

## "A SWELL IDEA"

We are trying in the Southern District to popularize the Lightning as a racing sail boat for families. Many of our boats are 100% family. Examples are the Griffiths of Shreveport (two girls and their father) who combine real ability with a lot of enthusiasm. The Reichs of Southern and Bay Waveland (two sons and their dad) all three of whom are skippers in their own right, and the Ballatins (Mr. & Mrs. and son) make a real team on a down wind run when the sail handling is tough. I could go on and on—the Bancks, the Berniuses, the Danes, the Jacobs, the Allens (pictured), the Mullallys, the Overtons, the Whitworths, and the Leefes. In fact you might almost say that the sailing family in the Southern District is becoming the rule rather than the exception.

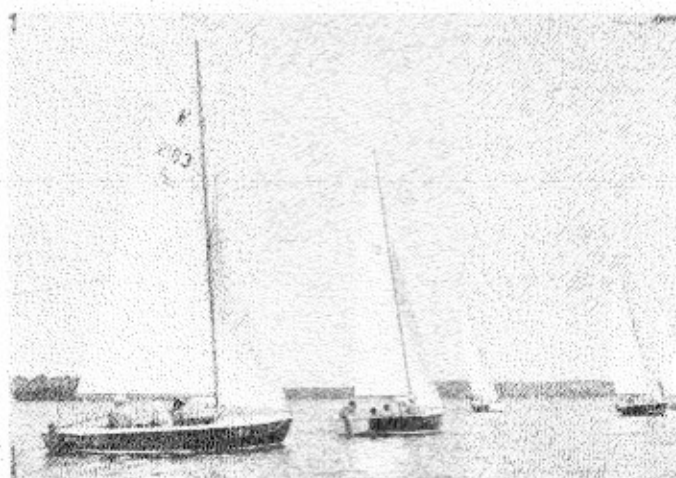


Tommy, Lydia, and Ethan Allen, a sailing family in the Southern District.

Sailing Family, Fleet #251, Attica, Greece. Fleet Champion Spyros Bonas, skipper of the boat #6963, with his two brothers Stelios and Takis crewing, was disqualified in one race. In spite of the disqualification, Bonas was fourth among 21 participants.

In the season's championship series, the Cowan family, skipper Stuart "Jr.", "Paulie," and "Stu III" were an all-family crew whose consistent performance earned them top percentage points. 59 Champs for Fleet #291, Rocky Point, Old Greenwich, Conn.

All in all we had a wonderful year. We still voted to WET SAIL. Ours are all "Family" boats and although R.C.Y.C. has a good hoist etc. our boats are really used for much "DAY SAILING" besides racing. Fleet #295, Stanton Is., N.Y.



Lightnings are still being used for family cruising on Devil's Lake, Fleet #3.

Jim Wellington won the Labor Day weekend series with brothers Bob and John as Crew. Fleet #154, Wawasee Yacht Club, Syracuse, Indiana.

The Schmit family—father D. F., daughters Mary Ann, Margie and Betty, son John, and future son-in-law Phil McChesney, won a special award for sportsmanship, enthusiasm and improvement. Fleet #173, Branch Beach.

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Ruth and Rob Stewart, District Commodore, breaking in the younger generation as skipper, age 3½, Fleet 273, Manchester, N.H.

The efforts of the fleet members to introduce new people to the Lightning—to show the new owners and crew what fun and excitement can be had in the competitive sport of racing sailing and last but not least that the Lightning is just the boat for a bit of day sailing with the whole tribe aboard. These, we feel, are the reasons for our increased fleet roster.

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The race committee Fleet #311 aboard Zolot II and in the background another sailing family "The John Posters" aboard "Madam Zaff" getting ready for a pleasant sail for fun.

As we look back over the year we remember: Bill Mullen capsizing during a jibe at the up river mark in the first race of the season and dampening the spirits of wife and daughter; Fleet #228, Riverton Yacht Club, N.J.

The Milnes family, Mark Sr., Kathy 10 yrs. and son Mark Jr. were runner-up in the "Kool-Kat" fleet #295, Staten Is., N.Y.

