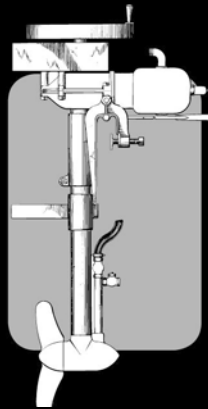




Rowboat Motor Journal

Official Publication Of The

**Southern
Ontario
Rowboat
Motor
Chapter**



Vol 1, Issue 3 2008



What Is It, And What Does It Fit? (Photo courtesy of Jack Craib)

About "The RBM Journal"

The Rowboat Motor Journal was created in order to provide rowboat motor-related information to any and all interested parties, as well as be used as a means of communication between collectors of the early motors that form the foundation of the marine outboard engine industry as well as the original building blocks upon which our hobby is based. Intended for bi-monthly publication, it is a non-profit enterprise with all information (technical or otherwise) procured, verified within reason for accuracy, and assembled strictly through the work of volunteers.

To that end, participating members are encouraged to share their expertise and understanding so as to assist in the future preservation of not only the motors themselves, but the knowledge there-of. Members may be solicited by the Editor to assist with providing in-sight with respect to restoration techniques, part reproduction, shop practices, motor information and any other pertinent exchange of data, up to and including publication of donated pictures or images, detailed accounts of current restoration projects, recent "new" old motor discoveries or acquisitions, or pictorial demonstration(s) of rowboat motors on display or in actual use.

This publication is intended for free and unencumbered distribution to Antique Outboard Motor Club members as well as interested members of the public who may not yet be affiliated with the AOMCI. Although operated in cooperation with AOMCI, and intended to foster a working relationship with the National Club and the official AOMCI quarterly magazine "*The Antique Outboarder*", the RMJ is a wholly independent operation pledging to function within the confines of the AOMCI By-Laws, but is not to be confused as working under the direction of the Executive Council of the AOMCI in any way, shape or form.

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From The Editors Desk....

Hard to believe it's the beginning of December already. My motors are stored away for the winter and with the arrival of the cold weather, its time to buckle down and finish off some of the writing assignments that were started on rainy days during the warm weather season.

We've had several new folks join up with our chapter since the most recent newsletter was distributed. One person properly pointed out that there's a lack of contact information with respect to names and numbers contained in the newsletter, so let's see what we can do to correct that situation.

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With respect to services available to our members, we're still looking into assuming responsibility for the care and control of all the data that was available on Jason Harrison's Rowboat Motors website. We've not made much progress there in recent weeks, but we do have high hopes of resurrecting the site early in the New Year. The RBM Discussion Board has been operating without any hiccups. Overall, traffic is light but that doesn't bother me any.

Some additional suggestions have floated in that we may attempt to get included in the newsletter. One very simple question has a not-so-simple answer; "when you find a rowboat motor that doesn't have an ID tag, or where you can't find a serial number, how do you go about identifying it as

to year of manufacture"? I think it's a legitimate question that deserves some thought and time devoted to answering. My idea on this is to proceed brand-by-brand and see if we can't put our collective heads together and conjure up some sort of reference list that will help folks who are discovering the world of rowboat motors. Eric Helder has jumped in and established an Evinrude web page, so that should be a big help. Perhaps by prevailing on those of us who happen to be Special Interest Group Leaders, a good, solid, comprehensive list containing useful information can be created and preserved. Some of these answers can be found in Peter Hunn's "*Old Outboard Book*" series, other answers have been posted online or published in "*The Antique Outboarder*" at various times; maybe its time to try and put them all together in one, easy-to-find place.

I'd like to hear some more comments from folks with respect to the possibility of putting on a RBM Chapter meet somewhere. Is a "virtual" type of meet on an agreed on date something that is a little too far-fetched for most folks? Or should we look more towards trying to pick out a site that would be as centrally located as reasonably possible and have a wet meet that would allow a (hopefully) fairly large group to gather in one spot? Let's hear your thoughts on the matter.

One more thing, next year at Tomahawk is the 100th anniversary for Evinrude. It would be very cool to have a decent sized contingent of RBM fanatics at the meet in Wisconsin. The meet opens July 29th and runs to August 1, 2009.

