which he referred the protecting influence exerted on the rails in use on railways. ib.

Notice of a Gas Furnace for Organic Analysis. By Dr. PERCY.

This was an ingenious arrangement, by which gas burnt, mixed with air, through wire gauze, was substituted for charcoal. Its advantages are its extreme cleanliness, and the power which the operator possesses of regulating, at will, the heat,—which is not practicable in the ordinary furnace for organic analysis with charcoal. ib.

On the Sailing Powers of two Yachts, Built on the Wave Principle. By Dr. PHIPPS.

The first was built for Dr. Corrigan, of Dublin, in 1844; a small open boat 24 feet by 6, of $3\frac{3}{4}$ tons, which did so well that she was able to beat everything near her own size, and to sail with those which exceeded it in some instances as far as four times. She was dry on seas where they were wet, was very stiff, sure in stays, and steered well at all times. The second is a yacht of 45 tons, O.M., for Samuel Holder, Esq., of Ringabella; built from the drawing by Mr. Peasely, of Passage West, in Cork. She appears to have the following qualities: a first rate performance, attained without sacrifice of any good quality, large accommodation, high stability. She is weatherly, steady, and easy, dry in the worst weather, and pitches and ascends less than any vessel I was ever in. She turns so sharply that no ten ton yacht can do it quicker, and steers so well, scudding in a gale of wind, that notwithstanding an unbalanced state, from an injudicious shift of mast, she neither broaches to, nor is compelled to lay to—which a companion of larger size (60 tons), and of tried sea qualities, was forced to do, and, in consequence, arrived from Cork to Dublin 14 hours after the wave-built yacht. In a race at Kingstown for the Railway Cup of 100 guineas, in which she was matched against the best boats of the three countries, in a time race, including one fine yacht of 100 tons, she won—and did the course exactly in 4h. 22m. 58s.—it being 46 nautic miles. Making no allowance for tacking or starting from absolute rest, the rate of this is $10\frac{1}{2}$ knots per hour. This is a great result for a principle yet in its infancy. The same vessel left Holyhead in a gale of wind, with storm-sails, main sail stowed, and everything made snug; with a reefed try-sail, a double-reefed foresail, and third jib. She lay in one stretch to the Irish coast, where she tacked to the southward, beating down to the Arklow light in 11 hours. Six persons on board, being separately questioned, agreed that the time from Holyhead to the Irish coast was $4\frac{1}{2}$ hours. Making every reasonable allowance, less than 50 nautic miles could not have been done; and this gives a velocity of 11 nautic miles per hour,—an unrecorded speed for ships of any size, close hauled, but surprising for a vessel of 45 tons, and in a very rough sea. It was, in fact, remarked on