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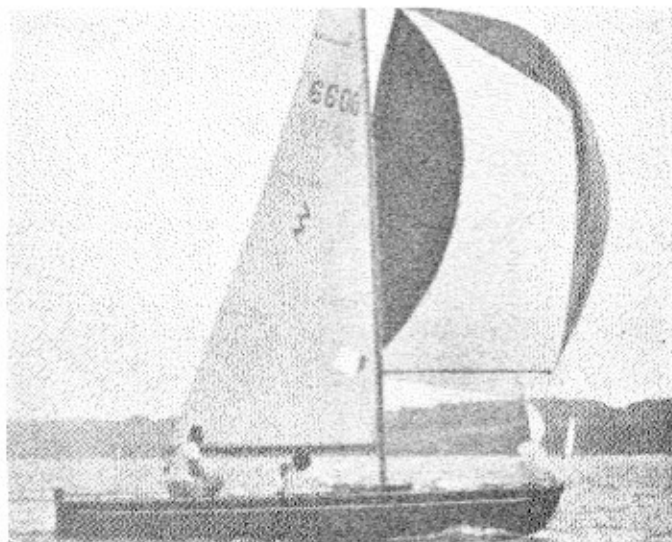
**THE FULTON SUPPLY CO., INC.**

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Dr. John Gentry and sailing family, 1959, Fleet #1. Winning the 2nd race in "Sustina", '59 champion.



# USE OF THE SPINNAKER ON LIGHTNINGS

By Hank Cawthra, Past President '59

Any one person would be presumptuous to try to cover, in a single short article, all phases of spinnaker handling. However, I believe articles such as this have some value when used in conjunction with other similar articles, in that the reader may thus compare various opinions, and draw his own conclusions.

The development of flatter spinnakers has resulted in their being used more for reaching and thus being set more often and carried for a greater percentage of total racing time than formerly. In addition, the Lightning is basically able to use the spinnaker more than most other one-design racing boats, for the following reasons:

1. It has good initial stability.
2. Its wide beam allows the crew to apply more righting force when hiking.
3. Its spinnaker is larger proportionally and thus adds more relative speed.
4. It has a three-man crew.
5. It does not plane easily and thus doesn't draw the apparent wind ahead so much in strong breezes.

Thus, since the spinnaker has been and is now employed more often and more effectively in Lightnings, it is not surprising that the Lightning class has been responsible for the development of much of the modern spinnaker technique now used by most competitive classes. Many specific examples could be given; one is the practice of setting spinnakers un-stopped as Lightnings have been doing for many years,—first this method spread to other one-design classes, then to larger boats until it is now being done on 12 meters. Another example is the practice of hoisting and lowering the spinnaker with the pole in place and the guy running freely through the pole end. In the use of the flatter spinnakers the Lightning class is probably even further advanced relatively in its techniques and is now developing and using the methods which will in future years be adopted by other classes. Lightning sailors should therefore be careful to remember that they should not be influenced in their decisions as to when and how to use the spinnaker, by what other classes do. Especially, they should not be misled by the inability of other classes to carry spinnakers on certain reaches. I have made careful observations on this, particularly in large regattas where a dozen or more classes are reaching on the same or parallel courses. The ability of the Lightning to carry its spinnaker on close reaches in strong breezes is not due only to certain basic characteristics of the boat, but to the training and experience of the better Lightning crews, who have continually pioneered in this type of sailing.

A Lightning can carry its spinnaker very high on the wind, but how do you know how high?—And in how much wind? Specifically, how do you know in advance of rounding a mark whether or not the spinnaker can be carried on the next leg? Although there is no certain method, it helps to have some kind of a course chart, even if it is only penciled on the deck. If the bearing of the spinnaker leg and the true wind direction are known, the major unknown in determining the apparent wind angle is the speed of the boat on the spinnaker leg. In practice, you will find that the average true wind velocity has a considerable bearing on your decision regarding the use of the spinnaker because:

1. In light breezes the apparent wind is drawn ahead more than in moderate to strong breezes because the boat gains more speed percentage-wise when the spinnaker is set. This, of course, applies only up to the point where the boat starts to plane.
2. As the wind becomes stronger it becomes more and more difficult to operate the boat safely on a close spinnaker reach thus forcing the skipper to balance the potential speed increase against the possibility of capsizing.
3. Thus it is generally true that one should be overly eager to set the spinnaker in light air on close reaches, but somewhat more conservative in strong air.