I should have mentioned this before, but in case you've noticed the logo that now appears on the newsletter cover page, Bill McIsaac is the one who did the work and created that for us. He also provides patent drawing scans for publication on a regular basis. Bill, thanks for your support... I happened to pay a visit to Bob Skinner the other week when he was in the middle of molding some Caille Liberty tiller grips....here's wishing everyone a happy and joyous Christmas holiday season, and best wishes for the New Year. ☺

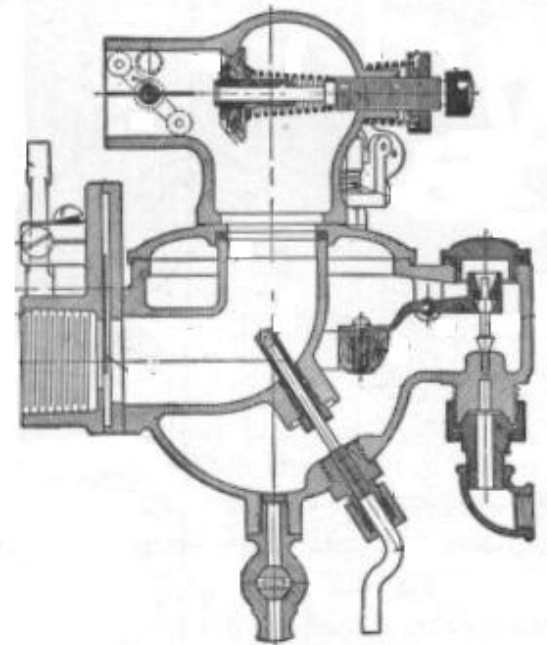
A TIN CAN, A LEATHER FLAP, AND AN IDEA

In the course of doing some research for a future edition of the Cross Seagull SIG column that appears in *The Antique Outboarder*, I was in the process of putting together some data on the carburetors used for the Seagull and Detroit engines. Looking into the background of the Schebler carburetors led to the discovery of some information that perhaps a few folks might find to be interesting reading, plus it shows there's a link between the carburetors used on the first mass-produced rowboat motors and the company that today is involved as a sponsor of the Indianapolis 500 auto race.

George M. Schebler lived in the Batesville, Indiana area and worked as a farmer, among other things. He apparently had somewhat of a reputation as a mechanic, and it was a desire to enable better control over the speed ranges of internal combustion engines that drove him to visualize a method that would meter the flow of fuel and air to the engine in a simple and efficient manner using a device that anyone could master. His efforts culminated in success when he installed a tin can fitted with a rudimentary flap on a motorcycle engine and got the result he was looking for. In 1902, he received a patent for his invention of a float-feed shutter controlled fuel metering apparatus, thus in some circles he is known as the inventor of the carburetor, although it was a pair of Hungarians who actually received credit for the first carburetor patent in 1893. At the time of his experiment, George was working in a music store, and thought this device would be able to pave the road to fortune. However, attempts to pitch his concept to the car companies that were in business at the time met with no success, so he began looking for financial backing that would enable him to go into production to build carburetors and sell them himself. In 1904, Harry Stutz, who was involved in the design and manufacture of internal combustion engines, introduced George to Frank W. Wheeler, and the "Wheeler-Schebler Carburetor Company" was formed. Frank provided the money, while George provided the brains. Harry Stutz worked temporarily as Sales Manager. By 1907, they had achieved enough success to move to Indianapolis and into a state-of-the-art building, a plant that reportedly was one of the most advanced manufacturing facilities in the United States bar none. (Note – Harry Stutz moved on to become founder of the Stutz Motorcar Company, building such notable car models such as the Stutz Bearcat sports car).

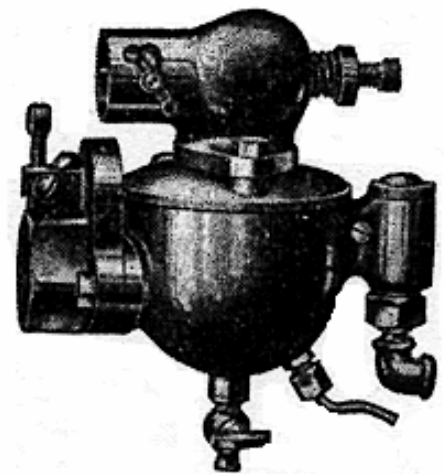
Schebler carburetors became popular devices once a good reputation was established. If a motorized vehicle from the early part of the century (other than a Model T Ford) used a shutter or butterfly carb internal combustion engine for power, it was highly likely you'd find a Schebler carburetor helping it breathe. Whether it was an automotive, marine, or agricultural application, selling a device that gave any operator the ability to easily control engine speed independent of advancing or retarding the timing enabled Schebler to temporarily corner the carburetor market until its principles were imitated by other firms. According to an item in the *"Gas Engine Magazine"*

archives, the Schebler Model D was by leaps and bounds the most popular carburetor of choice for marine applications, and was widely copied by its competitors. The article also states that while Henry Ford may have built some fifteen *million* Model T carburetors, it is not known if any of them were used for marine engines. A 1921 article in *"Motor Boat"* magazine indicated that an estimated "85% of the marine engine builders in the USA offered Schebler" as their standard equipment carburetor. If one is to pay a visit to any museum that features antique cars, trucks, motorcycles, tractors or planes, or perhaps to an antique tractor and gas engine show, its probably hard NOT to find a Schebler carburetor installed on an internal combustion engine of some sort.



