How to Build a Boat-house.

Having in former numbers described different kinds of boats, we now comply with several requests and describe a house in which to safely keep a boat. Any kind of a house that is large enough may be used, if provided with the needed fittings named below. Where the level of the water is liable to little change, the house need not be raised much above the surface of the water, but the floor may be make so low that one can easily step out of the boat to the floor. Of course there should be a channel made in the center of the house, deep enough to float the boat when loaded. The plan of the floor is shown at figure 1, with the boat in the center. The floor should be protected by a light railing around it, (see fig. 2), to prevent accidents from slipping when the floor is wet. Where the water level changes, the house should be raised on posts, or bents, as may be necessary to keep it above high water. A hanging ladder, that may be drawn up, is provided for use at low water.

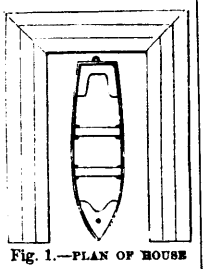

Fig. 1.—PLAN OF HOUSE

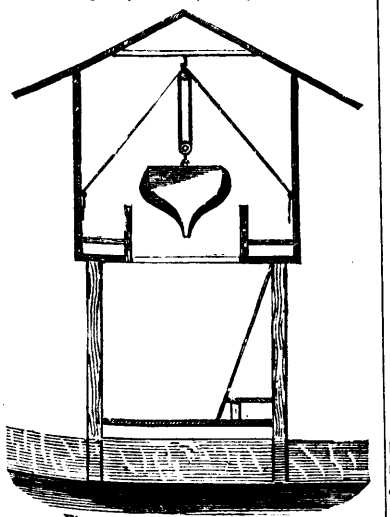

Fig. 2.—SECTION OF BOAT-HOUSE.

A NEW THEORY OF THE ORIGIN OF ROCKS.—The most recent deep-sea soundings have proved that the grand areas of the general sea bottoms of the Atlantic and Pacific oceans are similarly constituted of a girdle of calcareous mud, of indefinite depth, formed by a similar vein of discarded calcareous shells of animals of low organization—the foraminifera. This white calcareous matter of the foraminifera shells is replaced in certain deep oceanic valleys, for instance between Tristan d'Acunha and Kerguelen's Land and elsewhere, by a very fine red clay. In certain geological deposits, of greater or less antiquity, beds of glauconite or green siliceous sand exist, which are constituted entirely of the casts of ancient foraminifera formed of a green material, which is a compound of silicate of iron and alumina. Chemists have found that the red mud is the accumulation of a small percentage of clayey matter, resulting from the wholesale decomposition of the calcareous shells: clay deposits can therefore be assigned, like siliceous and calcareous deposits, to the resultant debris of organisms living at the surface of the sea. Supposing therefore that the whole globe were immersed under an entire envelop of water, deposits of all the materials of our stratified geological rocks could be going on without the slightest assistance from the degradation and wearing away of any actual land surface at all; and these deposits, subjected in the ordinary natural course of events to ordinary processes and actions, could be modified into gneiss, schist, slate, limestone, and every variety of geologic rocks.

A Hint to Builders of Frame Structures.

There are various ways of joining lumber, and ingenuity has almost exhausted itself to find the most proper methods suitable for special purposes. We represent in Fig. 1 a method of inserting a panel by means of a single molding overlapping the stile on both sides, and filling in a groove made in the latter, while a groove receives the panel. It is evident that in regard to strength and durability, this method is far superior to the common way of inserting the panel and covering the joint by a strip of thin molding, which, being only nailed on, is easily displaced by shrinkage of the wood, and frequently gets loose and comes off. Here it is all in one piece, and no nails whatever are required. In this respect we ought to imitate the Japanese, who, in erecting their building on the Centennial grounds,

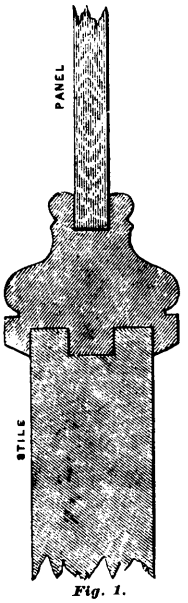

Fig. 1.

