
"The Featherweight and the Backwoods" and The Evolution of the Pack Canoe

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Résumé

À l'inverse des Européens qui se fixèrent ailleurs en Amérique du Nord, les premiers colons qui s'établirent dans les Adirondacks n'adoptèrent pas le canot d'écorce des autochtones. Ils retournèrent plutôt à leurs coutumes ancestrales et fabriquèrent un canot aux pointes identiques de taille particulièrement petite, baptisé « pack canoe ». Nous verrons ici comment cette embarcation a évolué du fait de la technologie disponible (notamment l'apparition de fixations usinées de bonne qualité), des traditions culturelles des utilisateurs (le canotage de plaisance ayant remplacé la chasse) et de la mode en navigation de plaisance (notamment sous l'influence de l'American Canoe Association).

Abstract

Unlike Europeans elsewhere in North America, early settlers in the Adirondacks did not adopt the aboriginal bark canoe. Instead, they fell back on their own traditions and developed an unusually small, double-ended canoe that has become known as the "pack canoe." This paper will examine the ways in which the craft evolved as a result of available technology such as fine, machine-made fastenings, cultural traditions of its users (a shift from use as a hunting canoe to use in pleasure paddling), and yachting fashion, particularly the influence of the American Canoe Association.

In an 1883 letter to the widely-read sporting periodical *Forest and Stream*, George Washington Sears wrote "I hope at no distant day to meet independent canoeists, with canoes weighing twenty pounds or less, at every turn in the wilderness..." Twenty-pound (nine-kilogram) canoes are fairly common today, but in the 1880s they were quite unusual. Descended from a type traditional in the Adirondack region of northern New York State, they are boats of an aboriginal type that were built with European construction techniques in direct response to the needs of settlers in a mountainous region of small waterways. It is the purpose of this article to examine the evolution of what is now known as the pack canoe in response to local conditions, cultural traditions of its builders, developments in technology, and fashions in sporting. I will concentrate primarily on the period between the 1850s and the 1920s, and use both documentary and material evidence.

The term "pack canoe" is a late-twentieth century one, and is used here for lack of a better word that might describe the boats throughout the evolution of their use. Various

types in different periods have been known as hunting canoes, carry-boats, and featherweights. What is meant is a double-ended, undecked paddling boat that is shorter than thirteen feet (4 metres) in length and weighs between ten and forty pounds (four and 18 kilograms). Beam varies according to length, but the shortest boats generally have a beam of between thirty and thirty-two inches (76 and 51 centimetres).¹ Historically, the longer ones were generally paddled tandem, both paddlers using single-bladed paddles. The shorter ones, boats from nine to twelve feet (2.5 to 3.5 metres) long, were usually paddled solo with double-bladed paddles.

The artifacts studied are the sixteen canoes housed at the Adirondack Museum in Blue Mountain Lake, New York, which are under thirteen feet (4 metres) in length and built by builders of European heritage. Their characteristics are summarized on the accompanying table. They represent the work of ten different builders, six of whom were located in the Adirondacks. Of the remaining four, two did business near the region, one on the St Lawrence River and the other in Fulton,

New York, between Lake Ontario and Lake Oneida to the west of the Adirondacks. The third is one of the Peterborough builders, and the fourth is the Old Town Canoe Company, the builder of the most recent canoe.

This is an admittedly small study, taking into account only boats in one collection, which were themselves selected because they were built or used only in one region. Further work is necessary to make definitive statements about the actual popularity of the small canoes nationally and internationally.²

The summary of characteristics in the table includes some headings that require explanation. The number following the name of the boat is a composite of the museum's accession number and the number the boat has been assigned in the published catalogue of the collection, the author's *Boats and Boating in the Adiron-*

dacks.³ The measurements are, in order: length, beam, and weight. Three numbers indicating the sheer of the boat follow; these are: the height at the bow, depth at the centre (measured inside) and the height at the stern. J. H. Rushton, the best-known canoe builder of pack canoes in the nineteenth century, routinely gave sheer measurements in his catalogues. They do not suggest the curve, however, which is very gradual in all the boats except the Lakefield, which exhibits the typical Canadian sharp upturn at the ends. All measurements are the forms historically used, which are pounds, feet and inches.

The Adirondack region is high in altitude, heavily forested, and well-drained by five major river systems. The soils are generally poor and rocky, and the growing season is short. Because of the difficulties of transportation and the meagre agricultural possibilities, it was settled later than adjacent regions in northern New England and Canada. Native Americans, Algonquin peoples from the north and Iroquois from the south and west, used the region only seasonally, preferring the surrounding milder, more fertile valleys for their year-round settlements. There was no indigenous boat when people of European descent began moving in around the turn of the eighteenth century, so the settlers fell back on their own boatbuilding traditions.

Most settlement and travel in the Adirondacks was along what one observer in 1849 called the "great Central Valley" — a navigable corridor beginning in the village of Old Forge on the Moose River in the southwest and stretching along part of the Raquette and through the Saranac Lakes to the village of Saranac Lake in the northeast — a corridor 145 kilometres long. While travellers in the Adirondacks saw this corridor as the obvious transportation route, it would have been considered far from ideal in most other areas of the continent. The rivers are generally small, often shallow, and wind between high hills and mountains. They are frequently obstructed by deadfalls, beaver dams, rapids and waterfalls.

The best-known product of Adirondack boat shops was the Adirondack guideboat, which was a recognizable type by the late 1820s.⁴ Guideboats are double-ended pulling boats generally ranging in size from fifteen to eighteen feet (4.5 to 5.5 metres) in length, with a beam of between thirty-six and thirty-nine inches (91 and 99 centimetres). Their planking is technically lapstrake, but the long edge of each plank is beveled to match a bevel in the adjoining plank. Instead of the clapboard-like

Fig. 1
Adirondack Waterways
(Courtesy Adirondack
Museum, Blue Mountain
Lake, New York)

