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THE

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THE CANADIAN CONTRACT RECORD,

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The purpose of this journal is to supply Contractors, Manufacturers and Dealers throughout Canada, with advance information regarding contracts open to tender, and to furnish Architects, Municipal and other Corporations with a direct medium of communication with Contractors.

Information from any part of the Dominion regarding contracts open to tender will be gratefully received.

ADVERTISING RATES ON APPLICATION.

At its Convention held in Toronto, Nov. 20 and 21, 1889, the Ontario Association of Architects signified its approval of the CANADIAN CONTRACT RECORD, and pledged its members to use this journal as their medium of communication with contractors with respect to advertisements for Tenders.

The publisher of the "Canadian Contract Record" desires to ensure the regular and prompt delivery of this Journal to every subscriber, and requests that any cause of complaint in this particular be reported at once to the office of publication. Subscribers who may change their address should also give prompt notice of same and in doing so, should give both old and new address.

RUBBER PACKING RINGS FOR GAS-PIPE JOINTS.

At a recent meeting of the *Mittelrheinischer Gasindustrieverein*, in Germany, particulars were given by Mr Kugler, of Offenbach, of the substitution of rubber packing rings for the commonly used lead filling in making gas-pipe joints, with pipes ranging from about 3 to 4 inches in diameter. According to Mr. Kugler, the rubber packing had at first been used in connection with pipes having the ordinary bells as employed for lead joints, but more recently pipes with special bells had been tried, the bells having grooves into which the rubber rings fitted accurately. With these modified bells even better results were obtained than in the earlier experiments, entire absence of leakage and eminent durability being claimed for the packing. To protect the rubber rings from destructive external influences a coat of cement is plastered over the outside of the joints.

It was noted that rubber packing for gas pipe joints was used in some localities a number of years ago, but experience with them was not encouraging, possibly on account of a poor quality of rubber being used, and insufficient protection against external corroding agents.

TREATMENT OF HARDWOOD FLOORS.

We have had some experience in the matter of hardwood floors, and have given no little attention to the subject. The treatment depends, in a large degree, upon the use to be made of the room. The wood should be thoroughly seasoned and laid in narrow strips. For kitchen and common sitting-room, raw linseed oil is the very best treatment. Hand rubbing is the best method of applying it, but it needs a great deal of muscular activity. The next best is a stiff brush, such as comes for this purpose, with an iron back and a long handle. This gives a dull, clean finish, and may be applied as often as the occupants choose. For a chamber where a little livelier finish is desired after the first dressing of oil, take two parts of linseed oil, two parts of alcohol, one part spirits of turpentine, and an ounce of ether to a quart of the mixture, and apply it briskly with a rag. Use this as often as needed. Where a higher finish is wanted, wax and turpentine make a good top dressing, and for a parlour, shellac is added. Most of the foreign floors are polished with wax and turpentine. The secret of successful application is a small amount of the dressing and a large amount of elbow labor.—*New York Journal of Commerce.*

CONCRETE ARCHES.

Some interesting experiments on concrete arches were made recently during the construction of the new railway station at Erfurt. Some of the rooms were to be covered with concrete floors, carried on iron beams, while others, of smaller size, were intended to be spanned by arches extending from wall to wall. One of the latter, something over seven feet in width, was covered with concrete, flat on top, and forming on the under side a segmental arch, the thickness of the material at the crown of the arch being four inches, and about eleven inches at the springing. The concrete was made of "Gerwana," Portland cement, mixed dry with gravel, moistened as required, and well rammed and the centering and skewbacks were cut in the walls at the springing line, extending two courses higher, so as to give room for the concrete to take a firm hold upon the walls.

Fourteen days after completion this floor was loaded with bricks and sacks of concrete to the amount of more than six hundred pounds to the square foot, without suffering any injury, although, after the load was on, a workman hammered with a pick on the concrete, close to the loaded portion, in order to provoke the cracking of the arch if there had been any tendency to rupture. In the other cases, the concrete arches being turned between iron beams, the strength of the floor was limited by that of the beams, so that the extreme load could not be put on; but the curious fact was established that a section of concrete flat on top, and forming a regular segmental arch beneath, was far stronger than one in which a portion of the under surface was parallel to the upper, showing, apparently, that the arched form, even with homogeneous concrete, causes the conversion of a large part of vertical pressure into lateral thrust, reducing by so much the tendency of the load to break the concrete transversely.

This observation is important theoretically as well as practically. It has been of late generally maintained that a concrete arch is not an arch at all, but a lintel, without thrust, and that the common form, flat above and arched beneath, is objectionable, as it gives least material in the center, where a lintel is most strained. The Erfurt experiments directly contradict this view, and it remains for some students of architecture to render the profession a service by repeating them, and, at the same time actually determining the thrust, for a given load, of arches of particular forms.

Incidentally, a trial was made of the effect of freezing on the concrete. The floor of a room arched in four bays, between iron beams, had just been finished when the weather became cold, and on the morning after its completion the thermometer stood at twenty above zero. The concrete had not been protected in any way, and the contractor was notified that it had been frozen and must be removed. This was early in December, and it was about the first of April before the work of removal, preliminary to replacing the concrete with new material, was begun. Three bays had been wholly or partly removed when the hardness of the concrete under the workmen's tools attracted attention, and the arch remaining intact was tested with a load of 300 pounds to the foot, which it bore perfectly. —*American Architect.*