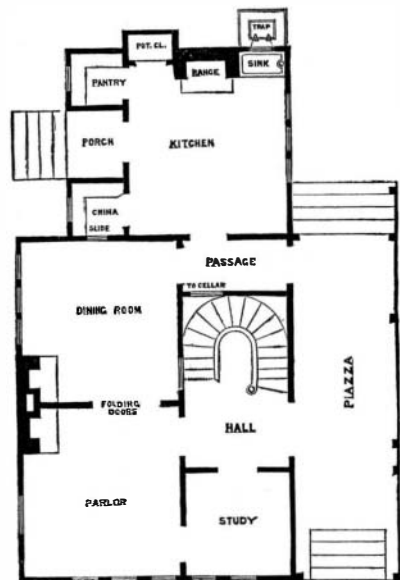


A NEW AND USEFUL ARCHITECTURAL WORK.

We have frequently commented upon the strange lack of taste which has been manifested all over this country in the matter of rural architecture. While villas and other costly residences do, it is true, often exhibit grace, beauty, and originality in design, the same is far from the case in cottages and dwellings of medium pretensions; these, like the ever-recurring brown stone front houses of the city, are but duplicates of a few original types, and one after another is constructed by simple modifications of a few plans made by the builder, without the aid of the architect. With these types, and likewise with their ugliness, every one is familiar. There is the "gothic" cottage, so called mainly because it is irregularly built, and not because gothic style is scrupulously observed; more homely still is the cubical edifice surmounted by a miniature reproduction of itself as a cupola; and ugliest of all is the attempted copy of the Greek Parthenon, with its huge front pillars. For these models, architects are now endeavoring to substitute more tasteful structures, and at the same time are demonstrating successfully that there is room for the exercise of skill and ability in designing a simple cottage as well as in planning an elaborate villa. To produce designs, however, is one matter, and to popularize them is another; the latter involves nothing less than an education of popular taste, and at the same time the demonstration to the public that it is just as cheap and as economical to build a neat, even elegant, house as to construct one that is the reverse. These objects have never been more successfully pursued than through the publication of the many volumes of designs and details by the firm of A. J. Bicknell & Co., of 27 Warren street, in this city. This concern has now hit upon a new way of publishing similar information. Instead of a person employing an architect to produce working plans and specifications according to a selected design, he may procure the original plans and specifications reproduced in accurate facsimile, extending even to shape and quality of paper. The first set of plans just published are of the very neat and pretty Swiss cottage represented in Fig. 1 of the annexed engravings, the lower floor of which is shown in Fig. 2. There are six large sheets of drawings, besides the specifications. It will be observed that the first story is very commodiously arranged. A broad piazza runs nearly the whole length of one side. There is a square hall, about which the parlor, library, and dining room are grouped. The kitchen is in an extension, and thus is separated from the other apartments. It is bountifully supplied with closets and other conveniences. In the second story are four good sized bed rooms, arranged around a central hall, besides a large press or store closet, which might well be turned into



a commodious bath room. Finally, the attic consists of a single large bed room, having windows on all sides.

The exterior of the building is very tastefully ornamented in rustic style, with woodwork trimmings, the whole presenting a neat and handsome appearance. The idea of printing these designs and specifications is a good one, and undoubtedly others will be forthcoming from the same publishers.

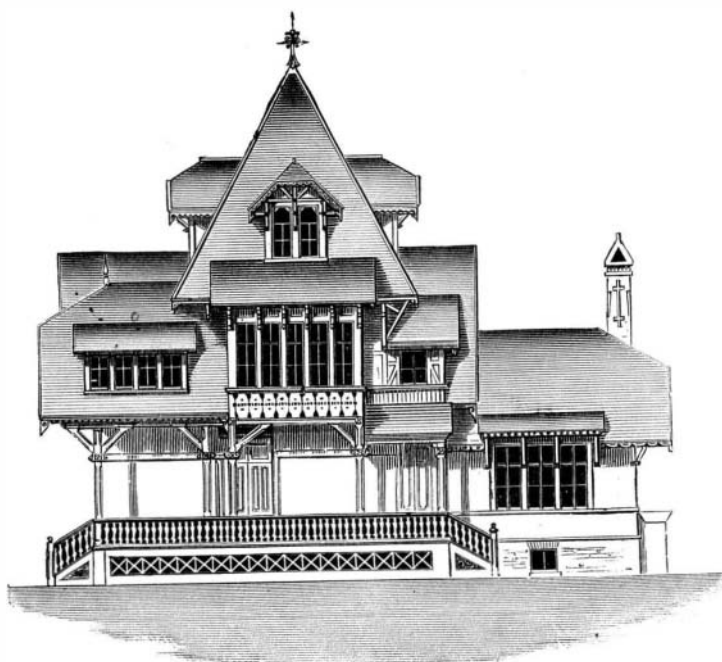
Artificial Ice for Skating Rinks.