Schebler Model D cross-section

"Schebler"



MODEL "D."

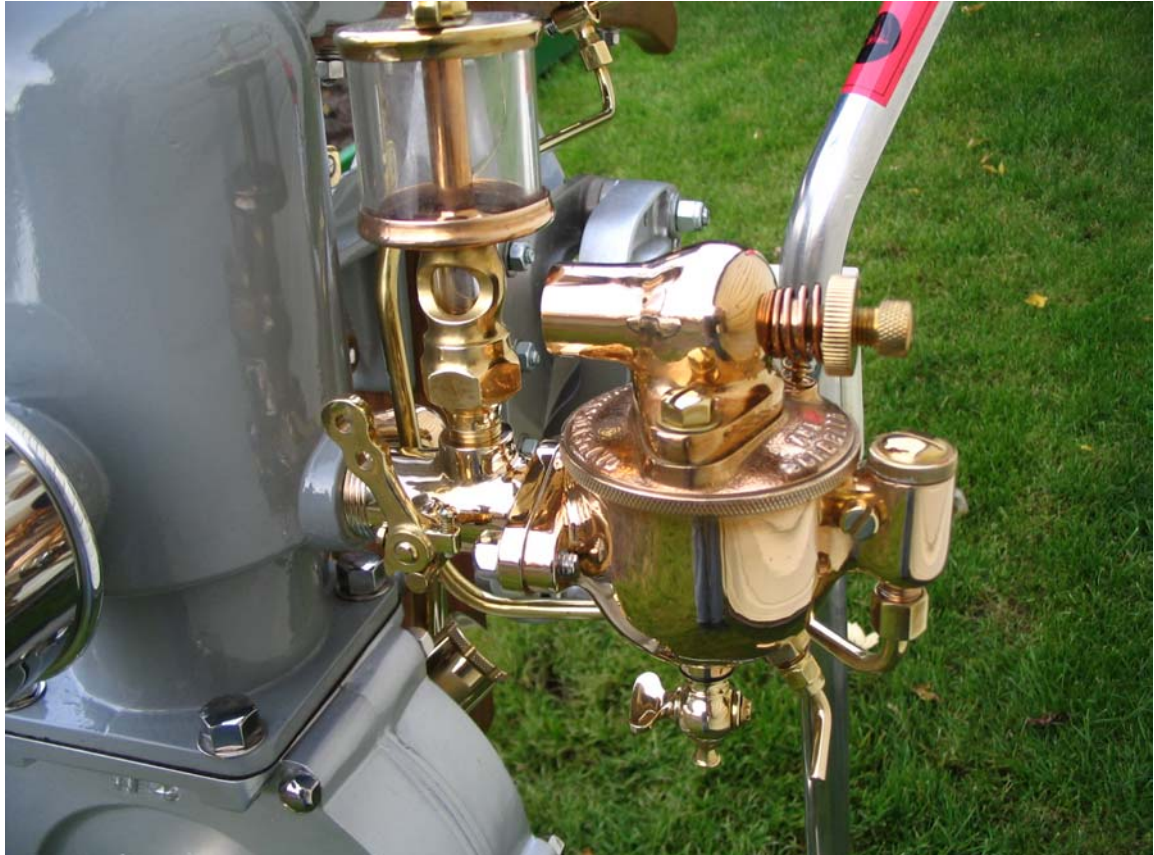
Catalog Illustration of the Schebler Model "D"

Notable marine engines that used early bronze Scheblers include some of the water-cooled upright Waterman Porto motors from late 1906 to 1911, as well as the Waterman K-series inboard motors. These units were typically attached to the engine via pipe thread mounting. The Schebler in the photo shows a two-bolt flange mount with a pipe-thread adapter incorporating a drip oiler. In 1928, a switch in raw materials saw the company building carbs using mainly zinc diecast venturi bodies and float bowls instead of bronze.

