SELF-WATERING FLOWER POTS.

We illustrate herewith a simple and novel device for moistening flowers and plants by means of the evaporation and condensation of water. Fig. 2 represents the parlor garden form. This is made of sheet metal, terra cotta, or other material, and can be made in any desired shape. The upper portion is pierced with openings after the manner of

a stove. In the bottom is a reservoir for water. The earthen flower pots seen in the figure are perforated with numerous holes, and are provided with projecting collars. They fit exactly into the openings of the cover, and the bottoms reach within one or two inches of the water beneath. The top of the pot is covered with segmental covers, provided with openings in the center, through which the stem of the plant protrudes. The natural heat of summer, or the artificial warmth of the room in winter, causes an evaporation of the water in the reservoir. As the exterior casings are water-tight, the water condenses on the sides of the flower pot. The earth contained therein absorbs through the holes the needed moisture, and the rest drips back into the reservoir. The segmental covers prevent the moisture evaporating from above, and in case of too much dampness, one or more of these covers can be raised. The water constantly passes back and forth from the reservoir to the earth, and is thus kept pure and sweet, and very seldom needs renewing. Fig. 1 represents a more ornamental design, constructed on the same principle. Flowers once placed in one of these gardens will, we are informed, remain fresh and green all winter with very little care. For further information address the inventor, C. H. Crater, Owego, N. Y.

IMPROVED CONSTRUCTION OF PORTABLE FRAME BUILDINGS.

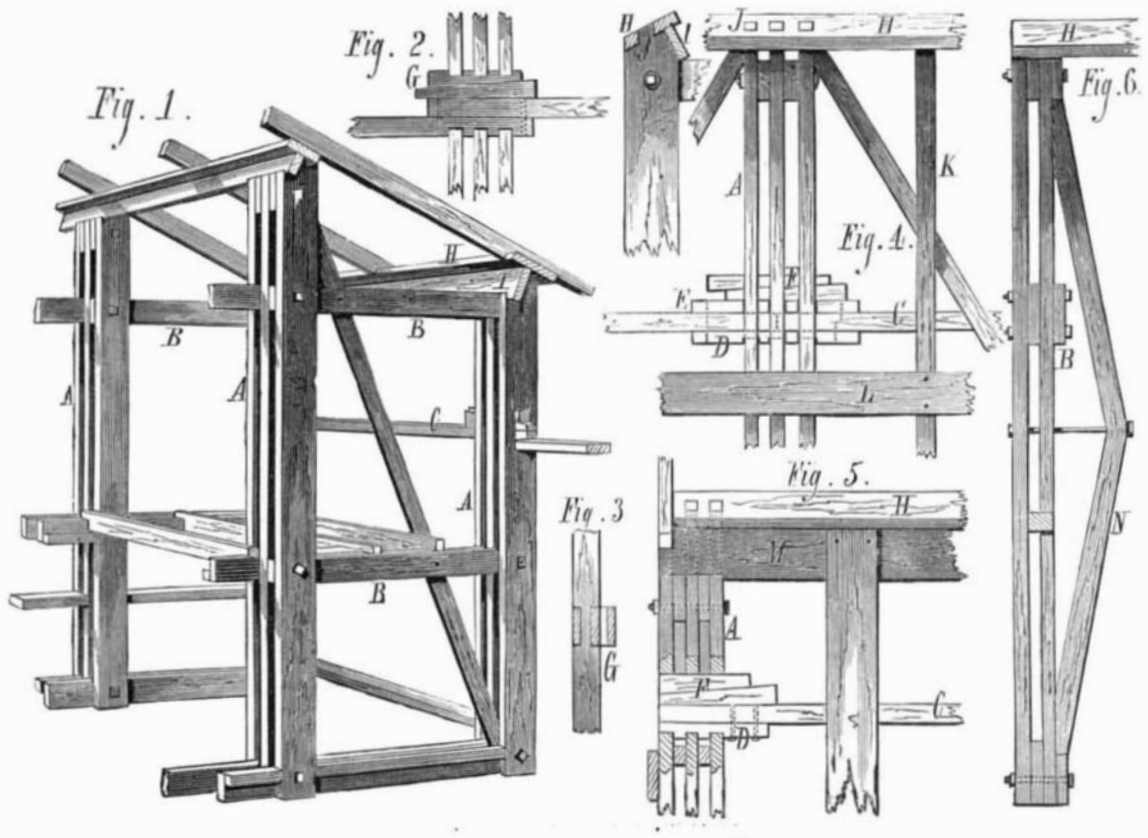
We illustrate herewith an improved method of erecting frame buildings by the use of planks of suitable length, and thickness, from which the posts, beams, joists, etc., are formed, so that the structure may be erected with much saving of timber and by unskilled persons. It also may be taken down and packed in small compass for shipment from place to place.

