

but, on the other hand, the vibration caused by the machinery increasing also, much to the discomfort of the passengers.

Among the wonders of the engine-room, no object made so lively an impression on my mind as a small dial, called the Indicator, where a hand, like that of a clock, moving round in a circle, registers the number of revolutions made by the wheels of the engine during the whole voyage; this hand or index being attached to one of the moving shafts, and made to advance slightly by every stroke. We were going at the time at the rate of ten and a half miles an hour, and the paddle-wheels were revolving fifteen and a half times a minute; but during the gale they had only made six or seven revolutions, the engineer, to avoid too great a strain on the machinery, having then burned much less coal, and going no more than half speed. Our shortest day's sail, during the whole voyage, was 114 miles. I observed, on our arrival at Boston, that the number of revolutions registered by the Indicator was 275,122, the ship having run 2946 miles in fourteen days and twenty-two hours; the distance from Liverpool to Halifax being 2550 miles, and from thence to Boston 396. For the sake of comparing this result with former voyages of the *Britannia*, I made the following extract from the Log Book of the chief engineer:—

		Number of Revolutions of the Engines.	Length of Voyage. Days. Hours.
Outward Voyage,	May, 1845 . . . .	273,328 . . . .	14 12
Homeward do.	June, " . . . .	253,073 . . . .	11 8
Outward do.	July, " . . . .	282,409 . . . .	18 13
Homeward do.	August, " . . . .	292,122 . . . .	14 2

It is remarkable how nearly the number of strokes made by the engine in our present voyage agrees with those recorded in the voyage of last May, which it will be seen was of the same length, with the exception of a few hours, the shorter voyage exhibiting a slight excess in the number of revolutions. In all the four trips, the difference between the highest and lowest numbers, amounts to no more than a seventh or eighth of the whole. It is like the regular pulsation of the heart, beating a given number of times in a minute; the pulse quickening during