the photographic delineation would present the means of determining the dimensions of every part.

The Council cannot omit this opportunity of acknowledging the obligations which the Institution is under to Mr. Cooper and Mr. Cooper, Jun., who illustrated the preceding communication, by exhibiting and explaining the apparatus requisite for the production of the delineations of photography. Mr. Cooper.

The Council have to acknowledge the receipt of many valuable presents during the past year; and to record the liberality and zeal thus exhibited in the promotion of the interests of the Institution. Presents.

By the liberality of your President and of Mr. Burges, you are in possession of two portraits upon which every British Engineer must look with feelings of great pride and satisfaction. To the President you owe the beautiful portrait of Huddart, now suspended in your Meeting Room, and to Mr. Burges that of Smeaton, which adorns the walls of the Library.

The Institution has to acknowledge the continuation of the liberality of the Master-General of the Ordnance, of the Lord Lieutenant of Ireland, and of Colonel Colby, in transmitting the sets of Ordnance Maps as they are published.

The Council has also to acknowledge the receipt of some additional works from the library of the late Dr. Young, presented by his brother, Mr. Robert Young, whose liberality in making the Institution the depository of a large number of the works of that distinguished philosopher and benefactor to practical science, the Council of the preceding year had also to record in a similar manner. The Institution has also received a valuable set of Charts of the Coast of France, published under the direction of the French Government, from your President; a number of books from the Minister of Public Works at Brussels, collected by your Secretary during a recent visit to Holland and Belgium, when a communication was established between the Institution and the Ministry of Public Works of those countries; the Transactions of the Royal Institute of Naples from Colonel Cuciniello, through Mr. Albano; a valuable set of Crane Drawings from Mr. Leslie, and Drawings of the Carn Brae Stamping Engines from Mr. Sims, through Mr. Enys; some interesting models from Mr. Hick, a Pneumatic Mirror of his invention from Mr. Nasmyth, and a Radiating Stove Grate for the Library, from Mr. Sylvester; to these must be added the very numerous List contained in the Appendix to this Report.

The Institution has to regret the loss by death, of Mr. Francis Bramah, Mr. Oldham, Mr. Rowles, and Mr. Rickman; individuals distinguished for their attainments in professional and general know- Obituary.

ledge, and endeared to the Institution by long association and deep attachment to its interests.

Mr. Bramah.

Francis Bramah was the second son of the late Mr. Joseph Bramah, whose numerous inventions, perfection of workmanship, and genius in the mechanical arts, have rendered his name so widely and justly celebrated. The opportunities afforded to the son were ardently embraced by a mind of no ordinary powers, deeply imbued with the love of knowledge. Although his attention was in early youth more particularly directed to branches of minute mechanical construction, his acquaintance with the principal departments of professional knowledge and general science was very extensive. His attachment to the arts and to science was deep and sincere, and among many proofs of this may be particularly mentioned the valuable and essential services which he rendered to your late Honorary Member, Thomas Tredgold, both in his professional pursuits and in the prosecution and verification of his theories and calculations. Mr. Bramah being professionally engaged at Buckingham Palace, in connexion with some other engineers, difference in opinion existed and discussion arose, as to the true principle upon which the strength of cast-iron beams to resist stress and flexure ought to be estimated, and with the view of verifying the principles laid down by Tredgold, he instituted a very extended series of experiments, on the deflection and strength of cast-iron beams. These he presented to the Institution, and they are published in the second volume of your Transactions.

Several important works were executed under his direction, among which the iron work of the Waterloo Gallery at Windsor Castle; the cranes, the lock-gates, and their requisite machinery, at the St. Katherine's Docks; and the massive gates at Constitution Hill and Buckingham Palace, may be particularly mentioned. Mr. Bramah was an early and deeply-attached Member of this Institution; his constant attendance at the meetings, the information which he communicated, and his unwearied zeal as a Member of the Council, cannot be too highly estimated, and his loss will be deeply felt and regretted within these walls. The variety of his attainments, his refined taste in the arts, his amiable character and the warmth of his affections, had secured to him the respect and esteem of a most extensive circle of friends, by whom, as indeed by all in any way connected with him, his loss will be most deeply and sincerely felt.

Mr. Oldham.

John Oldham, the Engineer of the Banks of England and Ireland, was born in Dublin, where he served an apprenticeship to the business of an engraver, which he practised for some time, but sub-