

betting among the players. It's because so many of them are really children that if they get to hanging around race-tracks they are likely to meet up with gamblers who will corrupt them. I think the big Chicago scandal grew out of that tendency among ball-players. At first the gambler gets the player to throw some single play for him for the sake of a bet. It may not be a play that will affect a game, and it may look all right to do it to the player. But that establishes the idea of double-dealing in his mind, and also it establishes connection with a gambler who is pretty sure to go a little further in arranging some-

thing bigger next time. Before you know it there's a deal on to throw the World's Series. That isn't going to happen again, and the chief way we are going to stop its happening is by stamping out gambling."

"How about gambling among the spectators?"

"That's an evil, too. Not only is it illegal, but we've got to stamp that out or imperil the future of the game. We have men on watch all the time in the park to put out any one caught betting. We put several hundred men out of the Polo Grounds last year for betting in the bleachers and the grand stand.

Sometimes we make a mistake. We lost a thousand-dollar damage suit only the other day. One of our attendants made a mistake and put out the wrong fellow."

"Is the baseball public growing in numbers?"

"Undoubtedly," concluded Colonel Huston. "Next season we expect will be the greatest one baseball ever had."

This statement may be accepted as from authority, for the man who made it had just refused a million and a half dollars for half a ball club because the purchaser wanted to bind him not to reinvest the money in another club.

## THE BIRTH OF A NEW SPORT

BY M. W. ROYSE



Kadel & Herbert

### GLIDING RECORDS MADE IN THE DESERT

The world's unofficial records for duration, height, and distance in gliding have been made by French pilots at Biskra, Algeria. They took advantage of the unusually strong currents of air rising from the desert

**L**AST August a German soaring monoplane—a motorless machine—climbed one thousand feet into the heavens, remained there for over three hours, and finally landed because of darkness. In October a French tandem plane of entirely different design soared away over the English downs for three hours and twenty minutes. Still later the French pilot, Barbot, made an official flight of over eight hours. A flight of similar length at Biskra, Algiers, was not officially recognized by the French Aero Club because the required number of observers were not present.

A new sport—king of them all—had arrived. Here were men literally climbing into the heavens, beating their way a thousand feet into the heavens in motorless planes, propelled only by the natural elements that a soaring bird

employs, limited only by wind, endurance, skill, experience, and nerve. Not many planes attained more than five hundred feet altitude, and few kept the air for more than half an hour, but nearly all succeeded in soaring.

The more crudely built planes, big, cumbersome busses wallowing through the air in search of up-currents, susceptible to every local disturbance and easily lured earthward by minor down-currents, were well satisfied with fifteen-minute flights. But the winning planes—trim, speedy little bats—frisked about with a show of fine contempt for the weaker down-currents, confident of themselves and their capacity to absorb every whiff of energy, swerving aside easily from the treacherous air-holes and rising gracefully as they worked into the up-trends. Only a calm could pin these planes to the ground. Five-

mile breezes could be utilized for short hops, and fifteen-mile winds were strong enough for a real climb. The celebrated Vampire and Greif would slip away of a quiet evening just at sundown, homeward bound, and, shooting out on a level course, would disappear over the ridge some three miles distant without having lost a foot of altitude. At other times, successfully catching a stiff up-current, they would hang in mid-air for minutes at a time—veritable hovering hawks. During the memorable record flights at the Wasserkuppe the Hannover and Darmstadter planes remained perfectly stationary for twelve consecutive minutes, the planes hovering side by side directly over our heads while the pilots exchanged greetings.

Soaring flight hurls its challenge at man. It offers the virtually unknown depths of the heavens to those who have the will and the courage to explore those depths. The uncharted air space, with its winds, calms, currents, and eddies, is the legitimate stamping-ground of the soaring plane. For certainly the motored airplane, smashing its way through the air at tremendous speed, heedless of wind and current, knows nothing of the air space. Airplane pilots, aside from paying attention to wind and cloud, give little thought to the nature of the air through which they fly, and naturally so, for their motors pull them through all varieties of air conditions, with never more than a bump to remind them they are passing through a current.

