



FIG. 2.

The radiator sections are connected with each other at one point only, therefore no straining of the joints and consequent leakage is possible, from unequal expansion, as is often the case when sections are connected at two or more points. This is a very valuable feature, which overcomes one of the troubles that frequently occurs.

A leaky radiator becomes a troublesome nuisance and the leak is almost always traceable to the excessive strain upon the joints, caused by the unequal expansion and contraction of the metal sections, where they are joined at two or more points, as above mentioned.

On reference to Fig. 2 it will be seen that the point of connection between sections is at one end of the sections, leaving the other or free end to expand or contract, as the case may be, without strain upon or detriment to the joints.

The polyhedral, or many sided, contour of these radiator sections gives more heating surface within a given space than can be had with plain surfaces. This economizes space and is very advantageous in confined situations, as under windows, etc.

The openings through the sections, and the manner of putting the double and triple radiators together, whereby an air space is left between the tiers of sections, makes excellent provision for the circulation of air through and between them.

These radiators are perfectly adapted for use with steam, their construction being such that no pockets or dips can fill with water, from the condensation of steam, therefore, when properly piped, no "pounding" is heard, as a result of intercepted steam circulation.

The prominent exterior lines of the sections can be drawn in squares or diamonds, which renders it possible, when the radiators are made up, to ornament them in an almost endless variety of designs.

The radiator has been named the "Packer" and is constructed in various sizes by the David Bradley Manufacturing Company of Chicago, from whom all further information can be obtained.—*American Engineer*.

A NEW CEMENT.

London *Industries* describes a new cement which has recently been devised, and which is said to harden very quickly, and has been found to be of great strength. That journal says that this cement, by which many stone buildings in Paris have lately been renovated, is likely to prove useful also in repairing the foundations of machinery. The powder which forms the basis of the cement is composed of two parts oxide of zinc, two of crushed hard limestone, and one of pulverized grit, together with a certain proportion of ochre as a coloring agent. The liquid with which this powder is to be mixed consists of a saturated solution of six parts of zinc in commercial muriatic acid, to which is added one part of sal-ammoniac; this solution is diluted with two-thirds of its volume of water. A mixture of one pound of the powder to $2\frac{1}{2}$ pints of the liquid forms a cement which hardens very quickly and is of great strength.

INCREASING THE DENSITY OF STEEL.

In working steel by hammering, or drawing it down by the process of rolling, it is a well-known fact that the steel forming the corners becomes more dense by the operation, or has the appearance of being refined, for where drills for cutting stone are used they are found to work much better by having the bit or cutting edge come in line with these compressed edges. In rolling eight-square steel, the line of dense metal comes in the form of a Maltese cross, and as the bit of a rock drill, where power drilling is made use of, is something of the same form, care is taken to have them coincide. The etching process must show this action of steel to perfection, if a section could be worked off true and even, and polished. After hardening, the etching fluid will take hold of the softer metal with greater freedom, and bring out all the features that can be contributed to the action of the hammering or the refining from the rolling operation.

WHAT SALT WILL DO.

Salt in whitewash will make it stick better.

Wash the mica of the stove doors with salt and vinegar.

Brasswork can be kept beautifully bright by occasionally rubbing with salt and vinegar.

Damp salt will remove the discoloration of cups and saucers caused by tea and careless washing.

When broiling a steak, throw a little salt on the coals and the blaze from dripping fat will not annoy.

To clean willow furniture, use salt and water. Apply it with a nail-brush, scrub well and dry thoroughly.

If, after having a tooth pulled, the mouth is filled with salt and water, it will allay the danger of having a hemorrhage.

Salt as a tooth-powder is better than almost anything that can be bought. It keeps the teeth brilliantly white and the gums hard and rosy.

Carpets may be greatly brightened by first sweeping thoroughly and then going over them with a clean cloth and clear salt and water. Use a cupful of coarse salt to a large basin of water.

If the feet are tender or painful after long standing or walking, great relief can be had by bathing them in salt and water. A handful of salt to a gallon of water is the right proportion. Have the water as hot as can comfortably be borne.—*Exchange*.