Asphalt, pine flooring, patent ice, and all other substitutes for the real thing in skating rinks must give way before the newly invented ice rink of Professor John Gamgee, of London, England, if all be true that is said about it. He is declared to have succeeded in his attempts to manufacture by artificial means a perfect sheet of ice, which can be maintained constantly so as to bear skaters all day and all night long, if necessary. The ice is produced from below by a refrigerating machine, and the members of the London Skating Club who have skated on the rink already formed pronounce it to be the hardest and best they have ever tried. A very extensive rink can be maintained, it is alleged, with a consumption of about 56 lbs. of coal per hour. It is claimed for the ice produced by this method that it has no tendency to produce cold injurious to the feet; but it dries the warm air above, without producing an unpleasant or even an appreciable sensation of cold. We are curious, says the *Building News*, to see how the patentees of the roller skates will welcome Professor Gamgee's invention.

Sold Scientists.

Quite a number of scientific gentlemen in Washington were lately very much exercised over the supposed discovery of a human skull, exhumed from the limestone rock which formed a quarry for building stones in the Osage Indian Reservation in Kansas. The object was firmly imbedded in the stone, many feet below the surface of the ground. Of course such a discovery would be of immense importance, as setting the antiquity of the race still further back than is now believed to be the fact; and when a clergyman from the nearest mission pronounced the round smooth occiput to be a genuine skull, the scientists in Kansas promptly shipped it to another scientist in Washington, and he confirmed the opinion.

After the skull had been viewed and commented upon in the



ORNAMENTAL COTTAGE.

most learned manner by sundry erudite individuals, some one suggested sending it to Professor Meek, of the Smithsonian Institution, Washington. That gentleman quietly pointed out that the sutures visible did not at all resemble those of the human skull, and then shattered all the combined theories advanced by stating that the object was merely a shell, of the genus *goniatites*, a large one of its kind and probably the biggest ever found. It is supposed that thereupon several valuable monographs, "on a human skull from the limestone formation of Kansas," were consigned to various wastebaskets.

MARKRUD'S WAGON BRAKE.

The novel wagon brake illustrated herewith is automatic in its action, and is applied with great force to the wheels through the pushing back of the team upon the pole. Needing no attention from the driver, it is always ready for operation, while the brake shoes are so constructed as to be readily thrown out of use whenever required.

The rear end of the pole is croched, and in the arms thus formed are long slots, through which passes the fastening pivot. To the extremities of the arms are attached rods, A, which, by screws and nuts, are connected with the curved crossed bars, B. The latter are pivoted, as shown, to the running gear, and carry on their extremities the brake shoes, which are shaped as shown in Fig. 2. The slot through which the pivots of said shoes pass is not symmetrically disposed, but is placed eccentrically, so as to keep the shoe, when reversed, clear of the wheel.

When a strain is brought upon the pole by the pulling resistance of the wagon, the forward ends of the bars, B, are drawn together, and consequently the shoes are held away

Fig 1

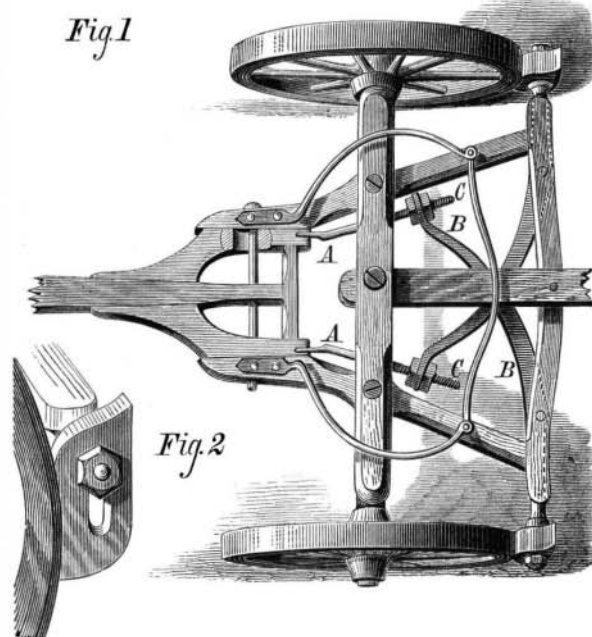


Fig 2

from the wheels. As soon, however, as the pole is pushed rearward, then the ends of the bars are spread apart, and the shoes brought in close contact with the tires. It will readily be seen that the shoes only act when their broader portions lie between their connecting pins and the wheels. To throw them out of action, it is only necessary to turn them

over, when their narrow portions, being narrower than the distance between the pivot pins and the wheels, cannot come in contact with the latter, even when the pole is pushed inward. The connecting nuts and screws, at C, admit of the accurate adjustment of the various working parts.

