date of the examination, and is to be accompanied by the freehand sketch or the finished drawing from which the piece of work was executed. With the specimen of work there must be sent a certificate signed by the Class Instructor and the Director of the school that the work is the candidate's unaided effort, executed without the supervision or direction of the Instructor.

(23.) *Metalwork.*—Drawing.—Use of T square and set-squares, compasses, dividers, and protractors. How to test accuracy of drawing-instruments, and how to rectify errors. The use of the foot rule, metric rule, and callipers; calculations based on measurements taken by these; candidates will be expected to measure with approximate accuracy to one-hundredth of an inch. Making approximately accurate hand sketches of simple geometrical solids and of objects such as tools, simple machine parts, &c.; the use of squared paper for hand sketching. Construction of plain scales; plans, elevations, sections, and oblique projections of geometrical solids the surfaces of which are bounded by straight lines, and of simple objects based thereon. Drawing to scale from actual parts, dimensioned photographs, or partially completed dimensioned sketches, such tools and simple machines or machine parts, instruments, &c., as pupils who have taken a two-years course in metalwork or in elementary mechanical engineering should be familiar with.

Instruments, Tools, Materials, &c.—The description, use, and care of the various measuring and testing instruments, hand tools, and simple machines used in metalwork or elementary engineering. The description of simple mechanical operations. Methods of setting out work from drawings, and the various operations involved in the completion of a simple piece of metalwork. Characteristic properties of the commoner metals used in metalwork, such as iron, steel, copper, brass, zinc, and sheet tin, and their preparation for workshop requirements.

Bench and Forge Work.—Exercises requiring the use of the hammer, chisel, file, and scraper; easy exercises involving the cutting, bending, and joining of cold sheet metal; various methods of fastening metals, such as riveting, screwing, soldering, and brazing; very elementary forge work, such as bending, drawing-down, upsetting (but not welding), hardening, and tempering a cutting-tool, such as chisel, cross-cut, flat, drill, or lathe tool.

The examination in metalwork will consist of a written examination and a practical test.

In addition, every candidate in the subject of metalwork is required to hand to the Supervisor at the examination a piece of metalwork copied from a typical example or designed by him, as a specimen of his work performed under ordinary workshop conditions. The specimen is to be made during the two months immediately preceding the date of the examination, and is to be accompanied by the freehand sketch or the finished drawing from which the piece of work was executed. With the specimen of work there must be sent a certificate signed by the Class Instructor and the Director of the school that the work is the candidate's unaided effort, executed without the supervision or direction of the Instructor.

The regulation is hereby still further amended by adding the following:—

(24.) *Machine Drawing.*—Use and care of drawing-instruments, including scales, pencils, pens, compasses, dividers, protractors, set-squares, and T square. How to test the accuracy of drawing-instruments, and how to correct errors. Hand sketching in plan, elevation, and section. Use of squared paper. Measuring simple machine parts, determining position of centre lines, and dimensioning sketches. Sketching simple machine parts from memory. Drawing centre lines, and completing plans, elevations, and sections to scale in pencil from dimensioned sketches of simple machine parts. Tracing in ink, and dimensioning, &c. Construction of scales, projections of simple solids, simple loci, point paths of the slider-crank, and four-crank chains; construction of ellipse, parabola, hyperbola, and sine curve, or elevation of the helix; the representation of screws. Details of nuts, bolts, studs, rivets, cotters, keys, pins, and other fastenings and locking devices.

Every candidate for examination in machine drawing will be required to hand to the Supervisor at the examination his note-books for the previous year's work, together with a specimen or specimens of work done in the drawing office within a period of three months