Now here's where I explain the link that was mentioned in the opening paragraph. Auto racing fans may sense something familiar about the name Frank Wheeler, as it was he and three other local men who opened the IMS (Indianapolis Motor Speedway) in 1909, with Frank Wheeler's name appearing on the winners trophy from 1911-35. Meanwhile, George Schebler sold his interests in the company in 1912, but it continued to operate under a banner bearing his name for many years afterward, until 1928 saw it evolve into the Marvel-Schebler Carburetor Company, one of five companies to play a role in the development of the organization that would become known world-wide as Borg-Warner Corporation. Moving forward, Marvel-Schebler did some of the early work connected with developing fuel-injection systems in the late 1950's and early 60's, continuing on in business and eventually merging with the Tillotson Carburetor Company in 1971. In 1985, the name was revised to "Control Systems" by the parent company, Borg-Warner, who

went through a leveraged buyout in 1987 and ceased to exist; in the wake of the buyout, BorgWarner Automotive Inc. was spun off as an independent company, and is still in operation, developing fuel-efficient engine and drivetrain technology. To this day, the trinket awarded annually to the winner of the Indianapolis 500 is known as the BorgWarner Trophy. The original Wheeler-Schebler building still survives; it has been renamed the "Wheeler Arts Community" and is located on what is referred to as the "near south side" of Indianapolis at 1035 East Sanders Street.

Today, certain Schebler carburetors are considered to be highly desirable by antique motorcycle collectors and restorers, and are capable of bringing premium prices that would scare most of us outboard buffs half to death. Funny as though it may seem, the beautiful brass carburetors first produced by Wheeler-Schebler are more plentiful than some of their zinc die-cast counterparts from the late 20's and early 30's. When you're holding one of these ancient brass devices, you're truly cradling a piece from the beginning of outboarding history in the palm of your hand; a piece of history that helped every internal combustion engine it got installed on to work better and give its operator a better range of control, benefits that we enjoy to this day. And to think it all started with a part-time farmer working in a music store who had a tin can, a leather flapper, and an idea that forever changed how the world controlled the speed on our old motors. *The End.*



A brass Schebler carburetor on an upright Waterman Porto. A brightly polished specimen can provide an extremely beautiful and highly visible focal point on an antique motor. Believe it or not, carburetors like this one are more plentiful (and affordable) than the zinc die-cast DLX-76S carb used on the Cross Seagull outboards.

No. 711,005.

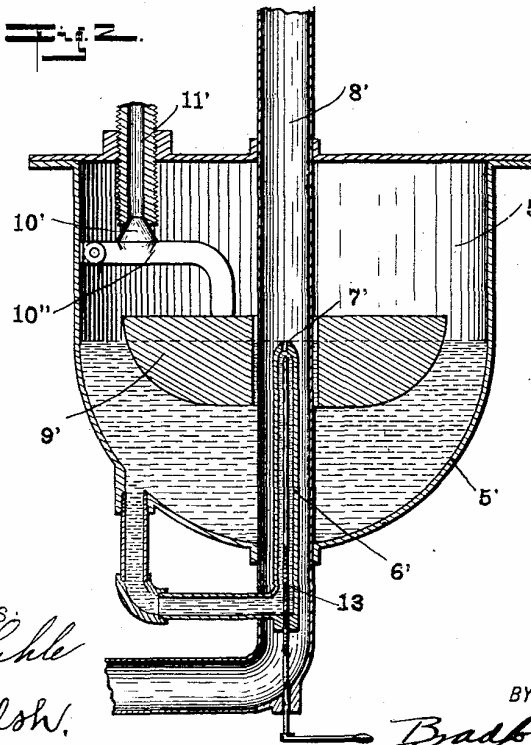
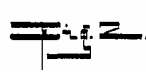
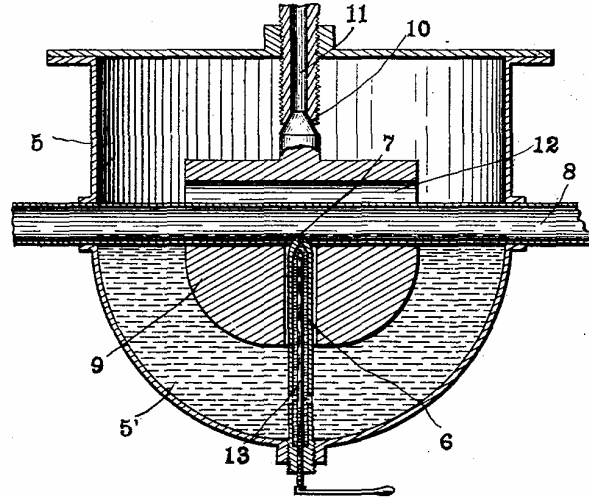
Patented Oct. 14, 1902.

G. M. SCHEBLER.

CARBURETER.

(Application filed Apr. 21, 1902.)

(No Model.)



