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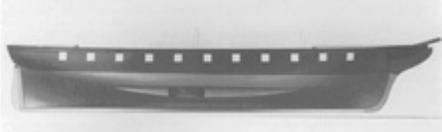
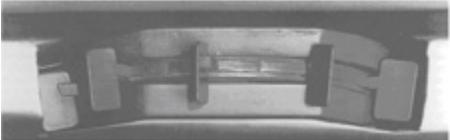
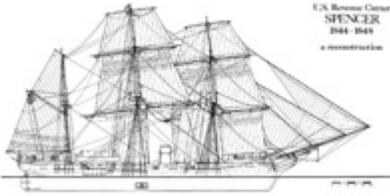
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Hunter Wheel Propulsion System

In the 1830s and 1840s the sea services were searching for an alternative to the cumbersome and highly exposed side paddle wheels. John Ericsson and Richard Loper had patented screw propellers, and Navy Lieutenant William Hunter proposed horizontally mounted paddle wheels, which rotated merry-go-round style within the hull, below the waterline. Apertures in the hull sides allowed the paddles to act on the surrounding waters. Hunter had succeeded in interesting the Navy in his idea, and the Revenue Service followed suit. In all, eight steamers were begun, four with Hunter's system, two with Ericsson's, and two paddle-wheel vessels. All right were also built of iron, a very early use of that metal. Steam vessels were thought to be of particular use in the narrow waterways of the southern coasts, in pursuit of smugglers. All eight vessels proved unmitigated disasters. Hunter had not taken into full account the waste of power when the paddles encountered and worked against water entering the paddle-wheel casings. In addition the vessels were horrendously coal hungry (the Navy's three Hunter's wheel vessels had the same problem). The machinery of Ericsson's vessels proved overly complicated, and the side-wheel ships suffered from delays, lack of iron, faulty plans, and bad weather. Originally slated to cost \$50,000 each, over \$2 million was eventually spent in original construction and the extensive modifications required subsequently in attempts to rectify the problems. The eight vessels had extremely short service lives. Only the Coast Survey seemed to benefit from the debacle, receiving five of the ships when they were cast off by the Revenue Service. Two became lightships and one was converted into a barque.

Official Coast Guard Imagery (click on thumbnail for High resolution image)	Caption/Historical Information
	Half-model of Hunter Wheel construction
	Close-up of wheels on the half-model
	Line drawing of USRC Spencer, one of the Hunter Wheel vessels

Sources:

Robert M. Browning, Jr. "The Lasting Injury: The Revenue Marine's First Steam Cutters." *The American Neptune* (Winter 1992), pp. 25-37.

Donald L. Canney, *U.S. Coast Guard and Revenue Cutters, 1790-1935*. Annapolis, MD: Naval Institute Press, 1995.

Jeanne Figuerira. "The Paddle-Wheeler [Hunter Wheel] that Couldn't." *Commandant's Bulletin* (March 16, 1984), pp. 18-20.