Craft A TRAPPER NELSON PACK BOARD

Return to the "Golden Age" of camping by building the ultimate woodcraft pack.

BY STEVE WATTS & DAVID WESCOTT

Necessity is the mother of invention, and very often comfort is the driving necessity that makes us invent. At least that was how it was for one Lloyd Nelson, who, in 1920, when struggling with the discomfort of an improvised Alaskan pack frame made from willow and sealskin, came up with a totally unique way to carry heavy loads in relative comfort.

In 1924 Nelson patented his idea and started commercially manufacturing his rigid pack boards with removable pack sacks. Prior to his design, there was a distinction between the pack sack and the frame: You either bought a sack to put your load *in* or a frame to lash your load *on*. Nelson's design became the first external frame pack that wedded the pack sack to the frame in a way that had never been done before. The Trapper Nelson Indian Pack Board was born. It was not only the first, but it is perhaps the longest continuously manufactured pack of its kind.

Original Trapper Nelson Board and Pack.

Prior to the Industrial Revolution in America, most items were handcrafted in the home workshop. Crafting was a cottage industry on a national scale that rivaled, in both quality and quantity, what was then being produced in factories. The home-crafting of camp and trail gear was no exception. If you could afford to get it, you might buy a piece of equipment, otherwise it was "make it yourself or do without." The pack was one piece of equipment that underwent generations of home improvement, evolving alongside or improving upon commercial designs.

Among those pieces of gear manufactured at the setting of the "Golden Age" and the rise of the modern age, the Trapper Nelson is still recognized as an icon of the "old days." The Trapper Nelson was a pack board, not a backpack. In fact, the compound word didn't show up in the literature until the late 1940s and wasn't commonly used until the late '50s and '60s.

The classic style of tramping was with a canvas rucksack or canvas duffel lashed with a leather strap system or tumpline. Manufactured frames and rigid boards were still a ways off, although traditional woodcraft inventions had been used by woodsmen for generations. Then Mr. Nelson created his design from one of these woodcraft models, and it remained in popular use for decades. The Trapper Nelson is truly a holdover from the classic times.

In 1929 Nelson sold his company to the Trager family of Seattle, Washington, and an arrangement was later made for Jones Tent and Awning of Vancouver to make their Pioneer Brand of pack. The packs became popular among commercial users like the Forest Service and the Boy Scouts. Even though it's not commonly seen in the classic catalogs or the writings of the day, it's arrival in the last days of the Golden Age make it an item that we can still touch, thus allowing us a connection to the roots of classic style.

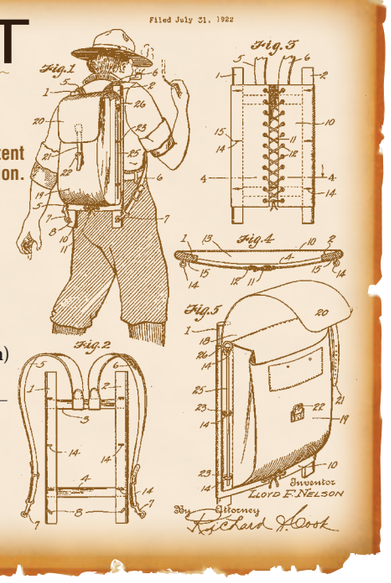
MATERIALS LIST

Tools
- Tapered counter sink
- ½-inch Forsner bit
- Drill
- Hammer
- Saw
- Chisel
- Grommet setting tool
- Anvil
- Ball-peen hammer
- Rivet setting tool
- Scissors

Parts
- Machine screws
- Lock nuts
- Washers
- Nails/brads
- Sheet metal
- Round rod (1/8 inch)
- Eye Screws (1 3/8 or 1 3/16)
- 1x stock
- Plywood (¼ inch)
- Grommets (¼ inch and ½ inch)
- Size 9 Rivets and washers