Other factors that should be taken into consideration are the possibility of a forward wind shift on the spinnaker leg, or an adverse current setting you to leeward so that you are forced to point higher and higher with your spinnaker as you approach the mark. On the other hand, if you have good reason to believe the wind will shift aft, or if you have a favorable current, then it may pay to set the spinnaker even though it appears that you can't lay the mark when first starting the leg. A correct decision on setting the spinnaker at a critical point may mean a difference of several points, particularly to the leading boat which has no opportunity to observe preceding competitors.

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Despite all the forgoing, each year the tendency seems to be to carry the spinnaker more and more if there is the slightest possibility of doing so.

I wish I could outline a fast, sure, and easy method of setting spinnakers but I don't know of any. I have tried setting them from both sides of the boat, from ahead and behind the stays, in and out of the cockpit, from turtles, boxes, paper bags, rolled bundles, and stops, and with all sorts of methods of attaching sail and sheets to pole. Although I don't have a complete answer to this problem, there are certain operations which I do believe are best performed in the following manner:—the guy should not be attached to the pole, but should run freely; the spinnaker should be set from the lee side (there are a few cases where it is better to set from windward, but should be ignored in the interests of uniformity); the spinnaker should be set "loose" and hauled, fed, or thrown up and out as rapidly as possible. I have never seen a uniformly successful, and fast, method of hoisting a spinnaker in stops or bundle.

Getting the head of the sail up is only the first step. It must draw to do any good, and the time that counts is not the time to get the halyard to the block but the time to get the sail full.

The critical phase of spinnaker setting that, in my opinion, has not been satisfactorily solved, is how to get the tack (pole end) of the sail out to the pole at the same time the head of the sail is fully hoisted, and to simultaneously have the sheet trimmed properly and the sail drawing. Some crews may be able to do this 10 or 20% of the time, usually under the most favorable conditions, but to do it 80 or 90% of the time, under all conditions, is another matter. Watching movies of Lightnings racing I am amazed at the time it takes to get the sail full after it is hoisted. On the average, this seems to take more time than to hoist the sail. Surely we can all reduce this time.

Beyond the above general rules, I believe each crew must adopt its own method. I think that the average crew can reduce their overall spinnaker setting time much more by concentrating on preparation before they reach the mark, rather than on those few frenzied seconds just after the mark is rounded.

The instant the halyard and guy are secured and one man is able to handle the sheet, the other crew man should drop the jib. It is important to practice getting the jib down as soon as possible, because even if the spinnaker will draw with the jib up, it is usually not efficient, and in most cases, it will not draw at all until the jib comes down. This latter phenomena is most interesting, because it is not at all difficult to fly a spinnaker with the jib set, yet observations of Lightnings racing has convinced me that at least 60%, and possibly 80% of the time, a newly hoisted spinnaker cannot be, or at least is not, filled until the jib is down. This condition is worse on reaches, because on a run the spinnaker (and pole) are immediately swung out abeam and away from the jib and thus the spinnaker fills relatively easy. The answer is undoubtedly that a spinnaker once full and lifted is so much higher and more outboard than the jib that it is affected only slightly, while an unfilled spinnaker is hanging in folds, low down and inboard where it is blanketed considerably by the jib.

Once the sail is set it must be flown to the best advantage. There are four variables; the trim of the sheet, the fore and aft position of the pole, the height of the outer end of the pole, and the position of the head of

the sail. I assume the inner end of the pole is fixed. There is very little advantage in moving this end of the pole up and down the mast (figure it out geometrically sometime). Before going any farther, it should be understood that any suggestions on using the spinnaker, like most everything on a sailboat, can only be general, and that each spinnaker has its own peculiarities, and must be handled just a little differently from any other. Considering the easiest variable, the sheet, first—it is merely slacked a little at a time until the luff breaks, then jerked in slightly. Variations in individual techniques seem to be that some crews keep the luff slightly breaking a larger percentage of the time on the assumption that it is more important to be sure that the sail is not "choked", while others jerk on the sheet the minute the luff begins to curl. Although I don't think these differences are important, I would prefer the sail kept well out even if the luff breaks frequently. A good spinnaker man soon learns how much of such intermittent breaking of the luff his own spinnaker will stand without a complete collapse.