The supporting posts, A, are made of two or more planks according to the size of the edifice to be erected. The planks are placed at some distance from each other, and are firmly bolted to the beams, B, Fig. 1, which are made of several planks interposed between the post planks, the whole forming a strong and rigid construction. The lateral posts connecting girders, C, are passed through mortises of the plank posts, and are rigidly secured at their meeting ends by a recessed key, D, Figs. 4 and 5, which is first passed through the mortises of the post and then placed in position. The girder ends, after being inserted, are connected by a second recessed top key, E, of less width. Both keys are spiked to the girder ends in order to unite them. The keys and girder joint are finally locked to the mortises of the plank post by two wedge keys, F, introduced at relatively opposite directions.

The girders, C, are also connected to the posts by a similarly recessed key or girder, G, Figs. 2 and 3, that is inserted as above described, bolted, and finally locked by wedge keys.

The rafters are seated by their recessed ends on the rafter-bearing plates, H, Figs. 1 and 4, which are supported by pieces, I, set at right angles to the plates and fitted to the recessed ends of the posts to which they are spiked. The top ends of the posts have tenons, J, Fig. 4, that enter mortises in the rafter plates, H, so as to cause the rigid interlocking of said plates with the posts. Vertical siding strips, K, Fig. 4, are nailed to rafters, girders. etc., so as to receive the horizontal siding boards, L. A horizontal siding strip, M, runs below the rafter plate. In some cases posts are required that are not tied to the building by a girder or beam, in which case the post, constructed as already described, is strengthened by the brace, N, Fig. 6. This brace is made of one piece, and is attached to a central bolt and nut and seated against shoes.

This invention was patented through the Scientific American Patent Agency, December 25, 1876, and September 24, 1877. For further information address the inventors, Messrs. W. R. Morris and Joseph Slanser, LaRue, Marion county, Ohio.



CONSTRUCTION OF FRAME BUILDINGS.

Corrosion of Boilers by Smoke Deposits.

In the *Journal of the Franklin Institute*, Chief Engineer Isherwood, U.S.N., has a paper on the corrosion of steam boiler by the sulphuric acid in the soot deposited from the smoke upon the surfaces, the essay being translated from the French. The conclusions reached are that when smoke deposits on boiler surfaces distant from the furnace are rendered moist by any accidental cause, the sulphurous acid in the gases of combustion determines the attack upon metal by the formation of the sulphate of the oxide of iron.

The attack can take place, while the boiler is in use, on such of its metallic surfaces as may be wetted by leakage from the boiler itself, or by water infiltrated through the masonry, or derived from the condensation of the aqueous vapor in the gases of combustion by contact with surfaces relatively cold. It can also be produced while the boiler is out of use, by means of the humidity of the air in the flues.

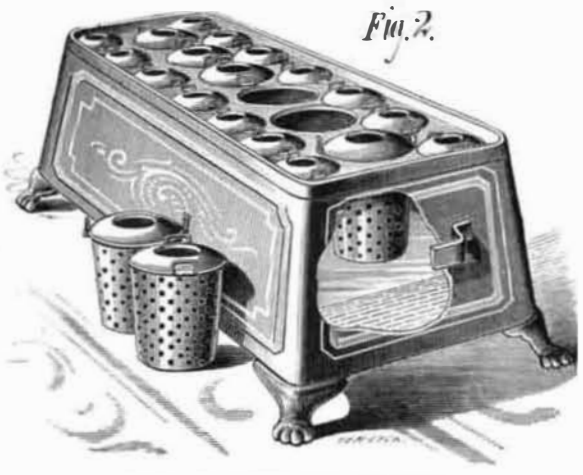
These different origins of the corrosive action, point out the precautions to be taken for preventing its destructive effects. They are only those which should be adopted for the preservation of any apparatus, namely, careful construction, thorough cleaning, and maintenance in good repair.

