

**NEW TOBOGGAN SLIDE FOR BATHERS.**

This new toboggan shute for bathers is 22 ft. in height from the bottom to top of platform and 12 ft. 6 in. in width at the bottom, tapering up to the top of the platform to 6 ft. The framework is made of hemlock timber. On one side are steps built for bathers to ascend to the platform. They are 32 in number. On the other side is the shute. The shute is connected to the platform at the top, and runs down and out into the water for about 10 ft. The toboggan slide is carried up by the bather and placed in the shute, the bather sitting on the bottom of slide, on which are handles running full length of slide on each side, for the bather to grasp hold of. The slides are about 7 ft. in length, 2 ft. in width, of 1/4 in. stuff, and are made of Kentucky hickory. They weigh about 18 to 20 pounds. The shute is 28 inches in width; the sides and strips at its bottom are made of linden wood. The sides are 8 in. in height and 1 1/2 in. thickness. The five strips at bottom of shute are 3 in. width and 1 in. thickness and are placed about 2 in. apart, so that a loose roller can revolve between them easily. Iron rods about 1/2 in. in diameter are run through the center of each strip and each roller and side pieces. The rollers are made of rock maple boiled in oil. They are 2 inches in diameter and 1 in. in thickness. The strips and side pieces are braced underneath by heavy ash strips running across in a zigzag manner. The shute is made in seven 6 ft. sections. Each section has eight rolls placed a short distance apart. On each are 4 rollers, making 32 rollers to a section, the slide passing over the rollers on its way down to the water. The greatest angle in the shute, which is about 45 deg., is about 25 ft. from the starting point. When the slide strikes this point it goes down like a shot and out into the water, if it is not too rough, to a distance of about 200 ft. The time consumed in the passage of the bather from the top of the shute to the bottom is about 1 1/2 seconds. The frame work rests on 16 in. wooden wheels, and is jacked back and forth as the tide rises and falls. This shute was built by H. A. Shearer & Co., Rochester, N. Y., at a cost of \$600.

**The Two New Warships on the Pacific Coast.**

Work has begun on the big warship known as Cruiser No. 6, at the Union Iron Works, San Francisco. She will be the largest vessel ever built on the Pacific coast, having a length of 340 feet, 53 feet beam, and will draw about 21 1/2 feet when ready for sea, on a displacement of 5,500 tons. The contract calls for a speed of 20 knots or about 24 miles an hour for four consecutive hours, with engines 13,500 horse power. Her coal-carrying capacity will be 1,300 tons, and at a speed of 10 knots she will be able to steam 13,000 miles.

The new cruiser will be fitted with a steel protective deck, twin screws, and will be schooner rigged. In her main battery she will mount four 8-inch breech-loading rifles in two barbettes, one forward and one aft, and ten 5-inch rapid-fire guns. The secondary battery will consist of fourteen 7-pound and six 1-pound rapid-fire guns and four Gatling guns. She will also be fitted with six torpedo tubes.

It is hoped by the builders that the cruiser will be ready to launch within eight months at the outside.

The engines and boilers for the cruiser are in the shops, and are well advanced toward completion. They will be all set up and ready to be put in place before the vessel is launched.

Men are now at work laying the blocks on the new slip for the battleship Oregon, the keel of which soon will be laid.

**Young People should have Plenty of Sleep.**

A German specialist, Dr. Cold, has recently pleaded for giving young people more sleep. A healthy infant sleeps most of the time during the first weeks; and, in the early years, people are disposed to let children sleep as much as they will. But from six or seven, when school begins, there is a complete change. At the age of ten or eleven, the child sleeps only eight or nine hours, when he needs at least ten or eleven, and as he grows older the time of rest is shortened. Dr. Cold believes that, up to twenty, a youth needs nine hours' sleep and an adult should have eight or nine. With insufficient sleep, the nervous system, and brain especially, not resting enough, and ceasing to work normally, we find exhaustion, excitability, and intellectual disorders gradually taking the place of love of work, general well-being, and the spirit of initiative.

**Trade School of the Pratt Institute, Brooklyn, N. Y.**

Applicants must be between sixteen and twenty-five years of age. All tools and materials are furnished without extra charge. Day and evening classes.