The soaring pilot has no motor to which he can "give 'er the gun." His motor is the vagrant wind and the wary air current, and it is partly this which makes soaring so fascinating a sport. The strong-armed man finds no field here for his prowess; intelligence is one of the prime factors in successful soaring. The efficient pilot must do more than handle his plane expertly. He must have a fairly thorough understanding of the moods, temper, and character of the air—the science of

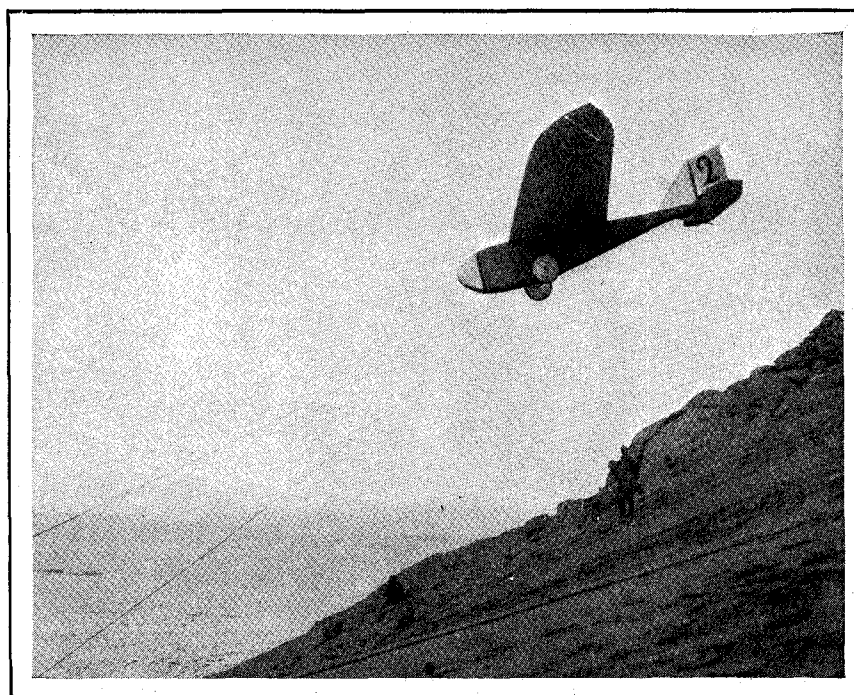


aerology. A pilot, hovering over the starting-point, with hills, valleys, coulees, lakes, streams, wooded areas, and open ground stretched out beneath him, must run through a course of rapid calculations, come to a quick decision and instantly put it into execution. A moment's delay at the wrong time, or a false move, is usually fatal to a good flight. Time after time men would make excellent starts, gain perhaps three hundred feet in the up-trending region, and then carelessly slip out of the soaring area and be forced to land. Had these men known the general extent of the up-trending wind—called the "soaring area"—and had they kept their wits about them, they could have doubled or trebled their flights. Constant alertness means additional minutes in the air in this game.

The successful pilot plays his game shrewdly. Having carefully considered the general conditions of the air—such as temperature, moisture, and clouds—the physical characteristics of the country, and the wind, he proceeds to take-off and gain altitude. He does this by circling about in the soaring region—an area of ascending air extending upwards from the ridge of the hill and facing the windward slope. Have gained all the altitude that this region affords, the pilot sets out on his course, maneuvering so that he benefits from all the booster currents and evades the eddies and down-currents. The soaring bird, with its tender, flexible, feathered wings, utilizes the very "inner energy" of the air through the unconscious reflex action of nerve and muscle; and instinct, or perhaps an infinitely fine perception of air variations, leads it straight to the ascending currents. The pilot of a soaring machine has no such assistance. He must carefully follow the contour of the underlying ground, gradually feeling his way, veering off as soon as he finds himself in a down-current, gliding slowly while he searches for his "booster," and climbing rapidly as soon as he finds it.

Every successful flight resolves itself into an everlasting game of hide-and-seek. Below the pilot is an irregular terrain. His objective is the nearest slope which looks as if it might afford a "boost." To reach this slope he must climb as high as possible over the starting-point, and then glide as flatly as possible to this new soaring region. But in getting there he must tack his way over this irregular terrain, which may be covered with all varieties of eddies, currents, and air-holes. He must avoid, as much as possible, wooded country because of the down-rushing cool air, or the leeward slopes of hills where the winds rush down into the valleys, or the peaks of hills where the air breaks up into eddies. In short, the pilot must be an efficient air navigator, well enough grounded in the embryo science of aerology so that he can quickly analyze an underlying terrain and steer his course accordingly.

It is this scientific phase of the sport



Kadel & Herbert

THE PLANE PICTURED HERE IS BEING SHOT FORWARD BY A SANDOW SLING, A RUBBER ROPE USED TO LAUNCH GLIDERS INTO THE AIR. AFTER THE PLANE HAS TAKEN THE AIR, THE SLING SLIPS FROM THE RETAINING HOOK AND THE PLANE FLOATS FREE

that appeals so powerfully—that given a serviceable machine, a fair breeze, and a hill, a man's capacity to climb into the air and cover distance is dependent largely upon his skill in handling his craft and his knowledge of aerology. Of course there is always the peerless pleasure of sailing through the air, of sudden boosts, of being tossed about in the air, of being dragged bodily to windward, of clawing off from treacherous lee slopes, of unlooked for dives and lurches, but the supreme satisfaction comes from battling one's way through the pits and falls of the air space. The mere anticipation of reaching a distant hill is sufficient to make a man's blood seethe. Once he is under way, he goes through all spasms of human feeling—from cussing at vicious cross-winds to hilarity at gaining a strong boost. Then there is the fascination of loafing in the up-trends, or of gliding tranquilly through the air, with quiet country unrolled beneath one and mellow earth sounds floating up from below—certainly a contrast to the rush and roar and throb of the airplane as it crashes through space.

A good illustration of just what the sport entails is afforded by the proposed twenty-five kilometer cross-country flights. The first man to soar between two points twenty-five kilometers apart will win the half-million-mark prize. This aroused intense interest among the German pilots, for Hentzen and Martens had already demonstrated that a soaring plane, given favorable conditions, could remain aloft indefinitely. The next step was distance soaring, and the men were eager to test their skill in navigating a plane to a distant goal.

They immediately set about charting out routes. Martens and his Hannover University team pulled out a large-scale topographical map of the district and began by drawing to scale a circle of twenty-five-kilometer radius with the Wasserkuppe as the center. Their prospective goal was thus anywhere on or outside of the drawn circle. Martens could therefore attempt a flight in any direction, but only three practical routes presented themselves. One, running east by south, was next eliminated because of the high ranges of hills running athwart the line of travel, in addition to being traversed by deep gorges and wooded ravines where swift down-currents could be expected. Of the two remaining courses, one lay to the south-east, offering several excellent slopes where with a favorable wind strong boosters could be looked for. In addition the last ten kilometers of the course ran off to the lowlands, with fair possibilities of rising winds sweeping up the slopes. But one obstacle presented itself along this course in the form of a steep cross-range. A pilot would be forced either to beat around it or work his way directly across and take the chance of being forced to land on the high ground.

The last choice was the best. This course led nearly due north along the outer range of the Rhon Mountains—the Wasserkuppe being the highest point on this range. To the west the hills fell abruptly into the plain, which swept clear to the horizon. Fortunately, the prevailing wind is from the west, the winds sweeping in from the lowlands to meet this range as their first barrier and forming a series of powerful up-





Wide World Photos

THIS IS THE FIRST YEAR IN WHICH SOARING HAS BEEN CARRIED ON IN THE WINTER TIME. THE PICTURE SHOWS AN AACHEN-KLEMPERER MONOPLANE HOVERING OVER THE ST. ANDREW'S BERG IN THE UPPER HARTZ MOUNTAINS, GERMANY

trends or soaring regions. Favored with a westerly breeze, a plane working its way north could make steady headway by gaining altitude at these soaring regions and then gliding flatly to the next soaring region, and so on. The first jump from the Wasserkuppe on this northern course was fairly long—a distance of some six kilometers, but Martens hoped to cover it by first climbing to a 300-meter altitude above the Wasserkuppe and then gliding. A few slight boosts might also be encountered along the way. In this way Martens planned to navigate to a point where the range broke up into peaked hills, where disastrous eddies could be expected. But some good soaring slopes to the east provided a way out of this unfavorable country. The last five kilometers would be somewhat difficult to navigate, as the country sloped up to the north, with possible down-rushing surface winds. In covering this last stretch Martens relied upon the remarkable gliding capacity of his plane, as he

planned to gain the topmost peak of his last soaring region and then glide to his goal, with the possible assistance of a few local up-trends from the low hills. The course has never been negotiated as yet, but Martens has already soared the first lap, and expects to make the entire distance this spring.

