

Mr. F. Pellatt exhibited a number of specimens of iron covered with zinc and copper by the process of electro-deposition, which he described. The pieces of iron were first rendered perfectly clean and free from oxide by plunging them into a bath of heated sulphuric acid and water : they were then placed in a cold solution of sulphate of zinc. The positive pole of a galvanic battery being attached to a zinc plate, and the negative pole to the piece intended to be covered with metal, the deposition commenced equally all over it, and was continued as long as was considered necessary. By this process the pure metal alone could be deposited, and the amalgamation of the zinc and iron, which occurred when the iron plates were dipped into melted metal, was avoided. For zincing, he preferred an acid to an alkaline solution of the metallic salts. Some thin plates, which had been exposed for eight months, on roofs in London, did not exhibit any appearance of rust. The process could be applied on any scale, as all the apparatus that was necessary was some wooden troughs to contain the solution and the pieces of metal to be covered.

He had not made accurate experiments as to the efficacy of the process, when applied to iron exposed to the action of sea-water, but he feared the result, on account of the formation of muriate of zinc.

The President said that the subject was one of great importance to the engineers, as if the deposited coating was found to stand the test of time, it would enable the use of iron to be extended ; but the main point to which he would direct Mr. Pellatt's attention was the defence of cast-iron from the destructive action of sea-water.

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May 28, 1843.

The PRESIDENT in the Chair.

No. 638. " Account of some Egyptian Bricks from the Pyramids of Dashoor," by J. Perring. Communicated by William Newton, Assoc. Inst. C. E.

The author states that the ancient Egyptians used bricks for every purpose, except for the erection of temples and tombs ; that they were generally crude bricks dried in the sun, and in the dry climate of Egypt they sufficed for all ordinary purposes. The only instances in which he found they had been subjected to the action of fire, were for a quay-wall, and for the foundations of a town near the Nile in a damp situation.

From the drawings in the tombs, and the narrative of Holy Writ, it would appear that the captives were generally employed in manu-