The fore and aft position of the pole is given in most books as "at a right angle to the wind". I do not agree with this theory and think that on most boats the pole should be at an angle to the apparent wind greater than 90 degrees, and furthermore I believe that this angle should become a little larger as the apparent wind goes forward. If my theory is correct it means that the pole is out to the jibstay much of the time and I think you will find that most of the top spinnaker operators are in practice, carrying the pole ahead of the theoretical "best" position.

While all the four variables are to some extent dependent on each other, the height of the pole outer end and the position of the head of the sail are very closely related, because slacking the halyard and raising the pole both introduce more curve in the sail vertically and flatten it transversely, thus making it more efficient for reaching. However, there are several qualifications to this. First, the slacking of the halyard does not affect the overall set of the sail in exactly the same way as raising the pole because the former moves the entire upper portion of the sail away (to leeward) from the mast. Slacking the halyard probably began as a means of allowing the head of the spinnaker to clear the jumper stays, but then it was found that easing it out further didn't do a bit of harm. It appears that the halyard can be let out at least 18" when reaching and sometimes as much as three feet. However, with the wind well forward, I wonder if the upper portion of a spinnaker with the halyard well slacked could be blown somewhat aft, and thus be nearer the mainsail. I think that when the wind is further aft in running and broad reaching the head of the spinnaker should be closer to the mast than when close reaching, although I have no logical reason to support this belief. It is the setting of the outer end of the pole and the adjustment of the halyard that distinguishes a really good spinnaker operator from a mediocre one. After all, one doesn't have to be very smart, or very experienced, to jerk a little on the spinnaker sheet every time the luff starts to curl.

Obviously there is a limit to lifting the pole and slacking the halyard to flatten the sail transversely. In light air a spinnaker set in this manner will collapse more easily, so the common practice is to drop the pole as the wind lightens. With most modern flat spinnakers the pole can be slightly lower on broad reaches and runs if it is



felt that the sail should be more spherical. However, this is just another spot where you have to know your own spinnaker, because any gain from having the spinnaker more spherical may be more than offset by the loss in projected area as the pole is dropped and the sail becomes narrower and deeper. Also, don't forget that by raising the pole to extreme limits you may get to the point where you begin to lose projected area, because, although the sail is getting broader as you raise the pole, its average projected height is becoming less.

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A few words on handling the spinnaker in stronger breezes; first you should remember that a few degrees of sailing angle with the wind makes a tremendous difference in whether you can carry the sail. The Lightning with its hard chines and wide beam picks up so much dynamic stability when it planes that, with the wind dead astern, there seems to be almost no limit to the amount of wind in which you can use the spinnaker. Actually this high-speed running straight down wind is neither as difficult nor as dangerous as it may appear. But when the wind is only a little off the quarter the handling of the spinnaker in very strong breezes becomes a tremendous physical exercise due to the necessity for extreme hiking, and also calls for continual and nerve-racking vigilance for the skipper and crew. Under these conditions a fraction of a second's delay in handling the spinnaker sheet and guy, a minor mistake in steering, or a slight deficiency in hiking torque on the hull, may result in a sapsize. Here, a crew's experience in working together shows up. The skipper must have confidence that his crew will do things with just the right timing and the crew must have confidence that the skipper will help them out by such things as bearing off when they are

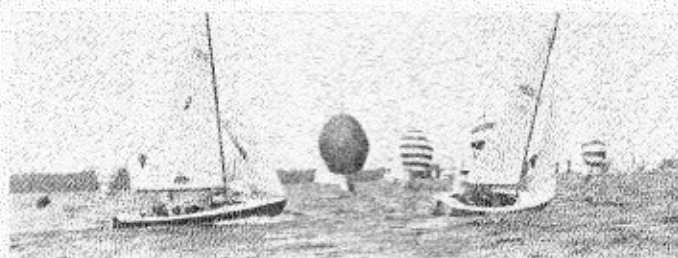
having trouble, easing the mainsail when the boat is overpowered, trying to keep in clear air on reaches in close company,—and out of dangerous tactical situations such as allowing any boat (and particularly one without a spinnaker) to work into a lee position where he can luff.

