Youngstown, Ohio 44505, U. S. A.

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## Coming!

**A** NEW marine engine by Chrysler—designed particularly for use in small high-speed runabouts—distinguished by novel features of design and sensational performance ability—maintaining every tradition of Chrysler quality—and destined to parallel the success already won by its companion engines, the famous Imperial and Royal. Watch for announcement in the next issue of this publication.

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Pacific Motor Boat, January 1930



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# LETTERS TO THE EDITOR

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## SOME THOUGHTS FROM OUR CURATOR . . .

Having some idea of how much research goes into one letter or article, I wouldn't want to tackle a comprehensive model/year guide as Don Peterson suggests. Some of the less well-known motors would be hellish to do. Boy, what a field day for footnotes. If it were accurate it would be a stupendous job; and if it weren't, it would be a waste of effort.

Haven't had a chance to write to Ray Rydell yet, but has anyone else noticed that the muffler on Ray's TR (page 4 and the back cover) is different than others I have seen. Though we usually think of the Giant Twin as a TR-40, the 1928 Johnson catalog lists a T-40, a TL-40, and a TR-40. The Johnson instruction book, Edition K, lists a Giant Twin TR-40 and a Sea Horse "25" TR-45! I know that I have seen two different connecting rods for the Giant Twin; one has bronze bearings, and the other has rollers. The 1942 master price list lists two TR crankshafts: part number 19-5, plain bearing; and 19-151, roller bearing. I wonder if the mufflers were different for the two powerheads.

I don't think Captain Peter Carbone's idea would be good to try. The service of modern outboards is a great deal more complicated than that of our antiques. We would also be competing with the boating magazines, which often have service columns. I think we should stick to our own field, which is antique outboard motors.

I think I have a sense of humor, but sometimes a joke goes right over my head. So I must ask to be sure—that letter by Lottie Andover was a joke . . . wasn't it? If not, when is the convoy leaving for her house?

To keep things accurate, the 1949 Johnson on page 25 is an SD-20, not an SD-15. The powerheads are basically the same, but the SD-20 has a separate gas tank. The SD-15 had a gas tank that fitted around the powerhead and acted like a cowling.

I am sure that Jim Smith has broken the code regarding Koban model years. It's so simple that I guess it eluded everyone but Jim, especially since he showed us the way. I think he may have really made a breakthrough, because his theory seems to work on Watermans too, at least the ones I know of. If the Waterman owners will check their serial numbers they may verify the theory that the first two digits are the last two digits of the year of manufacture. This would explain why my C-14 Waterman is number 142061 while my C-16 is number 16166. I always wondered why a 1914 motor had a serial in the hundred thousands, while a motor made two years later was only in the sixteen thousands. *Dick Hawie*

## THE HONOR IS OURS . . .

I received your membership statement indicating that your Club has made me an Honorary Member for another year. It is most kind of your constituency to grant me this honor, and I thank you very much. My very best wishes to you. *E. C. Kiekhaefer, President, Kiekhaefer Aeromarine Motors, Inc.*

## NEWS ABOUT CHARLES HANSEN . . .

Just a note about Charles Hansen. He asked me to write and tell you that he has had a partial stroke. He was undergoing surgery last Tuesday [March 23.] I've had no other report. He can write, but with difficulty. He sounded as if his activities would be somewhat curtailed for a time. His mailing address is still the same. *Ray Rydell*

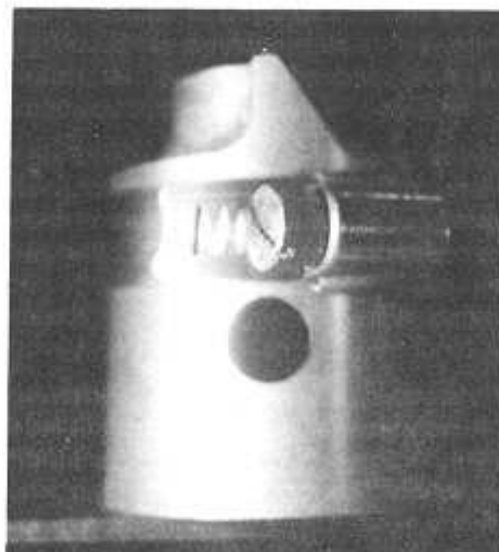
### THE CENTURY KID . . .

Am enclosing a photo of my Century Kid which, while not entirely finished, is at least in the water and operating. The boat was built in Milwaukee in '26 or '27, and took considerable work to get into its present shape. The engine is a K-40, but if I ever get any time I have a Johnson S-45 which should push it a little faster than the 15 or so m.p.h. I get now. I do need a decal and an air horn for this motor, and probably some other small items. I won't find out for sure until I get 20 years' crud off of it.

Sorry to make this so short, but lately it seems that there just isn't enough time to do the things that are fun. Reading *The Antique Outboarder* is about my only activity in the hobby, but I really do enjoy that. *Bill Dinkmeyer*



*Bill Dinkmeyer and the Century Kid.*



*Jim Altman's ring compressor.*

### A MONEY-SAVER FROM JIM . . .

Here is one for your repair hints file, a 25-cent ring compressor. Use one of the new screw-type automobile radiator hose clamps, a size to fit your piston. This is especially good because it can be removed easily after you push the piston into the cylinder. This is the best ring compressor I have ever used, even better than the expensive type. *Jim Altman*

### RACING FUEL SECRETS REVEALED . . .

I was particularly interested in Dr. J. F. T. Berliner's article on Dynax. I raced in that era (and later when Texaco produced what I assume was a similar fuel.) At \$5 for a 5-gallon can I never could afford either, and thought it might be of interest to you and other members to know just what us "pore" boys and junk pushers used to burn. Very simply, with some variations, we all used about the same gasoline mix, which is still not too bad—namely, 1/2 pint of A. A. Baker's Castor Oil, mixed with 1 pint of benzol. After thorough mixing, that went into 1 gallon of Amoco high-test pump gasoline. The benzol did three things. First, it made castor oil stay mixed with gasoline, as castor oil will not stay mixed alone. Second, it raised the performance number of the fuel by some unknown amount. Third, it made a fuel which flashed and started better than plain gasoline. Those of us who went this route usually went armed with a pistol grip type squirt oil can filled with raw benzol for priming for easier starts. I still carry one of these for balky engines, and have been successful in getting some modern balky engines started the same way.

Today I no longer use castor oil, but still use benzol on special occasions. I'm not at all sure that motor oils of today are not better than castor oil, and they don't have the awful mess the castor did. The shelf life of the fuel I described was no more than one to six weeks at best, but it did stay mixed for that period. Benzol has gone from 35 cents per gallon to \$2 in the past several years. So it too is expensive, but a useful commodity in our hobby.

With this mixture and my John-produced VR's I did reasonably well against the PR's, in hydro or runabout, 10 cubic inches, A.P.R. power unit and a C propeller with 1 1/2 inches of pitch to keep my r.p.m. down in the 5000-5500 range. I was good competition in the circuit races—quite illegal, of course, but an oddity on the courses of Florida, so I was always welcome. Oh, there was a little grumbling when I'd win once in awhile, but mostly if I could run Second or Third everyone was happy. Holding the r.p.m. down was the only way to keep the V engines in one piece. If someone had ever built a really strong crank for the VR-XR engine so that it could have been safely run in the 6500-7500 range, there would have been no beating them. But nobody that I know of ever built such a shaft. In talking to Bedford Davies, one of the most famous racers of the '30's, he confirmed that the 50 cubic inch XR Johnsons were faster than the 60 cubic inch F engines, but the XR's just wouldn't hang together—but then that's another subject. *John Harrison*

#### TWO FINE YOUNG MEN . . .

Must be something about outboard motors that keeps 'em young and vigorous, regardless of what the calendar says. 'Way back in the fall of 1921—gosh, that's 55 years ago—Lou, Harry, and Clarence Johnson, with lots of help from their brother-in-law Warren Conover, brought out the justly famed Johnson Light Twin, that peppy 2 1/2 h.p. job that caught the public fancy and sold faster than hotcakes. Lou and Harry have joined their ancestors, but Clarence and Warren are still going strong.

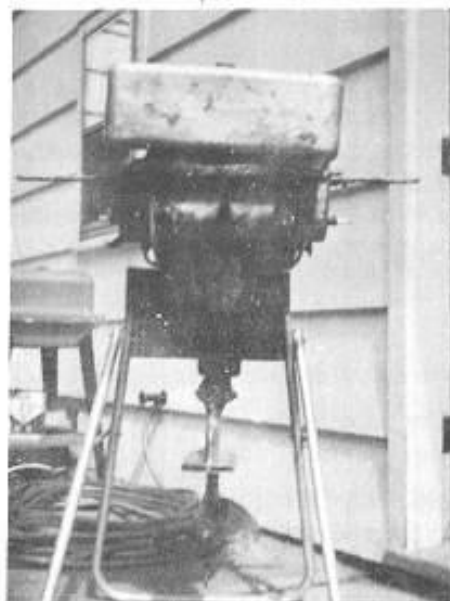
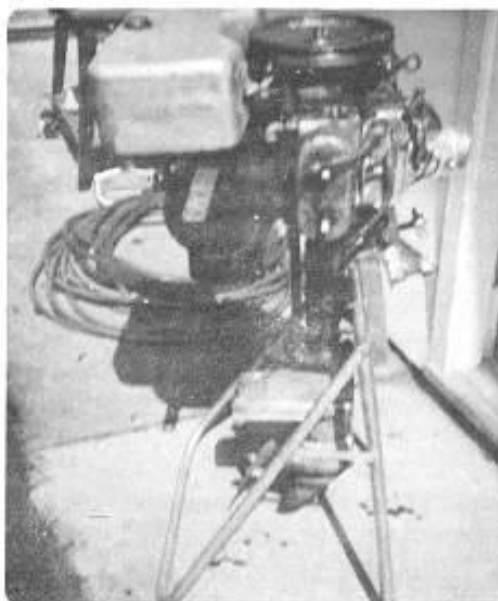
Here are those two old youngsters proudly showing a brace of Cohos caught in Lake Michigan last summer. Clarence, the guy on the left with the tam and pipe, is only 80 years old, while Warren, on the right, is just 85. Clay Conover, Warren's son, retired last year as Vice President and Division Manager of the Johnson Company, which his father, Warren, helped to start and pushed on its way for many years. Last time I saw Clay, he looked darn near as well as his father. *Jim Webb*



### CAN ANYONE HELP? . . .

The enclosed pictures show what I had hoped to be a 1930 4-60. Upon receipt, I decided it was anyone's guess, and to date I have two widely divergent opinions.

In a 1932 Elto brochure there is a picture of Charles Harrison, London, England, who apparently was one of the many successful European drivers and who held the Class F International Speed Record. His engine (transom up) was an early 4-60, and I thought I had something. I'm still not sure, even though I realize the lower unit is not from any 4-60. Also the cam, or muffler, is obviously homemade. Doubt if it quieted it down very much, though.



Last summer was much too short, even though I managed to snap a few handles and nylon starter cords with my PR-65. The flathead 4-60 and P-500 Pumper hit the water a few times and bothered a fast 55H and Marchetti a couple times.

Can anyone help me out on identification? Also decided to let it go if anyone is interested. Too many others to work on, and this girl needs some tender lovin' care. *Bud Ridings, Pittsford, New York*

### MADE FOR EACH OTHER. . .

Dear Mrs. Andover, I was very interested in your letter, as I have a warehouse full of outboards and—like your husband—I have made them members of my family. I even have the first motor my father bought for me when I was 11 years old and we spent the summer in Long Island. I suppose that's when my love for outboards began.

But I must tell you that the further I read into your letter, the less important motors became to me. For I found love and generosity in your unselfishness and a true dedication to the preservation of the past.

Lottie—may I call you Lottie?—motors can never take the place of a good woman. I know. My own wife passed away some years ago. I would give my motors away, along with yours, if you would consider a more personal arrangement.

I am 90 years old, still can move motors around, and am anxious to hear your reply. Hopefully yours, *Albert A. Austin*

#### A HOAX... MAYBE...

After reading and thinking about that Lottie Andover letter in the October *Outboarder*, I've come to the conclusion that it's a hoax. Here are my reasons:

1. The collection is too good to be true. It includes almost every desirable racing motor built before WW II. That's just too much. Only John Harrison has all that.
2. By the same token, it's incredible that such a rich collection does not include several PR's. Something's wrong here.
3. The circumstance that this is all "for free" is also too much to swallow. The reasons why are not convincing.
4. A Speedibee, yet! These are so rare that recently it took the whole Evinrude Motor Company, including Jim Webb, to put one together for presentation to its designer.
5. According to her letter, the 6042 was either tagged a "Hexhead," or Mrs. Andover named it that. Neither sounds plausible. He wouldn't have written that word on the tag; she couldn't have thought of it herself.
6. "Sparking plugs" is a British expression, as is "petrol." It is unbelievable that the same person would use the terms "sparking plugs" and "gas" in the same sentence. Yet she does it every time.
7. The misspelling is so inconsistent that it appears to be plain deliberate.
8. Finally, after all the affection she shows for her late husband throughout the letter, she signs her name "Lottie Andover," rather than "Mrs. James (or Whoever) Andover."

BUT BOB, MAYBE IT'S ALL THE TRUTH! Please don't show her this letter. She might become cross with me. Then I wouldn't have a chance at any of these beauties.

I'd swim from here to the mainland and walk to Wherever, just to get one. Let me know if you hear from her again. Call me *collect*. Any hour. Hopefully, [no name, no address]

#### MORE ON THE KOBAN...

Mr. James L. Smith, 330 O'Connor Drive, Toronto 6, Ontario. Dear Mr. Smith: We read with much interest your very fine historical sketch of the Koban outboard in the October issue of *The Antique Outboarder*.

The Henry Ford Museum has on display a semi-restored Koban Twin, and we certainly hope that it was included in your owners' survey, as mentioned in the article. A picture is enclosed for your files.

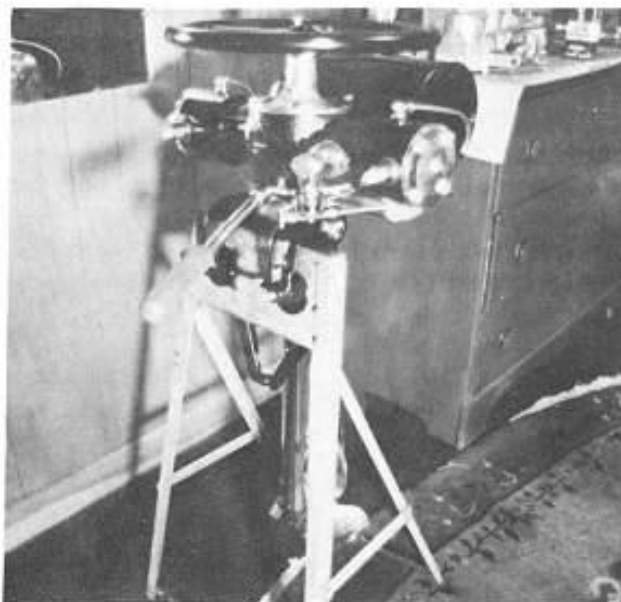
We were particularly interested in your comments on proper dating of these motors, as we try to provide that information as accurately as possible on our labels. Our motor has been billed as a 1915 model, although it carries a serial number of 8701, which by your proposed theory would make it a 1918. Your theory sounds good to us, and unless you have any further thoughts on the matter, we will eventually change our label to read 1918. Note, however, that this motor does have the rim-type flywheel, which you mention was dropped in 1918.

If you are ever in the Detroit area, we extend a most cordial invitation to you to drop in and view this motor. Cordially, *Randy Mason, Assistant Curator of Transportation Collections, Department of Mechanical Arts*



### HE'S GETTIN' THERE . . .

Here is a photo of a 1915 Koban which we have recently restored after about two years of effort off and on. Had to turn two new wrist pins and make a few other pieces. Still have some work to do, but the worst is over. *P. S. Brooke, Jr.*



### OH, NO!! WHO WOULD BELIEVE THIS? . . .

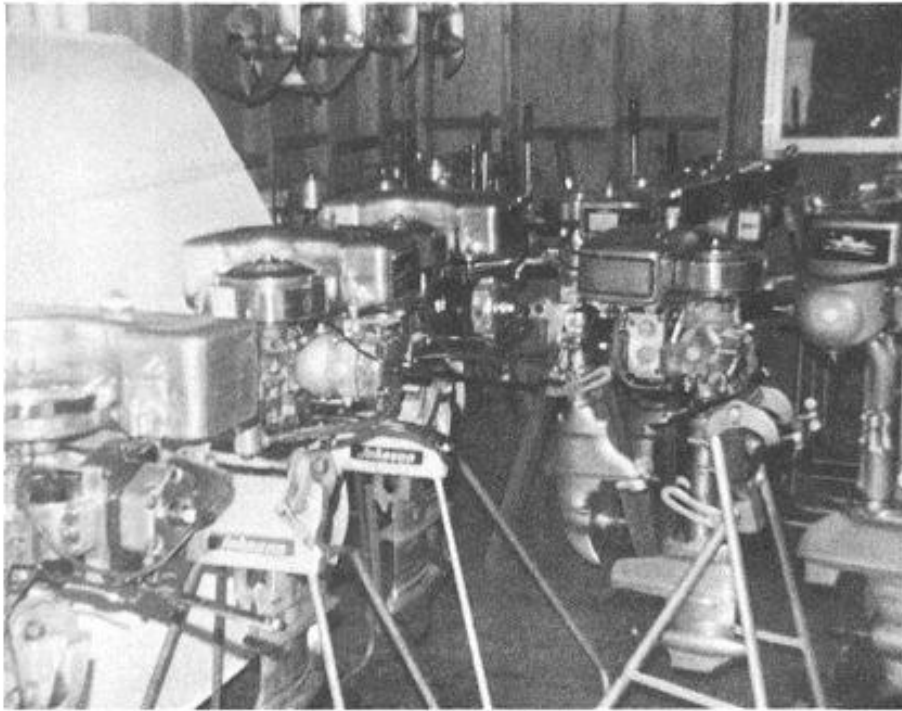
Well, Bob, I got them all right—all of Lottie Andover's motors and boxes. Isn't it funny; they were right there, close by, all the time. It took one whole moving van to carry everything away. The grand total is 47 complete motors and 41 (*not* 50) boxes of components and smaller parts. I guess you could make up another 20 or so motors out of all that stuff. There were a lot of other parts that I couldn't identify, so we threw them out.