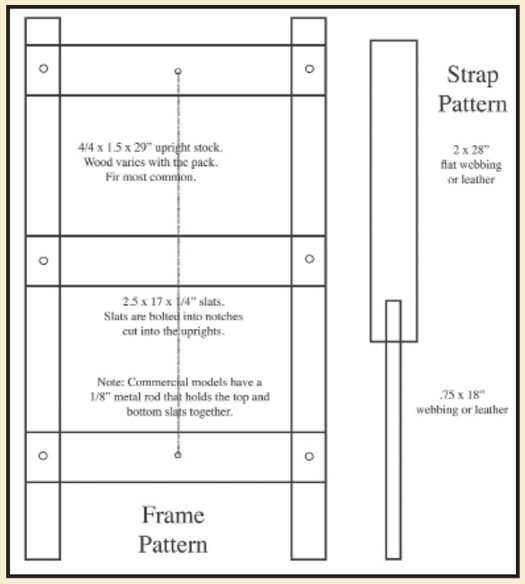
Bag Materials
- Canvas
- Edge binding
- Pattern paper
- Pins

Straps
- Strap webbing
- Leather
- Buckles
- Copper rivets



1922 patent application.

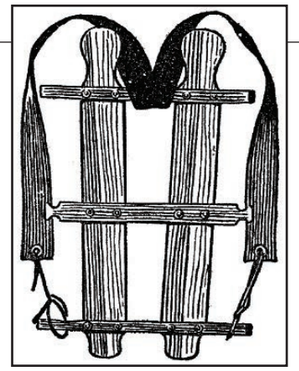
1) Each participant pinned and cut their pattern from the canvas provided by Frost River Pack. We had almost zero waste. 2) Kayenta sewing her own pack bag on Tekla's heavy-duty machine. Note that the pocket flap has a contrasting edge material. 3) Using a square to measure and mark the notches for cutting and chiseling. 4) Final sanding after the notches were cut and chiseled. 5) Finished packs and the simple bending jig made by lashing pieces of lodge pole pine together. The center bar was lashed at the right end. The cross pieces were set in place and the bar pulled down and tied in place. The pieces were left in the jig for a few hours, or at least until the bend was permanent. 6) The end caps are cut from lightweight sheet metal and the holes are punched with an awl. They are bent to fit the upright ends and tacked in place. Some caps have two tabs while others have four. 7) Finished frame ready for the canvas parts to be attached. 8) Tom setting grommets in his back stretcher panel. 9) With grommets set and eye screws in place, Three Match Jack inserts the metal rod while Tom tacks his straps in place.

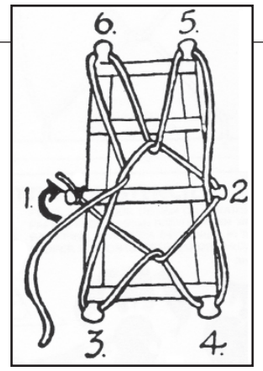


Pack Crafting

A workshop sponsored by Frost River Packs of Duluth, Minnesota, was held in Idaho at Woodsmoke in 2012 where we measured and replicated a vintage Trapper Nelson pack—a Trager #2. We cut 12 complete packs from a roll of Frost River's amazing Martinex waxed canvas that they donated for the project. A measured pattern was made from the original Trager, making allowances for seams and grommet edges. We chose the #2 because the pattern had only one pocket flap and two side panels that could be made with as few seams as possible.

The bags were sewn on a commercial sewing machine brought to the camp by Teckla Hemsley, a local seamstress who teaches with us. This takes a special talent, so have it done professionally if possible. A local upholstery shop has the tools needed to do the job. At Woodsmoke, a few people had the skills to help with the sewing, while most started to construct their frames once their pack parts were cut out. We have since seen several beautiful packs made on home machines from





A variety of handmade pack frame options. Diagram of the "diamond hitch" is used on the pack frame illustrated.

10-ounce canvas and then hot waxed.