WITNESSES:
Frank A. Lohle
J. A. Walsh

INVENTOR
George M. Schebler

BY
Bradford Hood
ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

RBM Checklist (continued)

We left off last issue by asking if any members had info to share or really different carburetors on motors in their collection. The hands-down winner on this one was Jack Craib, who posted some photos of a very rare float-feed carburetor for one of his early Caille's. Jack was gracious enough to permit us to put a photo of this rare motor part on our newsletter cover page. In case you want to look at his online photo album, Jack did post a clickable link on the Discussion Board that will get you there.

OK, continuing on with the RBM Checklist, we'll move on to gas tanks. Most original rowboat motor tanks were some type of ferrous sheet metal (usually painted) and as such, were prone to rust. Unless you are extremely lucky, and managed to acquire a motor that had a quart or so of very heavy, non-evaporative, non-solidifying oil poured into the tank prior to being stored 50 years ago, you're going to have to deal with some level of oxidation and its after-effects. If a motor has been lying in a position with the tank contacting a damp floor (or worse, the ground) for a prolonged period of time, chances are that one or more walls will be rusted right through. This scenario, or one that involves heavy physical damage (buckled walls, etc) will be cause for taking the tank apart and rebuilding it, in some cases from the ground up. This is an entire science unto itself, and one could write entire "how-to" volumes on the subject, so we're going to assume we have a tank that is physically solid, may have some minor dings, but essentially is in good enough condition to be on a running motor, as long as it is clean enough. (Note - unless a motor was stored in a museum setting all of its life, it's very rare to find a rowboat motor tank that hasn't suffered a minor dent or two). Let's try to simplify this part of it by stating that tanks should be as clean as possible, and they should not leak. Obvious damage aside, initial inspection of a tank should tell you whether it's worth leak testing. As

everyone has their preferred methods of cleaning or testing a tank, I'll sum this part up by saying that you need to do whatever it is you like to do that allows you to end up removing as much of the stale gas/oil deposits, rust flakes, and whatever other crud might be lurking in the tank, and verify that it doesn't let the fuel escape through spots that just ain't proper. Residue removal is imperative, unless you want to take a shortcut and use a sealer compound on the interior of the tank, thus sealing the crud in where it can't do you any harm. Only after proving that a tank is totally clean and leak-proof should you even consider using it on a running motor. Short-cuts on the cleaning will inevitably end up with the motor either stalling out or not wanting to start at the most inopportune time imaginable, which will probably be right after you bet your pal ten bucks that it will start up and run perfectly; shortcuts on leak-proofing end up wasting gas, making a mess of your boat, and stain any fresh paint on the motor, as well as ruin your reputation as a tree-hugger.

Besides cleanliness, here are some other items to inspect on your RBM tank.

- Mounting brackets – it is common for these to start coming "unglued" from the bottom of the tank; if this is the case, you may have some re-soldering to do. If you've got it apart, now is a good time to chase the threads in the mounting bosses.
- Outlet Port – on some tanks (Evinrude RBM's especially) the mixer valves screw right into this port on the tank. If the threads are damaged, you may have fuel leakage to worry about. Others may have a length of tubing between the tank and carb, you will have to make sure that tube is clear and debris free, the compression sleeves are good enough to seal up properly, and

that the compression nuts will tighten securely.

- Filler Cap – seems elementary, but so many caps are damaged, missing, rusted (especially the ones with a plated tin oiling cup) or incorrect.

Now there's one more very important thing I feel is worth stressing about rowboat motor tanks, even if it amounts to stooping to the level of an editorial statement; "Unmolested, Legible, Readable Original Tank Decals Should Be Left Intact!!" Can't stress this enough. From a personal standpoint, I could cry when I think about the examples of original decals that survived two World Wars plus innumerable years of storage in less than ideal places, only to be obliterated by a well-meaning individual who wants to restore the motor they've been fortunate enough to uncover. We really need to think about preserving legible examples of original factory installed decals when we're lucky enough to find them; it's a rare enough occurrence as it is. It's just my opinion, but the way I see it, if a person advocates wiping out a surviving original motor decal, in a way they're advocating wiping out some of the motor's history, and I don't think that's a direction we really want to go if it's avoidable. Ok, that's enough of the soapbox; I hope that about covers the basics of rowboat motor gas tank care. Ignition is next.