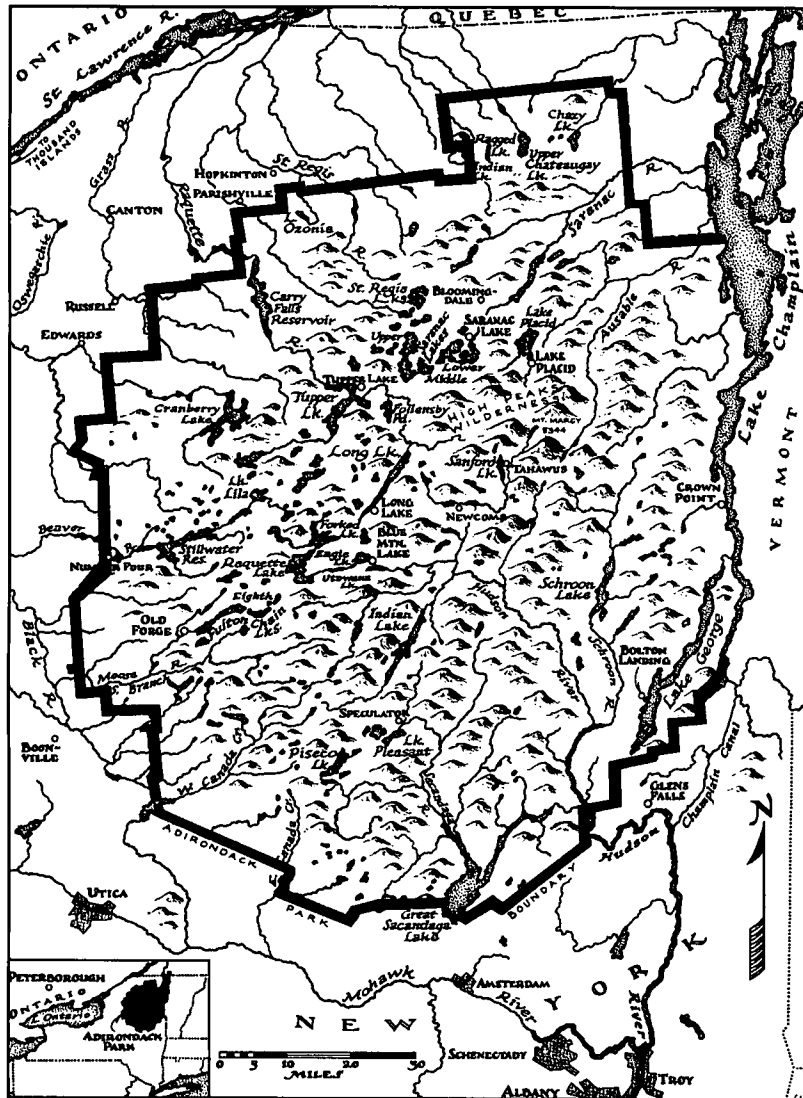


Table 1

Pack Canoes at the Adirondack Museum in Chronological Order of Construction

Canoe Name	Length, beam, weight	Sheer	Builder	Comments
1. Hunting Canoe, 65.5.1/14	13' × 31", 50 lbs (3.96 m × 79 cm, 23 kg)	18 ¹ / ₂ ", 10 ¹ / ₂ ", 18 ¹ / ₂ " (47 cm, 27 cm, 47 cm)	J. H. Rushton, Canton, New York, ca 1880	– two seats – presumed two single-blades – no yoke or thwarts – lapstrake, painted
2. Canoe <i>Sairy Gamp</i> , on loan from the Smithsonian Institution	9' × 26", 10 ¹ / ₂ lbs (2.7 m × 66 cm, 4.8 kg)	12 ¹ / ₂ ", 7", 13" (32 cm, 18 cm, 33 cm)	J. H. Rushton, Canton, New York, 1882	– no seats – double-bladed and single-bladed paddles (now missing) – no yoke (carried on a cushion on paddler's head) – lapstrake, varnished or shellacked
3. Nessmuk model canoe <i>Wee Lassie</i> , 60.53.1/15	10' 6" × 27", 20 lbs (3.2 m × 68 cm, 9 kg)	14 ¹ / ₂ ", 9", 14 ¹ / ₂ " (37 cm, 23 cm, 37 cm)	J. H. Rushton, Canton, New York, 1883	– no seats – double-bladed paddle – no yoke, one thwart – lapstrake, varnished
4. Open Sailing Canoe, 56.61.4/57	13' 1" × 31", 57 lbs (3.98 m × 79 cm, 26 kg)	18", 10", 18" (46 cm, 25 cm, 46 cm)	J. H. Rushton, Canton, New York, 1883	– two seats – double-bladed paddle, mainsail and mizzen, centreboard, rudder – no yoke or thwarts – lapstrake, varnished
5. Hunting Canoe, 59.16.1/16	13' 4" × 34", 30 lbs (4.06 m × 86 cm, 14 kg)	19 ¹ / ₂ ", 10 ¹ / ₂ ", 19 ¹ / ₂ " (49 cm, 27 cm, 49 cm)	Harry Green, Hermon, New York, 1886	– strip construction, painted
6. Open Paddling Canoe, 56.61.3/17	11' 11" × 29", 40 lbs (3.6 m × 74 cm, 18 kg)	18", 9", 18" (46 cm, 23 cm, 46 cm)	A. Bain and Company, Clayton, New York, 1887	– no seats – double-bladed paddle – no yoke; curved thwart – rectangular yoke – strip construction
7. Open Paddling Canoe, 63.146.1/18	10' 7" × 34", 35 lbs (3.2 m × 86 cm, 16 kg)	21", 11 ¹ / ₂ ", 22" (53 cm, 29 cm, 56 cm)	H. M. Sprague, Parishville, New York, ca 1890	– one seat – no yoke or thwart – lapstrake, painted
8. Open Sailing Canoe, 62.67.66/58	13' × 30", 69 lbs (3.9 m × 76 cm, 31 kg)	17", 10", 17" (43 cm, 25 cm, 43 cm)	J. H. Rushton, Canton, New York, 1894	– two seats – mainsail and mizzen, air tanks – no yoke – lapstrake, varnished

Table 1 (cont'd)

