tools, and in the principles of applied design for relief ornament. A variety of woods, from soft to hard, are employed.

Third Year.—Cooking, domestic economy: The instruction in cookery is both theoretical and practical, and is intended to furnish many illustrations of applied chemistry. Laboratory methods are employed, and habits of neatness, order, economy, and systematic work encouraged and cultivated. The course in domestic economy is designed to give instruction upon the subjects of foods, their constituents, comparative values, and proper methods of cooking. Instruction is also given in plain and fancy cooking, invalid cookery, chemistry of foods, adulterants, dietetics, and the care of the house. The work of the kitchen is done by three housekeepers appointed from the class each day; instruction is given in the use of sapolio and scouring agents, the care of silver, and sweeping and dusting. Foods are treated in relation to the demands of the body, with attention to physiological subjects. Milk is taken as a type of a perfect food, and its analysis forms the basis of all analytical work. Special study is given to economics and the food questions in household economy, such as the production of the most nutritious foods from the cheapest materials, the best methods of cooking, and the advantageous use of food-remnants. The equipment of the cooking-room includes a coal-range, a gas-range, and an Aladdin oven. The room-fittings are designed to accommodate class sections of twenty-four at one time.

The arrangement of the subject-matter of the course for the year is as follows:—

Fall Term.—Fruit-cookery, water, starch, milk, eggs, fish, meats, soup-stock, and simple deserts. Special attention is given to the housework, and only the simplest methods of cooking are employed.

Winter Term.—Marketing, baking-powder, yeast, batters, doughs, bread, and the more elaborate desserts. Work in physiology and dietetics.

Spring Term.—Fancy cooking, invalid cookery, preparation of economical menus, dietetics, questions of ventilation and sanitation, practice in laying the table and serving.

Equipment of the Shops, &c.

The joinery shop is 32 ft. by 51 ft. It has thirteen double cabinetmakers' benches, with sets of tools for each bench; each bench has six locked drawers, in which are kept the individual sets of edge-tools of the pupils working at the bench.

The pattern-shop is 32 ft. by 60 ft. It is furnished with twelve double cabinetmakers' benches, with set of tools for each bench. The same provisions for individual edge-tools are made here as in the joinery-shop, with the addition of a set of turning gouges and chisels. The equipment also includes twenty-five wood-lathes, a band-saw, and two grindstones.

The foundry has accommodations for class sections of twenty-four. For the present lead is the only metal used in casting.

The forge-shop is 35 ft. by 58 ft. It is located on the ground-floor, and is equipped with twenty-five Buffalo Forge Company's improved down-draft forges. The blast is furnished by a fan driven from the motor in the engine-room. The equipment also includes twenty-five anvils and sets of hand-tools, a tool-rack containing a complete assortment of special tools, a post-drill, a powerful hand punching and shearing machine, and five vices mounted on the benches which surround the room. In the benches are locked drawers, which contain the pupils' work-aprons and unfinished work.

The machine-shop is 32 ft. by 60 ft. It is equipped with the following machine-tools: Six Reed engine-lathes, 14 in. swing, 5 ft. bed; eight Putnam engine-lathes, 14 in. swing, 5 ft. bed; one Pratt and Whitney engine-lathe, 16 in. swing, 7 ft. bed; one Putnam engine-lathe, 20 in. swing, 7 ft. bed; two Pratt and Whitney hand-lathes, 9 in. swing, 30 in. bed; one Brown and Sharpe 9 in. universal hand-lathe; one Pratt and Whitney hand-lathe, 14 in. swing, 5 ft. bed; one 13 in. Slate sensitive upright drill; one 22½ in. Barnes upright drill; one grindstone; one Diamond Machine Company wet emery-grinder; one Cincinnati Milling Machine Company universal cutter and reamer grinder; one Cincinnati Milling Machine Company No. 1 universal milling-machine; one Gould and Eberhardt 12 in. shaper; one Gray planer, 22 in. by 6 ft. bed; one gas blow-pipe for hardening, tempering, and brazing. Two sides of the room are lined with benches, on which are mounted eighteen Prentiss vices, for work in chipping and filing. Underneath each vice is a drawer containing steel scale, try-square, hand-vice, dividers, chipping-hammer, &c. In addition to these, each student has a separate drawer in which to keep his assortment of files, chisels, and lathe-tools, as well as his unfinished work.

The tool-room, which occupies a space of 9 ft. by 16 ft. in one corner of the shop, contains a complete assortment of necessary appliances, such as chucks, drills, reamers, taps, dies, gauges, surface-plates, micrometer calipers, &c.

The engine-room is situated directly under the machine-shop, and contains a 60-horse-power Reynolds Corliss engine, "1890" frame. It is fitted with indicator-pipe and reducing motion, so that by means of the Crosby indicator and Amsler polar planimeter students are taught how to properly adjust the valves, calculate the horse-power, &c. This engine furnishes the power for the shops, while a 15-horse-power slide-valve engine is used to drive the two large ventilating-fans which furnish a constant supply of fresh air of a uniform temperature to all parts of the building.

A 12-kilowatt 500-volt Edison motor is used to drive the blower which supplies the blast to the forge-shop. The current is supplied from one of the city power plants.

Tools and materials required in the shops are furnished by the school. When the exercise made in the school is something which the pupil is to carry away and retain, then he is required to furnish the material.

The principal of the school, Mr. C. A. Baldwin, says: "Cost value of plant is about $135,000. The annual expense of maintenance is difficult to tell. Our school is a new one, and this is the first year that all of the departments are in working order. So far as materials for the shops and