Rowboat motors normally use one of three basic methods of supplying spark to fire the fuel mixture;

1. Timer lever or some similar mechanical device coupled with a battery-powered spark or "buzz" coil(s);
2. Gear driven magneto;
3. Flywheel magneto

The timer and buzz coil system is the simplest to service and maintain, while the magneto ignitions are somewhat more complex. They all have advantages or disadvantages. Buzz coil based

ignition is advantageous because its fairly light, portable, relatively inexpensive, and flexible in the sense that having one good battery and coil often allows one to have an operable ignition system that will run several different motors. One can usually acquire a functional buzz coil from a Ford Model T for relatively low cost at flea markets or antique engine shows, and they can still be purchased new if you want to spent the money. At any rate, whether it's a brand new coil or one that is several decades old, they all work on the same principle; power is supplied by a storage battery and the signal for firing the spark plug is provided by the timer mechanism. Here's where we run into the main disadvantage of a buzz coil ignition; all those wires hanging around. This system requires the use of several different leads running to or from the motor; I'll explain how I do it, which may or may not be the "correct" way to get it done, but my motors always run, so there must be something right about it.

One lead runs from the ground side of the battery to the stationary side of the points on the timer lever, the second runs from the ground post on the transom bracket to the ground terminal on the coil, and a third wire is the high-tension lead from the coil to the spark plug. I always have my coil and battery contained within a wooden box or enclosure, and there an additional wire inside of it, as it is necessary to have a connection between the positive battery terminal and coil. This does not even include the implementation of an "ON-OFF" switch, so if one begins to ponder the various amounts of wire needed to make this system fully functional, it does indeed look rather cumbersome, and you can see a rather obvious benefit of the more compact and convenient flywheel magnetos which first appeared on a rowboat motor with the introduction of the 1914 Evinrudes. However, the visible awkwardness of the battery and buzz coil set up is offset by its relatively low cost and simplicity, especially when compared to having flywheel mag coils re-

wound or gear-driven magnetos rebuilt.

Timers - inspect your timer and look for cracks, breaks, or missing parts. In particular, pay close attention to the adjustable collar section of the timer that wraps around the crankcase neck.

Most timers are cast brass or bronze, and may have an arm that is actuated by the flywheel cam lobe. (On the following page you will find a photograph of three ignition timers that could be considered to be typical of what you would find on battery ignition rowboat motors). On the movable arm is mounted one side of the contact point set, with the other fixed in position on the main timer arm body. This arm should move freely, and the only resistance to movement should be provided by a return spring, which serves to push the points back open after they've been closed. Typical point gap for buzz coil ignition should be maintained around 1/32 of an inch (0.0315") with the timer and flywheel installed. The majority of timers are designed to run so that the flywheel cam lobe pushes on the actuating arm, closing the points and thus completing an electrical circuit which signals the buzz coil to supply spark to the plug. A good clean connection is a necessity, so one should endeavour to verify that the point contact surfaces are clean, smooth and as free of pitting as possible., and that the points align up as square and true to each other as you can get them. If some misalignment is present, normally you can adjust this by shifting the movable point contact around on its arm. If your contact points are really badly worn or pitted, you may have to look at silver soldering another set of contacts in place, but lets think good thoughts and assume your points are serviceable. The stationary point contact is where the point gap adjustments are made, and is normally mounted in an insulator block of some sort. Its imperative that this insulator do its job of isolating the fixed point from the rest of the electrical system, as failure to do so will result in the buzz box receiving a

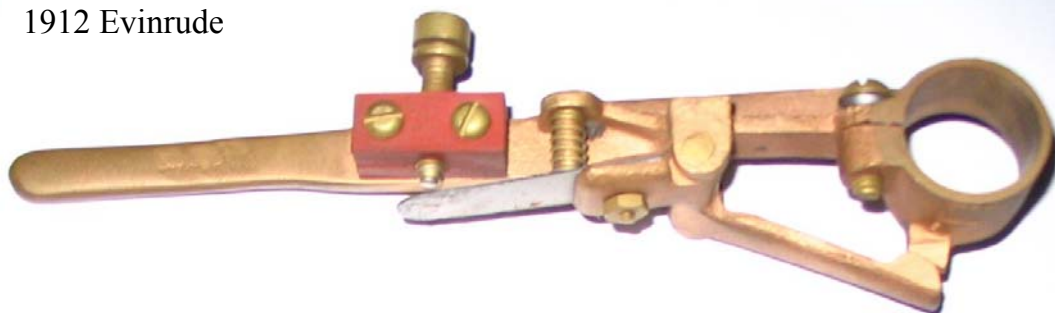
signal at the wrong time, or maybe even not at all. If you run into a situation where a buzz box wants to fire the plug all the time, you more than likely have electrical ground issues that need attention.