Canoe Name	Length, beam, weight	Sheer	Builder	Comments
9. Hunting Canoe, 65.18.1/19	11' × 34", 32 lbs (3.4 m × 86 cm, 15 kg)	18", 10", 17 ¹ / ₂ " (46 cm, 25 cm, 44 cm)	Harry Green, Hermon, New York, 1895	- stern seat only - rectangular yoke - strip construction, painted
10. St Regis model canoe, 96.21.1	12' 2" × 30", 47 lbs (3.7 m × 76 cm, 21 kg)	19", 11", 19" (48 cm, 28 cm, 48 cm)	J. H. Rushton, Canton, New York, between 1895 and 1915	- two seats - single bladed paddles - no yoke; thwart - lapstrake, varnished
11. Hunting Canoe, 75.258.1/20	10' 2" × 26", 28 lbs (3 m × 66 cm, 13 kg)	14", 9", 14" (36 cm, 23 cm, 36 cm)	Merle Austin and Ed (?) Hanmer, Long Lake, 1900	- no seats - single-bladed paddle - cleats for a guideboat- style yoke - originally varnished
12. Open Paddling Canoe, 90.13.1/33	12' 11" × 33", 55 lbs (3.9 m × 84 cm, 25 kg)	20 ¹ / ₂ ", 11 ¹ / ₂ ", 20 ¹ / ₂ " (52 cm, 29 cm, 52 cm)	Mahlon J. Freeman, Fulton, New York, ca 1900	- 1 seat - single-bladed paddle - flat yoke with semi- circle for neck - strip construction, varnished
13. Hunting Canoe, 73.54.1/21	12' 5" × 29", 32 lbs (3.8 m × 74 cm, 14.5 kg)	17", 9", 17" (42 cm, 23 cm, 43 cm)	Lewis Grant, Boonville, between 1895 and 1940	- no seats - single or double-bladed paddle - guideboat-style yoke - lapstrake, painted
14. Open Paddling Canoe, 75.208.1/31	12' 9" × 31", 60 lbs (3.9 m × 79 cm, 27 kg)	20 ¹ / ₂ ", 12", 19 ¹ / ₂ " (52 cm, 30 cm, 49.5 cm)	Lakefield Canoe Company, Lakefield, Ontario, 1946	- two seats - two double-bladed paddles - no carrying yoke - strip construction, varnished
15. Guideboat-built Canoe, 71.194/26	12' 11" × 32", 40 lbs (3.9 m × 81 cm, 18 kg)	24 ¹ / ₂ ", 11 ¹ / ₂ ", 24 ¹ / ₂ " (62 cm, 29 cm, 62 cm)	Willard J. Hanmer, Saranac Lake, New York, between 1920 and 1962	- 2 single-bladed paddles - two seats - guideboat-style yoke - guideboat lap, varnished
16. Rushton model Pack Canoe, 71.10/22	10' 6" × 27", 18 ¹ / ₂ lbs (3.2 m × 69 cm, 8.4 kg)	15", 10", 15" (38 cm, 25 cm, 38 cm)	Old Town Canoe Company, Old Town, Maine	- seat is a block of styrofoam mounted on the bottom - single-bladed paddle - curved thwart serves for yoke - fibreglass

appearance of a normal lapstrake boat, the guideboat's skin is smooth, and generally nowhere thicker than $\frac{3}{16}$ " (0.5 cm). Guideboats are planked on their own frames, which are sawn from naturally curving spruce roots, and they have elliptical bottom boards, not keels. Every detail of construction, from extremely fine fastenings to fine ribs and thin planking, was selected for light weight so the boat could be easily portable.

Portability is so important to understanding the guideboat that the guideboat scholar Kenneth Durant defined the craft by its carrying yoke; without a yoke, or cleats that suggested the boat had once had a yoke, he refused to call it a guideboat. These yokes are distinct among small craft. Their form was obviously borrowed directly from the yokes used in the nineteenth century for carrying pails of water or maple sap. They were carved out of a single block of wood, and fitted during use to the shoulders of the person doing the carrying.

Guideboats made settlement of the interior of the Adirondacks possible, and functioned as the main means of transportation until small steamboats were introduced in the central mountains in the late 1870s.

Although the Central Valley was the most popular transportation route in the region, as the century progressed settlers, loggers, and sportsmen moved into other areas of the mountains — most of which were well-watered, even though they were not on the connecting route of the Moose-Raquette-Saranac. Boats remained essential to transportation, and guideboats were found all over the region. In the northern mountains, however, hunters and travellers also used a small, lapstrake canoe. Because of its light weight and manoeuvrability in the woods, it might have been preferable to a guideboat for travellers who did not have to carry a great deal of duffel — on a short trip, for example.

The first reliable evidence of these small canoes comes from a reminiscence of J. Henry Rushton, then as now probably the best-known canoe builder of the nineteenth century in the United States. In 1882 Rushton was asked by the editor of *The American Canoeist* about the canoes he had used in his childhood. Rushton had been born in 1843 in the township of Russell, in the foothills of the Adirondacks about fifty-five kilometres south of the St Lawrence River. Rushton made no mention of guideboats or bark canoes in his reply to the magazine, and had some kind words to say about dugouts, but the boat he described at length was "a light open boat or canoe 11 to

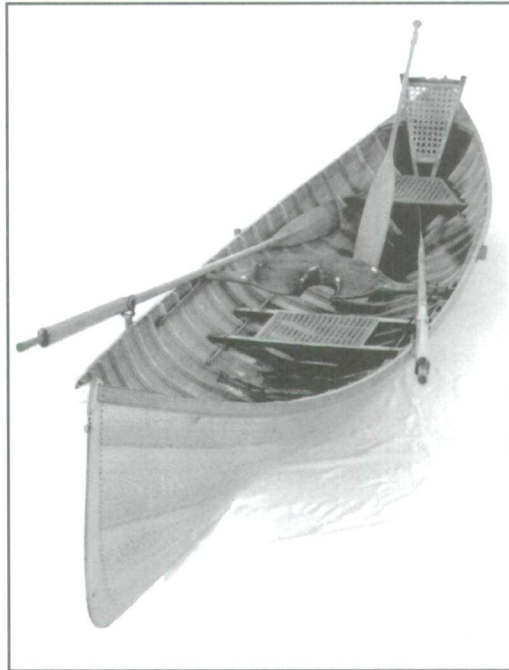


Fig. 2
Adirondack guideboat
built by George Washington
Smith, Long Lake, ca
1895. 60.37.1/65. (Cour-
tesy Adirondack
Museum, Blue Mountain
Lake, New York)

13 feet long [3 to 4 metres], 30 to 36 inches [76 to 91 centimetres] wide and weighing from 25 to 50 pounds [11 to 23 kilograms].” It was generally paddled by two people, each of whom used a single-bladed paddle.⁵

These early boats were almost certainly lapstrake. Lapstrake construction is well-suited to lightweight craft. It was also already in use in the area for very similar boats. Lightweight double-ended lapstrake skiffs were well established in the St Lawrence valley by this time. In the years just after the American Revolution, Loyalists had settled in Upper Canada in great numbers, bringing with them not only their love of the monarchy but their small boats. These skiffs were probably the direct progenitors of a narrow, double-ended lapstrake skiff that had become a common mode of transportation along the St Lawrence by the 1830s. Over the next half-century this boat was modified slightly to meet local conditions and became known as the St Lawrence River skiff.⁶ It was modified further south of the river into the small canoes and hunting boats Rushton remembered from his childhood.

