

EFFECT OF TURPENTINE.

The following account given originally by Rev. Canon Mosely, and cited by Prof. Tyndall in one of his lectures, will show the difficulties encountered in the use of material under the expansion and contraction caused by changes of temperature.

The choir of Bristol Cathedral was covered with sheet lead, the length of the covering being 60 feet, and its width 19 feet 4 inches. It had been laid on in the year 1831, and two years afterward, viz., in 1853, it had been moved bodily down for a distance of 18 inches. The descent had been going on continually from the time the lead had been laid down and an attempt made to stop it by driving nails into the rafters had failed; for the force with which the lead descended was sufficient to draw out the nails. The roof was not a steep one, and the lead would have rested on it forever without sliding down by gravity. What then was the cause of the descent? Simply this, the lead was exposed to the varying temperatures of day and night. During the day the heat imparted to it caused it to expand. Had it lain upon a horizontal surface, it would have expanded equally all around, but as it lay upon an inclined surface, it expanded more freely downwards, i. e., in the direction of least resistance.

When the lead contracted under the lower temperature of the night it contracted also in the direction of least resistance, i. e., downward. So it pushed its lower edge downward in the day, and drew its upper edge downward at night, thus by degrees it crawled through a space of eighteen inches in two years. Every local change of temperature, also, during the day and during the night contributed to the result; indeed, Canon Mosely afterwards found the main effect to be due to these quicker alterations of temperature.

To ascertain whether an article is made of steel or iron pour on the object to be tested a drop of nitric acid 1.2 specific gravity, and after it has acted for one minute rinse with water. If iron, the spot will be of a whitish gray color; if steel, it will appear as a black stain.

The liability to err in mixing cement with wet and dry sand is described by M. Candlot, and an abstract of his paper given in the Journal of the Society of Chemical Industry. Feret has pointed out the possibility of serious mistakes in the proportions of mixtures of cement and sand due to a disregard of the condition of the sand—whether wet or dry. The addition of comparatively little water largely increases the quantity of cement out of all proportion to the sand. For instance, 2 per cent. cause

of a cubic meter of the moistened sand to decrease 269 kilos; that is to say, 18.5 per cent. of the original weight. Such differences would cause great fluctuations, hitherto generally overlooked, in the composition of mortar mixtures intended to be of a certain strength.

Prices of Building Materials.

LUMBER.

CAR OR CARGO LOTS.

Table listing lumber prices for various types of wood, including clear picks, dressing, mill run, and various grades of shingles.

Metallic Roofing Co. of Canada:

Table listing prices for heavy and light Eastlake galvanized steel shingles.

M. H. Notre Dame Street, Montreal, October 14, 1890

C. H. Mortimer Esq., Publisher Canadian Architect & Builder, and Contract Record.

Dear Sir,

I have to inform you, that, the following resolution was unanimously adopted, at the First Annual Meeting of the Province of Quebec Association of Architects held in Montreal on 10th & 11th inst.:- We the Architects of the Province of Quebec now assembled in convention being satisfied that the Canadian Contract Record affords us a direct communication with the contractors. Resolved: That we pledge our support to it by using its columns when calling for tenders. Yours truly, C. Billet, Secretary.

Detailed table listing prices for various building materials such as painted steel shingles, lathing, roofing, and cladding.

YARD QUOTATIONS.

Table listing yard quotations for mill cull boards, shipping cull boards, hemlock canting, and various types of flooring and sheeting.

BRICK—B M

Table listing prices for common walling, good facing, pressed brick, and diamond locking tile.

Stone.

Table listing prices for common rubble, large flat, foundation blocks, and various types of roofing tiles.

Sand:

Table listing price for per load of 1/4 cubic yards.

PAINTS. (In oil, @ lb.)

Table listing prices for various types of paint, including white lead, red lead, and yellow ochre.

CEMENT, LIME, etc.

Table listing prices for lime, plaster, hair, and various types of cement.

HARDWARE.

Table listing prices for various types of nails, including American pattern, Canadian pattern, and finishing nails.