One more thing about battery ignition is considering which type of battery to use. Typical voltage requirement is six (6) volts; it's simple enough to get from a dry cell lantern battery, available just about anywhere that sells batteries. However, there are reasons that I personally try to discourage the use of dry-cell non-rechargeable batteries for running rowboat motors, and the main concern here is amperage drop in a battery that is less than 100% fresh. Dry cells are perfectly good for testing purposes, or if you plan on firing a motor only one time then putting it away into storage, but that's not what we're promoting here, we want you out on the water with a RBM at every opportunity. Any appreciable drop in ampere output will translate into trouble when it comes to starting many rowboat motors. Your interests would be better served to make some small investment in a lead-acid battery and charger. I use 6-volt batteries out of emergency lights and a small trickle charger with an output of less than 2 amperes. Total investment for battery and charger was less than 60 dollars. The battery has a peak output of 10 amps, and one full charge is typically good for running a rowboat motor for an entire season, and my first battery is now into its 6th year of running motors without any hint of trouble. Experience has also indicated that the Atwater-Kent ignition systems found on Elto motors also behave better when not depending on dry cell lantern batteries for power.

Flywheel and gear-driven magnetos are considerably more compact and neat compared to the battery ignition system. With a flywheel mag, most or all of the electrical components are contained within the confines of a magneto plate that clamps around the crankcase neck; for the gear driven type, all ignition parts are within the mag assembly that is

mounted on the powerhead in a manner that permits it to receive power transmission from the rotating crankshaft. Flywheel magnetos depend on magnetic inserts in the flywheel to provide the electromagnetic field necessary to produce a good hot spark at low RPM's. Old magnets can lose their magnetism over time and may require a boost to get it back to a sufficient level, and old original coils like to hide an open winding that will drive you crazy trying to diagnose a no-spark condition, so what we've got in store for the next issue is a lesson on magnet recharging from our Technical Consultant, whom I shall ask very nicely to help by also demonstrating the proper method to power test an Evinrude Detachable Rowboat Motor coil with a Merc-o-Tronic analyzer. I'll also try to write something coherent about a gear-driven magneto unit. If you've got a tip about magnetos you'd like to share, send it in, and we'll get it printed in a future issue of the RBMJ.