Construction of lapstrake boats of this type (and particularly ones designed to be as light as the canoes under discussion) depended on a certain level of technological development. For the thin planking, the builders needed access to planing mills. Guideboat planks are generally $\frac{3}{16}$ " (0.5 cm) thick, although some of the stock was thicker before it was backed out and otherwise shaped to put on the boat. The planking

in Rushton's small canoes is generally $\frac{1}{4}$ " (0.6 cm) thick. The builders also needed fine fastenings that they could clench-nail. Durant pointed out that construction of the Adirondack guideboat improved after the 1870s when machine-cut clenchable nails became widely available. Guideboats take somewhat finer fastenings than do the small canoes, but both craft take large numbers of tacks and screws.⁷

The small canoes had significant disadvantages in speed and carrying capacity compared to longer canoes and guideboats. Generally speaking (and taking beam into account) a narrow boat like a canoe reaches its maximum hull speed at a length significantly greater than thirteen feet (4 metres). Canoeists interested primarily in efficiency on the water used boats in the range of fifteen to eighteen feet (4.5 to 5.5 metres). Also, a boat shorter than thirteen feet (4 metres) obviously will not carry as much gear as a fifteen or eighteen foot guideboat or canoe, particularly if there are two people in it.

As always in boatbuilding, compromises were made. Builders of pack canoes were sacrificing speed and carrying capacity for light weight and manoeuvrability. In a heavily wooded area with many carries, a lightweight

craft that did not get hung up on the bushes and trees was useful. (Just as boats developed peculiar to the Adirondacks, so did terms for boatbuilding and use: in the Adirondacks a portage is invariably called a "carry," and seats are called seats. Thwarts are structural members extending from inwale to inwale.)

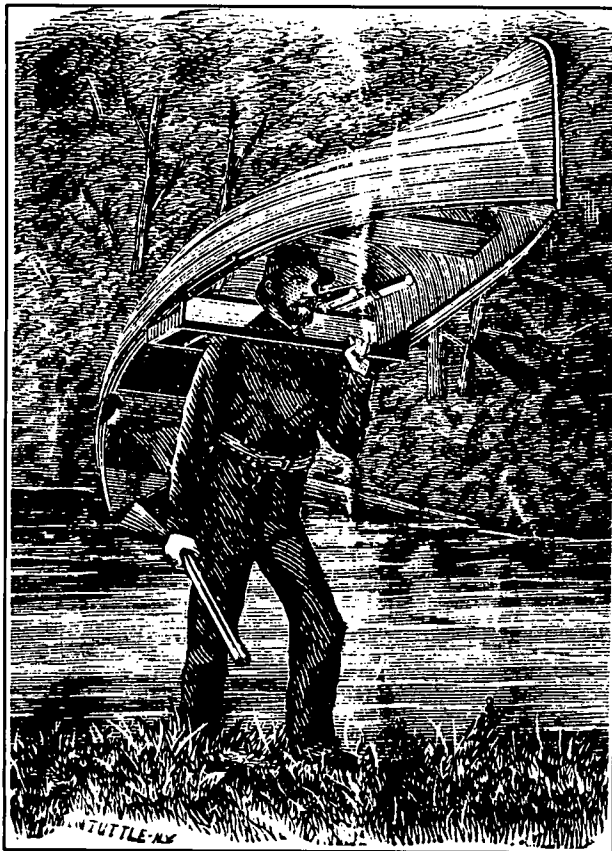
As with the guideboat, the primary motivating factor in the design of the pack canoes was originally portability, so one expects to find some provision for carrying them. Many were probably equipped with yokes, although of a different type than that associated with guideboats. The engraving Rushton used on the cover of his early catalogue indicates a rectangular frame with fore-and-aft straps or bars for the shoulders. Rushton captioned the illustration "This is the way Adirondack sportsmen and guides carry their boats," an interesting statement since all other evidence suggests that most professional guides used guideboats.

Two of the boats in the museum collection have the type of yoke pictured on Rushton's catalogue. It is not unlikely that several of the others did, too, since it may leave no mark on the boat. One of the surviving examples attaches with thumbscrews, which tighten an L-shaped bracket that grips the underside of the inwale, and the other has pegs which fit into small holes on the top of the gunwale. Several of the other boats have thwarts, which can be used to help support the boat on the paddler's shoulders, or which can be used to support two paddles lashed fore and aft to rest on the paddler's shoulders. One of the boats without yoke or thwart (*Sairy Gamp*) was worn on the paddler's head like a hat, but it weighs only ten and one-half pounds (4.8 kilograms).⁸ The next-lightest boat is twice as heavy. It is difficult to imagine wearing a twenty-pound (9-kilogram) hat.

When Rushton published his first circular around 1877, he offered both "light sporting boats," which were double-ended lapstrake pulling boats, and small open canoes. Construction was the same in both, he noted, only the model and fittings were different. They were double-ended lapstrake boats, built up off rabbeted keels, similar in construction to the St Lawrence Valley boats. They were recommended for hunting, fishing or trapping.

The Adirondack Museum collection contains six boats of the type Rushton would have called "hunting canoes." Hunting canoes were aimed at sportsmen — people who were using the boats as transportation in hunting or fishing. The finish was usually paint, varnished

Fig. 3
"This is the way Adirondack sportsmen and guides carry their boats." This illustration is from the cover of Rushton's 1888 catalogue. It illustrates a pulling boat, not a canoe, but the yokes were similar. (Courtesy Adirondack Museum, Blue Mountain Lake, New York)



