centre, and constructed of iron plates on the tubular principle, the same as those at the celebrated Britannia Bridge over the Menai Straits, except that there are no cells either at top or bottom.

The spans are 25 in number, viz., 24 of 242 to 247 feet, while the centre span for the navigation is 330 feet.

The height above the water at centre is 60 feet.

The height above the water at abutments is 36 feet; giving an incline of 1 in 130, or about 2 feet for every opening.

The piers, 24 in number, are of solid masonry, composed of heavy stones, weighing from 5 to 20 tons each. The sloping stones forming the ice-breakers are bound together with iron cramps. Their dimensions at summer water level are, for 22 of them, 90 + 18 feet, while at tube level they are 33 + 16 feet. The centre piers are of greater thickness, being 28 feet at summer water level, and 24 feet at tube level.

The abutments, 240 + 90 feet, are of masonry of similar description; while the massive embanked approaches are protected on face by 5 to 8 feet of stone work, sloped to meet the shoving of the ice.

In building the tubes, the greatest increase of cambre which occurred in one day, consequent upon the difference of temperature between bottom and top of tubes, was 1¼ inch.

The thermometer in the sun on the top reading . . .	124°
„ „ in shade at bottom	90°
Making a difference of . . .	34°

The thermometer during the previous night was so low as 57°. It is therefore only fair to infer that as the bottom was in shade, it would not be of the same temperature as the atmosphere, and that this increase of cambre of 1¼ inch, was due to a difference of temperature of probably as much as 50° Fahrenheit.

The greatest expansion of a single tube from the centre of the resting pier to the extremity of the roller end, say 258 feet, with a variation of temperature of — 27° to + 128°, or equal to 155° Fahrenheit, was 3¾ inches. This was ascertained by an index, locked up for twelve months.

The greatest lateral movement caused by difference of temperature in sides of tubes was 1¼ inch.