



Sport *By* *Craft*

MEAD GLIDERS

CHICAGO

U. S. A.

No. 3

Ice Boats

Foreword - - -

Of all the varied forms of recreation, we know of none so fascinating, so improving, so satisfying, as "building things." Whatever may be our occupation or vocation, our hours of duty are lightened and sped on their way by our great national safety-valve . . . our "Hobby." As we perform our daily routine duties in schoolroom, office, factory, or farm, we look forward with keen anticipation to the resumption of our particular "hobby-project" when our working hours are over. And out of the myriads of hobbies practiced the world over, none can be more stimulating or more profitable than "building things." Those of us who have chosen this form of pastime know the incomparable thrill of pride that comes to us as we pause and contemplate the product of our own hands. Regardless of what we build, we feel the same glowing sense of achievement as we survey our own "good job well done."

But . . . what shall we build?

We present on the following pages the chief Mead products, each one of which merits your consideration according to your individual preference. Each one is outstanding in its particular field . . . an acknowledged leader . . . conceived, designed, built and perfected by the Mead organization. Each one embodies the clean-cut symmetry of design, the rugged durability of structure, and the proficient performance which is characteristic of all Mead products.

When you were a youngster and made a little boat, didn't you yearn to be reduced to scale so that you could be its Skipper and sail it? Or perhaps it was a toy glider, and you longed to be its pilot. As we grow up, we still retain that

Foreword—Continued

youthful desire to get into the things we build and run them . . . become, in a way, a part of them.

The sportcraft created by the Mead organization enable you to gratify that wholesome desire, with a greater degree of safety, economy, and lasting satisfaction than would otherwise be possible. Conservative in policies, compact and efficient in operation, imaginative and progressive in ideas, this dependable establishment offers you a variety of fine sportcraft in "knock-down" form, carefully and expertly prepared so as to enhance your pleasure in assembling them. Quantity production methods, combined with an intimate knowledge of the best sources of the most suitable raw materials, enable us to offer complete construction kits at prices far below the cost of comparable merchandise purchased locally by the individual. Years of experience in this specialized field have developed our system of preparing parts, drawings, and building instructions to a point that precludes the possibility of mistakes or delays on the part of the amateur builder. The beginner will find the assembly of a Mead Construction Kit an interesting and detailed course of instruction; the seasoned builder will be impressed with the quality and precision of the parts, and the convenience of having them all at hand, ready for immediate use.

Thousands of customers throughout the world can attest their satisfaction with the high quality of our materials, the splendid performance of our sportcraft, and the efficiency of our service.

We hope to have the pleasure of serving you too.



The Greatest of Winter Sports!

Winter. Crisp, clear, invigorating. Bright sunshine on dazzling snow and gleaming ice. Brisk cold winds that bring the glow of robust health to tingling cheeks. Truly a glorious time of year. A season that is coming into ever greater favor among lovers of sport. And well it should: Winter offers an endless variety of pastimes to anyone who is willing to get outdoors and enjoy them.

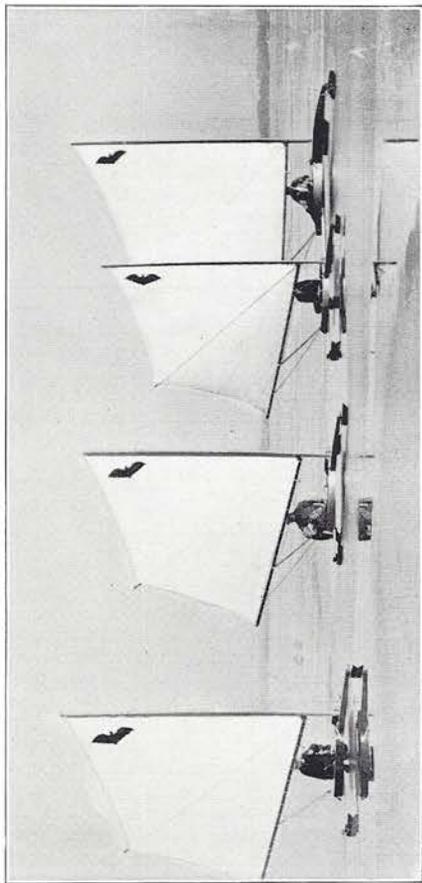
And the greatest of all is Ice Yachting. Here is Winter Sport at its best. Flashing across the ice at high speed, with the wind whistling through the rigging and the sharp steel runners biting into the hard surface, your ship becomes a living thing, carrying you with tremendous power across mile after mile of smooth, sheer ice, striving ever for more and still more speed. You round a turn like a racing car, crouching low and leaning to keep your balance; the sail flutters madly for a moment as you shoot into the eye of the wind, and then as you bear off the sail takes hold again and your craft leaps ahead with renewed eagerness. You're off on another tack, cutting the air like an arrow, "monarch of all you survey"!