If the spinnaker may have to be reset shortly, it is common practice to leave sheet, guy, and halyard hooked up, and sometimes to leave the pole up.

The procedure for lowering the spinnaker, in itself, is not a difficult operation, but to set the jib and drop the spinnaker on a close reach in strong air, with no room to run off the wind, and with a minimum loss of speed, is an operation to tax the abilities of the most capable crew. It is most important to have everything ready in advance—spinnaker halyard clear, jib sheets clear, guy clear, jib downhaul well slacked—to have an exact sequence of operation agreed on (or well known from past practice)—and then, once started, work fast and furiously. This is one of the few operations on a boat during which you don't have plenty of time.

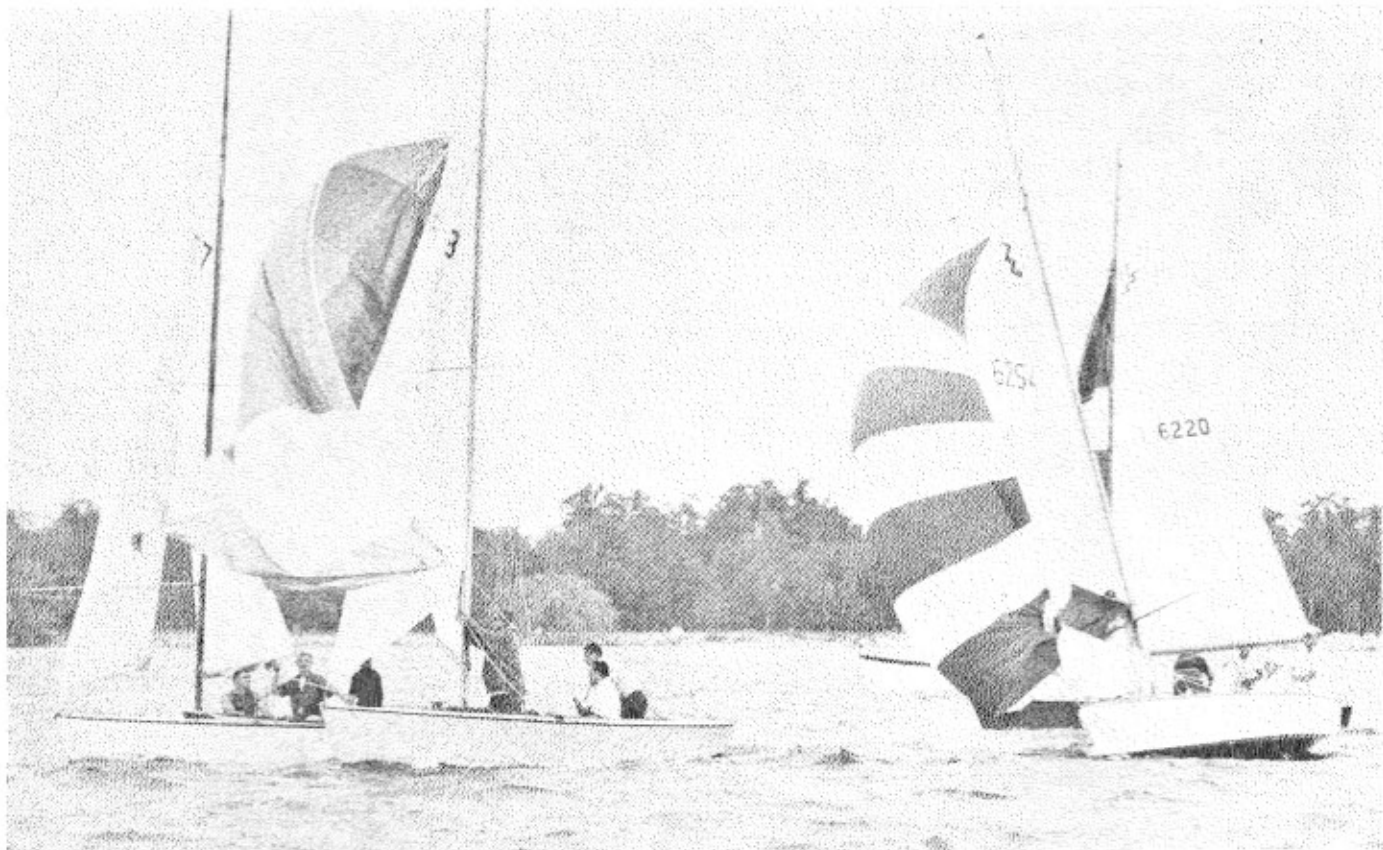
Dropping the spinnaker is a more standardized procedure than the hoisting, and does not seem to give experienced crews much trouble. If possible, the skipper should run off the wind a little, particularly in strong breezes, so the spinnaker is partially blanketed. The guy is cast off and simultaneously the sheet is hauled in rapidly from the lee side, then the entire foot of the sail. At the same moment that the foot is completely gathered in, the halyard is slacked away, the man on the halyard lowering sail as fast, but no faster, than the other man can gather in. If you may have to reset the spinnaker, it usually pays to take a little more time and fold the spinnaker as neatly as possible. After the sail is safely down, the pole is taken off the mast and the guy released from end of pole.