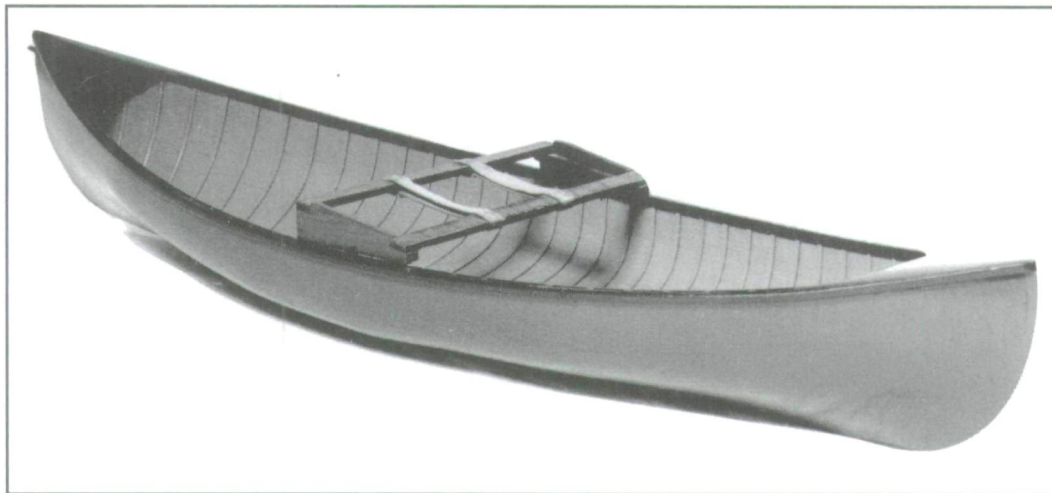


Fig. 4
Hunting canoe
 65.18.1/19 with yoke
 (Courtesy Adirondack
 Museum, Blue Mountain
 Lake, New York)

boats being more common with people buying recreational craft.⁹ The larger examples were the ones paddled by two people without, one imagines, much baggage. For a long foray into the woods one would need something the size and carrying capacity of a guideboat.

The oldest example of this hunting canoe type is the Rushton canoe 65.5.1/14. It was built around 1880 and has two seats. The stern seat is a substantial affair in the style of the stern seat in a Whitehall. The boat also has floorboards. Neither the floorboards nor the stern seat is a feature of a lightweight boat and indeed, this one is almost as heavy as a guideboat. It is painted.

The other five hunting canoes in the collection were built by contemporaries of Rushton. While Rushton was a full-time boatbuilder who used catalogues, advertising, mail-order sales and trade shows to promote his products, the other builders were men who might have described themselves as “fine mechanics,” but who had several lines of work, and who probably used their own boats in some of them.

Harry Green of Hermon, a village not far from Rushton’s birthplace in Russell, was one such man. He built boats in his barn by himself or with just occasional help, farmed, and did general carpentry work, which extended in one case to designing the local school. Of the two Green boats, one is four inches (10 centimetres) longer than the thirteen-foot (4-metre) “standard” length of the other boats, but since it is like most hunting canoes in its form and lightweight construction, it is included. The eleven-foot (3-metre) boat is significant for the information associated with it as well as for the fact that it still has its square yoke; it is one of the few boats in the group that retain any of their accessories. Built for a local judge, it was

referred to, interestingly, by the donor as a “carry boat.” Both boats are painted inside and out (in green, of course). The most outstanding thing about the Green boats is that they are strip-planked, not lapstrake.

The strip planking with which most people are familiar was developed by canoe builders in the Peterborough area of Ontario in the early 1880s as a way to speed construction.¹⁰ In this method, the planks are quite narrow (generally an inch [2.5 centimetres] or less) so that they can be bent edgewise with ease. Whereas the 2”, 3” or 4” (5, 7.5, or 10 cm) wide planks of an ordinary lapstrake boat must be cut and scarphed to curving shapes unique to their places in the hull, the planks (or strips) of a strip-built boat can be sprung into place. One significant drawback is the seams — there are many, and the strip edges meet at varying angles. The Peterborough builders solved the problem of watertightness with a fine shiplap seam. The planks are not fastened to each other, but only to closely-spaced ribs.

Harry Green must have been quite up-to-date in boatbuilding technology if he was influenced by the Peterborough method. His strip construction was not exactly like the Canadian style, however. Instead of the shiplap seam, Green coved one edge and rounded the other, and edge-nailed the strips to each other in addition to fastening them to the closely-spaced, half-round ribs.

Herbert M. Sprague of Parishville, another village in the northern Adirondack foothills, also built boats by himself with occasional help. He was a cabinetmaker and carpenter who built everything from violins to clothes horses. Sprague considered his market to be the same as Rushton’s. In his single surviving catalogue, he proclaimed rather testily that he had even

been in business longer than his more famous competitor. He offered to build lapstrake rowboats and decked cruising canoes, as did Rushton, and his hunting canoes look superficially like Rushton's. In construction they are similar in being lapstrake, but the quality of workmanship is noticeably poorer. They are riveted, not clench-nailed. The Adirondack Museum's Sprague boat, missing its paddle, has one seat placed for a solo paddler.

The remaining two boats are notable in having been built by guideboat builders for their own use on small streams and ponds. The Austin/Hanmer boat has the smooth-skinned planking of a guideboat, but has steam-bent frames like most pack canoes, not crooks sawn from spruce roots, like guideboats. Hanmer used it when trapping beaver.

Lewis Grant was a very skilled and prolific guideboat builder in Boonville in the southwestern Adirondack foothills. His hunting canoe is lapstrake with steam-bent frames and shows Grant's typical attention to detail. In his quest for light weight he placed the ribs farther apart in the ends of the boat, where they are less important structurally, than he did through most of its length. He fitted his canoe with a guideboat-style yoke.

After the Civil War, transportation in the northeastern States improved dramatically, with connecting routes reaching from the great cities to the heart of the Adirondacks. Rates on railroad and steamboat routes dropped. At the same time, more and more people could afford to leave the cities for a few weeks to recreate in the wilderness. Not all of them hired guides as the sportsmen of the antebellum period had done. In the early 1880s the small Adirondack canoe found a following among these recreational paddlers. As the craft was adopted for pleasure cruising, it changed. Smaller and smaller versions appeared, and some canoeists adopted double-bladed paddles and even sails. The popularity of the boat with this new breed of paddler owes much to the association of J. H. Rushton and George Washington Sears.

J. H. Rushton was a canny businessman, and among the first builders of small craft anywhere in North America to employ mail-order marketing.¹¹ In late 1879 his catalogue caught the eye of George Washington Sears, a sometime shoemaker from Pennsylvania. Sears spent as little time as possible at his cobbler's bench; he preferred canoeing and camping in the northern forest. He made it pay by writing about his experiences in the woods for widely-read periodicals like *The Spirit of the Times* and *The*

Atlantic over the pen-name of Nessmuk. Articles about resting and relaxing in the wild woods were eagerly read by people (mostly men) who were feeling constrained by work in an office and life in a city that was often crime-ridden and dirty. Many of these "city men" — those who had some disposable income and some leisure — were the clients of the Adirondack guides and their boats. Nessmuk himself was not one of this group, however; he could not afford to hire a guide. But he felt people like him had just as much need of a vacation in the woods as anyone else, and he advocated a new approach. He urged the "outers" to dispense with the guide and guide themselves through the woods.

Three things were needed to "go it alone." The first was the ability to find one's way through the woods, which by the 1880s was possible in the Adirondacks because of a number of guidebooks and reasonably accurate maps. The second was a knowledge of woodcraft which, after 1884, one could obtain from Nessmuk's own book, *Woodcraft*. The third was a light boat — even lighter than the Adirondack guideboat. Nessmuk liked his solitude. He seems not to have been interested in travelling with a friend in a standard-length canoe.

Nessmuk talked a good camping trip. *Woodcraft* and his articles are full of the joys of sleeping on a balsam bed and grilling one's own trout, but it is important in understanding the popularity of the small canoes to realize that Nessmuk did not *have* to camp out and often did not. He did not have to carry much in the way of supplies, for by the 1880s opportunities for room and board were plentiful along the Central Valley, where Nessmuk did most of his cruising.

When Nessmuk began writing for *Forest and Stream* in 1880 about his experiments with lightweight canoes, he was fifty-nine years old and probably suffering from consumption. He was an unusually small man, standing five foot three (1.5 metres) and weighing 105 pounds (48 kilograms).¹² A sixty-pound (27-kilogram) guideboat would have been too much for him. In the winter of 1879 Nessmuk planned a cruise through the Adirondacks, and decided that a twenty-pound (9-kilogram) boat would be an ideal vessel for the trip. He was impressed by Rushton's specialty of lightweight construction and placed a special order with the Canton builder for a canoe weighing twenty pounds.

Rushton's lightest stock model boat at the time was a thirteen-foot (4-metre), thirty-five pound (16-kilogram) hunting canoe, but he

welcomed the order. He explained why in a letter to his client.

*This shows what can be done by this system of construction. I know it cannot be attained by any other. If it cannot then a 40 or 50 or 100# boat built on the same system must be stronger than one of equal weight built in some other manner. That is my position — you pay your money and take your choice...By so doing advertise me as a builder and that is so much cash to me.*¹³

Rushton was proud of his “system of construction,” which he designed to combine light weight and strength. He used it in almost all his boats, and it helped him make an international reputation for lightweight watercraft. He pared down the weight by using thin planking and ribs, and then recovered strength by placing the ribs close together. His early ribs were thin, flat strips of red elm, but early in the 1880s he began using half-oval ribs. Created by sawing dowels in two, they supplied greater strength for their weight than flat ribs of the same weight. Rushton also wrote that he shaped every plank to fit, rather than forcing it into place, which meant that his boats had less tendency to go out of shape.

Nessmuk paddled *Wood Drake* 885 kilometres through the Adirondacks that summer, and the letters he wrote to the editor of *Forest and Stream* publicized not only the writer, solo travel, and the Adirondacks, but the Canton boatbuilder as well. Rushton seized the marketing opportunity and began offering a stock model boat like *Wood Drake*, which he called his Nessmuk canoe. And Nessmuk and Rushton continued to experiment; Rushton built five canoes for Nessmuk during the 1880s, all under ten and one-half feet (3.2 metres) in length. Only one of those boats survives, the nine-foot (2.5 metre) long, ten and one-half pound (4.8 kilogram) *Sairy Gamp*, finished in November of 1882. Rushton apparently didn't foresee turning her into a stock model. When she was finished he wrote to Nessmuk, “Now you must stop with this one, don't try any smaller one. If you get sick of this as a Canoe, use it as a soup dish.”¹⁴

Although Rushton's boats usually exhibit a uniformly high quality of workmanship, *Sairy Gamp* does not. Probably figuring that she would be used only for one summer (which was indeed the case), Rushton planked the boat without his usual care. The bevels along the edges of the planks show beyond the lap in places, and the planking lines do not run up into the stems in fair curves as in a high-quality job.

Nevertheless, when Nessmuk finished his 428-kilometre Adirondack cruise with the boat in 1883, he wrote to the editor of *Forest and Stream*, “she is as tight and staunch as the day I took her at Boonville...she does not leak a drop...The *Sairy Gamp* has only ducked me once in a six weeks' cruise, and that by my own carelessness.”¹⁵

As Nessmuk popularized the small canoe, it was used in new ways. The type of boat Nessmuk ordered, a hunting canoe, was expected by the builder to be paddled with a single-bladed paddle from a kneeling position, as the native Americans paddled their bark canoes. But Nessmuk sat right in the bottom of the boat and used a double-bladed paddle most of the time. The paddling position was necessary for stability in such a small boat. Nessmuk chose a double blade partly, no doubt, because it is easier to paddle solo with a double-blade than with a single, but he was also probably influenced by contemporary cruising canoe fashion.

The double-bladed paddle is most familiar to North Americans as the paddle used with Inuit kayaks, but it came to Nessmuk via Europe. Cruising canoes, decked boats with cockpits and small sails popularized in the 1860s and 1870s by the Scot John “Rob Roy” MacGregor, were quite the rage among the same stratum of society the clients for the Adirondack guides came from. MacGregor had borrowed several features from the Greenland kayak for his cruising canoes, including the traditional kayak paddle.

Rushton capitalized on the popularity of the small canoes among the recreational paddlers. The oldest example owned by the museum is one that was built just as *Sairy Gamp* was finished. Rushton completed Nessmuk's canoe in the fall of 1882 and hung her up in his shop, ready for any visits he might get as a result of advance notice of the project in *Forest and Stream*. In November, William West Durant, developer of mountain camps for the wealthy, stopped in. “He is near six ft. [1.8 metres] and 170# [77 kilograms] (guess),” wrote Rushton. “I had hard work to keep him from ordering a duplicate, as it was he ordered a ‘Nessmuk’.”¹⁶ Durant named his boat *Wee Lassie*.

No records exist of any hunting or fishing excursions Durant made in *Wee Lassie*, but we do know that when he joined the American Canoe Association in 1892 he listed *Wee Lassie* as his boat. It was categorized for racing purposes as a “paddling canoe.” The ACA did not handicap boats in its races, so Durant would have been at a disadvantage in paddling races

against 15' and 16' (4.5 and 4.8 m) boats — but perhaps he joined to participate in the fellowship of the “knights of the paddle” rather than to race.