**Carpentry.**—Practice is first given in the use of saws, planes, chisels, and laying-out tools, and is followed by a thorough course in joint work. After this practice, and when some mastery of the tools has been gained, a model of a frame house is made, and the different methods of framing illustrated. Afterward, partitions are set and bridged and floors laid. Door and window frames are made and placed in the partitions, which are sheathed, clapboarded, shingled, and corniced. Lastly, inside trimming is taken up; doors, sashes, and shutters are made and hung; wainscoting, baseboards, and stairs built, etc. Constant practice is given in the use of working drawings, and in laying out work from plans.

**Blacksmithing.**—The instruction includes care and management of fire, operations in drawing, upsetting, forming, and welding iron, and making and tempering steel tools. The exercises mainly represent useful pieces of work, and several complete designs in ornamental work finish the course.

**Machine Shop (two years' course).**—Bevel, surface, and keyway chipping are first practiced; after which the class is put upon straight surface filing until ability to file straight and true is obtained. This is followed by straight, tongue, round, and dovetail fitting, free-hand filing, filing to templet, making calipers, square,

**Plumbing.**—The plumbing shop is equipped for about fifty pupils, each member having a gas furnace for melting solder, and a drawer holding a set of tools. Instruction is both practical and theoretical, lectures being given from 8:30 to 9:30 o'clock every Wednesday evening.

The manual work includes the use of tools; preparing wiping cloths; making soil; tinning soldering iron, brass, iron, lead, and tin; making solder; soldering seams; making cup-joint; over-cast joint, straight wiped-joint, flange joint, and branch joint; working sheet lead into bends, traps, service boxes, and safes; lining tanks, calking iron pipe joints, and bending with sand and kinking irons.

The lectures deal with the proper arrangement of drain, soil, and waste pipes, trapping and ventilating the same, supply pipes, boilers, tanks, fixtures, pumps, and also explain mistakes in plumbing.

**House and Fresco Painting.**—The Master Painters' Association, of Brooklyn, co-operates in the direction of the painting classes, and at the end of the term examinations are held and certificates granted, with their approval.

The equipment for the house painting class consists of screens containing doors, windows, and wainscoting; and, for the fresco workers, of booths, plastered on sides and ceiling, with varied forms of cove and cornice.

**House Painting.**—The house painting course includes both elementary and advanced classes; the former having practice in the preparation of surfaces, mixing paints, and plain painting on wood, brick, and plaster surfaces; and the latter in varnishing and hard wood polishing, polish white, gilding, lining, graining, and paper hanging.

Lectures are given on the harmony of colors, mixing of colors, proportion of oils and driers, and the various materials used in painting.

**Sign Painting.**—A special class in sign painting will be organized next year. The instruction will include preparation of surfaces, spacing, and plain lettering, followed by ornamental lettering in gold and colors, and painting on glass and metal.

**Fresco Painting.**—Instruction is given preparing walls and ceilings for calcimine, in lining, laying out work, making and applying pounce and stencil, and in putting on flat and shaded ornaments.

**Advanced Fresco Painting.**—Applicants are admitted only on approval

of some member of the Master Painters' Association, or after giving satisfactory proof of proficiency in plain fresco painting.