Summing up, you should practice setting, flying, and dropping the spinnaker until you have confidence in your ability to perform these operations. Much of the reluctance to use the spinnaker comes from a fear of making mistakes, and with increased familiarity, you will find yourself using the spinnaker more often and more successfully.



Spinnakers in use during Lake Erie District Championship. Jim Walker, M.D. #6890, Fleet 24 leads the pack, followed by Bill Hughes, BCC #7046.

In January 18, 1959, our annual race from Callao to Ancon was held, about 20 nautical miles running before the wind. We had light air and calm water in this race but enough to carry the spinnaker all the time. In first place was Carlos Navarro, Jr., and second, with only a few seconds interval, was Jose Barreda Moller. Persano Fleet #265, Peru.



*This photo was taken during the 1959 Lake Erie District Regatta at Erie Yacht Club shows a group of Lightnings just rounding a weather mark. The lead boat is #5207 "Lo and Slo" of Fleet 81 Buffalo Yacht Club skippered by Bob Dallas (age 15). In his haste to get up the spinnaker the pole was pushed through the jib, (or was it?) The other boats having spinnaker problems are as follows: #1603, Paul Stievator, Fleet 12, #6220 Red Norwalk, Fleet 78; #6254 Ross Lipperd, Fleet 78.*

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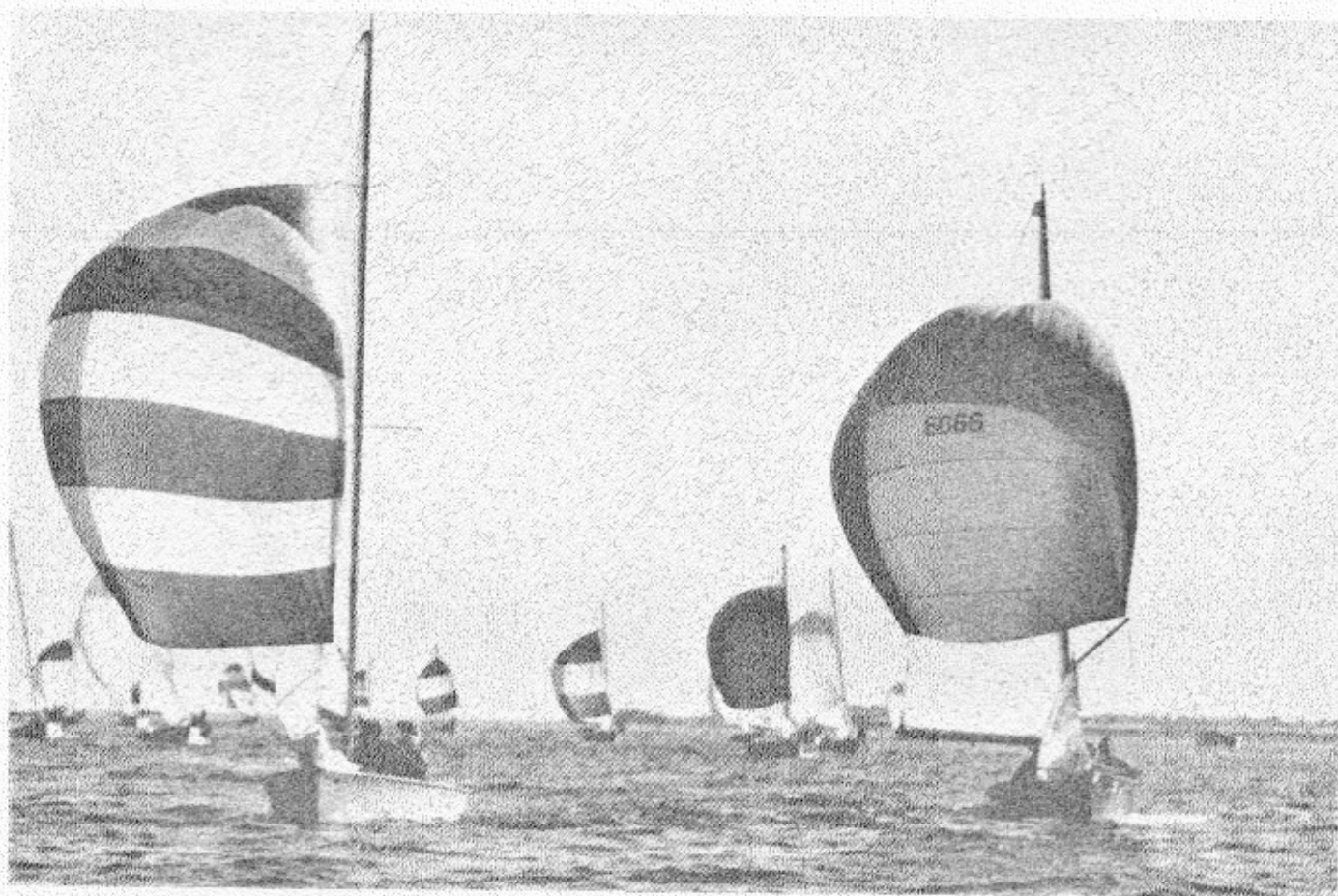
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*Editors note: This to me is one of the real thrills of sailing: "The Spinnaker run". Our author "Hank" in #6066.*

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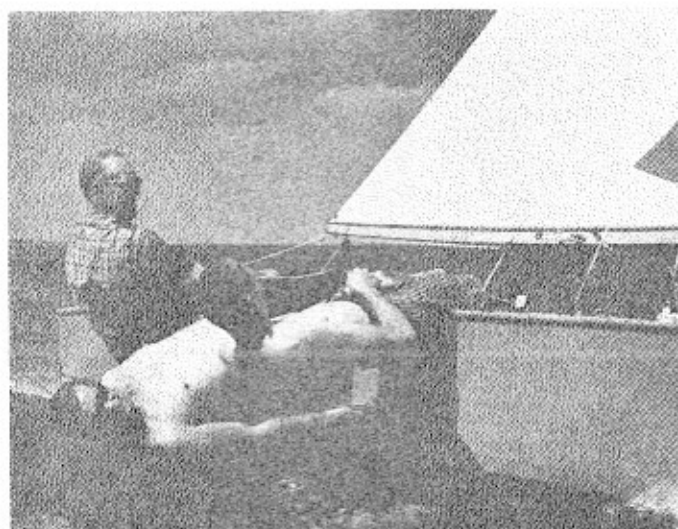
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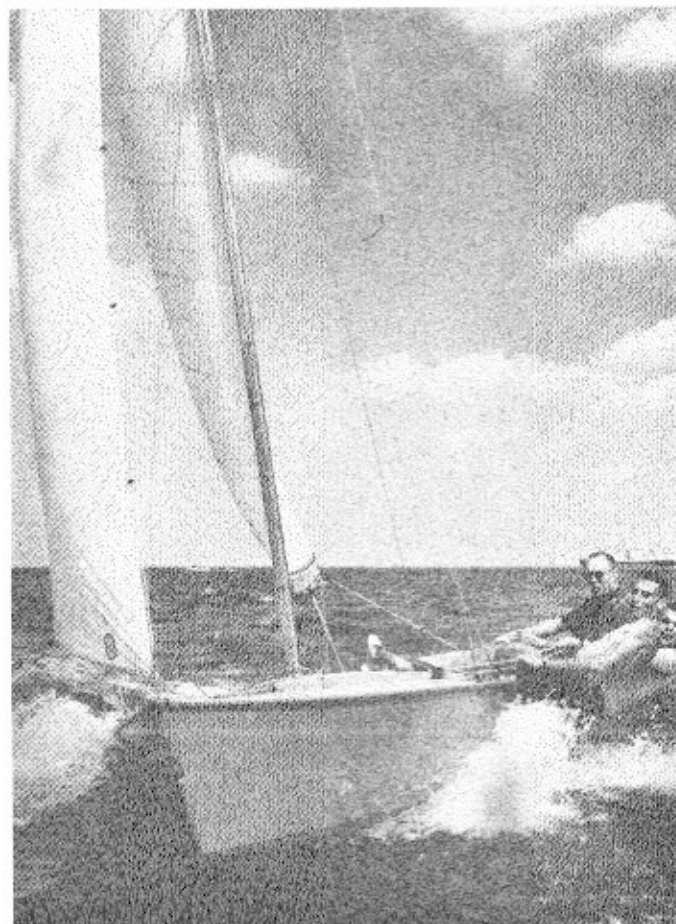
# Past President and Past L.C.A. Champion Hank Cawthra Shows His Stuff