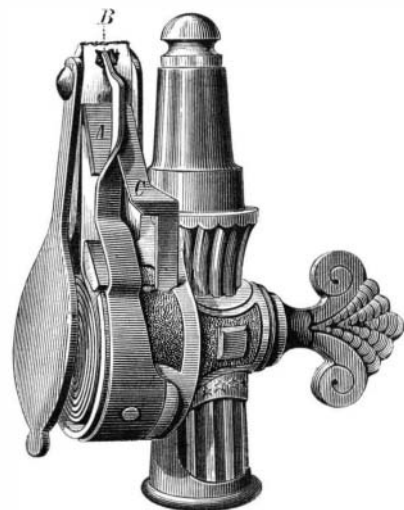
Patented November 2, 1875. For further particulars address the inventor, Halvor Markrud, Ettrick, Wis.

THE STOCKWELL SELF-LIGHTING GAS BURNER.

The annexed engraving represents a new and simplified form of a very ingenious little invention, with which the public are already in some degree familiar. Every housekeeper is aware of the predilection on the part of servants to scratch matches on walls or paint, leaving unsightly marks; children playing with matches have set themselves and many a building on fire; and it certainly is annoying fruitlessly to search through a dark room for a match, when a light is needed in a hurry. These, and many other troubles attendant upon the use of matches for lighting the gas, are obviated by the present device, in which the illuminating apparatus is combined with the burner, and the necessary operation of turning the key produces the ignition of the gas.

Cast in a single piece with the lower part of the burner is a circular chamber, provided with a swinging cover, as shown. Within, and fitting against the wall of this compartment, is a disk, rotated by the key; and a prolongation of the spindle of the latter projects into the chamber and supports a coil of paper, upon which, at suitable intervals, are dots of fulminating compound. This paper tape leads up and over the end of a vertical projection of the box in which it is contained.

A is a bent piece of metal, the lower portion of which enters a slot in the rear wall of the chamber, and has a projection below at right angles, which enters a circular hole in the disk, so that the rotating of the latter, in one way or the other, by the key, causes said piece to ascend or descend. The square upper end of the piece presses against the tape, and consequently raises and unwinds the same, as the key is turned vertically. At the same time, the piece, A, pushes back the spring hammer, B, until the bend in the former at C is reached, at which point the hammer is released and carried forward by the spring, strikes one of the dots of fulminate, explodes the same, and so lights the gas. The arrangement of parts is such that the hammer does not fall until just as the key is placed so as to turn the gas fully on, which insures ignition. Each roll of tape contains 135 fulminate dots, and the cost is less than that of matches. There is nothing about the device to get out of order, nor is there any chance of lighting the fulminate save by the operations specified. No skill is required to operate it, as it works



automatically through turning the same key which must be moved to light the gas with a match. The invention, we understand, is meeting with a large sale, and undoubtedly is one of convenience everywhere, especially in manufactories, hotels, churches, etc. It is manufactured in combination with every style of burner, provided with globe holders or otherwise. The patent for latest improvements is dated December 7, 1875. For further particulars, address the Stockwell Self-Lighting Gas Burner Company, 89 Liberty street (P. O. Box 5,065), New York city.

Artificial Snow Crystals.

The difficulty of observing snow crystals except in a freezing air has led M. Dogiel, of St. Petersburg Academy, to seek for some substance not liable to dissolve at ordinary temperatures, and crystallizing, like snow, in the hexagonal system. He selected iodoform (CH_3I_3), a compound familiar to some of our readers from its medical uses. It crystallizes in a remarkable variety of forms. To show their multiplicity, M. Dogiel dissolves iodoform in boiling (90 per cent) alcohol, and lets the solution cool in water of different temperatures. He gets mostly tabular crystals when a solution containing 15 to 30 per cent of iodoform is kept ten minutes in water of about 57° to 60° Fah.; whereas star-shaped and often very complicated crystals are had at temperatures of 78° to 100° .

FADED writing in ink can be restored by brushing over with a solution of sulphide of ammonium.