And when the day's sport is over, what a ravenous appetite you have; how you glow with health and vitality; how pleasant it is to sit by a crackling fireside and recount your thrilling experiences; how you sleep the moment your head touches the pillow!

Truly, such sport is well worth while. This fact is attested by the rapidly growing ranks of iceyachtsmen (and women). Clubs are being formed and regattas held; weekly races with your friends add zest to your enjoyment and sometimes trophies to your collection.

No More "Home-Made Crates"

The day of the "home-made crate" is passing; it is no longer sufficient to nail a few boards together, put three old skates under them and hang up a rag for a sail. Speed, exact balance, and perfect control are necessary. There is as much need for scientific design and construction in a successful iceyacht as in a racing airplane; the essential parts must be skilfully fashioned of the most select and suitable materials. The ship must have enormous strength, yet not a pound of excess weight. Often a design that "looks all



LINED UP FOR THE START

Three Batwings III and one Batwing IV (at right). Organize a Batwing Club among your friends this Winter, and hold your own regattas. Class racing adds zest and sport to your Winter activities.

right" will have bad characteristics on the ice; make sure that the ship *you* sail is a design that has proved its merit in actual service.

Mead Ice Yachts

We are pleased to present here the facts about the MEAD line of Ice Yachts. We invite you to read them carefully; if you have an opportunity to compare a Mead Ice Yacht with any other, at any price, by all means do so; we are confident that the advantages of our craft will be apparent to you.

Two models are available at present, either in the form of Construction Kits, or completely finished in our factory, ready to set up and sail. The smaller of the two, Batwing III, carries ninety square feet of sail, is fifteen feet long overall, eight feet wide, fifteen feet high, and weighs one hundred and fifty pounds. The larger model, Batwing IV, carries one hundred and forty square feet of sail, is nineteen feet long, twelve feet wide, seventeen feet high, and weighs two hundred pounds. (The 19 ft. length includes the overhang of the boom; the longest piece, the mast, is 16 ft. long.)

Portable

Both models are portable . . . a most important feature whether you live right on a lake or not, as you may want to "go visiting" with your ship to distant lakes. Both models can be dismantled in a few minutes into four convenient units: Mast (the boom and sail fold up against it), backbone, runner-plank, and cockpit (the latter divides into two halves). The first three items can all be tied together on the side of your car; the cockpit can be carried either inside the car or on one of the bumpers. The fine finish on your boat need not be dulled by standing out all winter, nor need you run the risk of theft, as it can be so easily stored in unused space in the



A Pair of Batwings III

house or garage. A Batwing can be dismantled and put away in less time than it takes to furl and cover the sail on an old fashioned type.

Steering Wheels

One of the most popular features of Mead Ice Yachts is the fact that they are all equipped with steering-wheels instead of the conventional tiller. A tiller on a high-speed vehicle like an iceboat is as out of place as it would be on an automobile. The steering-wheel, on the other hand, is geared down to the proper ratio, assuring positive, powerful control over the steering runner regardless of speed, rough ice, snow drifts, or other factors which might throw a tiller out of line. Valuable space in the cockpit is not sacrificed to make room for a long tiller swinging



Dressed for Zero Weather (Batwing IV)

across; a careless passenger cannot bump the steering-wheel with his elbow and throw you into a violent turn. Moreover, the wheel is a convenient and substantial "handle" for the helmsman to hold to, leaving one hand free to tend the mainsheet.

Front Steering

All Mead Ice Yachts are "front steering"; that is, the steering runner is at the front end of the backbone, and the runner-plank near the stern. The manifold advantages of this type have been amply demonstrated in the last few years. Three main points should be mentioned. First, they do not tend to "spin" on sharp turns, getting out of control and dulling the runners. As the center of gravity of the boat and passengers is concentrated near the runner-plank, there is little weight on the steering runner (or "rudder") and consequently little inertia or centrifugal force tending to throw it out of its groove in the ice when a turn is made. The thrust of the sail tends to exert downward pressure on the rudder

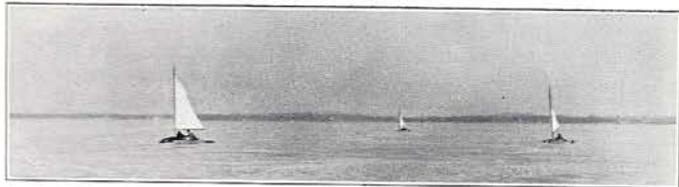
and thus keep it in its groove. In the old type, however, the rudder being at the stern, the thrust of the sail tended to lift it off the ice, hence the cockpit had to be over the rudder so that the weight of the occupants would keep it down. Thus, with the weight concentrated at the stern, the boat would "crack the whip" on a sharp turn, sometimes spinning twice around and dulling, if not breaking, the runners.