They make a big, shiny pile, but, Bob, they're a disappointment. They look good, but looks are only tin deep (ha!) I think that most of them are seriously defective (won't run.) The first one that I looked at closely, a Johnson KR [see photo] tipped me off. The propeller would spin around, but the flywheel didn't move. I started to take off the propeller, and a small piece of broken round rod fell out on the floor. That was a bad sign. If the lower unit has pieces falling out of it, what is the condition of the rest of the motor? And that probably goes for all of them.

Then I tried to turn the flywheel on that strange-looking Evinrude Speedibee, and it wouldn't go around. That's not according to the manual. It was free part way, but then it would get real hard to turn, and sort of bounce back—like it didn't like me or something. *That* was sure a bad sign. Probably a cracked carburetor, or a swollen gasket, or frozen gear shift, or something else real bad. A friend of mine said maybe it was compression! A lot he knows. He's only a physicist—all he knows is theory. I'm a practical man. Anyway, how could I start these motors if I could hardly turn them over. They're n. g., Bob.

Another thing: most of them smell of castor oil! It's all over everything, and I can't get it off. I tried soap and water, muriatic acid, Mr. Clean, and everything. I even soaked some whole motors over night. What a sticky mess! Mr. Andover probably poured this stuff over them as a preservative, before he died. It preserved them, all right.

I also checked one of the gas tanks on a service motor to see if it was rusty inside. It was pretty dark in there, so I lit a match to see better, and a little blue flame came up around the rim of the hole. This was outside, so I picked up a handful of dirt and threw it into the tank. That took care everything. A little dirt never hurt anything. But now I can't tell if they're rusty or not. This friend of mine—he's always butting in—said that the tank is aluminum. *He* doesn't know anything about outboards, as you can see.



*A few of Lottie Andover's motors. Note broken KR in right foreground.*

Bob, the reason I'm writing is to tell you about this lousy deal and to let you know that I'm going to truck most of this stuff to the dump. I think I'll keep the two funny-looking Cross motors and the two older 4-60's with eight plugs each; they'll make good anchors, as they're so big and heavy. Of course, I'll have to smash up the gas tanks so they'll sink right. If any of the fellows want the rest of the motors, they can have them H A (haul away) (ha!)

I'll wait 30 days, then away they go, and good riddance. Pass that along, will you, Bob? I'm a busy man. [no name, no address]

# MIDWEST CHAPTER NEWS

by Rich Choyce

The Midwest Chapter had a show November 16 at Jack Kinn's Motors Marine in Oconomowoc, Wisconsin. We had a wonderful turn-out, with many engines on display and also a restored '41 Chris Craft, Evinrude Row Boat, even an Evinrude Camp Stove.

Jim Webb stopped by to give us valuable information on Evinrudes. He could tell the month and year an engine was built by looking at the serial number.



*Ray Hatton's Motorow, Midget Racer, and Evinrude "A."*



*Jim Webb talking to Jack Kinn, with Jim Ross at far left. Jim Webb's hand is on a Waterman Model C-14-X. Other engines are Jere Sairs' Elto Handitwin, Elto Ace, and Elto Speedster.*

Jack Kinn, our host, had many engines on display, including an Elto Service Quad, Cailles, Johnson KR-40, Elto Senior Speedster, Elto Speeditwin, Johnson '32, Evinrude Fastwin, Wisconsin and Evinrude Stationary engines, and a Johnson Model J in its canvas carrying bag.

Jim Cason brought an Evinrude 4-60 and a Caille Liberty Drive. Bob Davis brought a Lockwood Ace, Champion, and a big Caille.

## Motor Registration (MR) News

by Don Peterson

I hope the readers will enjoy the photos and information on the ten engines that were entered for the MR "Find of the Year" trophy. All of the motors were interesting, and some new information will no doubt be forthcoming about some of the finds.

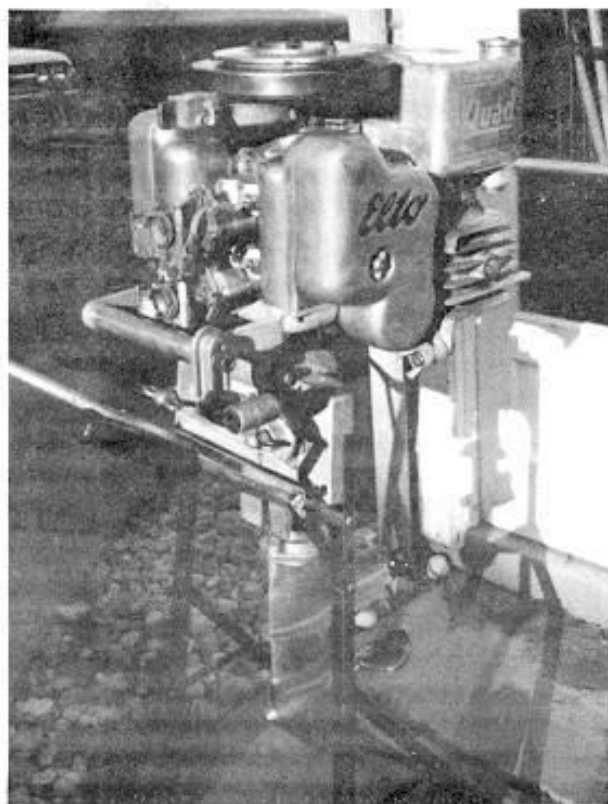
The winner of the trophy is Phil Kranz of Slingerlands, New York, with his prized Detroit. I feel the same as Phil does—this is a find of a lifetime!

John Enright's Arrow-Waterman C-16 is also a great find; and from studying the photos, it looks to be in unusually good condition for an engine of its age.

Bob Grubb topped everybody with six entries, and all were rare and unusual. Although Bob didn't win, he certainly should be commended for his tremendous finds in 1975.

Jim Ross' entry is probably going to be one of the most prized Eltos in the Club, considering the previous owner.

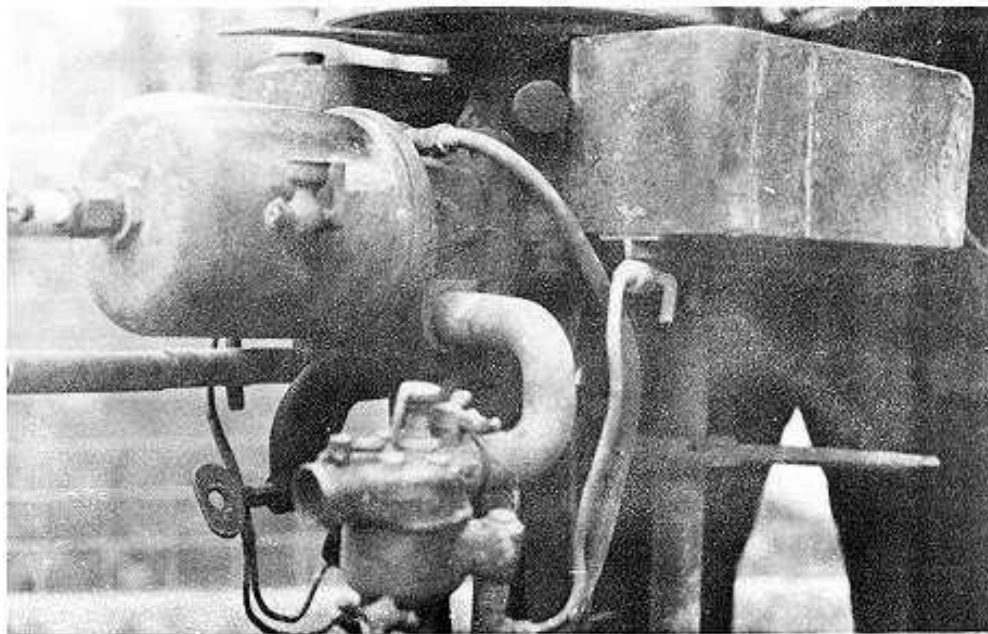
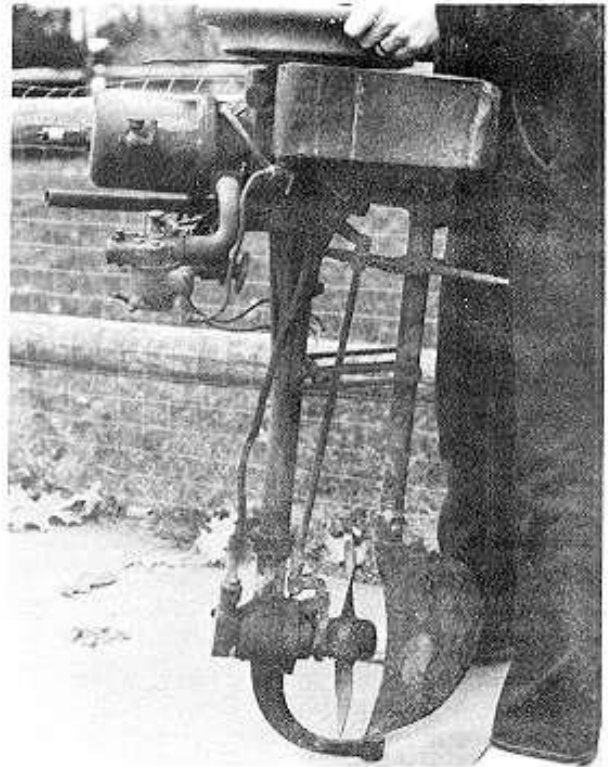
If the members feel that this trophy from MR is an interesting concept, I'll do it again for '76. What I need from the members is registration of the MR classifications listed (*Outboarder*, July, 1975) for engines that are not currently registered. There are holes in my classification, and only you can help me. Your ideas, suggestions, and criticisms help in the effort toward a complete exacting classification of rarity.



*Entrant #1. Jim Ross. 1929 Elto Quad racer, Model 306, Serial No. 76572H. Motors registration classification of this engine is Class C. There are three other Model 306 Quads registered. This is an excellent historic find. Hats off to Jim, who is restoring the engine. Jim wrote and registered this racer early in 1975, after obtaining it from Nick Wyeth along with many other engines. After much searching, Jim obtained an original high-speed flywheel. This engine is reported to be Ralph Evinrude's old racing engine. Jim tells us that restoration is coming along well.*

*Entrant #2. John Enright, Jr. 1916-1917 Arrow-Waterman, Model C-16, Serial No. 1032. 3 h.p.* This engine has an Arrow stamping on the cylinder; however, it should be classified as a Waterman, as Arrow bought out the company in 1916 or 1917. According to all ads and photos, this engine is the Waterman C-16, which is a carry-over of the Waterman line. (Notice the 1917 ad, page 19, October, 1973 *Outboarder*.) Nevertheless, this is a very rare find, as only one other member has registered a C-16 Waterman. The classification on this engine is B.

John says it took him 106 miles and a 26+ speeding ticket to obtain his rare Arrow-Waterman. "This motor," he relates, "was sitting in a small antique shop in Acomac, Virginia. It is a 3 h.p. as stated on the plate. The cylinder head has a copper water jacket, and the carburetor is all brass, as is almost everything else except the gas tank and flywheel. The name tag on the carburetor reads *Kingston, Patented March 9, 1915, Model J26638*. The ignition starter plate has a brass tag which reads *Knoblock Heidman Manufacturing Co., South Bend, Indiana FJWM107*. This particular motor features at least a five-speed forward prop range, and the propeller turns to a full reverse position operated through a brass handle."



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*Entrant #3. Phil Kranz (two engines.) Engine No. 1: 1940 Detroit, 18 h.p., 3750 r.p.m., 4-cycle, 29.7 cu. in., 98 lbs. Note: No Detroiters were known to exist until this engine was entered. It was an O Class motor.*

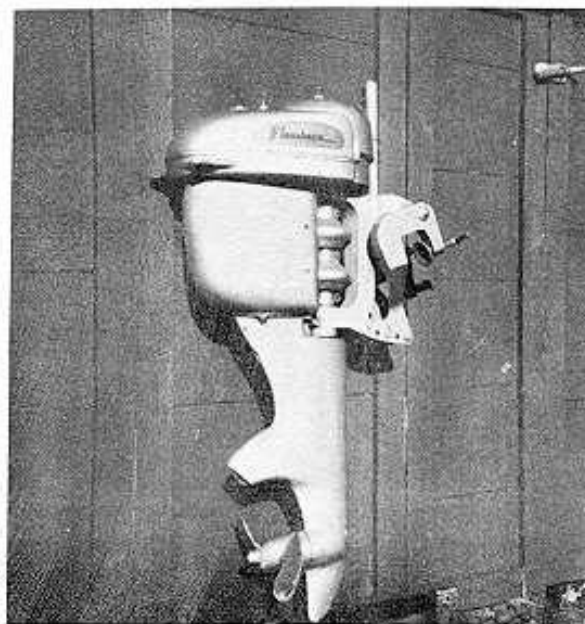
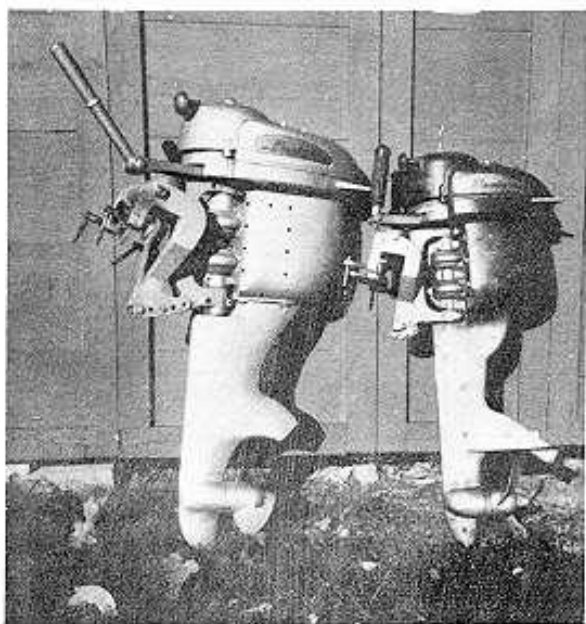
*Engine No. 2. Circa 1956 Flambeau, 10 h.p., factory experimental, 2-cylinder, alternate firing. Note: This engine is undoubtedly one of a kind; however, it falls into the Modern Classic category. I rate this engine as A in the modern classics.*

Regarding the Detroit, Phil says: "I acquired the Detroit in August, 1975 from a gentleman of Owasco Lake, New York. I was selling antique car parts at a flea market and car show there, and after I sold the former owner some parts, the conversation got around to my collecting antique outboards. As it turned out, he lived a short distance away, and had some old outboards to sell. I lost no time getting over there to see what he had. I could hardly believe the large assortment of oddball stuff that was there.

"The load filled my van and a 6 x 12 trailer, and included such things as an Air Boy, Outboard Jet, Caille Red Head, Neptune Master, a Crosley car engine . . . and, of course, the prize find of a lifetime, the Detroit.

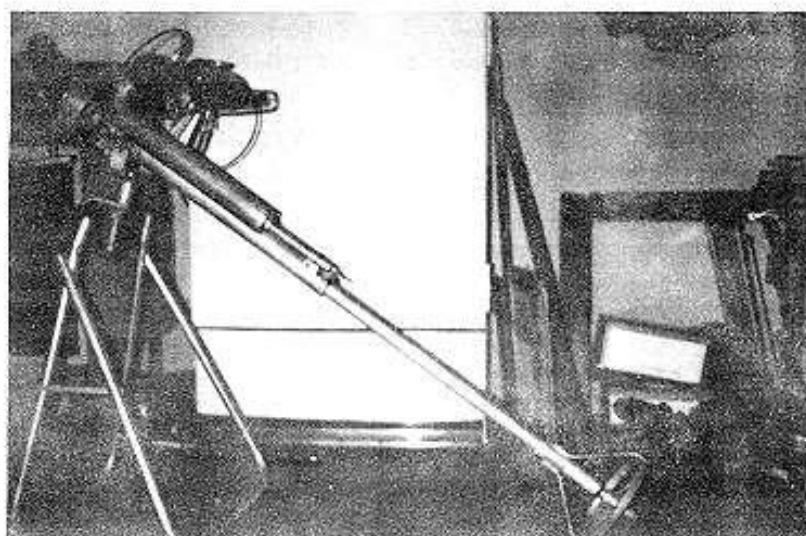
"The Detroit was first introduced to the public in January, 1940. In January, 1941, they announced that 5 and 10 h.p. sizes had been designed, and production was to follow shortly. I wonder if any were produced. The serial number of my engine indicates it was one of the first motors built."

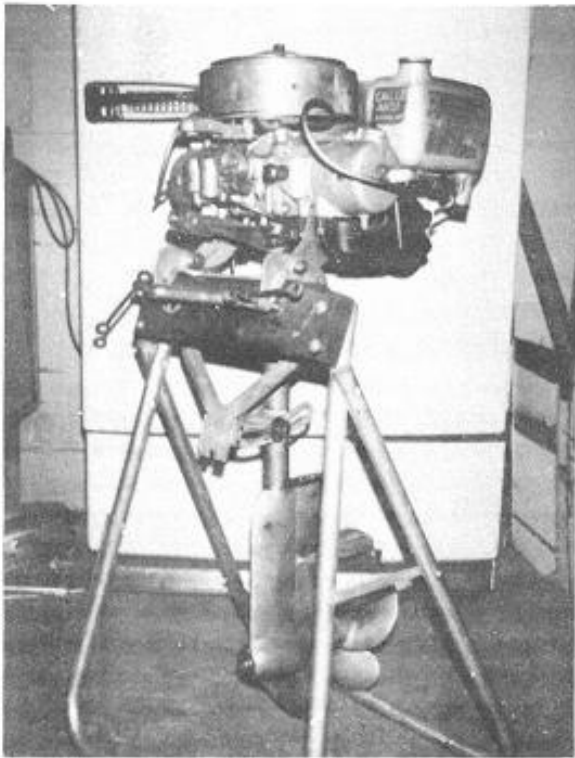




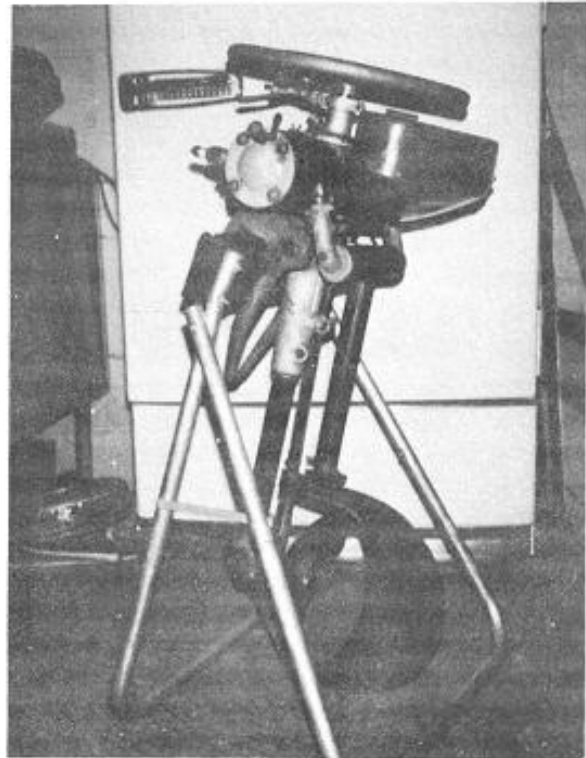
*Flambeau 10 h.p.* "Flambeau," says Phil, "is well known for its 2.5 h.p. single and 5 h.p. twin. I came up with this 10 h.p. motor in July of 1976, while traveling the Midwest. I had attended Jim Nixon's meet in Ohio on June 22, and the American Austin Bantam Meet during the week, and then Jim Cason's meet on Saturday the 28th. On Sunday I looked up a man in Milwaukee who was supposed to have the leftover stock of Flambeau factory parts. As it turned out, he had sold the parts supply, but still had this motor, which he had acquired with the parts. Supposedly the motor was built and displayed at the Chicago Boat Show. He did not know if they built more than one of these. It could be one of a kind, but it is possible that more could turn up. As can be seen from the photos, it is designed basically the same as the 5 h.p., except that it is scaled up in size, and does not have a cavitation plate. The color is silver-gray. This particular engine does not have an instruction plate like the other Flambeaus."

*Entrant #4. Bob Grubb (six engines.) Engine No. 1: 1950 Atco Boat Impeller, Model 804-14773, Classification A.*

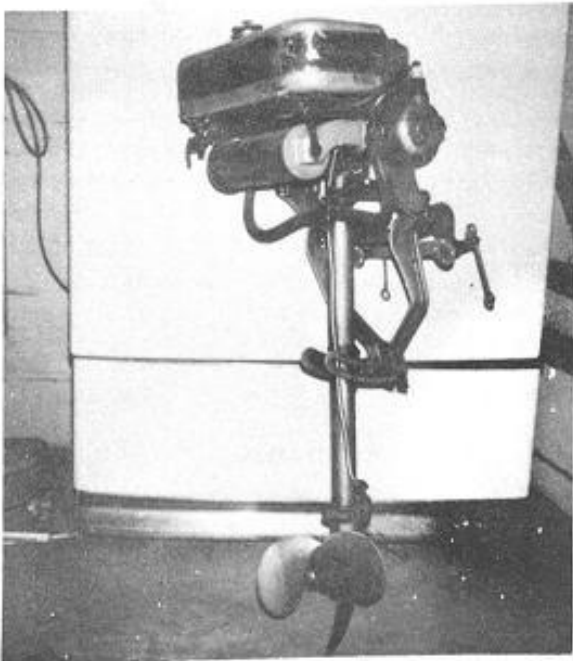




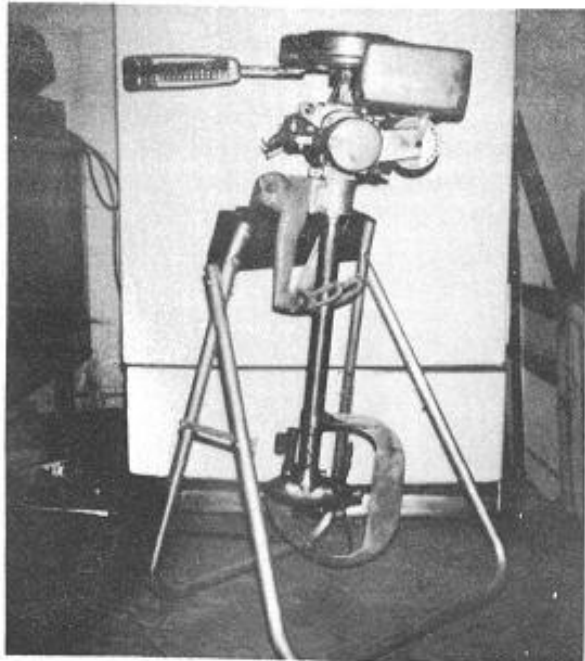
*Engine No. 2: 1928 Caille Model 30, Class B, Serial No. A3735, Classification B*



*Engine No. 3: 1916 Koban, Serial No. 6042, Engine Classification C.*

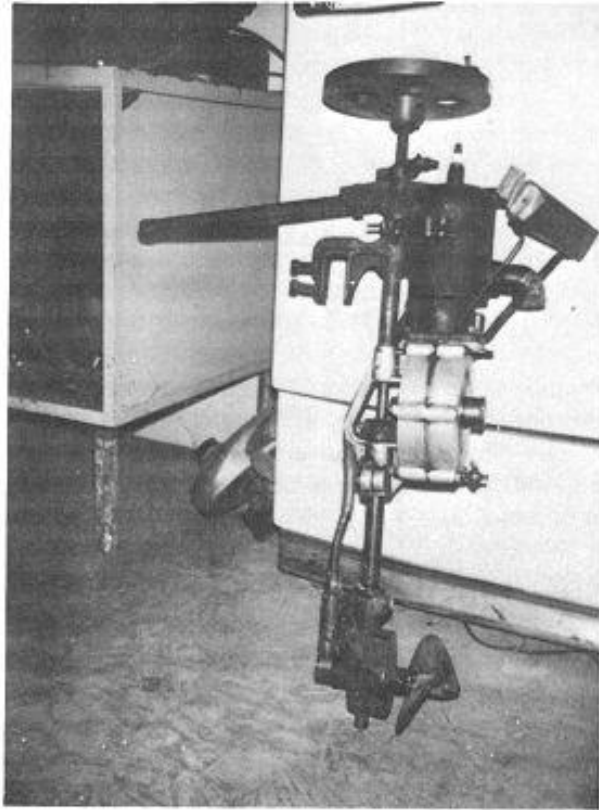


*Engine No. 4: 1926-28 Caille Pennant Twin, 2 3/4 h.p., Serial No. D2044, Engine Classification E.*



*Engine No. 5: 1923 Spinaway Twin, no serial number, Engine Classification B.*





*Engine No. 6: 1911? Waterman, vertical cylinder, Classification B.*

Here are Bob's comments about his prizes: "I compiled a list of 23 possibilities using your classification system and my own judgment. I narrowed it down to six motors. I ruled out such motors as a 1938-39 Bendix Twin, a Caille Twin and single, a 1946 Elgin, a 1928 Quad, an Elto Lightweight Folding, a 1939 Elto Cub, a 1916 Ferro, a 1949-50 5 h.p. Flambeau, a 1930 Lockwood Chief, a 1941 Mercury KB4, a 1949 Mercury KF9, a 1950 KG9, and a Thor Sea King.

"The sixth motor is a vertical cylinder Waterman which I acquired through a mail auction from Walter Christ. I have become convinced that it is nearly original, even though it looks different from most others. I believe it had a rear mounted tank and was probably one of the later ones of this type, even though the number stamped on the crankshaft grease cup is 11! Neither Jim Webb nor Dick Hawie has ever seen a motor quite like it, but I have seen others with rim-type flywheels and enclosed gear cases."

**MID -  
AMERICA**



**PROP**



**M.A.P.S.**

*submitted by Gene Yonker and Ron Ellis*

We of the Mid-America Prop Spinners were most fortunate again to have Gene and Will Yonker and family to host our fall meet at Taylorville, Illinois. The Yonkers have that special something that makes a super meet. Gene's mother-in-law's chili was so good and so hot that it even melted my spoon. Gene's mother managed to add three pounds to me again this year. Don't really know how she does it, but I sure do enjoy it.

Don Miller was first on the scene, early Saturday morning. He was also first on the water and first *in* the water! Don said the water was a little cool as he left shaking and shivering, looking for a change of clothes. Ron Ellis and family arrived looking a little sleepy after leaving home at 4:30 a.m. so as not to miss any of the meet action. Ron and crew soon perked up on finding Will's coffee and chocolate chip cookies.

Phil Graen was in fine shape after having celebrated his birthday the previous day. Phil decided to celebrate some more by roaring around the lake with his KH-38 and trusty mate in the bow (my thanks to that trusty mate for all the delicious doughnuts.) Much to Phil's dismay, some ex-submariner on shore must have hollered, "Dive, dive," and the KH did, but luckily the boat did not. The local Taylorville Underwater Search and Rescue Team made two dives for the engine but, sorry to say, the old KH is still holding down the lake bottom. Phil was soon back in the running, though, with some spare iron. He always has six or eight spares and a beautiful L. C. Smith shotgun or two stashed away some place.



*Never a dull minute with Phil Graen.*

Walt and Phyllis Ellis showed up with a real classic, a 1935 Evinrude electric start Sportfour, plus a trusty A-25 Johnson. Walt wanted to bring another engine, but he had two cases of special blend racing fuel from Colorado (Coors) which required the rest of his trunk space.

Jere and Bernie Sairs came down from Milwaukee and showed us how the old timers are supposed to run. Good old "one-pull" Jere, he does it every time; and if you have not seen one of his custom-made decals, you should journey to Milwaukee.

Warner Turner and wife also journeyed down from the "land of a million beers." Warner gave us a demonstration of his mechanical ability by rewiring his Elto and retaping new threads in the coil mount. All this was done while standing in the sand with his white shop coat on (Mr. Clean.) Needless to say, Warner never got a spot on him. For this feat he received the Rusty Pliers Award for demonstration of mechanical genius.

Bob Davis made the scene with his Lockwood beauties and a gentleman by the name of Paul Werner, who spent two days helping out with everyone's engines. Sign that man up, Bob.

Clarence Sitton, Ron Harrison, and the boys made the scene early Saturday morning with a pickup full of engines towing "Old Blue" with attached PO and those super heavy-duty engine stands, two by twelves no less. When you help Clarence and Ron unload, you soon come to understand those heavy-duty stands. You should have seen the eyes open wide when the TR-40 came out. Yes, folks, the only TR in the MAPS Chapter.



*Johnson power. Clarence Sitton's A-25, TR-40, and PO-15. Admirers are Ron Harrison, Emmett Walls, and Dave Caldwell.*



*Three old pros: Jere Sairs, Don Miller, and Warner Turner.*

Bob Ponciroli, dad, and friend John Ressler arrived pulling a trailer with two hydros, several engines, including a Mercury Hurricane, and a nifty new engine stand. After some coaxing the Mercury lit up and flew. She flew so well, however, that she broke her foot just below the anticavitation plate. Minor things like this fail to dampen the Poncirolis' enthusiasm, though. They just change boats and engines!

Tom and Mrs. Carpenter of Crossville, Illinois (God's country) came to watch us all make fools of ourselves. Tom has promised to have his Koban going next year.



*Dave Caldwell with P-50 on Lyman. Jerry Walls in bow. Van Walls and the noisy Big Four.*

Dave Caldwell talked friend Paul Cornell into sharing the driving all the way from Ohio. Dave's Lyman boat with Evinrude Speeditwin was a real beauty and a runner. Dave also brought his Johnson P-50, which was also a real mover.

The Emmett Walls' were just ahead of Dave and came all the way from Speedway, Indiana. Emmett had a bass boat with stick steering powered by a not-so-modern Big Four with homemade stacks which were inscribed *Noisy Four*. What a sight! Emmett sitting in lawn chair with stick in hand, wife sitting in lawn chair in bow with the noisiest Big Four on lake chasing them. The Walls boys, Jerry and Van, provided most of the muscle for the heavy work, and Jerry won the Best Restored Motor Award for his beautiful 1936 K-65 Johnson.

Hank Hahn and Donna Presley soon joined the fun with a beautiful Thor Twin (on which Hank lavished much polish) and an A-25 Johnson which ran like a top. Hank had on one of his super shirts and did a lot of super work in getting boats in and out of the H<sub>2</sub>O. Donna, as usual, was her ever-calm self and kept track of dad (Phil Graen) and Hank.

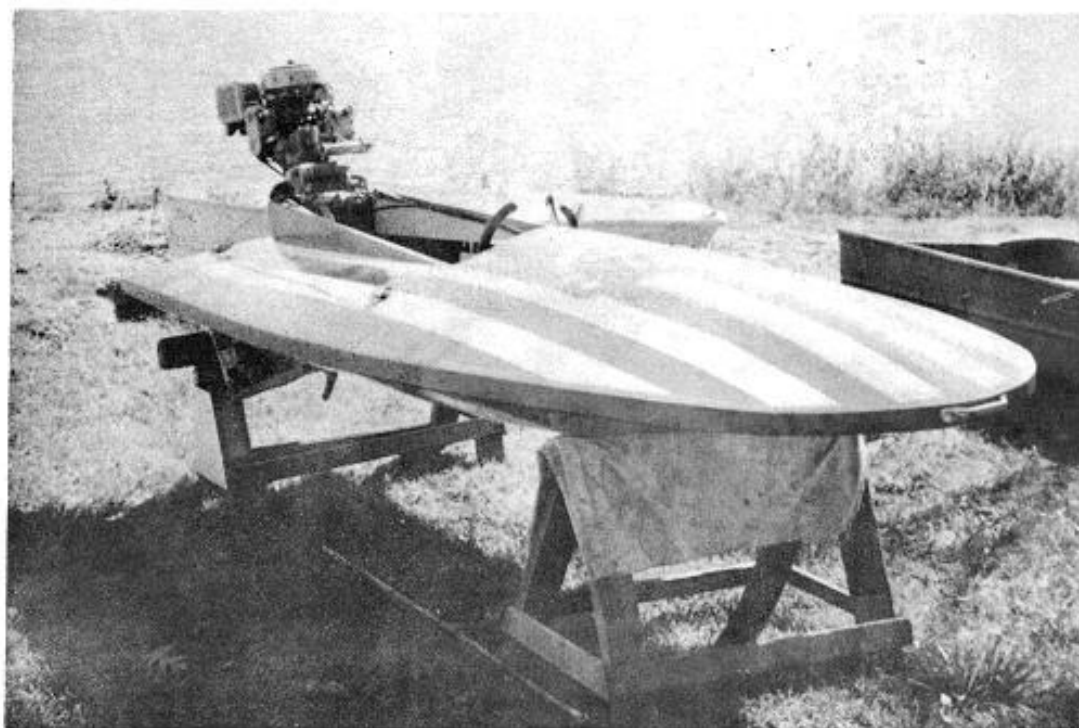
Mr. and Mrs. Gene Current dropped by with a few spare props and promised to bring their PO next time.



*A few pieces of iron. Left, f. to b.: Jere Sairs, Walt Ellis, Ray Hatton.*

Ray Hatton and family showed up with a 1911 Evinrude single to take the Wizard Spark Plug Award for the oldest engine. The Hattons were on vacation and spent some extra time at Gene and Will's swapping parts and recipes.