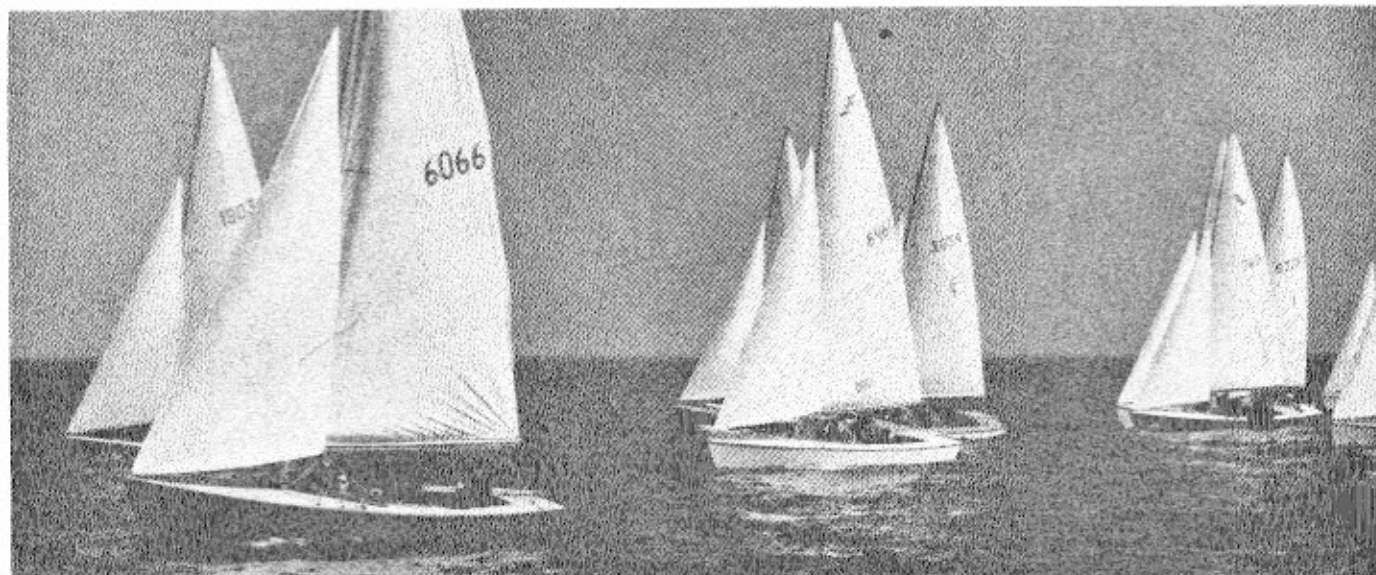
*That Crafty Cawthra grin when they pull ahead on that 1st leg.*



*"Hike-crew Hike"—says Cawthra, Fleet #51. He works his crew hard but they like it.*



*"Keep her level boys" says skipper "Hank".*



*Hank's philosophy "get out in front and stay there". Fleet #51.*