Stable

The second advantage of front steering is that the weight of the occupants is at the middle of the runner-plank, which tends to keep the boat from tilting up on two runners in a strong wind (called "hiking"). In the old type, with the crew over the rudder, their weight had little or no stabilizing effect, with the result that sudden gusts of wind often hiked them up, and frequently turned the boats over altogether. To counteract this, it became customary to carry sandbags or other ballast up forward on the runner-plank, and though this helped to prevent hiking, the extra deadweight cut down the speed of the boat. (Batwings can be hiked in a strong wind, if lightly loaded, but this practice is not recommended for beginners.)

Easy-Riding

The third chief advantage of front steering is the fact that the occupants of the boat get the full benefit of the spring in the runner-plank. Ice which looks perfectly smooth, and may feel smooth at slow speeds, often feels bumpy when you sail across it at a mile a minute. The springy runner-plank of the Batwing absorbs most of these jolts, greatly increasing the comfort and pleasure of the ride, and causing less strain on the runners and chocks.



The Greatest Winter Sport

Finest Materials

From the viewpoint of construction, in Batwing Ice Yachts you will find the soundest principles combined with careful simplicity of design and highest quality of materials throughout.

The spars are of aircraft Sitka Spruce, which we buy in carload lots direct from the mills in Oregon; backbone and runner planks are of the same material. The curved sides of the cockpit are of four-ply laminated clear white birch, and the cockpit floors of five-ply clear Casein glued fir. Runners are cut from clear vertical grain seasoned white oak with shoes of hot-rolled steel, formed, drilled and countersunk ready to attach to the runners. Important fittings such as steering-wheel post, rudder-fork, cockpit side-brackets, boom side-plates, etc., are bronze or brass castings. Runner chocks are semi-steel castings. Steering-wheel and mast-socket are aluminum. Tangs and strap fittings are of high tensile strength, cadmium plated steel. Shrouds and forestay are 19 strand $\frac{1}{8}$ " galvanized aircraft wire (tensile strength 2300 pounds). Steering-cable is $\frac{3}{32}$ " 7x7 flexible steel tinned aircraft control cable, with a tensile strength of 1200 pounds. All screws and bolts are cadmium plated steel. All metal fittings are completely machined, drilled, and formed, ready to attach.

Emergency Brake

A powerful emergency brake is standard on all Mead Ice Yachts, consisting of a long lever of clear white oak equipped with an iron claw at the foot. It is conveniently located near the back of the cockpit on one side of the backbone. As a booster for getting under way after you are seated in the cockpit, it is very useful. By pulling the lever all the way back and then giving it a quick forward thrust, the boat can be pushed ahead sufficiently to bear off and fill the sail.

The regular sails (which are furnished completely finished and ready to use) are made by expert sailmakers of fine seven ounce drill. This material has given ample proof of its durability under all conditions of service. For those who wish to invest a little more in the sail, we are pleased to announce that we have recently discovered, and secured a large quantity of, a sailcloth that brings joy to the heart of the sailmaker . . . light, strong, tough, and so finely woven of select combed yarn that it actually *holds water* without any treatment at all! The extra cost of a sail of this superfine material will be found on our current price list.



Hiking Batwing III in Heavy Weather

Mead Construction Kits

For many years Mead Gliders have specialized in the preparation of "Knockdown Kits" for various sportcraft, ranging from ten foot Ki-Yaks to high performance soaring gliders. Our business, built upon the goodwill of satisfied customers, has grown from a tiny "two-man" shop about twenty by thirty feet, to a substantial factory occupying nearly *twenty thousand* square feet of floor space, and employing a large staff of expert craftsmen. Each year sees new equipment added to our production machinery, enabling us to turn out still better products in greater quantities and at lower prices. Over a hundred thousand persons have requested information about our products; nearly ten thousand have bought them. And *satisfaction* is the universal sentiment among our customers.