Last but not least, the two people whose work and thoughtfulness made the meet possible, Gene and Will Yonker, who were on the scene long before any of us arrived. Gene and I took turns running his newly-restored Bicentennial step hydro with Sportfour, a stunning and patriotic craft.



*The Yonkers' Sportfour-powered Bicentennial Special.*

We of the MAPS Chapter would like to thank all of the following for their help:

Gene and Will Yonker, and two grand mothers-in-law  
Boat providers  
Les Hoffman, Taylorville Lake Superintendent  
Taylorville Underwater Search and Rescue Team  
Ted Wabrich, Illini Marine and Bass Boats  
Racing fuel suppliers

***AOMC MEMBERS PRESENT***

Tom Carpenter  
Walt Ellis  
Warner Turner  
Jere Sairs  
Ray Hatton  
Emmett Walls

Clarence Sitton  
Ron Harrison  
Phil Graen  
Hank Hahn  
Donna Presley  
Bob Ponciroli

Gene Current  
Don Miller  
Bob Davis  
Dave Caldwell  
Gene Yonker  
Ron Ellis

We had a total of 72 people at noon Saturday—members, families, and guests. I thought I was at a National!



*Trophy and award winners, l. to r.: Ray Hatton, Wizard Spark Plug (oldest engine); Walt Ellis, Bang and Go Back; Jay Walls, Best Restored; Bob Poncioli, Enthusiasm; Dave Caldwell, Predicted Log; (not shown) Warner Turner, Rusty Pliers.*

## **Commemorative Belt Buckle**

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**Johnson Outboards**

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Waukegan, Illinois 60085



# OF HISTORICAL INTEREST

..... *W J Webb*

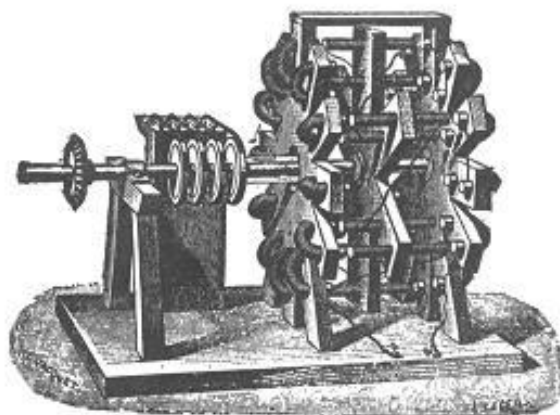
## *Left on the Cutting Room Floor*

When the manuscript for *The Pictorial History of Outboard Motors* was being cut to readable length, several pictures and some descriptive copy were necessarily omitted. Hopefully, AOMC members will find some of the omitted material interesting. Here it is. . . .

Sail-, foot-, and hand-powered devices were about the first means used to propel any man-carrying craft over the water. Then came steam. Next came the electric motor, and this made its appearance in 1838.

Professor Jacobi, a distinguished physicist and electrician residing in Saint Petersburg, Russia (now Petrograd) made a demonstration on the Neva River, which runs through that city, of what could be accomplished with the electric motor as a means of boat propulsion. The Russian Emperor, Czar Nicholas, contributed \$12,000—in rubles, I presume.

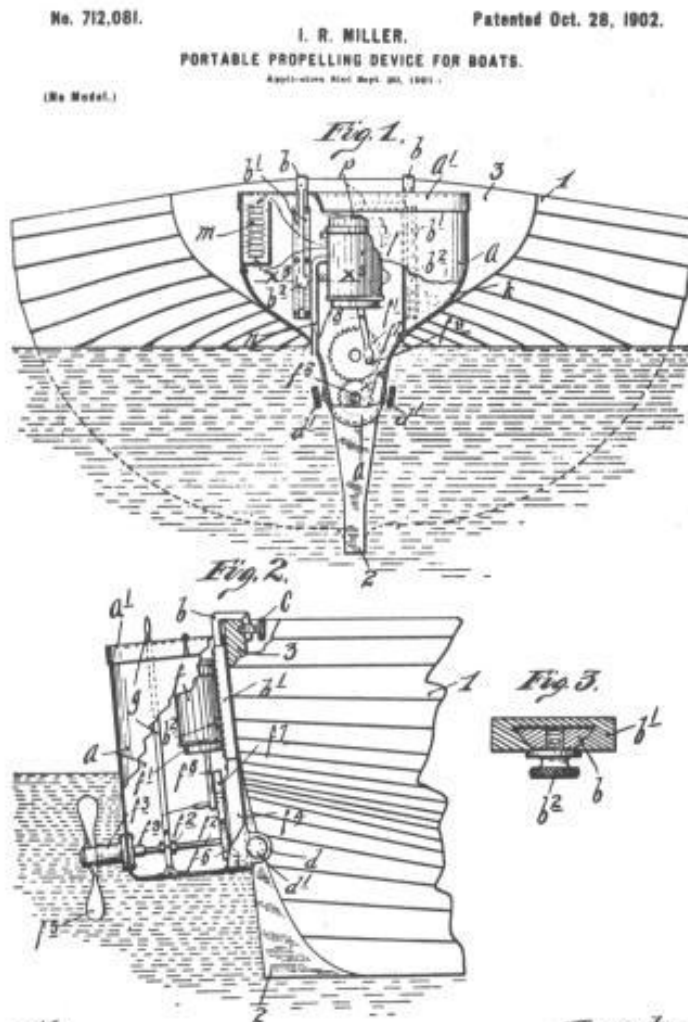
Professor Jacobi employed a form of motor which had already attracted considerable notice, having been brought before the Paris Academie des Sciences in 1834. Unfortunately, we do not have a picture of the boat used by Jacobi, but it is said to have achieved a speed of about 3 miles per hour. The boat was 28 feet long, with a beam of 7 feet, and drew 32 inches. The Jacobi motor, pictured here, was mounted inboard and is said to have driven the propeller by means of gear to pulley to belt to propeller shaft through stuffing box in the boat's keel and skeg.



*Jacobi's Electric Boat Motor of 1838-9.*

Following Jacobi, G. E. Dering, an Englishman, experimented with electric power for boats in 1856. Count de Moulin of France did the same in 1866. Although it is not of definite record, it was generally supposed that the Russian Emperor's interest in electrically-powered boats stemmed from the London exhibitions of the electric motors made by one George Davenport, a Vermont blacksmith.

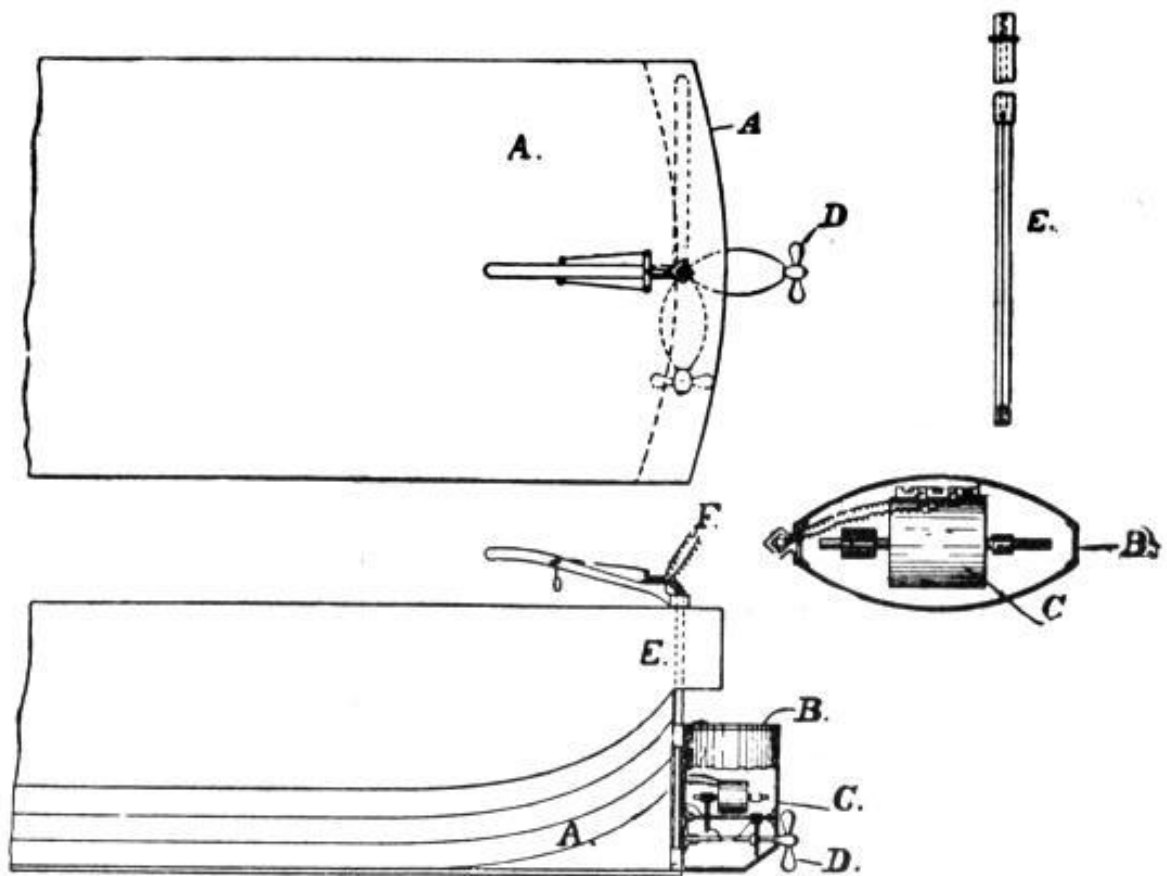
The Portable Propelling Device For Boats patented by I. R. Miller of St. Paul, Minnesota in 1902 shows that there was considerable interest in detachable rowboat motors at that time. In his patent application, Miller states, "My invention has for its object to provide an improved detachable motor for propelling boats . . ." Although the patent sketch, shown here, looks more like a steamer than anything else, Miller makes it clear that he was attempting to picture an internal combustion engine when he says, "I employ a gasolene or explosive engine . . . I believe I am the first to provide a detachable device involving an explosive engine adapted for propelling row-boats when applied to the stern thereof. . . ." Apparently, Miller hadn't heard of Seguin's "Motogodille" dating to 1892 in France, nor of the American dating to 1896.



Witnesses:  
*A. H. [unclear]*  
*C. H. [unclear]*

Inventor:  
 Irwin R. Miller  
 By his Attorney,  
 William Merchant





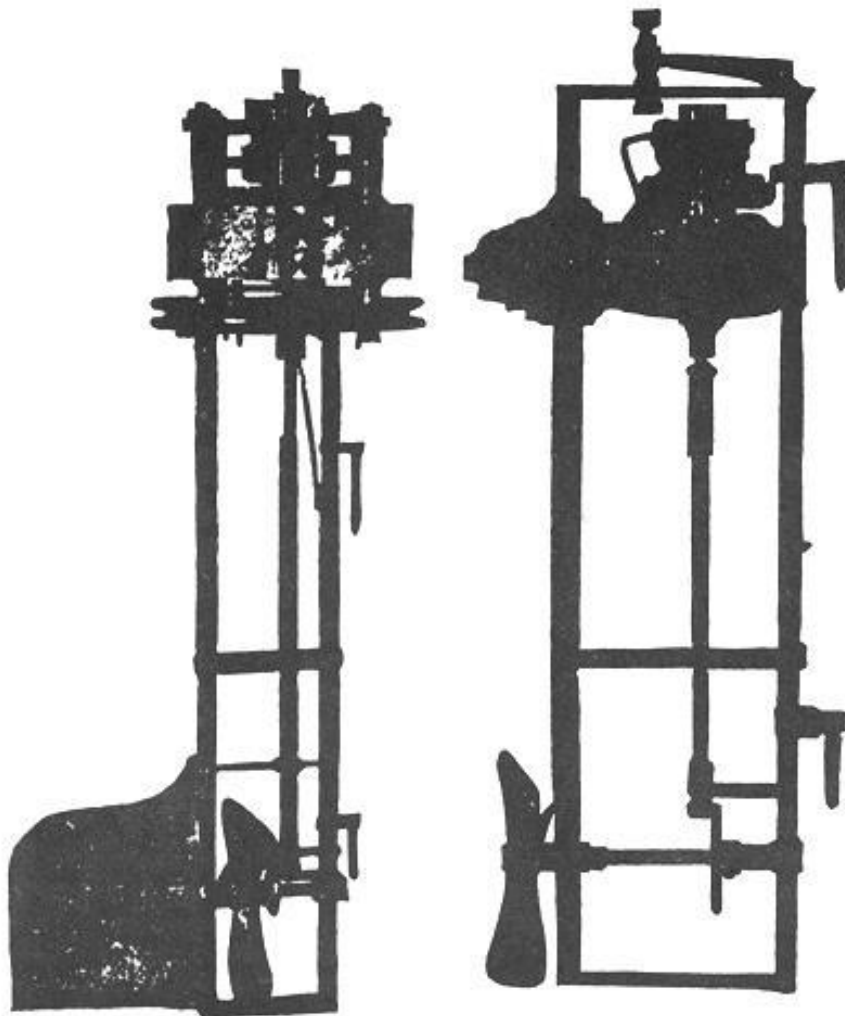
## JONES' DETACHABLE PROPELLER AND RUDDER.

About 1885, Samuel H. Jones of Newark, New Jersey patented an electric outboard-type motor for application to a freight barge. The well-known boating writers of that day, Martin and Sachs, say the following about Jones' device: "The motor is placed in a box or casing and revolves a propeller on the outside. This arrangement is either permanently or temporarily fastened to a rudder post, and the boat is steered by changing the position of the propeller and motor. *A* represents the rear end of the boat, *B* the casing, *C* the motor, *D* the screw (propeller), *E* the rudder post and tiller, and *F* the wires going to the motor." Whether or not the Jones device was ever commercially produced is not on record.

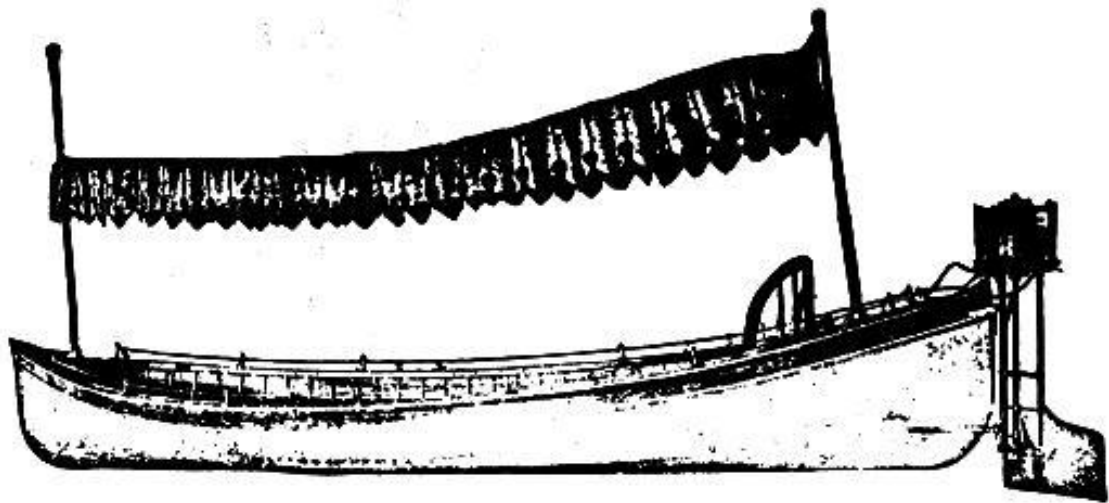
About 1884 Mr. F. A. LaRoche of Philadelphia developed two different electric motors, shown here, designed to be mounted outboard on a 16-foot launch. These electric outboard motors were mounted on the stern post of the boat in the spot usually reserved for the rudder. In fact, a rudder-type mounting or hinge mechanism was apparently used. The launch shown with one of LaRoche's motors mounted on the stern was typical of the easy-riding, graceful double-ended craft of that day. They were really beautiful boats.

LaRoche used 6 batteries of his own design for power. Each battery had 12 plates 6" x 6", and weighed 25 pounds. The 6 batteries, packed in 2 wooden boxes, weighed 175 pounds total and occupied a total of 3 square feet. A rheostat with reversing switch was used. Top speed was said to be 8 miles per hour, a figure I find hard to believe—but that's what the book said.

The most interesting part of the description was this: "all parts are made of *aluminum*, and the motor is of the multipolar type running at 400 RPM. In practice, the motor is covered with a water-tight sheet iron cap."



*LaRoche Electric Launch Motors.*

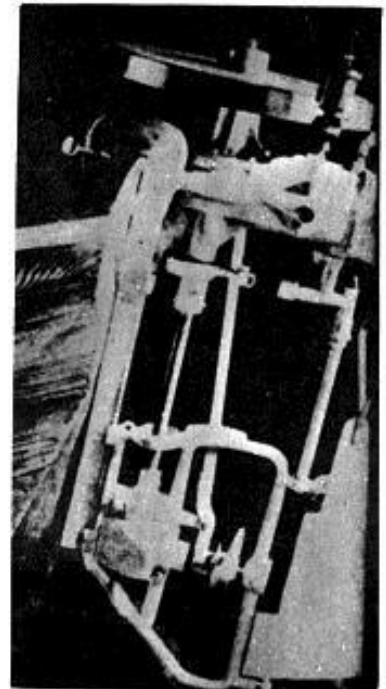


*The LaRoche Electric Launch in the Schuylkill River, Fairmount Park, Philadelphia.*

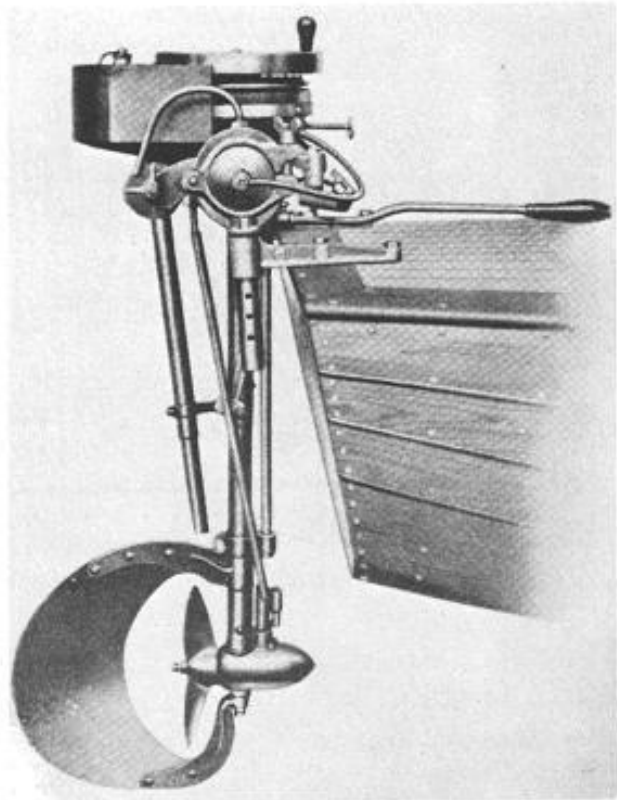
*1898 Savage.*

Besides LaRoche, another American, Mr. A. L. Riker, tried similar designs of motor on rudder. Since these electric outboards took the place of rudders, they were widely referred to as rudders or electric rudders by the writers of those days. There is no record that either LaRoche or Riker ever achieved any commercial success with these electric outboards or ever went into production on them.

In 1898, a Mr. Edward S. Savage, a young man from Rochester, New York, designed and built a 2-cycle gas outboard that, with the exception of a rudder, appeared from the photograph to bear a close resemblance to the American outboard. A feature of the Savage motor was that the hinged rudder assembly could be tilted up out of harm's way. Unfortunately, Mr. Savage deserted the marine field and became a successful toy designer and inventor. The Savage motor was never put into production.

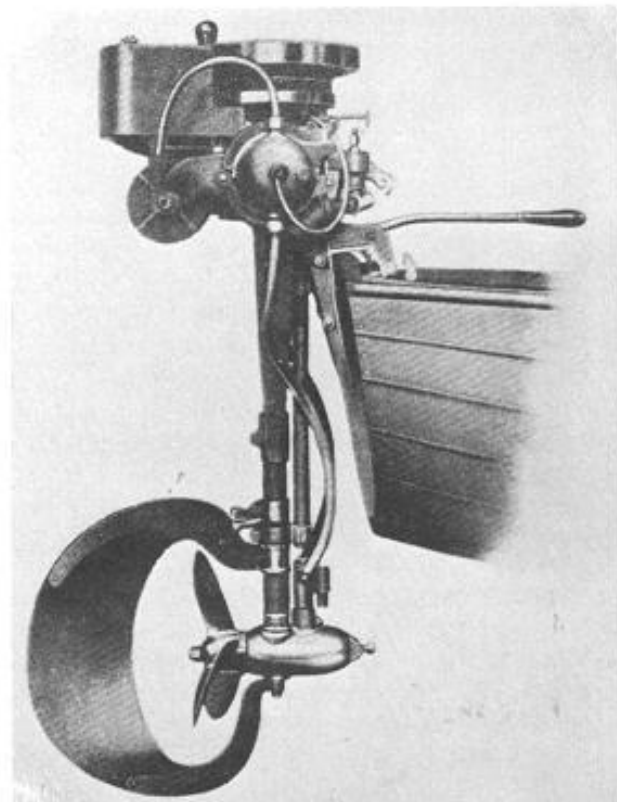


*Type BS 1911.*



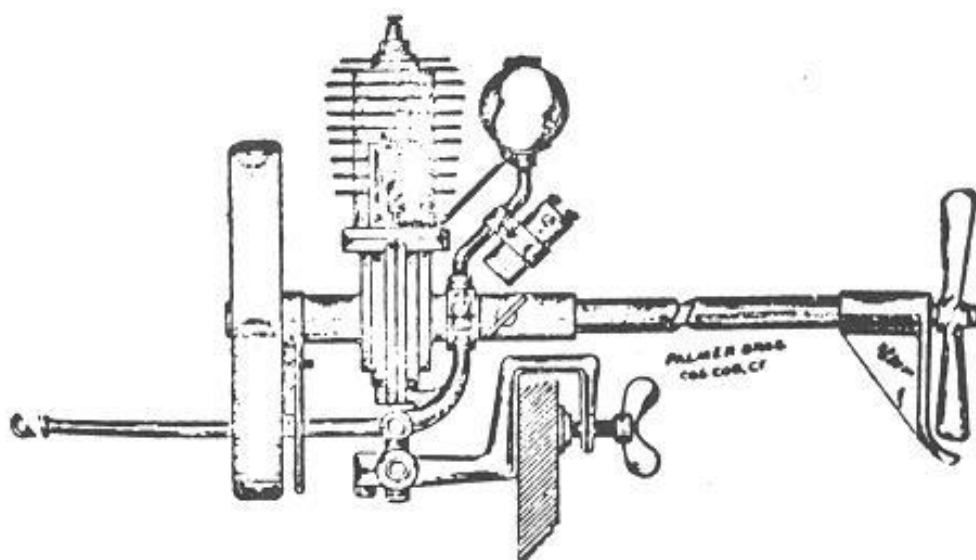
In 1911 the brothers O. W. and C. A. Hult, officials of AB Archimedes of Stockholm, Sweden, designed and built the world's first opposed twin cylinder outboard motor, Type BS 1911. This 2 1/2-horsepower motor was introduced to the public in 1912. In 1913 the Hults designed the BS 2, a 5-horsepower twin that went on the market in 1914. These rugged motors had battery ignition at first, and were very successful in the commercial service for which they were intended. Shortly after 1914 the rudder was abandoned. These motors carried the name *Balans*, which means opposed.

One of the best of the many fine engineering achievements of the Hult brothers was the full pivot reverse, introduced in 1916. In 1922 the Johnson brothers, then at South Bend, Indiana, sent the young Norwegian engineer, Finn Irgens, to Sweden to arrange for a license for the full reverse patents, now used the world over. The license price was \$6,000, a fantastic bargain.



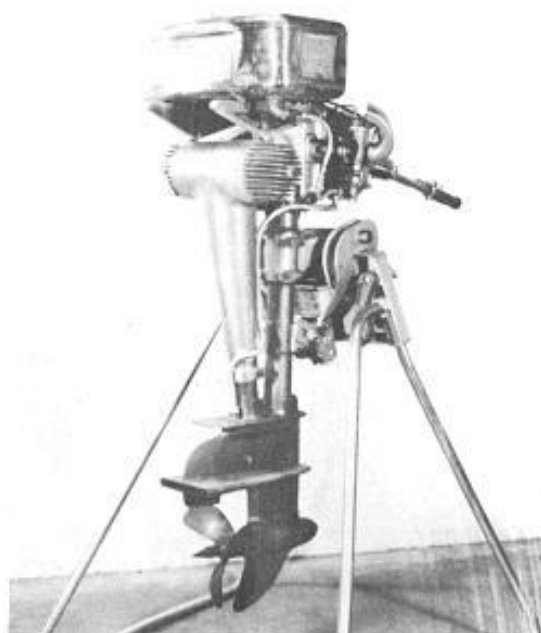
*Type BS 2, 1914.*

In 1921-22, Palmer Brothers of Cos Cob, Connecticut, the very successful heavy-duty engine builders, ventured briefly into the outboard field with a single-cylinder direct-drive engine as shown in the sketch. Not many were made or sold, as the Palmer interests were only in the larger heavy-duty commercial motors. A friend who used to handle Palmer engines told me that the Palmer outboard was built to satisfy the personal desire of a couple of the Palmer executives for a really tough outboard for their own use.




**Palmer Direct-Drive, Air-Cooled Engine. A Very Light Machine for Small Boats**

*Trim, about 1930. Built by Bolinder Fabriks AB, Karlhall, Sweden. Heavy-duty 2-cycle twin, about 16 HP. Solid bronze gear case.*




**GETTING TOGETHER  
A PERFECT TRIO**


**ARROW**  
2 Cylinder 4 H.P.  
Detachable Rowboat  
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**INBOARD**  
Single Cylinder  
3 1/2 H.P. 28 lbs.  
5-2 Double  
Cylinder 18  
lbs.



**WATERMAN  
PORTO**  
1 Cylinder 3 H. P.  
Detachable



**YEARS** of painstaking experiment by two separate companies have been brought together in one company by our outright purchase of all patents, patterns, tools, good will and titles of the Waterman Motor Company.

In these models shown you will find a type exactly suited to your needs.

If you are confronted with treacherous waters full of hidden rocks and snags, the new Tilting Device of the Arrow Motor absolutely overcomes this peril. This makes it perfect for shallow water or for easy beaching.

For the casual boater, Model K-1 Single Cylinder, 2 H. P., 26 lbs., is also our Model K-2, 3 H. P., 30 lbs., exactly fill the requirements of a light weight power plant which strengthens the light craft in which it is installed. It makes possible an easy long cruise after a day of freedom in the wilds.

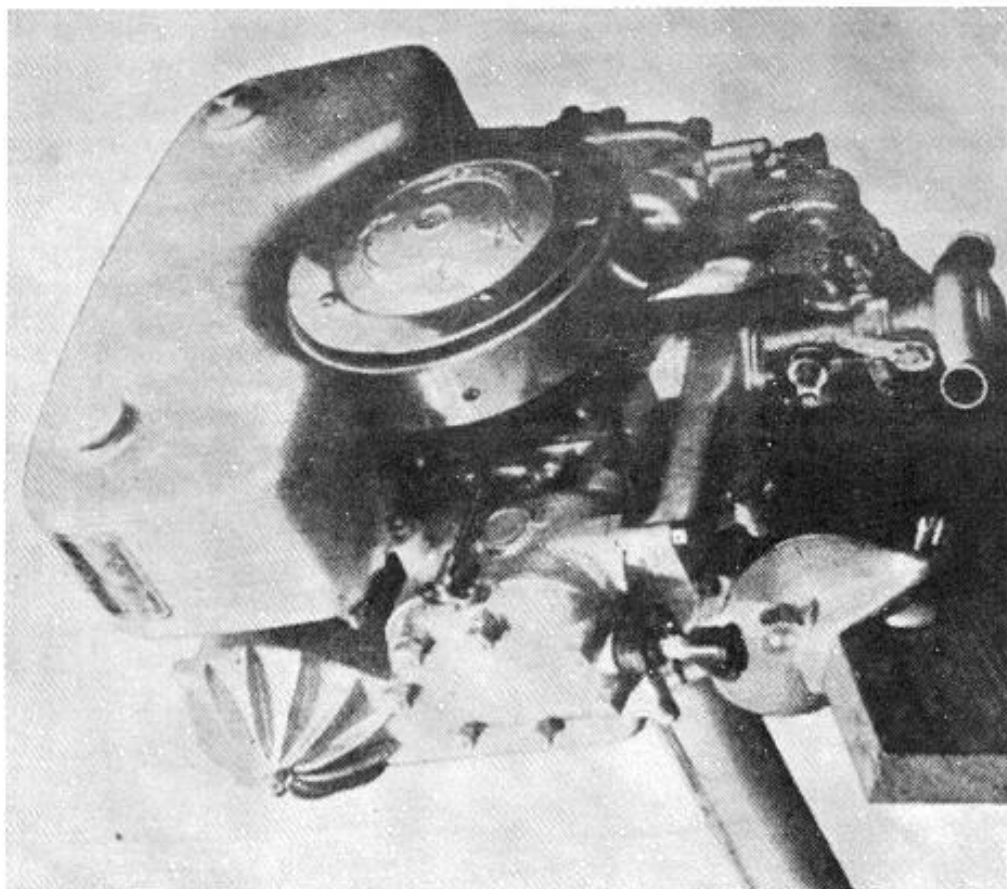
The Single Cylinder, Waterman Porto, is the same of easy "arm-able" control for motor boats. You can raise or lower the friction clutch propeller lever and adjust it to a steady low stalling speed, full speed ahead or any intermediate speed.

The independent tilting device means starting from anywhere in the craft, even when the motor is not running.

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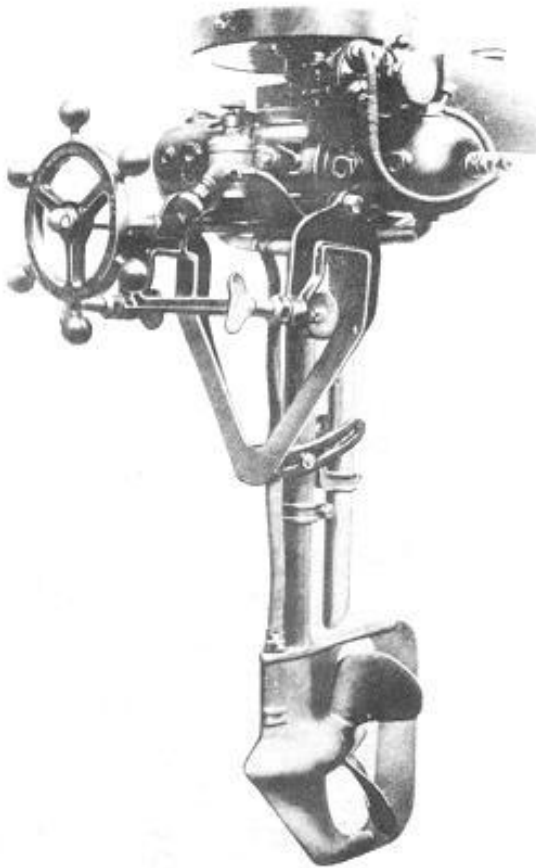
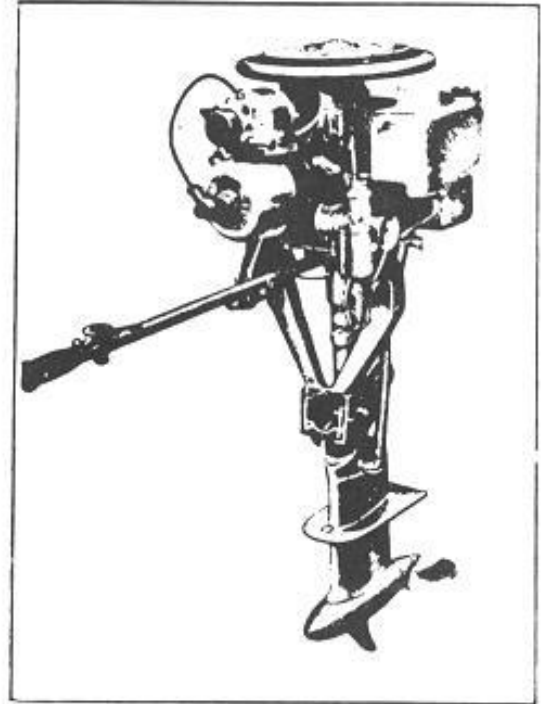
Catalogue of our complete line of perfect light motors is yours on request. Let us also tell you about our A-1 Special Motor of more power for larger boats. Write today.

1917



1931 Penta built by AB Electrolux, Stockholm, Sweden. 4-cycle twin, 10 HP.

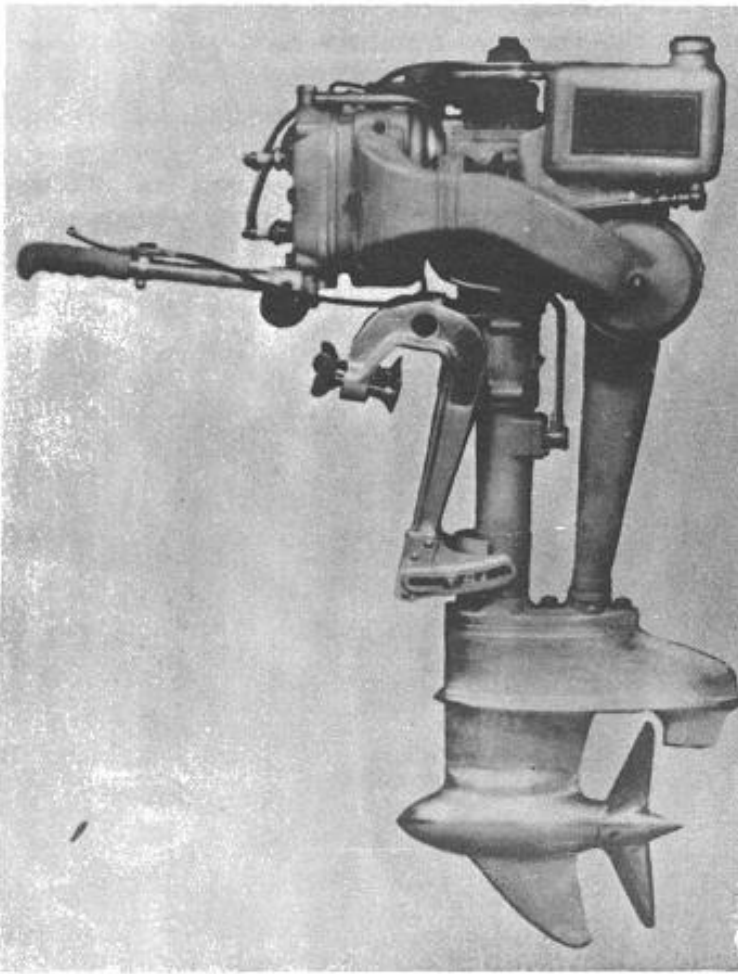
*1929 Watermota built by Walter D. Fair & Co., Hampton Wick, Middlesex, England. 2-cycle, single cylinder. Note separate flywheel driven magneto.*



*1913 Lutetia built by M. Echard et Cie, Paris, France. 2-cycle, 4 HP. Note steering wheel, first use of underwater exhaust. Separate flywheel driven magneto.*



*1931 Sharland built by Outboard Motors Ltd., Whitstable, Kent, England. 2-cycle, 4 HP.*



1930 Lutetia built by M. Echard et Cie, Paris, France.  
2-cycle, 22 HP.

## SAFIX

**Portable Boat Motors**

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*Features:*

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5<sup>1</sup> Vertical Shaft Adjustment.

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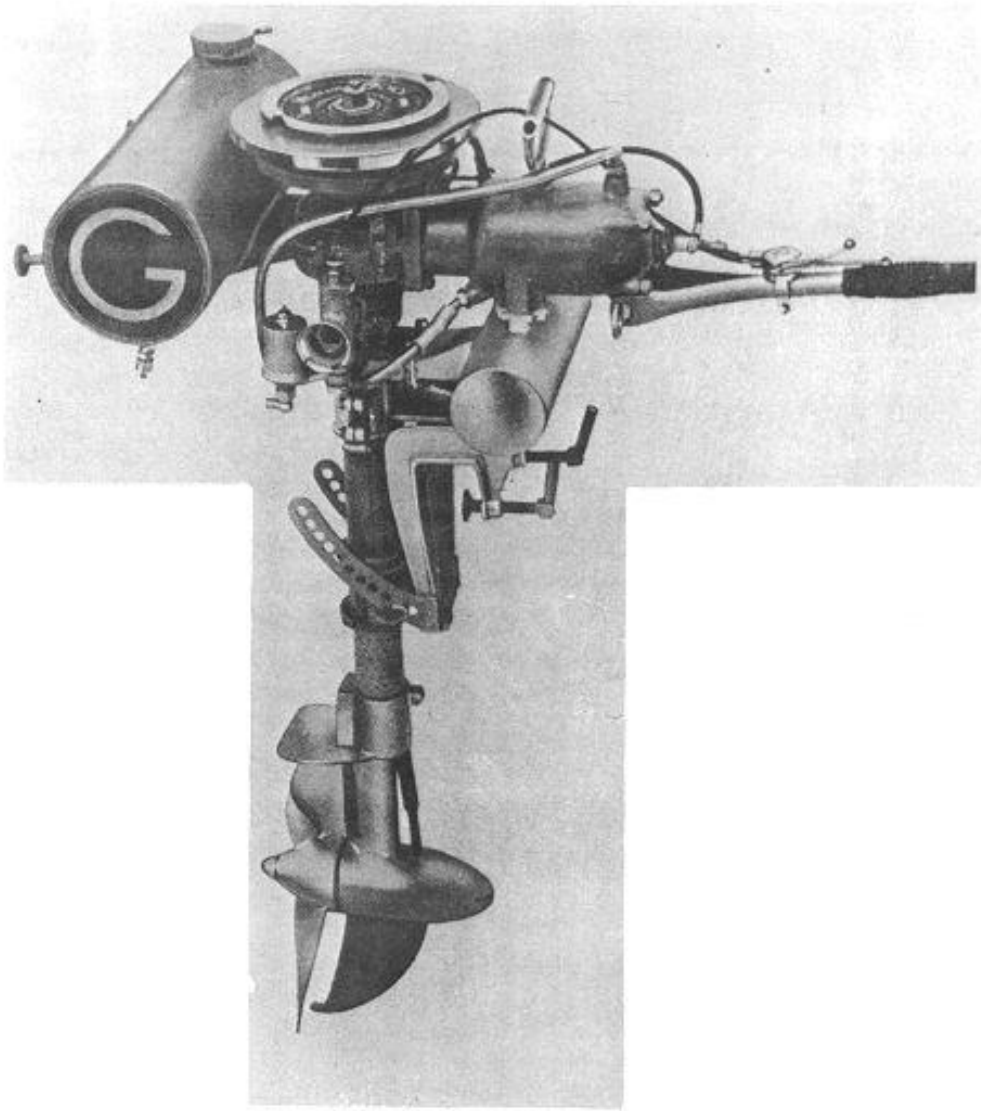
Well established Companies interested in **SOLE REPRESENTATION** apply to the Makers:—

**SAFIX MARINE ENGINE CO., Ltd. (Export)**  
16 BEVIS MARKS, LONDON, E.C., ENG.

Cables—NYSAFXMOT. A.L.D., LONDON. Code—A. B. C. (5th Edn.)

1920 Safix built by Safix Marine Engine Co. Ltd., London, England.  
Power unknown. Note separate flywheel driven magneto.





*1931 Goiot built by Moteurs Goiot, Nantes, France. 2-cycle, 4-5 HP.*

# What Ever Became of Aquaplaning?

John C. Harrison

This is an article that I have wanted to write for years but always planned to do "next week." On this short mountain vacation, "next week" has finally arrived.

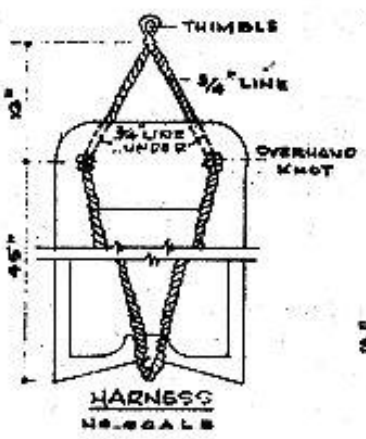
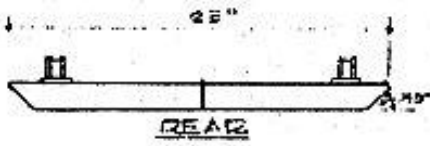
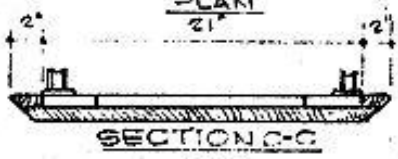
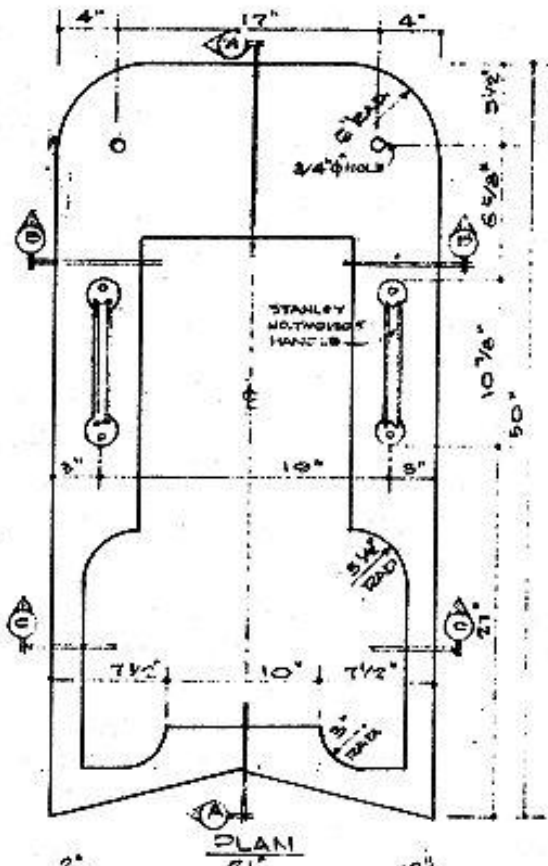
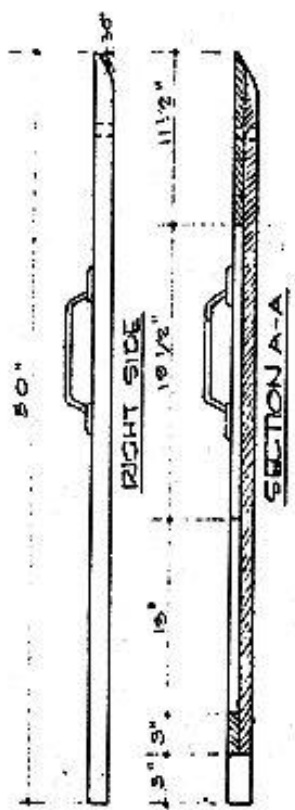
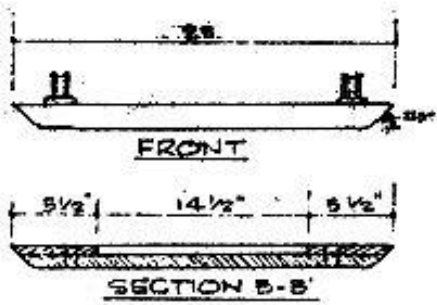
Aquaplaning is the last and only of the water sports in which I can still beat the young bucks. There are two reasons for this. One is that I've been practicing the sport for 45 years; and the second is that the "young bucks" have usually not even heard of aquaplaning, much less done it, with the exception of a small cadre of youngsters whom I have had the pleasure of teaching this lost art.

The demise of aquaplanes is really too bad because it is such a wonderful and simple sport when practiced with the proper equipment. It can be as strenuous or as gentle as the driver and rider choose to make it. It can be quite spectacular and violent and, unfortunately, like any other active sport, too much speed and lack of respect can make it dangerous.

To answer the title question, aquaplaning was murdered by the more powerful boats that came along in the mid-'30's and by the advent of free tow skiing which came along a couple of years later. Granted that aquaplaning does not give the rider the grace and freedom that free tow skiing does. But aquaplaning does have its own group of "spins," water jumps, side slips, head stands, backwards riding, double riding, stilt board trick riding, etc., and for antique outboarders the biggest plus is that it can be done with very low power. It was part of the antique outboard era, so it should not be lost. A K model Johnson or a Lightfour Evinrude on a light 12-foot or 13-foot boat is ideal for teaching children.

The ideal rig is a PO or SpeediTwin driving a light, fast, preferably round bilge boat of 13-14 feet. A V Johnson is also excellent. A SpeediFour Evinrude or Big Four is OK for advanced aquaplaners, but they really build up too much boat speed for beginners. The board becomes difficult to control, and some serious injuries can be the result, particularly for neophytes at the sport.

So what is an aquaplane? Over the years "things" have been produced in a great multiplicity of sizes and shapes, all called "aquaplanes," from the so-called-for-good-reason "jitter board" about 12 inches wide to 3-man toboggans about 18 inches wide and 7 feet long with low side rails, riding like a snow toboggan—for 2 or 3 people that's fun! In the mid-'30's when I was in high school I was privileged to be the youngest member of a "professional" stunt team that made Fox Movietone Newsreels, Grantland Rice Sport Lites and the like. I was low man on the pole at 16 years of age but would work hard—was very big-eyed about what was going on—and of course learned a lot in working my way up the ladder of stunt riding. In those years there were, of course, no commercially made aquaplanes or skis, and we tried every size and shape that can be imagined, but finally settled on the board shown in the drawing below as the best all-around size and shape. The 1 1/2-inch thickness and beveled edge eased the "tripping" tendency, and the V cut at the stern gave a sharper corner for really "digging in" at the end of a spin. This really throws a sheet of water, and it seems to me that some memories of "wetting down" certain friends or boats for kicks comes to mind.



STUNT AQUAPLANE

SCALE

1937

The cut-outs for the feet are a *must* to keep the feet in place. If there is any ripple on the water at all, one's feet will simply get bounced to the edge and off you go! Tennis shoes are a *must* to keep from bruising or cutting the feet, and it goes without saying that a ski belt or jacket should always be worn. The handles on the board, large barn door handles, were a very useful innovation which I have not seen elsewhere, and they are very important. First, they are important for holding onto while getting started—makes it much easier; and, secondly, and more important, they make a series of different riding stunts possible while riding in a crouched position. With your hands and feet both on the board, your control of the board is spectacular, and spins are made much faster due to the fact that the rider's center of gravity is lowered and one whole edge of the board is the riding surface in contact with the water (as opposed to only the rear corner with the rider in a standing position)—say a triangle 6 inches by 6 inches by 6 inches—more, of course, if you lean far forward. Also, in the crouch position it is possible to jump the wake by cutting back sharply from the outside, hunkering down, and then, just as you contact the edge of the wake, giving your board a quick "push-up"—only don't forget to hold onto the board. With practice and a boat with a proper wake, it is possible to clear the water by a full two feet, and usually this will "sail" you all the way across the wake of the boat. This stunt usually takes a heavier inboard tow boat with more wake than our outboards generate, but it is possible to clear the water by six inches to a foot in an outboard wake. I'll go into "stunting" in another article. But the above is for the more advanced aquaplaner.

Take a look at the aquaplane drawing and let's go for a schooling ride—bring your board (also it's handy to carry by the handles,) your tennis shoes, and a 40-foot quarter-inch nylon or dacron tow line. That's about the best length. Pick a calm day and an experienced boat driver, go out to waist-deep water, put the left and right rein lines on top of the left and right aquaplane handles, and tell your driver to "go." Very steady. Now let your feet drag behind as the boat speed goes up to 5 or 6 miles per hour. As the driver increases his speed to about 10 m.p.h., pull your knees up over the board so you are on your hands and knees. Now, as the boat speed increases to 15 or so, place your feet accurately in the foot cutouts. As the speed reaches 18-20 (and that's plenty), let go the handles, keeping the rein lines in your hands, and stand up. Keep your knees slightly bent and *don't* lean back hard—just a light tension on the rein line—ready—stand on your feet with no more than a 10 or 15 pound pull on the rein lines.

The beginner may have a tendency to "wobble," but a few minutes' practice will overcome this. Mostly initial learning should be done with the boat keeping a straight course. As soon as the beginner feels steady and balanced, start learning to go from side to side. More tension on the right rein and more weight on the left foot and you move to the left. The reverse will move you to the right. With the board in the drawing, a calm day, and a few hours' practice, you will be a pretty fair aquaplaner and you will be *tired*, very tired. After you have had 10 to 20 hours of practice you can ride all day in calm water in a straight line, or you can wear yourself out in 30 minutes of fast spins.

A good "spin" takes coordination between the driver and the rider. In calm water with the boat maintaining essentially a straight course, a series of left and right "swings" can be done easily with a slight turn of the wheel first one way and then back the other. Either standing or crouching, a coordinated effort of driver and rider can swing the rider out to a full 90° from the boat course, and then by gently turning toward the rider, you will swing the rider across the wake and out 90° the other side.

*Cardinal rule for drivers: NEVER* give your rider a slack line. This is easy to accomplish by minding your helm to keep the slack out of the line. An experienced and knowing rider can handle a slack line, but this is probably the single biggest cause of bad falls and some serious accidents. You must keep in mind that since the aquaplane is tied to the boat, it is in fact part of the boat, so falling in front of an aquaplane or getting hit with one can be a very serious matter. But with caution, respect, and practice, there is no reason for this ever to happen.

If, on falling, your aquaplane turns upside down, cut your engine immediately, as your board will dive deeper and deeper. I know. I have a series of them planted at various places in the muddy bottom of Biscayne Bay.

In picking up a fallen rider in deep water, there is no reason to stop if he wants to ride the board again. Simply circle the rider at idling speed. The board and the rider will be in the center of your circle and the rider can again take hold of the aquaplane handles for another start. You will find that a riderless board at speed will "sled" on top of the water, but at idle will tend to dive to a depth of 5 or 6 feet. In picking up a rider, don't worry about this, as the board will float to the top as you circle the rider and the board is virtually at a standstill. The rider then takes hold of the board and you can straighten out and go again.

Now, after a little more practice, you will want to get into the "all-out spins," which are the most spectacular and an interesting study in physics. In a crouched position the "all-out spin" is started like a "swing" as described above, but the tightness of the turn is slowly increased, which will result in a course which is shaped like a fishhook. You will find that the greatest acceleration to the rider is accomplished by the driver's keeping the boat keel and the tow line in a straight line as you tighten your turn. As the board and rider's speed increases, the entire kinetic energy stored in the boat, driver, and engine will be transferred to the aquaplane and rider. Starting with, say, a 24 m.p.h. speed, the boat speed will go from 24 to 0 and the rider-board combination will go up about 38-45 m.p.h. Horizontal "G" forces will reach the order of 1 to 1 1/2—and that is the reason for the large handles. Small handles will cut your little finger, or you may simply lose your grip and be thrown off astern by centrifugal force. A light 13-foot boat such as a Thompson or Lyman will actually be pulled astern a few feet before everything comes to a halt. This is a great thrill for all concerned, and it must be a team effort—neither rider nor driver can accomplish it alone.