Once the sewing was underway, we turned our attention to the frames. We milled two 4/4 uprights from fir 2x4 stock, and the three 2½-inch cross pieces from ¼-inch bamboo plywood we had on hand from a kayak workshop. After examining dozens of packs, we have found that even though these packs were commercially manufactured, there is no standard size or material from lot to lot. The exact dimensions vary from pack to pack. The pack we chose had the following dimensions:

- (2) Uprights: 1 by 1½ by 29 inches
- (3) Cross pieces: 3 by 16 inches
- Finished frame: 14¼ by 29 inches

After milling, all the wood was sanded and its sharp edges removed. The uprights were marked for the location of the joint notch for the cross pieces—approximately 3.5 inches from top and bottom and the third one evenly spaced in between. This was done to allow the cross pieces to sit flush with the uprights. Once again, the quality and craftsmanship of the originals varies widely from pack to pack. The slots were cut and chiseled by hand. Pilot holes were drilled through the uprights and cross pieces—holes were counter sunk, allowing the washers and lock nuts to be recessed.

The cross pieces were soaked in hot water for about a half hour (or until they became flexible) and clamped into a makeshift jig and left to dry, creating a permanent bend. This allows the frame to ride well away from back of the person carrying the pack. The back stretcher helps do this, but the curve is an essential part of the comfortable frame.

Assembly

When the slats were bent, assembly began. The uprights and cross pieces were bolted together using 1-inch 10-32 machine screws, washers and lock nuts. We have seen no evidence of glue in these joints; most originals used copper rivets to fasten them together. Protective caps were cut from sheet metal—again, there is a lot of variety on how the originals were done—and tacked in place to protect the uprights from abrasion and wear. The webbing for the straps was wound once around the top cross piece and tacked in place. We used an anvil to clinch the nails over.

The back piece has grommets set at about 3 inches apart using ¼-inch grommets and a setting tool. When they are in place, pull the shoulder straps through the slot and stretch the band around the frame using ¼-inch cotton sash cord.

Next attach the pack sack. Four ½-inch grommets are set in both sides of the pack sack. Depending on how wide you make your pattern, the pack can be attached with 1 3/8-inch or 1 3/16-inch eye screws on either the front or the sides of the uprights. We have seen them done both ways. The front is more common, but the side mount is more secure. The screws go right through the canvas stretcher band and into the uprights. They are placed to correspond with the location of grommets set into the side seams of the pack sack.

Measure carefully so they line up. A 1/8-inch rod of mild steel is scrolled at the end and slid through the eye screws to hold the pack sack in place. Secure the strap ends to the bottom of the uprights with D-rings and adjustable buckles, using size 9 copper rivets. Now the pack is complete. Of course, there is still plenty of room for personal touches, but this is the essence of the classic Trapper Nelson Pack Board. ☆

Editor's note: *The re-release of* Camping In The Old Style *by David Wescott with a forward and contributions by Steve Watts is available from Gibbs Smith Publishing (gibbs-smith.com).*

PACKCRAFT TIMELINE & LINGO

(The Golden Age Of Camping: 1880s-1930s)

Before It Was Called Backpacking

Kephart: "trips afoot"
Fordyce: "touring afoot" or "knapsacking"
White: "walking trips"
Holding: "tramping" or "pedestrian camping"
Gould: "going afoot"
Miller: "backpack cruising"
Pinkerton: "packsacking"
Beard: "man packing"
Grinnell: "tramping"
Nessmuk: "woods tramping"
Wilder: "pickaback camping"
Wallace: "hike"

Pack Types By Name

Bedroll: Soogans, Tucson Bed or Jelly Roll
Haversack: One strap across the chest
Knapsack: One or two shoulder straps or a broadband
Pack Sack: Two shoulder straps and/or a tumpline
Rucksack: A single bag with or without a flexible frame
Pack Board: A commercial or homemade rigid frame

(The Common Era: 1940s-Present "Backpacking")

Pack Types

Frame and Pack Sack: Commercial or homemade
Back Pack to Backpack: Commercial, xternal and internal

After Backpacking

(Classic Camping Revival: Present-Future/Past)
Watts & Wescott: "tramping" (in the old style)
"trampcraft" "packcraft" "trailcraft" "fieldcraft"

PRAISE FOR THE TRAPPER NELSON

"During my youth, the 'Trapper Nelson' pack board was essential for trappers and other outdoorsmen carrying heavy loads. This board was constructed of wood with a canvas covering and fitted snugly against the back. It was strong and durable, but heavy and rigid."