Numbered Parts

A Mead Construction Kit is not a jumbled heap of miscellaneous materials; it is a carefully prepared group of fine materials and precisely made parts fabricated, numbered, and classified so as to render the assembly simple, rapid, pleasant, and instructive. In the development of new craft our designers and engineers do not say: "Can we build it here without difficulty?"; they say: "Can the inexperienced amateur, without technical knowledge or any special equipment, build it with the ordinary tools found in the average household?" Our problem is to prepare our Kits so that *you* can assemble them, and enjoy doing it. We presume that the average person interested in building anything either has, or can borrow, such ordinary tools as: wood-saw, hack-saw, hammer, wrench, screw-driver, plane, hand drill and small drills, brace and bits, etc. We do not expect you to have a lathe, drill-press, punch-press, metal-shear, buzz-saw, band-saw, roller-press, planer, shaper, or any of the



Batwing IV in Action

other equipment necessary for mass production work. Any parts requiring such machinery are finished in our factory, leaving only the simple and easy work, and the actual assembly, to the purchaser.

If You Have Only Blueprints

To give you a better understanding of our service, let us assume that you have drawings of an ice boat, and are going to build it "from the ground up" by yourself. For the metal parts you will have to visit a patternmaker to get patterns for your castings; you will take the patterns to the foundry, if there is one in your town, and pay a high price because of the small quantity. You will have to get your steel for the various steel fittings from an out of town steel dealer, and then you will have to take all these metal parts to a machine shop to be finished before you can use them. A visit to the lumber yard will prob-

ably show that they don't carry *any* lumber suitable for spars, backbone, etc., let alone aircraft spruce. You will have to send away for that to an aircraft supply house. A furniture factory, if handy, might turn out the cockpit sides for you, though here again the cost would be enormous, as the cost of the form alone is a good deal more than the cost of the cockpit side. The nuts, bolts and screws could be bought at the hardware store, but they wouldn't be cadmium plated, and would rust. Brass screws, though rustproof, are not strong enough. For cables, thimbles, shackles, clevis pins, turnbuckles, etc., you would have to contact the aircraft supply house again. Your sail should be made by a sailmaker, and here you face the difficulty of locating one, and if you do, you will have to pay a high price for the original layout of the sail, added to the cost of making up a single sail. All of which merely indicates that you might well spend weeks getting your parts together before you could start building your ship, and the total cost might easily amount to ten times the price of one of our Construction Kits.

If You Have a Mead Kit

As compared to the foregoing, let us assume that you have bought a Batwing Kit. Every part is at hand, right in your workshop. The metal parts, of every kind, are *ready to attach*. The wood parts, with a little tapering, smoothing, and varnishing, are ready for the fittings. The cockpit sides are bent to shape, ready to be drilled for the hand-holes and attached to the floor. The runner shoes are formed and drilled. When you have shaped the runners, the shoes can be attached. After splicing the cables to the correct length, you can lace the sail to the spars. Your ship is ready for the ice.



Ladies Enjoy Batwing Sailing

Don't Make Changes

It often happens that a person who has blueprints of some craft such as an ice boat will make changes in the construction as he goes along, either because he believes such changes to be improvements, or, as is more often the case, because he cannot secure the parts called for on the drawings. Unless you are an experienced designer and yachtsman, avoid altering plans that have been developed and perfected by a reputable company specializing in that sort of work. You may be sure that nothing goes into our drawings until it has been thoroughly tested. When aircraft spruce is specified, it is done because it is the best material for the spar in question, in spite of its high cost. If you try to save money by substituting some inferior lumber at half the cost, remember that if it breaks it will cost as much again to replace it, not to mention the time lost and the work involved. Above all,

don't alter dimensions, or the entire balance of your ship will be destroyed, and it will be worthless, until corrected.

Cost of Materials

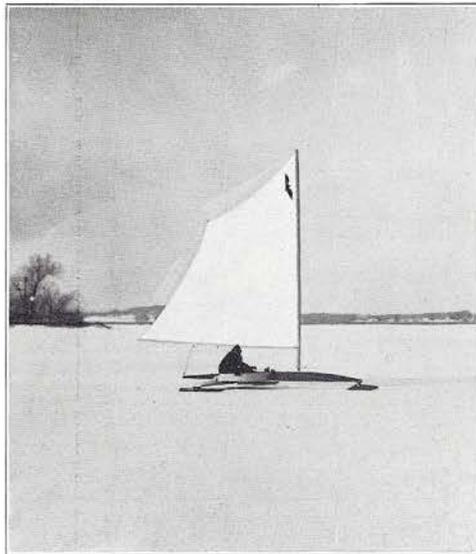
Three major groups comprise the structure of an ice boat: Lumber, hardware, and the sail, and of the three, the lumber costs the least. It is a common mistake among amateurs to consider that the lumber in a boat of any kind, even in an ice boat, represents about 90% of the cost, whereas the correct proportion is about 25% to 30%. The hardware is the most expensive item, and the sail next to that.