In a crouched position, even at his fastest speed, it is possible for the experienced rider to stop his flight by "horsing" the board up on its side to about 80° or 90° to the water. Then the rider's shoulder and the water will virtually be touching. Needless to say, in that position it is quite a spectacular sight! This takes a rider in excellent physical shape.

I have large-scale drawings of the aquaplane made. If you want a larger set than shown here, mail me a check for \$2.00, made out to the AOMCI, and this will help the Club. Get yourself a relatively easy winter project and have an extremely usable piece of sports equipment that will give years of service and a great deal of fun and exercise! On with the aquaplaning! and don't forget to teach the kids!

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# How to Build a Big Four

(with a little help from your friends)

*Walt Verner*

If ever there was a typical AOMCI engine built, and I mean built, my just-completed Big Four is it. The reason it is an AOMCI engine is that without the Club, it would still be a bunch of parts scattered around the country.

The story starts in 1974, when in conversation with Walt Ellis, I mentioned that I had always wanted a "Storm Boat Motor." Walt, being the outboard ferret that he is, suggested that I contact a local Evinrude dealer by the name of Chabaud, pronounced Sho-bo. It seems that Walt had talked with Chabaud and, in addition to having an Evinrude A and a Koban, he also had a "Pumper" that he used to race about 25 years ago and two lockers of parts.

Shortly thereafter, I stopped by, admired the A and the Koban, and asked to see his Pumper. He took me upstairs and, after throwing a bunch of stuff aside, there it was, still in excellent condition. It was obvious that he took a great deal of pride in the old monster, and equally obvious that he would never sell it. I did ask if I could look through his parts, as maybe he had something I could use. I found a tear-shaped Speeditwin lower unit and prop that I had been looking for and inquired the price. Chabaud replied \$5 each, \$10 for both. I bought both.

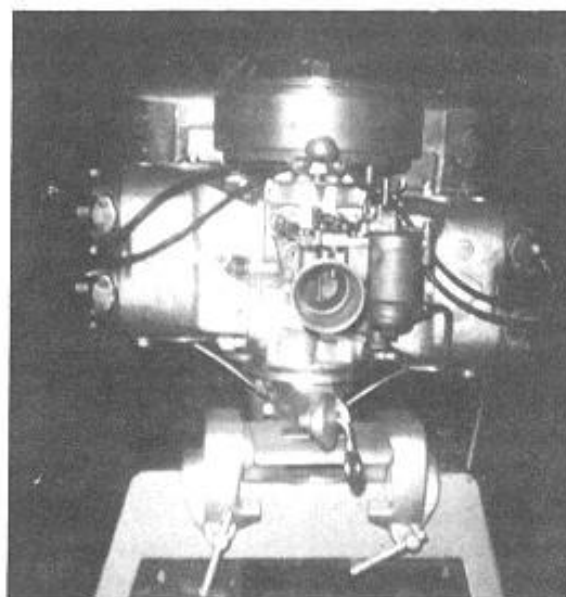
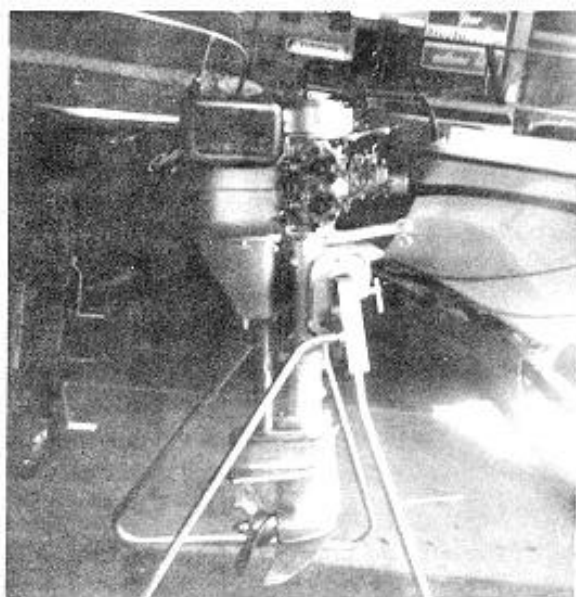
In later conversation, it developed that Chabaud is an avid golfer. A couple weeks later, I dropped by, gave him a dozen golf balls, and asked to see the parts again. I was given the green light to go through them any time I wanted so long as I checked with him before leaving.

In the meantime, I had gotten a Big Four parts list from Dave Reinhartsen and started to check off parts—flywheel, mag plate, coils and points, crankcase, crankshaft, bearings, cylinders, heads, rods, rod bearings, pistons, rings, gas tank, carb, tower housing, lower muffler, exhaust tube, and gaskets. It was all there but the upper muffler, water pump housing, and lower unit.

Another visit with more golf balls, and I told Chabaud I thought there were enough parts there to build my own engine. He looked at me like I was nuts and said he didn't think so, but if I was crazy enough to try, go ahead.

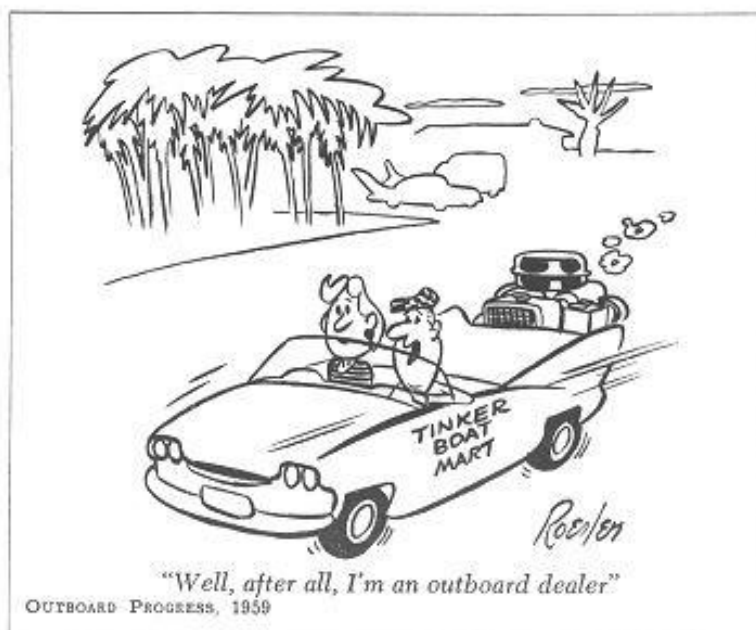
So I started hauling parts and writing letters. The first letter was to John Harrison, our Big Four group leader. Lo and behold, John came up with the upper muffler, water pump housing, and a new set of wrist pins. I was set, and started the project. It went fairly smoothly, but I must admit I got help from John Harrison, Walt Ellis, Charles Hanson, and Dave Reinhartsen along the way. The first big snag was when I took the carb apart and there was no float. I substituted a PO float and plunged on.

Some time later, I was in St. Louis and stopped by Clarence Sitton's. Clarence, among other things, has two Big Fours, and I was looking them over to see what I was missing, if anything. Sure was—had to go back to the lockers on my return and find a mag plate stop—it was there. Clarence also very kindly gave me a parts carb with float and air scoop.

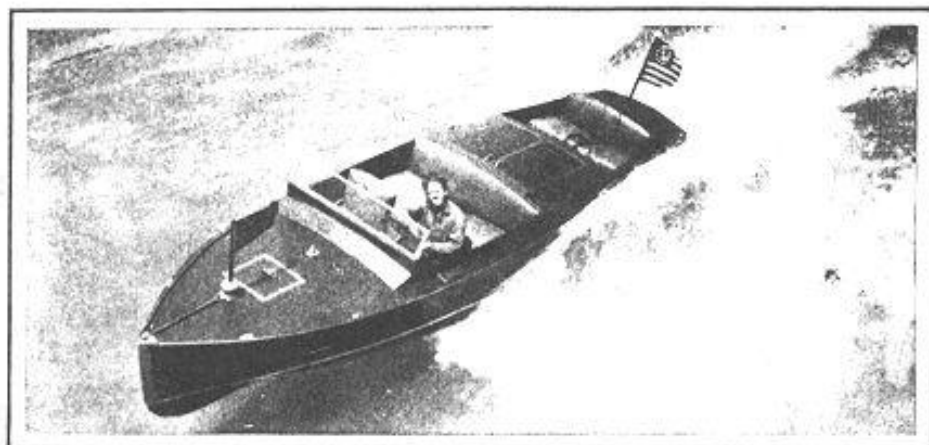


I finally got it all cleaned, painted, and ready to assemble. I'd gotten a big three-finned lower unit with Speedifour attached from Dave, so everything was ready. I put the water pump housing on the tower housing, put the lower unit on the water pump housing—oops, forgot that John sent me the long water pump housing—back to the lockers. Yep, the long drive shaft was there. I put on the power head, attached the two-piece muffler and exhaust tube, bolted on the gas tank (restored by tips from the *Outboarder*) and carb and there it was. I had BUILT a Big Four.

One has only to look at the names on these pages to realize that without the Club and its generous members, I would still be looking for a "Storm Boat Motor."



# Chrysler Marine Engines The Most Rugged Powerplants of Their Size



Chrysler Marine Engines are so scientifically designed and splendidly manufactured that motorboat builders and enthusiasts properly regard them as the most rugged and dependable on the market.

Large diameter 7-bearing crankshaft, automatic carburetor drain, special water pump construction, flywheel on forward end with over-size reverse gear in rear, simplicity of clutch and reverse gear adjustments, are some of the many features of these engines for which you have had to pay a much higher price in the past.

Chrysler Marine Engines, 106 h. p. Imperial Marine Engine and the new 82 h. p. Royal Marine Engine—both in standard and medium

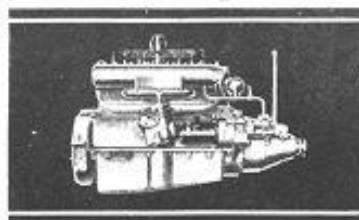
duty types—are installed in Chris-Craft, Dodge Watercar, Dart Runabouts, and Corsair Cruisers. With reduction gears they are now suitable for cruisers even up to 55-footers.

We will be glad to show you the many features which make Chrysler Marine Engines the smoothest, most powerful, the most rugged and the most dependable powerplants of their bore and stroke—factors which have been responsible for the fact that during the past year more than one half of all runabouts built were equipped with Chrysler Marine Engines.

*Address your request for information to the Marine Engine Division, Chrysler Corporation, Detroit, Mich.*

# Chrysler

**MARINE**



**ENGINES**

Marine Motor Boat Co., 57th St. at Eighth Ave., New York

SEPTEMBER, 1928



# the

*Don Peterson*

# Chrysler story

Chrysler Corporation entered the boating business in March, 1927 when they introduced their 106 h.p. 6-cylinder Imperial marine engine from their newly-opened Marysville, Michigan plant. The venture proved successful from the start, as Chris Craft tested the Imperial and liked the engines so well that they ordered them in quantity for installation in their Cadet model runabouts. In the 1928 boat magazine ads, Chrysler advertised "More than one-half of all runabouts built during the past year, powered by Chrysler Marine engines."

The Imperial engine really was no mystery marvel, it was just a well-thought-out 289 cubic inch powerplant that featured a 7 main bearing crankshaft, special water pump construction (which was so critical in those days), flywheel on forward end, and an oversize reverse gear. In 1928 Chrysler supplied the 100 h.p. Imperial, a new 82 h.p. Royal to Chris Craft, Dodge water car, and Dart runabouts, plus the Corsair cruisers.

Through the years Chrysler built a solid reputation for dependable marine engines, and today dominates the market in its field.

Chrysler's first involvement with outboards began in 1965, with the purchase of West Bend Company of Hartford, Wisconsin. This is the story of how it all began.

The history of West Bend and Chrysler outboards starts with the story of the Kissel Motor Car Company of Hartford, Wisconsin. This firm manufactured automobiles until 1929, when it filed bankruptcy. The company ceased to exist entirely in 1931.

The Kissel brothers revived the company in 1934, and in 1937 obtained a contract to build Water Witch outboard motors for Sears and Roebuck Company. The contract proved lucrative and the company began to diversify, but World War II intervened, and all production was geared for the war effort.

In 1944 West Bend Aluminum Company purchased the former Kissel Kar (1908-1931) factory from Kissel Industries, along with the Sears and Roebuck outboard contract. The rambling expanse of buildings purchased on the Rubicon River in Hartford also housed Weyenburg Shoe Company, Phoenix Sash and Door, and Natural Casting Company. All operations continued with the space leased from the West Bend Aluminum Company.



*The first West Bend—a 1946  
1 1/4 h. p. Elgin.*

In 1955 a 12 h. p. engine was added to the model line, superseding the old 16 h. p. In addition, both the 12 and 25 h. p. engines featured low-level rewind starters, and the 25 h. p. was available with an electric starter and high-output alternator.

The year 1955 was a milestone for the company as it began penetration of the domestic market with its own West Bend brand of outboards. Also the engines were restyled, and the line was painted gray, with orange trimming.

As the sale of the brand name West Bend outboards expanded, a split with Sears and Roebuck developed. By 1958, West Bend was no longer the exclusive manufacturer of the Sears Elgin outboards, and in 1960 the Elgin was a minor part of the total West Bend outboard production.

In 1961 West Bend brought out an 80 h. p., 4-cylinder engine called the Tiger Shark. Now the line featured 2, 7 1/2, 12, 18, 25, 40, and 80 h. p. engines, with the 12 through 25 h. p.'s named Silver Sharks and Golden Sharks, with trimming colors corresponding to the names. Synchro drive remote control was also available, as were such accessories as tachometers, speedometers, supplementary electrical outlets, and quick disconnect fuel couplings.

A 2-cycle, 80 h.p. engine was also manufactured as an inboard-outboard, with a West Bend designed outdrive unit, known as the Shark-O-Matic. The weight was little more than the same size outboard.

West Bend foresaw the clamor for outboards when the war ceased, and began expanding the line on the drawing board. In 1946 the new West Bend engines were unveiled through Sears, and were called the "Elgin." The line featured the 1 1/4 h. p. engine, the first West Bend outboard, and then a 2 1/2, 3 1/2, and a 5 h. p. were added. The motors were painted medium green, with orange name decals. The only Water Witch part they used in 1946 was the prop shear pin.

In 1948 West Bend began to market outboards in foreign countries under its own label. Also, the 3 1/2 h. p. model was boosted to 5, and the 5 1/2 to 7 1/2, and in 1949 the first attempt at a large outboard appeared in the form of a 16 h. p. Elgin alternate twin. This engine marked the turning point in West Bend outboard thinking, as their market researchers concluded that the larger engines would be the coming thing, due to water skiing and the public demand for more horsepower.

The 16 h. p. engine proved successful, and the company decided to develop larger engines, but it was not until 1954 that the 25 h. p. engine appeared on the scene.



*16 h. p. Elgin, 1949.*



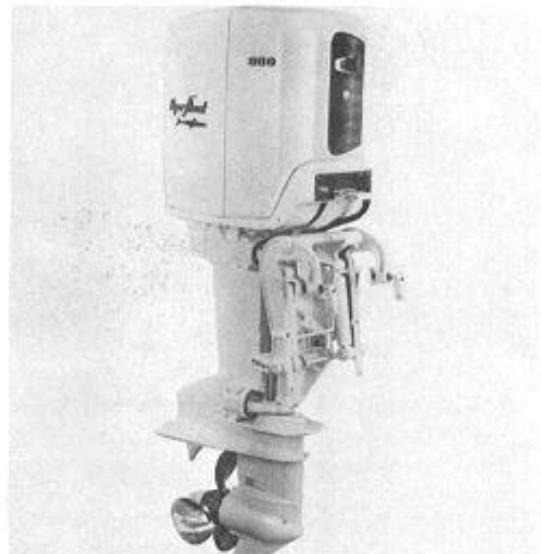
1955 (7 1/2 h. p.)



1957 (7 1/2 h. p.)



1959 (40 h. p.)



1961 (80 h. p.)

Gradually over the years the West Bend Aluminum Company became diversified. Products made of copper, steel, stainless steel, and plastics accounted for more than half their business. This trend away from predominantly aluminum was climaxed by the announcement on February 20, 1961 of a name change to the West Bend Company. By 1964, its final year of outboard production, the company offered 3 1/2, 6, 9, 20, 35, 45, 50, and 80 h.p. outboards, a size for every boating application at that time.

Then, in January, 1965, Chrysler Motors Corporation purchased the entire Hartford operation of the West Bend Company. In another big step, Chrysler bought the Lone Star Boat Company of Plano, Texas in May of 1965. Lone Star had been building aluminum and fiberglass boats since

1946. The two operations were consolidated in June of 1965 with the already existing Chrysler Marine Division and its sister, the Industrial Products Division, and became a part of the new Chrysler Marine and Industrial Products Group. The organization's name was changed to Chrysler Marine Products in 1973. With the raising of the Pentastar banner atop the erstwhile Kissel Motor Car Company plant in Hartford, an entire new era was ushered in.

One of the strongest reasons for Chrysler's purchase of West Bend outboard was the feeling that the line was front ranking, but very undersold. It needed more sales outlets, and Chrysler began planning.