—Paul Petzoldt, *The New Wilderness Handbook*

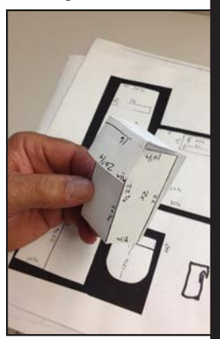
"Another type of pack board that has been found eminently satisfactory is the Alaskan variety, the Trapper Nelson Pack Board. The nucleus of this is a rectangular frame of wood or some other rigid material about 15 inches wide and 30 inches long, over which a canvas is doubled and tautly laced. There is about a 2½ inch space between the two expanses of canvas which, because only one surface of canvas rests against the back, ensures a free circulation of air. The effect is exactly as though you were lying on your back on a canvas cot.

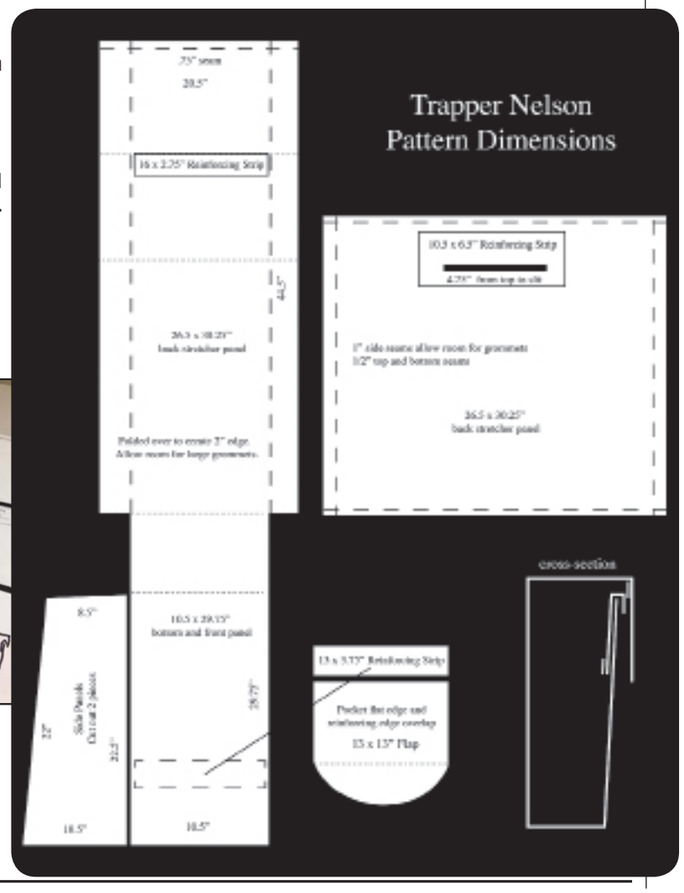
Three sizes are now made. The medium size, with a 26 inches by 14½ inches frame, is right for the average hiker. The small, 24 inches by 13 inches, is excellent for women and youths. There is also a large for heavy work, 30 inches by 14½ inches."

—Bradford Angier, *Basic Wilderness Survival Skills*

(Left) The pack is made from one main section, with two side gussets and the pocket flap. Three small pieces were used for reinforcing and strap attachments.

(Below) Cut out the pattern and fold as shown to see how the pattern goes together.





James,
I played with this page

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Think you can knock out the "black background and see about making the image of the sketch big enough so that it reads?
Could tone down/size down the "PRAISE FOR THE TRAPPER NELSON" sidebar if need be.

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