The scientific nature of soaring, as well as the sporting side of it, was well demonstrated by Edmund Allen, pilot of the American Soaring Team, on his first flight at the Wasserkuppe. Arriving after the German competitions had ended, Allen had never seen a German soaring ship in operation. He knew nothing of the country, its winds and currents, except from what little he had heard. But Martens and Klemperer, veteran soaring pilots, were on hand to advise him. The wind at the time blowing in gusts from the northeast made it necessary that Allen jump off the north rim of the Wasserkuppe. The course to be taken was then marked out by the two Germans, and their calculations

were all-inclusive. The valley stretched out to the north in a trough formation. At the foot of the Wasserkuppe, some seven hundred feet below the jump-off, were a few acres of wooded country, and beyond that meadow land. Martens, who had made a sixteen-minute record flight over this territory the previous year, cautioned Allen to gain all the altitude he possibly could in the up-trend directly in front of the hill, then to glide quickly over the wooded area and make for the eastern slopes of a range of hills running north and south. Martens believed that the northeast wind striking the slopes of these hills would form good boosters—enough to keep Allen in the air until he reached another good-sized slope, where he could gain altitude and thus reach the uplands, some twelve kilometers away. But, above everything, he warned Allen not to slip over to the lee of the ridge of the hills, as the winds, following the contour of the ground, curved down after they passed the ridge.

Allen's course was thus given to him; but Martens, somewhat skeptical of the soaring qualities of the American-built plane, gave Allen an alternative. In case his plane proved a poor soarer, he advised him to lower one wing a bit into the wind and beat his way to the east slopes of the valley, where he might benefit from boosters. This slope, however, was densely wooded, with no available landing-ground, but it was the only means of getting down safely to the meadow in case he could not follow the other route.

From the very start Allen had poor luck. The plane being very light—too light and frail for efficient soaring—the heavy sling did not function properly, and Allen was shot out on a sharp climbing angle, instead of on a horizontal line, stalled his ship, and was forced to dive. When he recovered gliding speed, he found himself far beneath the soaring region and heading for the woods. Allen's position was somewhat precarious, for he could never clear the woods in front of him; but he fortunately caught a boost from the up-trend off a lower slope, and, following his instructions like a trooper, he set out toward the wooded eastern slopes. It took courage to head toward this country. From above we anxiously watched him beat into the wind, one wing lowered, according to instructions. For one long minute it seemed that the plane was just scraping the tops of the pines, but it kept moving, and finally, to our great relief, we saw him clear the last clump of trees and settle into the meadow a few yards away. He told us later that as soon as he found himself heading downward, instead of upward, he immediately decided to follow the second course, and accordingly headed for the wooded slopes, regardless of what might happen. His nerves were steady enough to permit skillful piloting, and he won out.

Soaring flight is indeed a scientific





Kadel &amp; Herbert

THIS IS THE SAME PLANE IN WHICH FOKKER MADE HIS WORLD'S RECORD FLIGHT OF THIRTEEN MINUTES CARRYING A PASSENGER. FOKKER IS THE MAN IN AVIATION TOGS LEADING THE PLANE

game, vastly more so than yachting, but it is by no means the exclusive sport of a select few. There is no reason why it should not become a National popular sport in the United States. It lies within the reach of all. German-type planes can now be purchased for \$250, and American big-production methods should cut that price in half. The widespread belief that high hills of special characteristics are essential to soaring is a pure misconception. Although the record flights have been made from fairly high hills—the Wasserkuppe being 950 feet above sea-level—there is no reason for assuming that record flights could not have been made from lower hills, and certainly any hill upwards of 200 feet can be very successfully used for soaring. Klemperer, experimenting with his Aachen University students near Aachen, used a slope 100 feet high and made any number of good flights. Every State, nearly every county, in this country undoubtedly has good soaring slopes. Fokker, the famous aircraft constructor, after experimenting at the Wasserkuppe, returned to Holland with the object of using the sand dunes for his experiments. He hopes to establish record flights, not only from these low sand hills, but also from the surface of the sea. Given a serviceable machine with a favorable breeze, highly enjoyable flights can be made from an ordinary slope, let alone the need of a hill. This was done by Herr Harth, among numerous other Germans, in some of his experiments last year. On the other hand, Glenn Curtiss's attempt to boost a soaring plane up into the air by pulling it through the water with a fast motor boat proved unsuccessful mostly because of the poor soaring qualities of the machine—the machine, in fact, being nothing more than an airplane with the motor taken out, rather

than a specially designed soaring plane. This year Mr. Curtiss is planning to extend his experiments. From the experience gained last year he may accomplish something new—the thing which Fokker confidently boasted of last year.

Soaring makes another strong appeal in that it can be easily mastered. Unlike the airplane, in which a man finds himself behind a roaring engine with the plane shooting through space, the soaring machine can be flown by gradual stages. There is first the ground training, with exercises in handling the controls. Then come the short hops from gentle slopes, with the gradual extension of these until at the end of a month's practice the pilot finds himself making one-minute flights with ease. Once that stage is reached, the pilot is ready to make long jumps and begin to practice the science of aerology. The Germans had several training schools on the Wasserkuppe, with many young students in training. During September the German Government, in violation of the Peace Treaty terms, had a group of fifty officers taking soaring lessons preparatory to the regular army pilot's training.

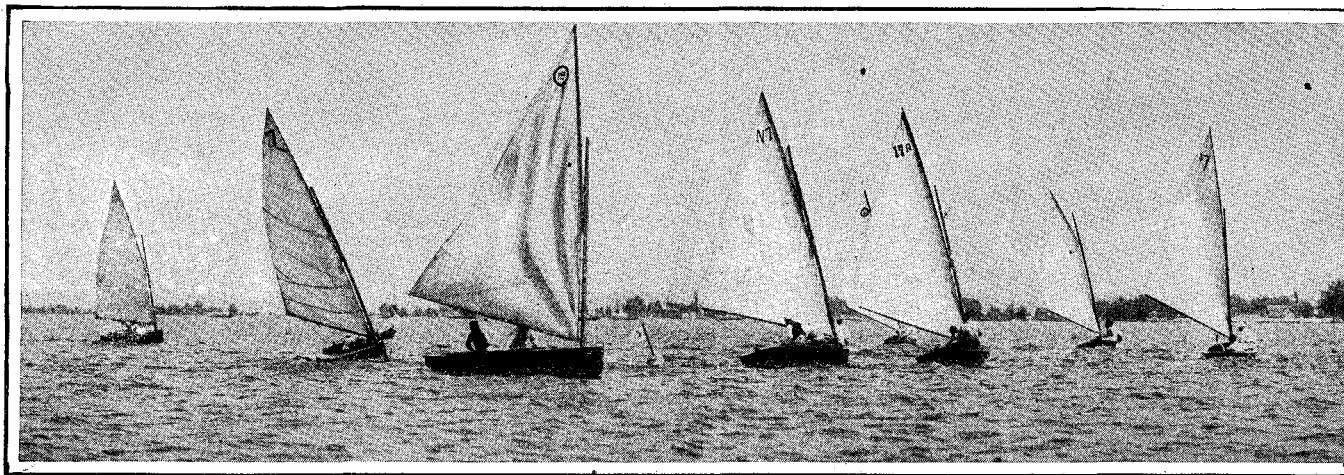
Of course records will continue to be made by veteran airplane pilots who can handle a machine automatically while absorbed in picking out a course; but, given enough experience, a soaring-trained pilot should be able to compete successfully with any one. Men who had never even dreamed of actually piloting a plane through the air, because of age perhaps, or timidity, or lack of time and money, will now find themselves within reach of the keenest sport in the world to-day.

And certainly soaring should become a college sport. When well regulated by inspections, as in Germany, the sport

is harmless. Among the thousand or more flights made on the Wasserkuppe this year, and in spite of the men in training there, not one plane was seriously crashed nor one man hurt. Accidents may happen, but, judging from statistics, football is many times as dangerous. The sport has spread like wildfire through Germany. Last year's contests were entered by teams from Germany's ten largest universities, and it was these students who made the world records. Most of the remaining technical universities have now taken up the sport, and soaring clubs have been formed by innumerable public schools over the entire country. Children everywhere are shooting paper soaring planes through the air. Even as far east as Warsaw children were playing with these paper models.

The competitions this summer will have entrants from several European countries—such as French, English, and Italian. German students are already busy at designing and constructing the machines for next year's competitions. Americans have always given the men on the other side a hard run for honors in the Olympic games, and it would be highly interesting to see what they could do in this more intellectual sport. Last summer four "Boston Tech" students built themselves two soaring machines, packed up, and sailed for Europe. Perhaps some American students will again find time to build themselves machines and again make their humble pilgrimage to Europe. There is to be a soaring contest this summer in this country, and perhaps this may succeed in setting America soaring-wild. In the meanwhile Germany, France, and England have jumped far ahead of us in this most fascinating of sports. Perhaps next year we may wake up and follow.





SOME OF THE FOURTEEN-FOOT DINGHY CLASS AT TORONTO, ONTARIO, TURNING A MARK IN A RACE

## SMALL-BOAT SAILING

A SPORT THAT REQUIRES SKILL, NERVE, AND RESOURCEFULNESS  
THE TYPES OF BOATS AND WHAT THEY COST

BY HERBERT L. STONE

SOME ten or a dozen years ago, with the coming of the gasoline engine, the power boat, and the automobile, it was freely predicted that the fine old sport of sailing and sailboat racing was doomed—that the sailboat or sailing yacht would soon be obsolete, a thing of the past. In the face of the initial popularity of this new form of power it began to look for a while as if the craving for speed and for covering the most miles in the shortest time, either afloat or ashore, would supplant the lure of the sail, with its dependence on natural forces, and kill the urge to acquire the skill, resourcefulness, and

daring that we recognize as marking the true sailor.

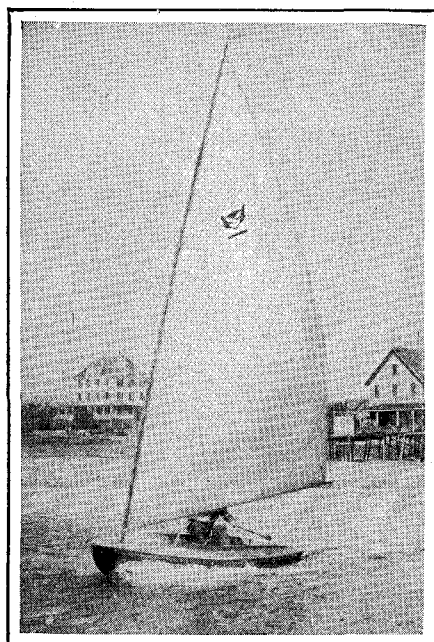
But these people didn't reckon with our heritage, didn't take into account the amount of salt still running in the veins of our race, or gauge the strength of the call of the ships. For, in spite of a Great War that killed yacht sailing as a sport for over three seasons, the last two years have seen such a return to sail as to make the sport more popular than it ever was before and to give the lie to those who figured that the dust of the roads or the fumes of burned gas would be all-sufficient for the American boy. For be it known that the finest thing about this reawakened interest is the fact that the bulk of those clamoring to get afloat under canvas are youngsters—a new generation that has grown to youth and manhood since the advent of the gas-engine and of our entrance into the war.

This being so, it is natural that the revival should be in small boats. And this is to be desired in itself, for not only can the beginner learn best in a small boat and become a better sailor where the responsibility is entirely up to him and he has to handle the boat properly to insure her safety, but there is also infinitely more pleasure in small-boat sailing than in being merely "crew" or passenger on a larger boat. There is more "life" in a small boat, she is more responsive on her helm, is quicker and livelier, and one is nearer the water and gets more thrills than on a large boat.

On Massachusetts and Buzzards Bays, on Long Island Sound and the Gulf coast, this growth is most apparent because the boats are seen together, attracted by the opportunity to race. At Marblehead last summer, during a whole week of racing, over 200 boats

started every day (one day there were 227), and some seventy-five per cent of these were craft under 24 feet long over all, many of them sailed by crews no member of which was over sixteen years of age, while in some special classes they were not over twelve years of age. And the way those youngsters took to the water and absorbed boat handling, seamanship, and knowledge of the racing rules would have made a sponge envious.

While this condition holds on the Atlantic coast, it is not as true to the same extent on the inland lakes and waterways, and the dwellers by fresh water are not making the use of their oppor-



A LITTLE THIRTEEN-FOOTER THAT IS FAST  
AND ABLE

A great number of these have been built and sailed in various yachting centers



ONE MAN OFTEN HAS ALL HE WANTS TO  
DO TO KEEP A DINGHY ON HER FEET  
This is a twelve-foot dinghy of the Genesee  
Dinghy Club, Rochester, New York