Since the 1965 line of West Bend outboards were already established, they were sold that year as "West Bend, by Chrysler." The complete line of pure Chrysler outboards were ready in 1966, and came in the following horsepower:

- 3 1/2 h.p., developed from West Bend's 2 h.p. air cooled engine.
- 6, 8, 9.2 h.p., from the original 5 1/2 h.p. 1946 design.
- 15, 20 h.p., from the 12 h.p. 1955 design.
- 35, 45, 50, from the 25 h.p. design of 1955.
- 75, 105, all new, 3- and 4-cylinder engines, designed by Chrysler.



*Chrysler 135.*



*Chrysler 10 h. p.*

When they first appeared, it was apparent that Chrysler had outdone everyone in one area, and that was styling. The new models were painted ivory white, and enhanced by gold trim and blue identification medallions. The line proved to be as rugged as beautiful, and just as 43 years before with marine inboards, they began to sell extremely well.

Today's facilities for Chrysler outboard production include 665,000 square feet of space at their Hartford manufacturing plant, and 88,000 square feet at Beaver Creek Dam, 25 miles northwest of Hartford. A subsidiary, Chrysler Canada LTD, produces outboards in a 34,000 square foot facility, and manufactures boats in a 67,500 square foot plant, both in Barrie, Ontario, 50 miles north of Toronto.

The new line of Chrysler outboards features engines that include 3.6, 5, 6, 10, 15, 25, 35, 45, 55, 60, 75, 90, 105, 120, and 135 h.p. engines. In 10 short years Chrysler has been able to bring forth a highly competitive, no-nonsense outboard second to none—and with a touch of elegance.

*CREDITS: I would like to thank the following people for their contributions of material and photos for this article:*

*Douglas Talbot, Manager, Public Relations, Chrysler Marine Products Division, Chrysler Corporation; and Ken Pike, Chief Research Engineer, Chrysler Outboards, Chrysler Marine Products Division, Chrysler Corporation.*

# Small Inboards Revisited

*P. S. Brooke, Jr.*

Despite the fact that World War I was raging in Europe, the New York Boat Show opened at Madison Square Garden in 1915 and was fully reported in the February issue of *Yachting* magazine for that year. As in previous years, the Gray Motor Company of Detroit, Michigan was a prominent exhibitor, with a line of two-cycle engines ranging in power from three to 36 h. p. These engines would operate on either gasoline or kerosene, and were priced from \$55.00 on up FOB factory. In addition to its line of inboards in both two- and four-cycle models, Gray also displayed its "Gearless" outboard engine. This engine differed from the competition in that it had no drive gears. The propeller was driven by a flexible shaft running in a curved brass tube. With a bore of 3 inches and a stroke of 2 1/2 inches, the engine was rated at 2 1/2 h. p. Gray advertised "A Gray For Every Boat," and priced its outboard at \$55.00. The company stated in its ads "the cylinders and pistons are ground to a mirror like finish; bearings are long and interchangeable; crankshafts are perfectly ground; flywheels are smooth and perfectly balanced, giving you a smooth running engine. In the manufacture of Gray engines, every piston, every piston ring, every piston pin, every crank shaft is tested with micrometer gauges, and dare not vary over one-half a thousandth of an inch of absolute accuracy." Furthermore, the ad continued, "Every Gray Engine is tested under its own power for smooth running power and economy."

Gray ceased production of its outboard engines in 1917 to concentrate on inboards. It may have been that the competition from Evinrude, Koban, Federal, and Joy, all frequent advertisers in *Yachting*, contributed to this decision. Both the Koban and Federal models offered in 1915 were two-cylinder, and their makers made claims of vibration-free performance. With the increased production and sale of outboards for use on rowboats and canoes, the makers of small inboards would have to look to their laurels to fend off this new competition.

Lightweight and high-speed engines offered for 1915 ranging in horsepower from 1 1/2 to 6 included the Cady, manufactured in Canastota, New York, weighing in at 45 pounds and developing its rated h.p. at 1005 r.p.m. The Ontario, rated at 2 h.p., was offered by the firm of A. E. Olmstead of Pulaski, New York. The Concrete Form and Engine Company of Detroit, Michigan produced the Belle Isle, developing 2 1/2 h.p. and capable of running on either kerosene or gasoline. Other engines that could be operated on either kerosene or gasoline which developed three h.p. from their single cylinders were the Leary, made by the Leary Gasoline Engine Company of Rochester, New York; and the Roberts, turned out by the Roberts Motor Company of Sandusky, Ohio. Single-cylinder engines rated at 3 1/2 h.p. were put out by Fifield Brothers Company of Augusta, Maine under the name *Capital*, and by the Standard Company of Torrington, Connecticut under the name *Eagle*. DeMooy Brothers of Cleveland, Ohio marketed a 4 h.p. model in 1915 weighing 165 pounds and developing its rated power at 900 r.p.m. A number of 6 h.p. engines were offered by Eagle, Pierce-Budd, and Waterman. All of the foregoing engines were of 2-cycle design and attained their horsepower ratings at shaft speeds under 1100 r.p.m.

Two-cylinder, two-cycle high-speed and lightweight engines offered at this time included the Sieverkropp, rated at 1 1/2 h.p.; the Morristown, rated at 4 h.p.; and the Strelinger, also rated at

4 h.p. The Carlyle Johnson Machine Company of Manchester, Connecticut were producing a 5 h.p. engine called the Bud-E. This unit weighed 110 pounds and attained its rated power at 1200 r.p.m. Ontario, Roberts and Watkins provided engines of 6 h.p. weighing upwards of 175 pounds and operating at 900 to 1000 r.p.m. One 6 h.p. engine, the Morristown, featured three cylinders with a "square" bore and stroke of three inches. This model developed its rated power at 900 r.p.m. and weighed 180 pounds.

In Saginaw, Michigan the Erd Motor Company was turning out a 2-cycle engine with a bore of 3 1/2 inches and a stroke of 3 1/2 inches developing its horsepower of 3 1/2 at a moderate 850 r.p.m. In 1902 John G. Erd and Harry S. Erd had opened a small machine shop in the city of Saginaw. At first the proprietors did repair work for local boat owners and made a few marine engines to order. Only about one new marine engine per month was produced in those early years, but soon the demand for Erd engines caused the owners to expand. In 1906 a large frame factory building was occupied, and production of engines increased to 10 or 12 per month. A line of marine engines ranging in size from one to six cylinders was developed, and a national advertising campaign commenced.

In 1909 the concern was incorporated by John G. Erd, Harry S. Erd, and William J. Passolt with a capital stock of \$25,000. Subsequently the capitalization was increased to \$125,000 as the enterprise flourished. At this time the factory was capable of turning out one complete six-cylinder engine per day in addition to at least one example of the smaller models. Demand for the Erd products continued to increase, and in 1910 a new brick factory building was erected and equipped with up-to-date machinery, tools, and jigs. In addition to inboard marine engines, the company added a line of heavy truck and tractor engines and expanded production to approximately 15 engines per working day. In the 1915-1916 era about 85 mechanics were employed by Erd. After 1929, however, no attempt was made to manufacture engines on a production basis. Instead, engines were made upon special order, and repair parts were furnished for Erd engines in use throughout the world. As late as 1938 the Erd Motor Corporation was still in business on a limited basis turning out special orders, but so far as the writer has been able to determine the name slipped into oblivion after World War II. Thus in a span of approximately 36 years the Erd concern had come full cycle from production of a few "one off" models in 1902 to fill special orders from boaters to custom work again upon special order in 1938.

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#### FRONT COVER

Mrs. Hub Meyers, c. 1928, with her Penn Yan boat powered by a hefty Evinrude SpeediTwin.

*photo courtesy of Jim Cason*

## OUTBOARD INBOARD

by Ray Rydell

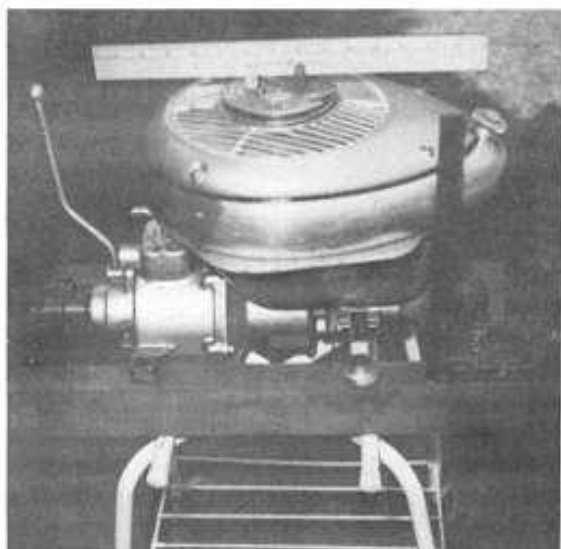
The next time you watch the original *Mutiny on the Bounty* on television, look closely at the Tahitian outrigger canoes as they first come alongside the *Bounty*. At the canoes, not the girls. You might just make out a strange wake following each of the canoes. The reason for that is simply that some of them were equipped with a handy Bendix Eclipse outboard motor installed inboard and out of sight. Don't be disillusioned by all this; Clark Gable wasn't, not even Captain Bligh.

Not long ago, I heard about these motors from long-time MGM producer Bob Hoag, now retired, who was responsible for the photography of this movie classic. He related that some of the staff were worried that the canoes might not move fast enough to appear natural, and that the landing scene would take up too much time. So MGM asked Bendix to develop a small powerplant for these boats, and from that request came these outboard powerheads, with reverse gear, installed inboard to drive a conventional propeller. They worked fine.

When Bob Hoag retired recently, he cleaned out his office and storeroom, which contained records and technical equipment from his lifetime of film making. 'Way back in the back and underneath everything, he found a heavily-built wooden box which looked as if it had never been opened. Upon opening it, he immediately remembered what it was—one motor that was left over from the Tahitian landing scene, still unused. (Like finding the proverbial brand-new Elto Ruddertwin in its original case.) He went over it carefully, brought it home, and started it up. It ran like new, because it is new.

Apparently Bendix believed the design had good potential for dinghy and auxiliary power, because it was marketed commercially in 1940 and 1941, both as a single—like this one—and as a twin. Johnson and Evinrude had both previously built similar powerplants. But then WW II took over, and Bendix shelved its civilian products and, as many of you will remember, concentrated on precision equipment for fighting aircraft and ships.

Bob still has the motor, and I'm still trying to talk him out of it.



*Bendix Eclipse 2 1/2 h. p. single (white line is a ruler, for size comparison.) Front view. Notice reverse gear.*



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*Air-Cooled*

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Refined and Improved—the famous and familiar Single and Twin with their unique 15,000-volt, sure-start ignition, air-cooling, Stromberg carburetion, light weight, freedom from heavy water-jacketing and cooling annoyances.

Eclipse Model TMD; 10.02 cubic inch Twin;  
5 h.p.; weight 41 pounds. **\$129<sup>50</sup>**  
*At Brooklyn*

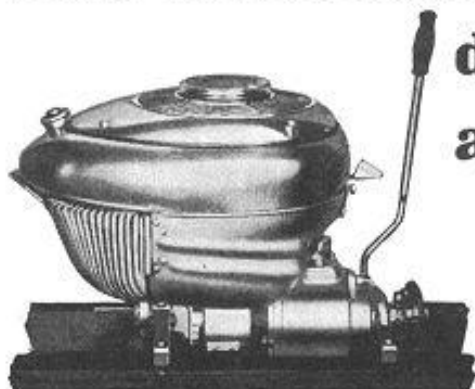


Eclipse Model SMD  
(illustrated); 5.01 cubic inch single; 2½ h.p.; weight 27 pounds.

**\$79<sup>50</sup>**

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dinghy, tender and  
auxiliary power**



## ECLIPSE

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5 H.P. Twin (illustrated), complete with Reverse Gear, Wt. 56 lbs., price **\$159<sup>50</sup>**  
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2½ H.P. Single, complete with Reverse Gear, Wt. 44 lbs., price *f. o. b.* **\$119<sup>50</sup>**  
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Surest starting, sweetest running inboards built. Self-contained—tank and all—streamlined—no hot surfaces—low overall height—quickly demountable power head for easy servicing and theft protection. Write for full information.

**BENDIX AVIATION CORPORATION  
MARINE DIVISION**

**754 Lexington Avenue, Brooklyn, N. Y.**

*Motor Boating, January, 1940*

prepared by George Harness

**SERVICE INFORMATION AND SPECIFICATIONS  
APPEARING IN THE ANTIQUE OUTBOARDER  
SINCE VOL. 1, NO. 1, JANUARY 1966**

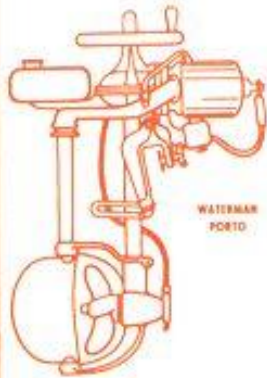
<i>Subject</i>	<i>Magazine Issue</i>	<i>Subject</i>	<i>Magazine Issue</i>
Batteries, ignition	Oct. 1962	Loosen stubborn screws	July 1975
Bendix Eclipse motor	Jan. 1973	Magneto tips	July 1975
Carburetors	Oct. 1969	Mercury Thunderbolt servicing	Jan. 1974
Carb. valves and springs	Oct. 1970	Motor stands	Oct. 1974
Connecting rods	July 1971	Piston rings	Jan. 1971
<i>Elto:</i>		Powerhead balancing	July 1970
Ignition tips	Oct. 1972	Propellers	Oct. 1969
Highspeed speedster	Apr. 1973	Propellers	July 1975
Starting procedure	July 1969	Record of motors owned	July 1975
Timing mechanism	Oct. 1966	Spark plugs	July 1969
Flambeau	Jan. 1970	Tachometer plans	Jan. 1973
Flywheel puller	Oct. 1975	Test tank plans	July 1972
Gas and oil ratios	Oct. 1970	Thor twin cyl. motor	Jan. 1970
Gas tank repairing	July 1968		
Gas tank repairing	Apr. 1970	<i>Specifications:</i>	
Gas tank repairing, decals	Apr. 1971	All outboards for 1924	Jan. 1967
Gas tank repairing, alum. filler	Jan. 1972	All outboards for 1928	July 1968
Gas tank repairing, sealer	Oct. 1975	Caille 1913-33	Jan. 1970
Hydroplane plans	Apr. 1970	Cross	Apr. 1970
Ignition coil tester	July 1970	Champion	Oct. 1970
Ignition coil tester	Jan. 1973	Elto	July 1970
<i>Johnson:</i>		Lockwood 1914-30	July 1969
V-45 rotary valve	July 1967	Mercury 1940-49	Apr. 1969
VE-50 elec. starter	Jan. 1968	Neptune OB 64	Oct. 1968
LighTwin 1922-27	Jan. 1970	Neptune 1930-48	Oct. 1969
LighTwin fuel system	Apr. 1971	Seagull (British)	Jan. 1971
LighTwin fuel system	July 1971	Waterman	Jan. 1970
LighTwin water pump	Oct. 1971	Waterwitch	July 1973
Models and pictures	Apr. 1972	Koban	Apr. 1969
		Koban	Oct. 1975

# DECALS

A decal adds that finishing touch to any restoration project. All are made close to original specification, in full color.

For Evinrude Single, 1911 to 1928.	\$ <u>4.95 set</u>	Order from: Robert Brautigam 2316 West 110 Street Bloomington, MN 55431
For Elto rear tank, any through 1928. Water applied type.	\$ <u>3.95 each</u>	
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For Evinrude 4-60.	\$ <u>8.00 each</u>	
For Johnson "Sea-Horse 32," fits Models V-65, 70; VR's and VE's. For Johnson "Sea-Horse 25," fits all Giant Twins. For Evinrude, fits Speedifour or Big Four (specify). Like originals, pressure-sensitive vinyl.	\$ <u>10.00 each</u>	Order from: John C. Harrison 1000 Northwest 54 Street Miami, FL 33127
Metal nameplates for front of gas tank. Fits all Elto Ruddertwins. Authentic!	\$ <u>5.95 each</u>	
For Johnson "Light Twin" 1921-1927 plus A-35. Includes "To start" and "Oiling" decals. Exact duplicates of original Light Twin decals. Water applied type.	\$ <u>5.00 set</u>	Order from: Bob Zipps 182 Brentmoor Road East Hartford, CT 06118
For Johnson "K" models, patterned after P/N 27-227. Complete with starting and oiling instructions. Fits OK-55 and OK-60 too! Water applied type.	\$ <u>5.00 each</u>	
For Johnson alternate firing A models, patterned after P/N 25-244. Also fits K-35, K-40, K-45, KR-40, A-35, A-45, OA-65. Vinyl type, self stick.	\$ <u>6.00 each</u>	Order from: Charles W. Hansen 2108 Broward Road Jacksonville, FL 32218
For Evinrude Scout, 1937, and others with similar tear-drop tank. Complete with operating and oiling instructions.	\$ <u>6.00 each</u>	

# The Antique Outboard Motor Club Inc.



Publishing Office: 2316 West 110 Street, Bloomington, Minnesota 55431



*Photo taken about 1915 shows graceful Lapstrake rowing boats of the kind the early outboards had to power.  
Submitted by Dave Lockwood.*

# AOMCI 11<sup>TH</sup> YEAR