of the wind relieved the boat before the danger point of capsize was reached. Once the maximum height of hoist had been reached in the sharpies, it is very noticeable that additional increase in sail, by means of leg-of-muttons, took place low, using such dodges as vertical clubs and double sprits, or boom-and-batten.

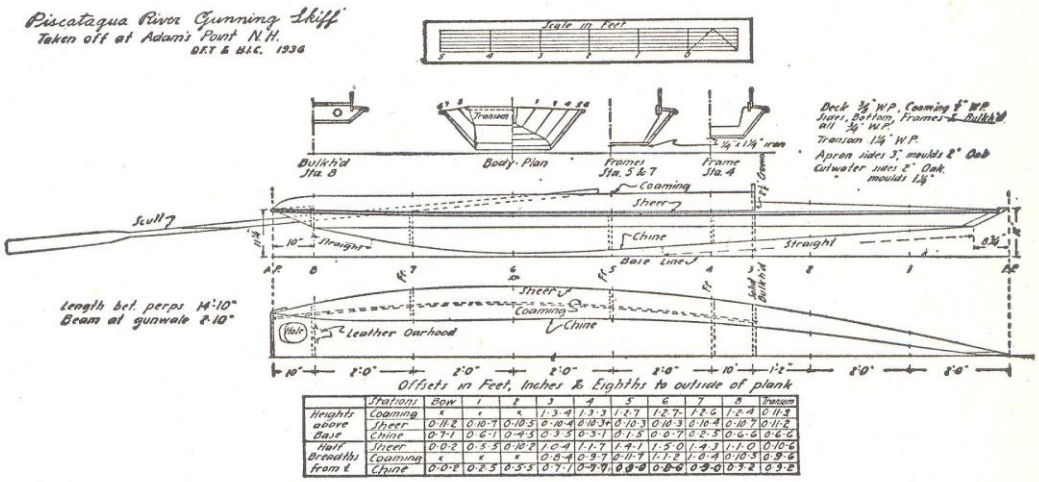
Shooting Punts or Skiffs

The flat-bottomed boat, in skiff-form either with square or sharp stern, was long popular as a shooting boat. There were many more varieties than in the scow model, and many were no more than very small, decked, square-sterned sailing and rowing boats, of the "flatiron" model. Others were really decked double-ended bateaux, such as the type long popular on the Chesapeake. There were a few, however, that were distinctive craft—one of which is shown in Figure 49. It is a form of ducker once popular on Great Bay, upstream on the Piscataqua River a little above Portsmouth, New Hampshire. The boat is heavily built, to stand the abuse and neglect such boats get, and is propelled by a sculling oar through the stern, as well as by poling or paddling on suitable occasion. The gunner lies flat when sculling in approaching wildfowl, handling his oar with one hand. The boat is built of white pine, except for stem and transom, which are oak. A leather apron, made up in a truncated cone, is nailed to the scull port in the after bulkhead, and the scull is forced through this from outboard so that leakage through the low port is avoided; this was often neglected in smooth-water shooting, however. The long, thin bow was designed to permit the boat to work well in floating ice. This gunning skiff, or punt, is probably descended from the English gunning punts, directly or indirectly, but nothing has come to light that proves the Piscataqua skiff is a descendant of a colonial type.

The building of flat-bottomed boats has been so common in America, from early times to the present day, that one would think we have learned and retained all there is to know on the construction methods to be used in such craft. Yet one of the common complaints about cross-planked bottoms today is that there is often leakage in the overhangs, where the bottom may be alternately wet and dry owing to wave action or variation in loading. The old

boatbuilders knew of this difficulty and, in the New Haven sharpies and similar craft, solved the problem very simply by employing tongue-and-groove or splined seams in the bottom of the overhangs. Curiously enough, it is rare to find this done today.

The cross-planked bottom is sometimes objected to, on the grounds that the cross-seams cause "skin friction" and slow sailing. This is rather academic, as the flat-bottomed cross-planked hull is hardly a construction one would choose for an open racing class; and in a one-design class or a cruiser, this theoretical objection certainly could not be considered important. But, whether or



	Stations	Bow	1	2	3	4	5	6	7	8	Transom
Heights above Base	Coaming	"	"	"	1-3-4	1-3-3	1-2-7	1-2-7	1-2-6	1-2-4	0-11-3
	Sheer	0-11-2	0-10-7	0-10-5	0-10-4	0-10-3+	0-10-3	0-10-3	0-10-4	0-10-7	0-11-2
	Chine	0-7-1	0-6-1	0-4-3	0-3-5	0-3-1	0-1-5	0-0-7	0-2-3	0-6-6	0-6-6
Half Breadths from ℄	Sheer	0-0-2	0-5-5	0-10-2	1-0-4	1-1-7	1-4-1	1-5-0	1-4-3	1-1-0	0-10-6
	Coaming	"	"	"	0-8-4	0-9-7	0-11-7	1-1-2	1-0-4	0-10-3	0-9-6
	Chine	0-0-2	0-2-5	0-5-5	0-7-1	0-7-7	0-8-0	0-8-0	0-8-0	0-7-2	0-5-2

Fig. 49. New Hampshire ducking skiff built about 1920.

not skin friction is entirely a matter controlled by smooth surfaces in a hull, the cross-planked bottom is really a matter of economics, and if there should be a slight loss of speed resulting, it can be excused on the grounds that "money makes the mare go" and that there is not enough money in hand to make her go the maximum possible speed. The use of a fore-and-aft planked bottom in the sharpie entails the addition of a complete transverse framing system, which adds to both cost and labor; that is one of the reasons why cross-planked bottoms have always been preferred in sailing sharpies. This construction is also the strongest, for the connection between sides and bottom is the weakness of the framed and longitudinally planked bottom in sharpies.

It should be quite apparent that there is no justification for the contempt often expressed toward flat-bottomed craft; this is due

to insufficient experience or to mere prejudice. In sailing, the flat-bottomed hull is usually heeled, and, because the boat is sailing more or less on its chine, giving V-sections, there is less pounding than one would suppose. Past experience has shown that flat-bottomed hulls may be very fast and even have such respectable qualities of seaworthiness that they may venture to sea in the summer as safely as most yachts of their length. There need be no great concessions in beauty, speed, strength, longevity, and summer-seaworthiness, if economic factors suggest the employment of flat-bottomed hulls for sailing.