

## Success of the Side Screw Steamer Baltic on Lake Erie

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### Description

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#### SUCCESS OF THE SIDE SCREW STEAMER BALTIC ON LAKE ERIE.

We have been favored by Captain Whitaker, of Buffalo, with the following communication, descriptive of the satisfactory performance of the side-screw steamer Baltic, an account of which has already been given in the Magazine, in connection with his improvement in using screws instead of paddle-wheels upon the sides of steam-vessels. As a test experiment, the side-wheel steamer Baltic, on Lake Erie, was divested of her engines, boilers, and wheels, in 1854, and is now propelled by a pair of elevated screws on the sides, driven by two short stroke, high pressure engines, with direct application to crank ; and notwithstanding imperfections in several important arrangements in boilers, engines, and screws, the alteration has rendered her a very profitable vessel, as may be seen from her services. As a freighting boat, her advantages may at once be apparent. Her boilers and engines are located upon her guards, which leave a free hold, and a clear deck for freight ; hence the great loads of cattle she carries are accounted for. Applied under proper circumstances, we would prefer the screws to paddle-wheels.

Buffalo, August 21, 1855.

Editors Naut. Mag. : —

I beg leave to ask space for a few words, relative to the success of my improvement in locating screws. The steamer Baltic, now running between Buffalo and Sandusky city, in connection with the New-York Central Rail Road, and Mad River and Lake Erie Rail Road, at Sandusky ; the steamer Hendrick Hudson, a boat of about the same size, with a high pressure engine -- cylinder, 10 feet stroke, 35 1/2 inches diameter -- carrying 80 lbs. of steam, applied to paddle-wheels, is also on the same route, making the run from Sandusky to Buffalo in not less than 30 hours, and the run up in 26 hours.

The Baltic's running time down from Sandusky is from 23 to 24 hours, and from 20 to 22 hours going up, by way of Cleveland. You know she has two cylinders of 3 feet stroke, 26 inches bore, carrying 45 lbs. of steam ; which I estimate at 70 per cent, less power applied to the screw propellers on the Baltic, than is applied to the paddle-wheels of the Hudson. Yet we find that the Baltic runs much faster, and with one-half of the fuel ; and carries two or three hundred tons more cargo, and can carry 350 head of cattle on deck as easily as the Hudson can carry 150.

[p. 519] On Thursday, 9th August, the Baltic left Sandusky for Buffalo, with 295 head of cattle on deck, estimated to weigh about 225 tons, with about 80 tons in her hold ; she encountered very heavy weather, with the sea abeam, and proved herself a good sea-boat; with this cargo she could not carry 105 head of cattle on deck, when a paddle-wheel boat, with safety.

The Iowa, a new high pressure paddle-wheel boat, was changed to astern wheel propeller, in 1853; her propeller is 17 feet diameter, her engine is in proportion to other propellers, with ample boiler to carry 100. lbs of steam, with light firing. Notwithstanding this, she cannot run as fast as the Baltic, by nearly three miles per hour, carrying double the pressure of steam. The Baltic was changed from a paddle-wheel boat to a side propeller, in 1854. If she had the Iowa's boilers, she could carry 100 lbs. of steam, and make 100 revolutions per minute, whereas, she only carries 45 lbs., and makes from 55 to 60 revolutions. There is not a stern-wheel propeller on the lakes that can run as fast as the Baltic, by one to two miles per hour, they carrying 65 lbs. steam and the Baltic 45 lbs. The Baltic has made the run from Buffalo to Cleveland in 15 hours and 55 minutes, carrying 45 lbs. steam -- distance 180 miles. The running time of stern-wheel propellers is, from 18 to 22 hours, carrying from 60 to 80 lbs.

I shall hereafter apply two engines to right angle cranks upon each screwshaft, in all cases, giving about two feet stroke, with a pitch equal to the diameter of the screw, for freight boats. The Baltic has 13 feet wheel, with 23 feet pitch, which is 8 or 10 feet too much for a freight boat.

The Baltic runs much faster, and carries 300 tons more freight with two thirds of her cargo on deck, using less than half the fuel she did when a paddle-wheel boat, notwithstanding her boilers, engines, and propellers are imperfect, and can be improved very much. The Baltic left Sandusky for Buffalo, August 17th, with 317 head of fat cattle, and 635 fat hogs, all on deck, weighing in all about 300 tons; having 1,859 bbls, of flour, and about 500 bbls. of other freight in the hold. On the 18th she encountered one of our heavy gales of wind from the southwest, with a heavy sea; notwithstanding her heavy deck load of live stock, she came into Buffalo without meeting with the slightest accident I doubt whether there is a stern-wheel propeller on the lakes, of equal tonnage, that can carry 100 head of cattle on deck with the same amount of freight in the hold, through as bad weather as the Baltic encountered on her two last trips down, without rolling over and going to the bottom.

Truly yours,  
H. Whitaker.