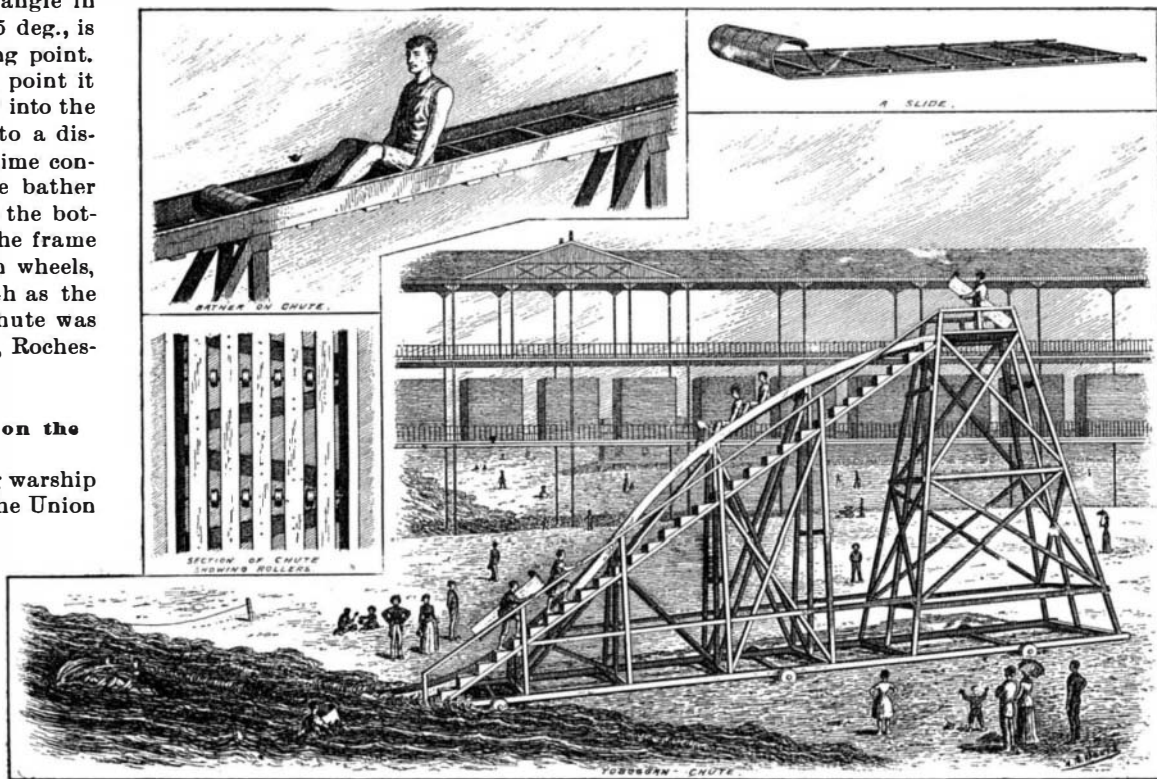
Instruction is given by alternate practice in drawing and coloring designs in the Art Department, and in applying the same in fresco to the plastered wall.

Further information may be obtained upon application to F. B. Pratt, secretary, at the office of the institute, Ryerson Street, between De Kalb and Willoughby Avenues, Brooklyn, N. Y.

**Free Libraries in Paris.**

In a report addressed to the Prefect of the Seine with regard to the municipal and other free libraries in Paris and the suburbs, it is stated that they now number 64, and that they are attached to the different town halls and communal schools. The number of books given out to read last year was 1,386,642, and of these 690,105 were novels. The artisans, who use these libraries the most, and who prefer reading at their own homes, appear to be very scrupulous about returning the books given out, as the annual loss does not amount to one-half per cent, and when the books are not returned this is due to carelessness rather than fraud. The great preference shown for works of fiction induced the administration to instruct the librarians to bring their influence to bear on the frequenters of their libraries and get them to read more serious and instructive books, but the only result of this was to effect an immediate decrease in the number of readers. The attempt was, therefore, given up, the administration preferring that the public should read novels rather than not read at all.

To ascertain the amount of lime in Paris white or whiting, dissolve in dilute hydrochloric acid and precipitate the lime from ammoniacal solution (filtering first if necessary) with solution of ammonium oxalate.



**NEW TOBOGGAN SLIDE FOR BATHERS.**

bevel, and gauges in sheet steel, use of taps and dies, and practice in scraping.

The tool work gives practice on the engine lathe in plain and taper turning, outside and inside screw cutting and fitting. After this, exercises are introduced in hand turning, and varied practice on the planing machine, shaper, drills, milling machine, and grinding machine is obtained. The theory of cutting tools is analyzed, and the construction of the different machines explained.

**Bricklaying.**—The men are first taught to handle the trowel and to spread mortar. Practice is then given in building eight, twelve, and sixteen inch walls, with square and blocked ends, and with returned corner; afterward, arches in walls of the same size are constructed, and later, flues, fireplaces, setting sills, and corbeling. At first each man works on a separate section of the wall, and no attempt is made to do rapid work; but toward the end of the course a number of men are placed side by side on a long wall and greater speed is attempted. Instruction is given, by means of lectures, upon the strength of walls, theory of arches, properties and proportions of mortar, cement, etc.

**Plastering.**—Instruction is given in scratch-coating, laying-off, browning, and hard finishing, and in running and mitring small mouldings and cornices. The booths for plastering are formed of stud partitions, lathed in the usual manner, and arranged to present the conditions of an ordinary room.

The use of hawk and trowel is first taught, and the scratch-coat is then applied. This is afterward taken off, and the walls are next covered by laying-off, and practice obtained in the use of darby and rod. After this, practice in browning is given on the hard and dry scratch-coat, and this is followed by considerable practice in finishing with sand mortar to prepare for hard finishing. Running and mitring simple cornices are taught last.