Rushton was pleased with the response the small canoes had with the paddling public, but perplexed at the same time. In 1886 he wrote to Nessmuk,

*The trouble is, every d— fool who weighs less than 300 [136 kilograms] thinks he can use such a canoe too. I get letters asking if the Bucktail [10 1/2" x 26", (27 cm x 66 cm) introduced in 1885] will carry two good-sized men and camp duffel and be steady enough to stand up in and shoot out of. I told one fellow that I thought he'd shoot out of it mighty quick if he tried it.*¹⁷

The American Canoe Association seems to have had a direct influence on the further modification of the small Adirondack canoe. Two in the museum's collection are set up to sail. Both were sailed on Raquette Lake. The hulls are Rushton hunting canoes of a model with more tumblehome than Rushton's other hunting canoes, and a model he seems only to have offered in 1880. He described this tumblehome model as “very flat on the bottom and very steady.”¹⁸ The older one was purchased from Rushton by Arpad Gerster, a New York surgeon who loved the Adirondacks and boating in their waters. As a young man he took up canoe sailing, and he carried his enthusiasm to Raquette Lake when he built a camp there. In 1883, the year his Raquette Lake neighbor Durant ordered *Wee Lassie*, Gerster ordered a thirteen-foot (4-metre) open canoe with copper flotation tanks fore and aft, a double-bladed paddle, and two modified Bailey sails, a type of gaff rig popular on decked canoes. The boat now has a folding centreboard, which is probably a later addition.

In the late 1890s, Durant watched Gerster sail the boat “smothered in canvas” in light winds, and “in a ‘canoe hurricane...’ under eight square feet [0.7 m²] of mainsail and a lady's handkerchief for a mizzen.”¹⁹ He ordered a duplicate from Rushton (62.67.66/58), which he used only for a few years. Before the turn of the century, he gave it to Gerster, whose original had been damaged.

Gerster had a boat for every situation, and he used them all extensively. When he wasn't sailing, he was likely to be exploring the streams and ponds in the Raquette Lake area in another small canoe, 56.61.3/17. This one was for paddling only and was built by A. Bain and Company in Clayton, New York, in the Thou-

sand Islands area of the St Lawrence River. A. Bain had made its name in the building of St Lawrence skiffs, but by the late 1880s it, like Rushton, was offering a wide variety of pleasure craft for a burgeoning market. Gerster travelled in the Nessmuk tradition; he took to the waterways alone to avoid what he felt was the “annoyance...suffered through the impatience of the guides, who were always in a ‘stew’ to reach the next hotel on the route, where ‘grub’ was awaiting them.”²⁰ The Bain canoe is strip-planked in the same way as the Green canoes. Into the wood of the rectangular yoke, Gerster carved in Latin, “It is light because it is well borne, 1887.”

By the turn of the nineteenth century the small canoe seemed more popular than ever. Rushton offered six variations, in lengths from 10' to 11 1/2' (3 to 3.5 m), beams from 26" to 32" (66 to 81 cm), and in traditional lapstrake construction or smooth-skinned planking of the same sort used in guideboats. The varieties of small canoes were only a small part of what Rushton would build, regardless of how he felt about them and the type of recreation they represented. “You like the feather weight and the backwoods,” he wrote to Nessmuk in 1884. “So do I if I could leave my business for any time, but as a matter of business and to make the builder known abroad the decked sailing canoes are the ones I have to look after.”²¹

Small canoes of slightly more generous proportions than the original Nessmuk boats appealed to an even wider audience. An example of this is the museum's St Regis model (96.21.1), named for a network of lakes and rivers in the northern Adirondacks. The St Regis was not only longer but had greater sheer than the original Nessmuk model, which made it a bit more seaworthy in waves. The museum's example was built during one of Rushton's brief associations with a dealer; it was sold through the H. & D. Folsom Arms Company in New York City.

Two of the remaining three pack canoes in the Adirondack Museum collection fall into the category of short boats not really meant to be carried. They were built outside the region. Both are quite heavy for their length, marking a shift away from design for portability on the carries; these boats were perhaps meant to appeal because they were somewhat more manoeuvrable on the water.²²

The earliest of these short, heavy boats is the Freeman boat (90.13.1/33), built in Fulton, to the southwest of the Adirondacks. It is of strip construction like the Green and Bain boats, but

much more heavily built. It was sold as a canoe and bought for use in the Adirondacks. It didn't suit the owner, Fulton hardware merchant Willson Parry Smith, as a canoe; he installed oarlocks and used it as a rowboat. While he does not seem to have tried an Adirondack guideboat-style yoke, which would have been much more comfortable for long carries than the one sold with the boat, he did adopt a guideboat paddle.

The Lakefield Canoe Company canoe (75.208.1/31) is also a heavy but short boat. It seems to have had no pretensions of being a carry boat; it has no yoke and it does have floorboards, seat backs, rub strips on the bottom — all non-essential elements that add weight. The construction is heavy overall, with closely-spaced ribs significantly larger than those on other contemporary Peterborough area boats. The planking is Canadian strip style.

The final wooden boat under consideration is a marriage of two Adirondack traditions. It is a short, lightweight canoe that is built like a guideboat. A number of guideboat builders used sawn frames and smooth-skinned construction when called upon to build a canoe; the museum has examples by four different builders. But all of these boats are of "standard" canoe lengths around 15 feet (4.5 metres) long. The canoe built by Willard Hanmer is much shorter. He built several of them, which may indicate that the design was a success, even though he seems to have been trying to combine a number of aesthetically incompatible qualities. The boat has a rather tubby shape, which is a result of its tumblehome sides and tumblehome ends on a short length. Tumblehome sides add beam for stability, while minimizing the difficulty of paddling a beamy boat. Tumblehome ends were probably a carryover from guideboat construction; Hanmer's guideboats had stem profiles like this canoe to increase the waterline length for speed without increasing the length of the boat above water.

The Hanmer boat made a fine carry boat. It has a comfortable guideboat-style carrying yoke, and meets the weight standards set by the hunting canoe builders of a generation before. It might have been even lighter, however. It has features such as an elaborate strip-planked deck and floor timbers that add unnecessary weight and that classic guideboats meant for carrying long distances do not have.

Since the 1960s, builders of pack canoes have returned to (and lowered) the weight and length standards set by Rushton more than a century ago. Modern materials have been the major factor, of course. The first widely marketed modern pack canoe was the fibreglass Rushton model introduced by the Old Town Canoe Company in 1960. It was modeled after Rushton's *Wee Lassie*. Since then, "Wee Lassie" has almost become a generic term for pack canoes. The designer of the Old Town boat, Bart Hawthaway of Weston, Massachusetts, originally intended the boat to be paddled with a double-bladed paddle in true Nessmuk style, but ultimately recommended a single-blade because he felt the double-blade was too cumbersome for packing long distances, and he disliked the drip of cold water up his sleeves in the hunting season. These problems were dealt with in the nineteenth century, of course; most double-blades came apart, and many had leather or rubber drip rings on the shafts.

The evolution of the pack canoe is a classic example of the ways in which changes in a material artifact reflect the demands of the culture that created it. Old Town wanted to develop a canoe for hunters, and in marketing its Rushton model as a hunting canoe it brought the evolution of the type full circle. Once again the chief distinguishing characteristics of the craft were light weight and manoeuvrability for short trips or trips without duffel.

Most paddlers of pack canoes today are in the Nessmuk tradition, the second phase of pack canoe development. Many of them routinely carry their boats as far or farther than Nessmuk and his contemporaries ever did, in search of the same experiences he had. Like Nessmuk and the hunters and trappers of the northern Adirondacks who preceded him, they take "only the simplest material for health, comfort and enjoyment."²³ They have rejected the better-known Adirondack carry-boat, the guideboat, in favor of the lightweight canoe. As wonderful as it is, the Adirondack guideboat, even in modern materials, is not as popular as the pack canoe among those "who go to the woods to smooth it, not to rough it."²⁴ It is these modern-day outliers who have ensured the survival of an Adirondack tradition.

NOTES

1. Thirteen feet (4 metres) seems to be a defining length; in the Adirondack Museum collection, at least, there is a gap between a significant number of boats under thirteen feet, and the boats in the rest of the collection, which are fifteen feet (4.5 metres) or longer.
2. For example, in its 1910 catalogue, the Skaneateles Boat and Canoe Company in the Finger Lakes region of New York offered a fourteen-foot (4.3 metre) long "Adirondacks [sic] Hunting Canoe" that weighed between thirty-five and forty pounds (16 and 18 kilograms). It had a beam of thirty inches (76 cm) and a sheer of 18" x 12" x 18" (46 cm x 30 cm x 46 cm).
3. Hallie E. Bond, *Boats and Boating in the Adirondacks* (Blue Mountain Lake and Syracuse, New York: Adirondack Museum and Syracuse University Press, 1995).
4. The best source for information about the Adirondack guideboat is Kenneth and Helen Durant's classic study of a small craft type, *The Adirondack Guide-Boat* (Blue Mountain Lake, New York and Camden, Maine: Adirondack Museum and International Marine Publishing Company, 1980).
5. J. H. Rushton, "Single vs Double Blades," *American Canoeist* (July 1882): 93.
6. Philip Gillesse to author, 20 March 1990, Adirondack Museum curatorial research files, and Phillip Gillesse, "Developments of the Rowing Skiff," *Museum Small Craft Association Transactions 2* (1995): 82-92.
7. Durant, *Adirondack Guide-Boat*, 133.
8. *Sairy Gamp* and the other of George Washington Sears's boats are well-documented in published sources. See Nessmuk, *Woodcraft*, (New York: Forest and Stream Publishing Company, 1884; widely available in a Dover reprint) and Dan Brenan, ed., *Canoeing the Adirondacks with Nessmuk: The Adirondack Letters of George Washington Sears*, with revisions by Robert L. Lyon and Hallie E. Bond (Blue Mountain Lake, New York and Syracuse, New York: Adirondack Museum and Syracuse University Press, 1993).
9. Richard Lunt, "The St Lawrence River Skiff and the Folklore of Boats," *New York Folklore Quarterly* 29, no. 4 (1973): 254-268 describes the development of a boat from a region nearby to the Adirondack canoe from a working fishing boat into a racing pleasure boat and a similar shift from painted finishes to varnish.
10. A comprehensive history of Peterborough canoe construction is not available in one place. Gerald F. Stephenson, in "John Stephenson and the Famous 'Peterborough' Canoes," an occasional paper published by the Peterborough Historical Society, November 1987, states that John Stephenson invented the Canadian style of strip planking in 1883.
11. Tom Tyson, "The Nature and Function of Cost-Keeping in a Late-Nineteenth-Century Small Business," unpublished paper, Adirondack Museum Library, 1988.
12. Rushton himself was a small man, standing five feet (1.5 metre) tall and weighing "111½ [50.5 kg] when feeling well." Rushton to Sears, 2 May 1880, MS 78-2, Adirondack Museum Library.
13. Rushton to Sears, 8 November 1882, MS 78-2, Adirondack Museum Library.
14. Rushton to Sears, 1 November 1882, MS 78-2, Adirondack Museum Library. Rushton did actually build a smaller canoe for Nessmuk in 1885 that was used for one season in Florida: the 8½-foot (2.6-metre) long, 9 pound, 15 ounce (4.5 kilogram) *Rushton/Fairbanks*.
15. Nessmuk to editor, *Forest and Stream*, 27 September 1883, in Brenan, *Canoeing the Adirondacks with Nessmuk*, 177. I am indebted to Maynard Bray for the observation on the planking.
16. Rushton to Sears, 11 November 1882, MS 78-2, Adirondack Museum Library.
17. Rushton to Sears, 7 March 1886, MS 78-2, Adirondack Museum Library.
18. *Rushton's Portable Boats*, 1880, p. 10.
19. Arpad Gerster, *Recollections of a New York Surgeon* (New York: Paul Hoeber, 1917), 172.
20. *Ibid.*, 276.
21. J. H. Rushton to George Washington Sears, 14 September 1884, MS 78-2, Adirondack Museum Library.
22. When speaking of unusually short guideboats, the Saranac Lake buider Willard Hanmer noted that "the twelve, thirteen and fourteen foot [3.5, 3.9 and 4.2-metre] models I build today are nice, light boats to get back where the trout are supposed to be, but you can't make the speed in them." Willard J. Hanmer interviewed by Robert Bruce Inverarity, transcript, 12 March 1961, 64-65, Adirondack Museum curatorial research files.
23. Nessmuk, *Woodcraft* (New York: Dover Publications, 1963), 4.
24. *Ibid.*, 13. "We do not go to the green woods and crystal waters to rough it, we go to smooth it. We get it rough enough at home..."