Egg Preservation.

We extract the following from the third report of the National Butter and Cheese Association, giving the method of preserving eggs which is practised by large dealers.

To make the pickle, use stone lime, fine salt and water in the following proportions: One bushel of lime, eight quarts of salt, twenty-five 10 quart pails of water. The lime must be lime that will slake white, fine, and clean. Have the salt clean and the water pure and sweet, free from all vegetable and decomposed matter.

Slake the lime with a portion of the water, then add the balance of the water and the salt. Stir well three or four times at intervals, and then let it stand until well settled and cold. Either dip or draw off the clear pickle into the cask or vat in which it is intended to preserve the eggs. When the cask or vat is filled to a depth of 15 inches or 18 inches begin to put in the eggs, and when they lie, say about 1 foot deep, spread around over them some pickle that is a little milky in appearance, made so by stirring up some of the very light lime particles that settle last, and continue doing this as each lot of eggs is added. The object of this is to have the fine lime particles drawn into the pores of the shells, as they will be by a kind of inductive process, and thereby completely seal the eggs. Care should be taken not to get too much of the lime in—that is, not enough to settle and stick to the shells of the eggs, and render them difficult to clean when taken out. The chief cause of thin, watery whites in limed eggs is that they are not properly sealed in the manner described. Another cause is the putting into the pickle old stale eggs that



SELF WATERING FLOWER POT.

have thin, weak whites. When the eggs are within 4 inches of the top of the cask or vat, cover them with factory cloth, and spread on 2 inches or 3 inches of the lime that settles in making the pickle, and it is of the greatest importance that the pickle be kept continually up over this lime. A tin basin (holding about six to eight dozen eggs), punched quite full of inch holes, edge muffled with leather, and a suitable handle about 3 feet long attached, will be found convenient for putting the eggs into the pickle. Fill the basin with eggs, put both under the pickle and turn the eggs out; they will go to the botom without breaking.

When the time comes to market the eggs they must be taken out of the pickle, cleaned, dried, and packed. To clean them, secure half of a molasses hogshead, or something like it, filling the same about half full of water. Have a sufficient number of crates of the right size (to hold 20 to 25 dozen eggs), made of laths or other slats, placed about three quarters of an inch apart. Sink one of these crates in the half hogshead, taking the basin used to put the eggs into the pickle, dip the eggs by raising it up and down in the water, and if necessary to properly clean them, set the crate up and douse water over the eggs; then, if any eggs are found when packing that the lime has not been fully removed from, they should be laid out and all the lime cleaned off before packing. When the eggs are carefully washed, they can be set up or out in a suitable place to dry, in the crates. They should dry quickly, and be packed as soon as dry. In packing the same rules should be observed as in packing fresh eggs.

Vats built in a cellar around the walls, with about half their depth below the surface, about 4 feet or 5 feet deep, 6 feet long, and 4 feet wide, are usually considered the best for preserving eggs in, although many use and prefer large tubs made of wood. The place in which the vats are built, or the tubs kept, should be clean and sweet, free from all bad odors, and where a steady, low temperature can be maintained—the lower the better—that is, down to any point above freezing.

CONDENSED forage is supplied to the Russian commissariat on the Danube by three Russian manufacturers, one of whom at St. Petersburgh turns out 30,000 lbs. per diem. The forage is composed of small biscuits of oatmeal, pea flour, rye meal, and ground linseed, and twenty-eight biscuits form a single ration for a horse, containing as much nutriment as 12 lbs. of oats, whilst only one fifth the bulk.