Mr. Poynter. Mr. Poynter presented a drawing of the mode of setting the pots for melting and preparing the composition, the proportions of which he stated somewhat differently from those given in the paper.

Three measures of ground chalk, dried and sifted very fine, were mixed and kneaded up with one measure of tar; these ingredients were melted in an iron pot, set in such a manner that the flame should not impinge too violently upon it. The first, or "skimming" coat of the covering being laid on of a thickness of $\frac{3}{16}$ inch, the finishing coat was composed by adding to the former mixture three measures of hot sifted sand, well mixing the whole together; the composition was laid on with a tool similar to a plasterer's trowel, but much stronger.

Mr. Nash, when he first tried the composition, found that the surface became disintegrated by exposure to the weather; he therefore added the slates imbedded in the second coat, and subsequently never used the mixture without them.

Mr. Nixon. In reply to questions from the President and other members, Mr. Nixon stated, that he was employed under Mr. Nash when the palace roofs were executed, and he could bear testimony to their durability and soundness. The roofs at East Cowes castle, which were covered with the composition in the year 1808, and those of the Pavilion at Brighton, in 1816, were now in as good a state as when they were finished. The failure at Mr. Nash's house in Regent Street, arose from the roof having been originally composed of mastic, which soon cracked. One coat of the Stanhope composition was spread over it, to stop the leaks, but it was insufficiently done, and ultimately Mr. Rainy had a new roof, properly constructed, with two coats of composition, which had remained sound to the present time. The price of these roofs, when well constructed by the person who did those of the palace,* was about five guineas per square.

Mr. Hogg. Mr. Hogg observed, that the chalk was only exposed to such a heat as would evaporate any moisture it contained. The weight of the two coats of Stanhope composition, including the slate imbedded in it, was about 12 lbs. per superficial foot.

Mr. Sibley. Mr. Sibley considered the Seyssel Asphalte, when carefully laid, preferable to any composition of a similar nature; he had used it extensively, and was well satisfied with it, both for roofing and paving.

Mr. Hogg. Mr. Hogg objected to the use of Asphalte for roofing, as it was liable to injury, being of a brittle nature; it was not elastic, and

* Mr. Millson, No. 6, Frances Street, Tothill Fields, Westminster.

it shrunk from the walls, thereby causing leaks. Lord Stanhope's composition did not possess these faults, and he did not consider that it was superseded by asphalte.

Mr. Moreland had covered the roof of the tread-mill at the Giltspur Street Compter with asphalte, and had found it answer perfectly. It was laid on in a thickness of $\frac{3}{8}$-inch, upon roofing-boards $\frac{3}{4}$-inch thick, with canvas nailed on them; with an entire fall of only 9 inches, there was not any appearance of leakage. Mr. Moreland.

Mr. Davison had caused a school-room to be floored with asphalte, four years ago, and up to the present time there was no symptom of wearing down, although the stones, which were let into the floor, for supporting the desks, &c., were considerably abraded. He believed that the only failures of the asphalte had occurred from the use of inferior ingredients. Gas tar had been used instead of vegetable tar, and in those cases the result had not been successful. Mr. Davison.

No. 559. "Account of the Victoria Bridge, erected across the River Wear, on the line of the Durham Junction Railway." By David Bremner, Assoc. Inst. C. E.

The district through which the Durham Junction Railway passes, for the purpose of completing the connexion between the city of Durham, with the towns of Newcastle, South Shields, and Sunderland, is extensively undermined by coal-workings, and great caution was requisite in the selection of a spot which suited the level of the railway, and where a foundation could be formed sufficiently sound to support such a structure as the bridge described in the paper. The advice of Messrs. Walker and Burges was therefore sought by Mr. Harrison, the engineer of the line, and their design was adopted; but subsequently several alterations were made, either to favour the locality or from motives of economy. Victoria Bridge, over the River Wear.

The bridge is 810 feet 9 inches long, and 12 feet wide, between the parapets. It is, with the exception of the quoins of the main arches, built of freestone, from the Pensher quarries; there are three semicircular arches, of 144 feet, 100 feet, and 60 feet span respectively, a centre arch of 160 span, with a radius of 72 feet, and three arches of 20 feet span each at either end, forming the abutments. The main pier is founded upon rock, 24 feet beneath the bed of the river; and the height from the foundation to the top of the parapet is 156 feet 6 inches; the under side of the main arch, at the crown, is thus 121 feet 9 inches above the level of the sea.

The paper describes at length the nature of the building materials employed, the dressing of the stones, the composition of the mortar,