The Speed of Ice Boats

So far as we know, the highest speed ever attained by a sailing ice yacht was made many years ago on the Hudson River, by a very large craft sailing under perfect conditions. A gale was blowing, and the ship covered a straight mile at the rate of about 89 miles per hour. However, it is very seldom that speeds even near 89 miles an hour are attained; 60 is considered a very good speed for small racing boats, and ordinary cruising seldom exceeds 40 miles per hour. It is quite natural to judge your speed as a good deal higher than it really is, because you are very close to the ice and the wind feels very strong in your face. You may be sure that forty miles an hour will give you plenty of thrills.

Sailing an Ice Boat

Unlike sailboats, an ice yacht almost never slacks off its sails; in other words, it sails "close-hauled" regardless of its course with respect to the wind. Again unlike sailboats, it can attain speeds far greater than the velocity of the wind; it can even go "down-wind" faster than the wind itself is travelling. An ice yacht "tacks" down-wind just as it tacks to windward, and a fast



Another Batwing IV

yacht, properly handled, can reach a point to leeward (in the direction toward which the wind is blowing) in about half the time required for a piece of down (floating along with the wind) to reach the same point. We lack the space here to go into explanations of this peculiar fact, but you will be able to prove it for yourself when you sail your Batwing.

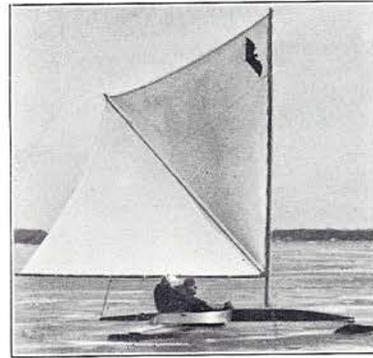
Sailing a Mead Ice Yacht is as simple as driving your car; in fact more so, because your power (the wind) is practically constant, and requires no adjustment on your part. The sail is a combination of motor and clutch and gear shift: the farther out you let your sail, the less speed you make, until you reach the point where

the sail is heading directly into the wind, and the boat stops. The "mainsheet" (the rope which controls the boom and sail) should always be held by hand, never cleated down, so that you can instantly "slack off the sheet" when occasion demands. Whenever you leave the boat, even for a few seconds, head it up straight into the wind, and slack off the mainsheet so the boom can swing clear over with changes in the wind direction. If you don't, a sudden gust of wind from a different quarter may start your boat off across the lake to be damaged on the opposite shore. If you leave it for several minutes, fold up the boom against the mast and take a turn around both with the mainsheet. Set the rudder at a sharp angle so if anything starts it, it will go in a circle.

Progressive Purchase Plan

We have made our prices as low as possible in keeping with our high standard of quality. We would rather lose your order than sell you a Kit which would not satisfy you in every way. When you have become a Mead customer, we are confident you too will appreciate the satisfaction that comes from dealing with a conscientious and friendly organization. A large portion of our business comes directly from the recommendations of our customers, a fact which is in itself the most sincere form of testimonial we could desire.

Our Ice Yacht Kits are, as you will see on the price list, divided into several progressive construction groups, each one building a certain unit of the ship. In this way the total cost of the Kit may be budgeted to suit your own circumstances. Each group you buy completes that particular transaction; there is no obligation to buy the succeeding groups. There is a slight extra charge added to each group to cover the cost of extra packing and handling, as compared to shipping the entire Kit in one shipment.



Get an Early Start

Don't wait until the last minute to build your Batwing. Though the ship can be completed from the Kit in about two days, you will enjoy the construction more, and do a better job, if you take your time and build it carefully. Have your ship ready for the first good freeze, and get a full season of sport out of it. Even if you plan to buy yours factory-built, please give us your reservation as early as possible so that delivery can be made on schedule. Orders tend to pile up during December, the beginning of the season, and though we can generally make shipment within 24 hours, we would consider it a kindness on your part to allow us two or three days. Kits, of course, go out promptly at all times.