approximations to the true curves; wheel cutting and moulding machinery. Parallel motions, including Watt's, Scott Russell's, and other parallel motions; exact straight-line motion. The copying principle in machinery; screw-cutting lathe, planing-, shaping-, slotting-, drilling-, and boring-machinery. Epicyclic trains and their applications.

Steam and the Steam-engine.—Heat as a motive-power; the history of the steam-engine; the mechanism and details of steam-engines; construction and use of indicator; indicator-diagrams; steam-passages; geometrical constructions relative to designing valves and valve-motions; the compound-engine for land and sea; locomotive-engine; gas-engines; combustion of fuel and evaporative efficiency of a furnace, general arrangement of furnace and boiler; construction and details of steam-boilers; testing of engines and boilers.

Mechanical Drawing.—Drawing to scale from dimensioned copies and sketches; preparing working-drawings of details of engines and machinery from models and actual examples.

Machine Construction and Design.—(Students entering for this course must have passed an examination on the subjects of first- and second-term applied mechanics.) Methods of proportioning the various parts of engines and machinery; designing machinery and engines for special purposes.

Text-books recommended: Students attending lectures in applied mechanics for the first time should read the following books: "Mechanics," by Dr. Ball, London Science Class-books Series, price 1s.; "Applied Mechanics," by Dr. Ball, Weale's Series, price 2s.; "Strength of Materials," by Anderson, Text-books of Science, published by Longmans, price 4s.; "Practical Mechanics," by Perry, price 4s.; Cassell's Technical Manuals. More advanced students should read—"Principles of Mechanics," "Elements of Mechanism," "Steam and the Steam-engine," by Professor Goodeve, price 6s. each; "Workshop Appliances," Text-books of Science, published by Longmans, price 4s.; "Machine Design," by Professor Unwin, price 6s.

Naval Architecture (Teacher, Mr. Walter Reeks).—One year's course of study. Monday and Wednesday, at 7.30 p.m. Syllabus: 1, laying down the lines of vessels; 2, construction and use of models; 3, full-size lines in the moulding-loft; 4, centre of buoyancy and metra centre; 5, centre of effort, and area of sails; 6, proportion of masts and spars; 7, designing.

Boiler-making (Teacher, Mr. W. Walker).—One year's course of study. Tuesday and Friday, at 7.30 p.m. Syllabus: The general construction of boilers, illustrated by model-making and by lectures; riveted joints; double and single shear; furnace-tubes; steam-domes; boilers (Cornish, Lancashire, locomotive, and marine); methods of strengthening; fuel and combustion. Text-books: "Steam-boilers," by Robert Wilson, about 5s.; "Nelson Foley on Boiler-making."

Turning and Fitting (Teacher, Mr. Charles Phillips).—One year's course of study. Tuesday and Thursday, at 7.30 p.m. First course: Description and use of plane turning-lathes; construction and use of turning-tools for wood and metals; correct angles for cutting-edges; screw-cutting by hand; use of chipping-chisels and files; use of planing- and shaping-machines. Second course: Description and use of slide-lathes, sliding, boring, surfacing, and screw-cutting; calculating change wheels for screw-cutting; velocity in boring and turning; use of calipers in fitting work; application of surface-gauge; fitting to gauge and scraping surface. Third course: Cutting- and fluting-taps; rimers, rose-bits, and cutter-bar; milling-cutters; wheel-cutting; capping, &c. Fourth course: Construction and erection of machinery and machine-tools.

Department of Architecture (Instructor, Mr. J. F. Hennessy, Silver Medallist and Ashpitel Prizeman of the Royal Institute of British Architects, London).

Two years' course of study. Monday, Wednesday, and Friday, at 7.30 p.m. The course of instruction in architecture includes a number of subjects, and is completed in three years. Students who wish to get the certificate of Expert in Architecture must attend the whole course of instruction, and pass a satisfactory examination in each subject, and must also obtain certificates for physics and mathematics, and satisfy the examiners as to their knowledge of English and book-keeping. A student may, however, attend any course of instruction in any subject (A) under architecture, and if he pass a satisfactory examination shall be granted a certificate.

The course of instruction is as follows:—A. Architects and builders: First year—first term—Practical plane geometry, 1, Monday; freehand drawing, 1, Thursday; mathematics, 1, Wednesday; physics, 2, Tuesday and Friday: second term—mathematics, 1, Wednesday; physics, 2, Tuesday and Thursday; solid geometry, 1, Monday. Second year—first term—Architectural drawing, 3, Monday, Wednesday, and Friday; applied mechanics, 2, Tuesday and Thursday: second term—architectural drawing and design, 3, Monday, Wednesday, and Friday; perspective, 1, Tuesday. Third year—first term—Architectural drawing and design, 3, Monday, Wednesday, and Friday: second term—the same in continuation; architectural history; building-construction.

Architecture (A Course).—First year: First term—Technical drawing—use of drawing-instruments; drawing to scale; copying drawings; enlarging, and altering sizes; orders and styles of architecture: second term—technical drawing—working out complete designs of buildings from sketches and partial assistance, by means of blackboard lectures on building-construction, building-materials, ventilation, and the principles of design. Second year: First term—Draft specifications—colouring and neatly finishing set of plans; inch-scale, and full-sized detail drawings for foremen and clerks of works; perspective drawing; building with accessories, finished with pen-and-ink shading: second term—architecture—lectures and lessons to the individual student in designing buildings and objects, especially in the classic, Gothic and Italian styles.

Architectural Design.—The subjects are to be worked out at home. Pencil-drawings to be submitted to the instructor, who will criticize them, and after the alterations are completed they are to be handed in within the time allotted for each subject, or they will not be permitted to compete for prizes. First term: Porch for a village church, early English style—width inside, 9ft.; plan, elevation, and section; scale, 4ft. to 1in. (References: Brandon's "Analysis of Gothic Architecture," sketches in *Building News.*) Terrace-house, 20ft. frontage—plans, elevation, and section;