1912 Evinrude



1913 Waterman C-14



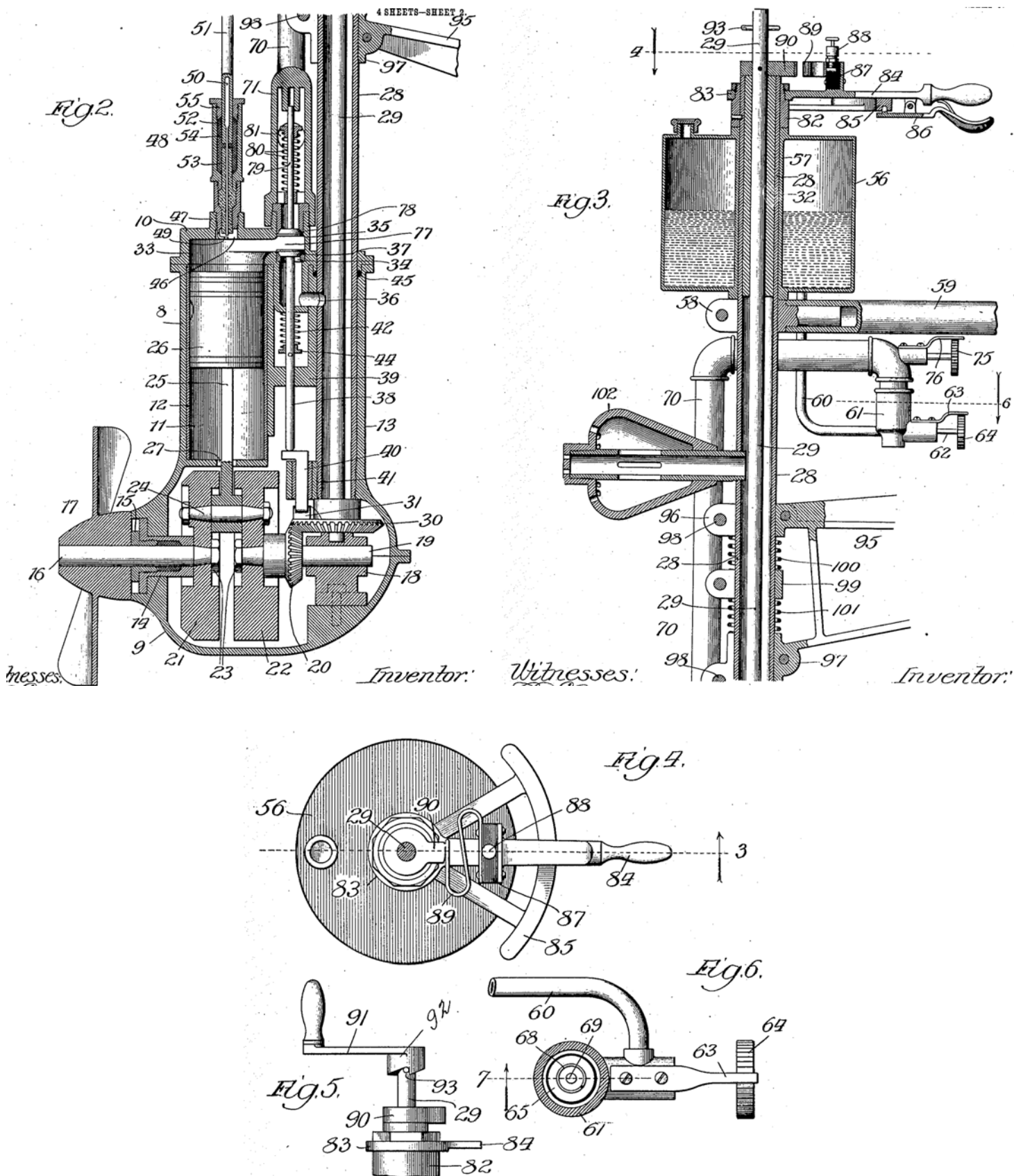
1916 Wisconsin Model J



Ignition Timers – This is just a short sampler for reference purposes. Names are listed above appropriate timer. The Evinrude timer is complete, but the Waterman and Wisconsin timers are missing some pieces. The red rectangular block with two screws running into it on the Evinrude timer is the insulator I was on about earlier. The Evinrude and Wisconsin timers both are actuated off the flywheel cam lobe. The points are closed by the action of the arm riding over the rotating cam lobe, completing the electrical circuit and causing the buzz-coil to fire the plug. The Waterman, however, does not have a cam lobe, but instead uses a fibre ring on the flywheel hub. The ring has a metallic insert that contacts a spring-loaded rod fastened to the timer lever, completing the circuit on each revolution of the flywheel. Little different methodology, (hopefully) same result. That's all for now, wishing everyone Happy Holidays and a joyous and prosperous New Year in 2009, and lets just keep having fun with our RBM's!

THE BACK PAGE

FEATURING ROWBOAT MOTORS OF INTEREST



Here are several drawings for a device that was patented as a boat propelling mechanism. I hid as much information as I could, now let's see who's first to name the inventor, what company was involved, and the year that it was patented.

APPLICATION TO ATTEND AN OUTBOARD MEET WITH THE BOYS

Name of Boyfriend/Fiancé/Husband:

I request permission for a leave of absence from the **highest authority** in my life for the following period:

Date: Time of departure: Amt of New Motors
NOT to exceed:

Should permission be granted, I do solemnly swear to only visit the locations stated below, at the stated times. I agree to refrain from bringing home more motors than is the stated capacity of my vehicle. I shall not look at or attempt to buy any racing motors, except as expressly permitted in writing below. I will not turn off my cell phone after two purchases, nor shall I purchase above the allowable volume of new motors without first phoning you for a verbal waiver of said new motor purchase allowance. I understand that even if permission is granted to purchase over and above my stated limit, my girlfriend/fiancé/wife retains the right to be ticked off with me the following week for no valid reason whatsoever.

Amount of motors allowed (units) Merc OMC Others Total

Locations to be visited

Location:	From:	To:
Location:	From:	To:
Location:	From:	To:

Collectors with whom conversation
is permitted

IMPORTANT – RACE MOTOR CLAUSE: Not with standing the motor contact permitted above, I promise to refrain from coming within one hundred (100) feet of ANY type of exotic racing motor. Violation of this Racer Clause shall be grounds for immediate termination of the agreement.

I acknowledge my position in life. I know who wears the trousers in our relationship, and I agree it's not me. I promise to abide by your rules & regulations. I understand that this is going to cost me a fortune in chocolates & flowers. You reserve the right to obtain and use my credit cards whenever you wish to do so. I hereby promise to take you on an unlimited shopping spree, should I not return home by the approved time. On my way home, I will not try to pick up a motor at any yard-sale, nor shall I conduct in-depth discussions with any proprietor(s) of same. Upon my return home, I promise not to drip oil anywhere other than in the garage. In addition, I will refrain from waking you up at odd hours of the night attempting to test run any new acquisitions

I declare that to the best of my knowledge (of which I have none compared to my **BETTER** half), the above information is correct.

Signed - Boyfriend/Fiancé/Husband:

Request is: **APPROVED** ☐

DENIED ☐

This decision is not negotiable. If approved, cut permission slip below and carry at all times.

✂.....

Permission for my boyfriend/fiancé/husband to be away for the following period of time:

Date: Time of departure: Time of return:

Signed – Girlfriend/Fiancé/Wife: