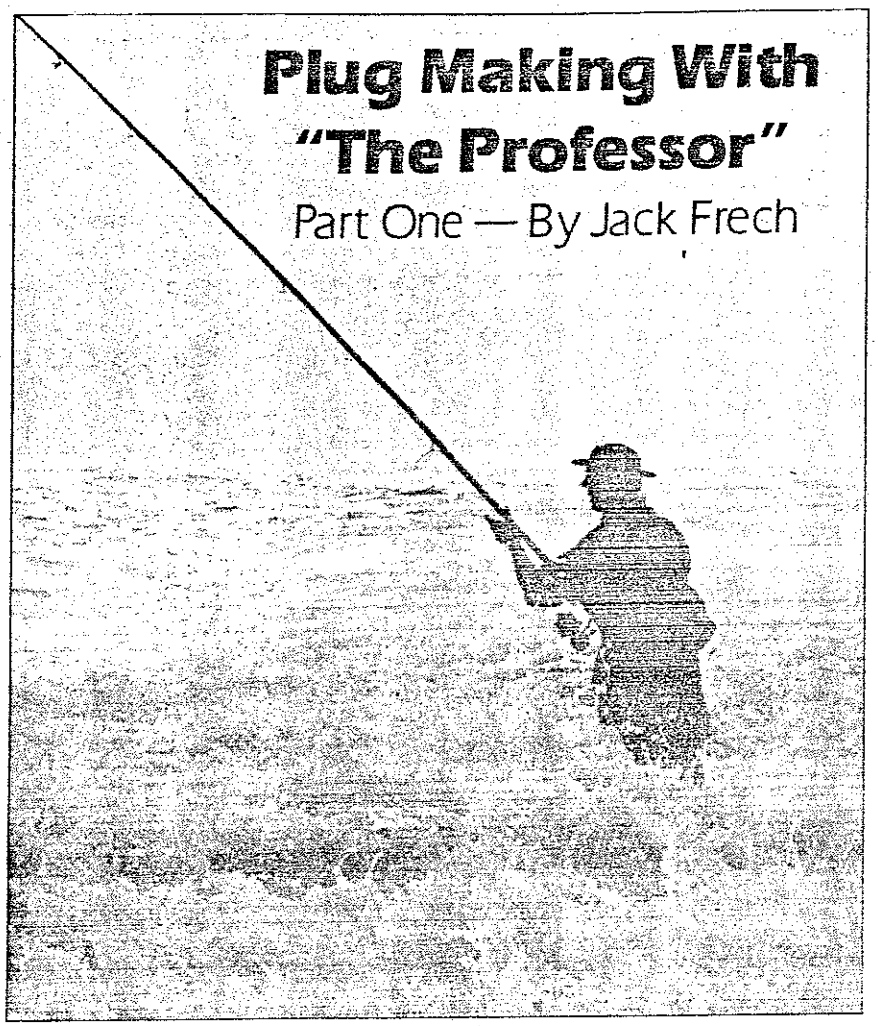
# Plug Making With "The Professor"

## Part One — By Jack Frech



**Editor's Note:** This article is one of a series originally published by The Fisherman back in 1975. Due to an excessive demand for reprints, we have decided to run the series in its entirety. Sadly, the Professor was involved in a fatal boating mishap a number of years back, but his legacy lives on.

Take a piece of dowel rod, give it a little shape, paint it, wrap on a hook and use it exclusive of all other lures. Eventually, if the fisherman has a vast store of patience and a willingness to spend hours upon hours tossing it into the ocean and jerking it back and if he is lucky, a fish will be caught.

Pygmalion created his own beauty and was captivated by it—so too, the plug maker!

Dream of the one plug that will outcast, outfish and outcatch—let the dream build and challenge. At the same time, take the first steps to learn the basic skills necessary for plug making. Find the short cuts, study them and put aside the pursuit of the ultimate lure until the fundamentals become as simple as breathing.

The problem faced by each "would-be" plug maker is how to reduce the time necessary to reach early proficiency.

The purpose of this series is to introduce the art of fashioning reliable plugs which can be made with a minimum amount of skill. Each of the plugs to be described has been proven in our Long Island waters.

First in this series will be five plugs which are built to make a ruckus on the surface of the water. They do, however, have alternative actions which make them very versatile. Most of them are heavily-weighted and ready to go the distance in the surf. One carries minimum weight, permitting use in the calmer waters of shallow bays and inshore reefs where floating, slow-moving plugs are often necessary. Each of these can be made by a person with limited technical skills and with the tools available to the home craftsman.

### "W-Y" POPPER

This plug, in the hands of a very few surf fishermen, has taken countless bluefish and striped bass from Montauk to Hatteras and back to Nantucket. The original from which this plug was copied was made by William Young of the High Hill Striper Club on Long Island. Bill had a piece of 1-1/8 inch diameter birch dowel which was a bit short for a darter. Rather than waste the wood, he fashioned it into a popper. The distance it cast and the fish he caught were enough to make me want one, too. After a summer of trial and error an adaption was made; slightly shorter, with a decidedly different balance and some hair fastened to its tail. Named the "W-Y" for Bill, it has become the one plug that is in my bag day and night except in April and May when I haunt Little Neck Bay and Hempstead Harbor.

It casts like a bullet in any wind, can be made to streak madly; on top, to chug along rhythmically, to wallow from side to side and to travel with a swimming motion just under the surface or in the intermediate level, if there is a current or a rip. Each of these actions are readily within the range of an average surf fisherman's skill. All that is needed is practice, confidence, an educated left hand and a few copies of Bill's plug.

The body of this plug is fashioned of birch dowel, 1-1/8 inch in diameter. Purchase four of these in three foot lengths, sufficient to make 24 plugs. This will allow for some discards due to construction errors. Also, it will provide a few to be "thrown away" while the fisherman becomes accommodated to the weight of the completed plug.

The dowels can be purchased at most local lumber yards. Mine come when available from Latham's Lumber in Mineola and cost about one dollar each. When selecting dowels, pick straight pieces with long parallel grain markings and remember all dowels are not birch. Make sure the diameter is 1-1/8 of an inch. Lumber yards always appear to have 3/4 inch and 1 inch diameters. Don't purchase these! For one reason or another, these diameters make lures with completely different actions.

The first construction step is to cut each dowel into six pieces, each 5-3/8 inches long. A simple step but important because the ends resulting from these cuts must be square. Future drilling operations and alignment of hangers are simpler if the end faces are at right angles to the length. If a mitre box is handy, use it.

Plugs can be rigged for hooks and terminal gear in a number of ways. The traditional ways are to run a wire through the length of the plug or to use non-rusting screw eyes at the appropriate locations. Years ago I recognized my skills were inadequate to permit drilling "true" holes completely through four to six inches of dowel or plastic. A bit later too many screw eyes were being broken as I rigged plastic plugs. By pure chance, one night while working with some of the two tube epoxy, at the time a new product, it occurred to me that this might be just the thing! A dowel was rigged with a brass sinker eye epoxied at either end. Once dry, one end was fastened to a cellar beam, the other to a twenty-five weight. When the weight was dropped, the sinker eyes elongated a bit but held firm. Since that time all of my plugs have been rigged with sinker eyes epoxied in place.

Sinker eyes are not always readily available but can be located in tackle shops catering to "do it yourself" fisherman who make their own sinkers. If unavailable locally, they can be purchased from Art Wire and Stamping Co., 9 Wing Drive, Cedar

Knolls, New Jersey 02927, or Reading Instrument Co., Box 78, Reading, PA 19603. Buy a half-pound, they won't go to waste. You will need seventy-two to complete twenty-four "W-Ys."

Finally, two lead slugs 3/8 inches in diameter and 1/2 of an inch long complete the materials needed for construction. Most occasional plug makers pour molten lead directly into the weight holes. Some use lead balls. Other casts their weights in home-made molds. These are made by clamping two pieces of hardwood flooring together and drilling between them to the desired depth and diameter. If one uses this technique, drill six or eight holes. Heat the lead and pour into the holes. Separate the pieces of flooring when cool and knock out the slugs.

There is little that appears really critical when constructing surface-commotion plugs. However, it is my belief that, if each plug of a type is to work the same as its identical looking counterpart, each of its component parts and construction techniques must be as close to identical as is possible with the tools available. This strongly held belief encourages other fishermen and some good friends to look at me as if I were a bit out of my mind. They "knock out" poppers along with other plugs and catch fish with their products. My contention, however, is that when one plug is as identical as possible to every other built like it, the fisherman knows what to expect and consequently uses each plug with skills that produce under similar circumstances almost identical movements.

For this reason and this reason alone I cast the weight slugs instead of pouring the lead directly into the weight holes.

The technique I use is a bit slow. Years ago a small block of aluminum was first drilled to the desired depth and diameter. Next the hole was finished with a tapered, bottoming reamer and a handle fitted to the finished block. I have three of these, one for each of the weights used. When a slug is cast in this mold, the slow taper permits an easy release. Later when the slug is set, the taper permits an easy introduction into the body of the plug. I work with a mold until it becomes too hot to release easily, shift to another and then another while the first one cools.

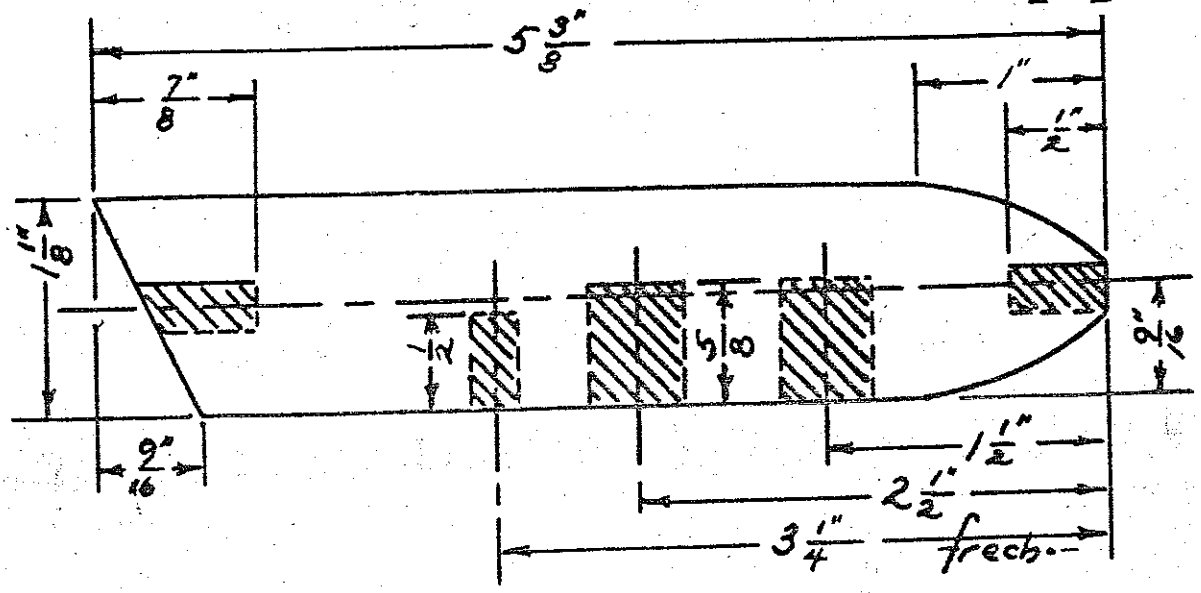
Whichever technique is used, cast a batch of slugs and set them aside for future use. It is easy to melt lead. However, if you have no furnace or fireplace and the women of your life refuses the use of the kitchen stove, you might like to invest in a convenient hand-held electric ladle which plugs into any home outlet. Be sure to have a heatproof base, preferably thick asbestos, to rest it on when heated and not in use.

The preceding instructions, if followed, will ready you for the final business of putting the "W-Y" all together, something we will complete in the next issue.

# Plug Making With "The Professor"

## Part Two — By Jack Frech

# "W-Y" Popper




***Suppose he must choose but one lure? Which type would it be? A swimmer, a darter or a popper.***

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Big plugs catch big fish—sometimes! Match the size of the plug to the available bait—sometimes! And on, and on, and on many acceptable and proven facts—sometimes! If only the fisherman could carry innumerable plugs, he could be ready for any and all conditions. Suppose, however, he must choose but one lure? Which type would be chosen? A swimmer? A darter? A popper?

My eyeteeth were cut on a wooden plug which ultimately was revised and developed into that great plastic, the Atom 40. Hundreds of fish have fallen for it. With that plug in my bag, luck most always smiles on me.

I've never faced the choice of a single plug unless it was an experimental job that I was forcing myself to use exclusively. However, if such a choice had to be made, I would be torn between the "40" and the "W-Y."

### Plan

Earlier the routine preparations for the W-Y were discussed. Now is the time to describe how to built it.

**1.** Take a 5-3/8 inch piece of 1-1/8 inch diameter birch dowell and mark the center at each end. Drill a 1/4 inch hole in the marked center at either end. The tail hole must be 1/2 inch deep. Mark the head end to prevent any mistake when cutting the face angle.

An ordinary hand it and a 1/4 inch twist drill is sufficient for this operation. A drill vise and a drill press, though not essential, reduce the chance of error.

**2.** Cut the face angle at the head end. This can be cut satisfactorily with a back saw or even a hack saw. However, it is most accurate if cut in a mitre box or on a band saw using a jig for this particular angle.

**3.** Drill or otherwise cut the concave popping head.

There are a number of techniques which might be successfully used when completing this operation:

A) A rasp type burr or ball clamped in an electric hand drill works well once the operator learns to control its force. Be sure to hold this tool in both hands while the dowel is clamped in a vise. For me, this tool works best when used with a clockwise rotating motion centering on the drilled hole.

B) Head red hot a carriage bolt with a 1 inch head and burn the concavity into the dowel. A friend, George Carlin, uses this technique and claims it gives him a perfect face every time.

Some women object to the resulting smoke and smell in the house.

C) I use a 1 inch blacksmith's drill locked into a drill press. Hold the dowel gripped in both hands so that the face angle is at a right angle to the axis of the bit and the bit point is centered on the 1/4 inch hole. Next the dowel is pressed upwards against the rotating bit.

Each of these techniques work well, but each requires its own specific safety precautions.

**4.** Cover your thumb with a piece of 2/0 open coat sandpaper and rotate the ball of the thumb in the cut face of the dowel until you are satisfied it is smooth.

**5.** Round off the tail end of the dowel. Depending on the tools available, you can complete this operation with a sharp knife, a coarse wood file, a sanding disc or a lathe. The knife operation is toughest because the wood is hard. More realistic, if hand tools must be used, is a coarse, sharp file. Once skill is attained, this is a simple and not too difficult method of cutting that tail end.

Regardless of which of these you use, the steps are similar: mark two circles on the tail end of the dowel: 3/8 of an inch from the center and 3/8 of an inch from the outside. Mark a line around the side of the dowel 1 inch from the end. Cut away the area between this line and the outside circle. Mark another line around the middle of the resulting taper. Cut away the area between this second line and the inside circle. Round off or otherwise finish the tail with a file or sandpaper.

I have finally graduated to the use of a special cutting tool and a lathe. Each piece comes out identical, no room for error.

**6.** Draw a straight pencil line the length of the dowel from the lowest part of the head to the tail. This is of utmost importance because all eyes, hook hangers and balancing weights are positioned by this center line.

**7.** Measure from the tail end the specifications for three bottom holes: 1½, 2½ and 3¼ inches.

**8.** Drill each of these 1/2 inch deep with a 1/4 inch drill.

**9.** Re-drill each of the two rear holes 5/8 inch deep with a 1/2 inch drill.

**10.** Clean up the edges of the holes and rub the entire dowel with sandpaper.

**11.** Mix equal parts from each of the two tubes of epoxy. (Normally, I have a number of dowels ready for this operation.) Six lines, about 1 to 1½ inches long, are squeezed out of each of the two tubes in close parallel rows. They can be squeezed on a piece of newspaper. I use a sheet of clear plastic and clean it each time with turpentine. Mix the epoxy well with some type of small spatula. Mine is an old discard from a dentist's office. Don't stint on the mixing. Thorough mixing is of the utmost importance. Though heat has little or no effect on the curing of the epoxy, the mixture does blend easier if it is warm.

**12.** When the epoxy is thoroughly mixed, dribble or pack a sufficient amount in the bottom hanger hole to fill it. Press a hook hanger into place in alignment with the center line.

**13.** Smear a very small amount of epoxy in each weight hole and press the two lead slugs into place. I sock these home by clamping in a vise. Take care to check the hook hanger alignment after this operation because it sometimes get moved out of place.

**14.** Set the dowel aside to dry.

**15.** Later (I wait until the next day) repeat this operation—first at the head and last at the tail of the plug. Again, carefully align each of these eyes with the center line. Stand the plugs upright in a can to harden between these operations.

**16.** Sand and otherwise clean the plug of any excess hardened epoxy.

**17.** Purchase a pint of boiled linseed oil in your local hardware store. Pour a sufficient amount to cover the plug into a glass jar. Slowly insert one plug for no more than 40 to 50 seconds. Remove and hang to drip into a can. Do with this 6 or 7 plugs. Wipe any excess off the plugs and hang to dry. Repeat until all have been soaked. If the plugs are left too long in the boiled linseed oil, the plug will never hold a coat of paint.

This operation prevents the plugs from absorbing water and ultimately splitting.

**18.** Finish to individual standards.

I fuss far too much with the finishing operation, but get a real kick out of eye-appealing results.

Using a low luster, waterproof enamel, three base coats are carefully brushed on (really, this is an unnecessary operation). When completely dry, they are hung outdoors on a line and sprayed with a thin finishing coat from a pressurized can.

To me no plug looks really great without professional-looking eyes. Of course, the fish couldn't care less. I purchase "eye" decals from The Meyer Cord Company, 365 E. North Avenue, Carol Stream (Wheaton), Illinois 60187. These go on easily. Dip a strip of eyes in water. Put aside on the workbench for a minute or so. Slide an eye off with a pair of tweezers and press in place on the plug.

**19.** Finally, again when absolutely dry, apply a thin coat of clear spray. Outdoors, because the odor resulting is not always acceptable indoors.

**20.** Arm your finished plug with a 4/0 treble hook in the gut and a single 5/0 Siwash covered with hair at the tail end and you are ready to go.

Store the extra completed plugs without hooks until ready for use. Handled in this manner they pack easily and take up very little room.

A quick look makes all this appear complicated, but step by step it is relatively simple.

Next, some techniques for making the "W-Y" talk and two variations of poppers made of acrylic plastic.