

**CANOE AND BOAT BUILDING. A COMPLETE
MANUAL FOR AMATEURS. CONTAINING
PLAIN AND
COMPREHENSIVE DIRECTIONS FOR THE
CONSTRUCTION OF CANOES, ROWING
AND SAILING BOATS AND HUNTING CRAFT**

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Canoe and Boat Building. A Complete Manual for Amateurs. Containing Plain and Comprehensive Directions for the Construction of Canoes, Rowing and Sailing Boats and Hunting Craft by W. P. Stephens

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W. P. STEPHENS

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PREFACE.

THE character and object of this book are set forth on its title page. It is a manual designed for the practical assistance of those who wish to build their own canoes.

The number of boating men who find pleasure merely in sailing a boat is small compared with those who delight not only in handling, but as well in planing, building, improving or "tinkering" generally on their pet craft, and undoubtedly the latter derive the greater amount of pleasure from the sport. They not only feel a pride in the result of their work, but their pleasure goes on, independent of the seasons. No sooner do cold and ice interfere with sport afloat than the craft is hauled up, dismantled, and for the next half year becomes a source of unlimited pleasure to her owner—and a nuisance to his family and friends. We know one eminent canoeist who keeps a fine canoe in his cellar and feeds her on varnish and brass screws for fifty weeks of every year.

This class of boating men, to whom, by the way, most of the improvements in boats and sails are due, usually labor under great disadvantages. Their time for such work is limited; they have not the proper outfit of shop and tools, nor the practical knowledge and skill only acquired by the professional builder after years of careful and patient labor; and the latter as a class are unwilling to communicate freely what they have acquired with so much difficulty, and are

seldom willing to assist the amateur, even with advice. His only other source of information is reading, and while there are books treating of the construction of large vessels, and others of the use of boats, there are none giving precisely the instructions needed by the beginner in boat building.

Having experienced most of the trials and mishaps that fall to the lot of the tyro, we offer in these pages such help as has proved of the greatest value to ourselves. To the professional builder, some of the instructions may seem elementary and unnecessary; but it must be remembered that we are not writing for him, who by long practice has acquired an accuracy of eye and dexterity, that enable him to shorten, or to dispense altogether with many of the operations described. We are writing for the amateur who, in default of this training, must make up for it by extra care and patience, even at the expense of time, and the methods given are those which have proved best adapted to his peculiar requirements.

Canoe building is treated in detail, as the processes involved are common to all boatbuilding, only requiring greater care and skill than ordinary work; and the principles, once mastered, may be applied to the construction of any of the simpler craft, such as rowboats and skiffs.

It has been impossible to give due credit to the originators for many of the devices and inventions described; but to all such we return thanks in behalf of the great army of amateur builders and sailors, in which we claim a place.

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INTRODUCTION.

THE word canoe has two distinct meanings, having been applied, for how long a time no one knows, to boats of long and narrow proportions, sharp at both ends and propelled by paddles held in the hand, *without a fixed fulcrum*, the crew facing forward. The members of this great family vary greatly in size and model, from the kayak of the Esquimaux, to the long war canoes, 80 to 100 feet long, of the islands of the Pacific. Within the past twenty years the word has been applied in England and America in a more limited sense, to small craft used for racing, travelling and exploring, as well as the general purposes of a pleasure boat, the main essentials being those mentioned above, while sails and a deck are usually added, the double paddle being used exclusively. In Canada the term has for a long time been applied to a similar boat, used for hunting and fishing, without docks, and propelled by a single paddle. The following pages will refer only to the second meaning given, as the one of most importance to the amateur builder, and as the instructions given will apply equally to the simpler and less complicated Canadian open canoe.

The modern canoe which, although in use for some years previously, may be said to date from Mr. MacGregor's cruises and books, 1865, 6 and 7, was in its early years divided into two distinct classes, Rob Roy and Nautilus, to which a third, Ringleader, was afterward added, but the many changes and improvements have so multiplied the models, that such names as Nautilus, Pearl, Shadow, Jersey Blue, etc., convey no definite idea of the boat's model or dimension. There are now no less than nine widely different models named Nautilus, six named Pearl, the Jersey

Blue has changed entirely, and half a dozen builders each offer a different Shadow, while dozens of other models have sprung up, so that such a division is no longer possible.

Modern canoes may, however, be classed in a different manner, according to the relative proportions of their paddling and sailing qualities, thus:

Paddling Canoes—Propelled solely by paddle.

Sailable Paddling—Sail being used as auxiliary, as in the early Rob Roy.

Sailing and Paddling—Both qualities being about equal, as in most cruising canoes.

Paddleable Sailing—Fitted mainly for sailing, as the later English boats, the paddle being auxiliary.

Sailing—Larger boats for two or three, using oars as auxiliaries, as the Mersey canoes.

For racing purposes a different classification has been adopted here, which, with the English, is given in the Appendix.

The first point in building a canoe is to decide on the model and dimensions, and this each man must do for himself, considering carefully the purpose for which he will use his canoe, the water she will sail on, the load to be carried, and similar details. The designs given cover all the different classes of canoes, and from them one can be selected as a basis for modification and improvement, to suit the builder. The following general directions will aid the novice in deciding on the main features of his craft:

For small streams and rivers, where portages have to be made, the sailing is of but little importance, a canoe 14ft. x 27in. is most commonly used. She should have a flat floor, little or no keel, ends well rounded, little sheer. For general cruising work under sail and 'paddle, a canoe 14ft. x 30in., with flat floor, good bearings, sternpost nearly upright, model full enough to carry crew and stores easily, a keel of 2 to 3in. or a centerboard. For large rivers, bays and open waters, a canoe 14ft. x 33in. or 15ft. x 34in., fitted with a metal centerboard of greater or less weight. The tyro will be safe