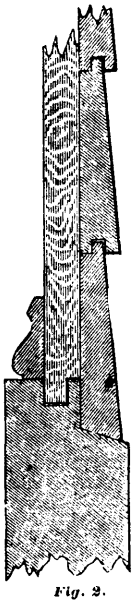

Fig. 2.

have given many a useful hint to our carpenters how to avoid the excessive use of nails, to which our builders are much inclined.

This solid way of panelling is very appropriate for partitions of parts of rooms, while Fig. 2 represents a section of an outside wall covered with weather-boards. The peculiarity is in the tongue and groove with which each board is provided, the tongue on top entering the groove in the bottom of the board over it. It is clear that this arrangement makes the whole perfectly watertight, and when covered with paint, especially over the seams, it will be very durable, as no moisture can possibly enter, even if the wind should sweep the rain against the wall. The wall is only a kind of heavy panelling fitting in a groove of the stile below, while a molding is nailed on in the usual way.

A Window Transparency.

Mrs. M. E. B. The window transparency referred to is made up of ferns, and other plants of pleasing foliage, and grasses. Autumn leaves are also introduced with good effect. All should be thoroughly pressed and dried beforehand, and in selecting the materials, choose those of light and graceful outline. If autumn leaves are used, they should not be varnished, but may be oiled, with linseed oil, or treated with paraffine or spermaceti; either of these may be rubbed on a flat-iron—not too hot, and the leaves ironed until they have taken up what they w. of the material. This will strengthen the colors without giving an unnatural gloss. Two pieces of thin clear glass, of equal size, are made perfectly clean, and the ferns, leaves, etc., laid upon one of them according to fancy. If none of the stems cross, there is no need of fastening them, as they may be held in place by pressure; but if an uneven surface is presented, some will need a touch of gum to hold them in place. Having arranged them properly, put on the other glass, and fasten them by narrow strips of paper put upon the edges, using gum, tragacanth, or flour paste. Gum Arabic will not hold well to glass. Colored paper may be put on over the strips, or if strong enough, may be used at first. The engraving will show how the affair appears when finished. We have seen the side lights to a front door thus decorated with very pleasing effect. Care should be taken to have the materials perfectly dry when made up, and the paper around the edges carefully put on. If any moisture is present, or should enter afterwards, mould will be apt to spoil the whole.

A WINDOW TRANSPARENCY.

ORNAMENTAL SPRUCE WORK,

or fancy articles made from spruce twigs, from which the leaves have fallen. The material generally used is the small shoots of the Norway Spruce, as that is very common in cultivation, though I do not see why those from our native White or Black Spruce would not answer as well. The twigs are cut, and laid away to dry; when quite dry, the leaves will fall off themselves, or by a little shaking. To make them up, soak the twigs in warm water, until so softened that a pin will pass through them easily. Common pins of different sizes are used for putting the pieces together, and if one has a pair of pliers or small pincers, and cutting nippers, such as are used for cutting wire, the work may be done all the easier.

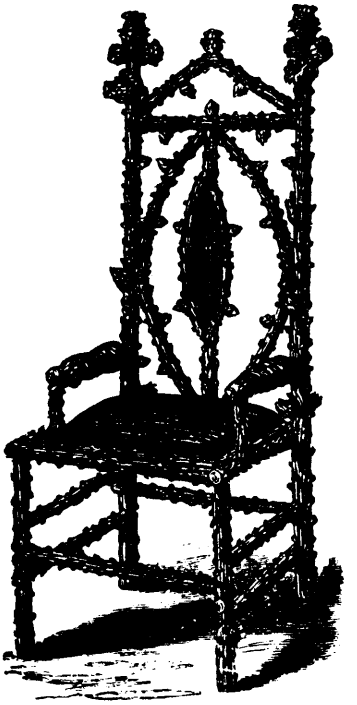

Fig. 1.—CHAIR MADE OF SPRUCE TWIGS.