carpenter and joiner's work, L. L. Jette; brick work, Z. Benoit; painting and glazing, N. Desjardins.—Sincennes & Courval, architects, have let contracts for one building on Laval avenue for Mde. A. E. Clement as follows. Masonry, Latour, Goulet & Co.; carpenter and joiner's work, Mennier & Labreche; roofing, plumbing and heating, Martin & Vezina; brick work, Jos. Pepin; plastering, H. Contant; painting and glazing, Rollin, Parizeau & Co.—Building permits have been granted as follows: Two houses, three stories, brick front, on Vitre street for C. E. Joslin—masonry, John Matheson; carpenter and joiner's work, Robert Neville; brick work, A. E. Wand. Two houses, two stories, on Ryde st. for L. Lamarre. Modifications of a house on Belmont street for W. A. Stephenson—architects, Wright & Son; contractors, all trades, Kelly & Bulmer.—The bridge of the Drummond County railway at Maddington Falls, which was carried away by freshet, is to be replaced by a steel structure. The contract has been awarded to the Dominion Bridge Co., of this city, and the cost of the work will be \$26,000.

## BUSINESS NOTES.

Albert Bulmer and M F. Kelly, contractors, Montreal, have commenced business.

Albert E. Bishop and James. E. Madden have registered a partnership in Montreal as plumbers, under the style of Bishop & Madden.

An important failure in the plumbing trade is that of Drapeau, Savignac & Co., of Montreal. The liabilities are scheduled at \$41,470. About a year ago they were said to have claimed an apparent surplus of nearly \$30,000.

## WHO BUILDS THE HOUSE.

The relation of a man who builds a house to the man who designs it, and the relations of both to the owner, who is to pay the bills—these are vexed questions which each man tries to settle for himself, and which are, therefore, in what an Irishman would call, a permanently unsettled condition.

In the first place, the owner has an indistinct idea of what he wants, and a very positive idea about how much it ought to cost him, and is also firmly convinced that he knows all about it. He therefore engages an architect in order to have the privilege of telling him how to build his house for him, and incidentally also to make the designs and drawings and superintend things generally.

When it comes to matters of detail, the owner s. poses that the architect will take care of them; if not, why have one at all? And so after many changes and much discussion, the drawings are accepted, and the specifications and contracts are prepared. At this stage the owner begins to appreciate the fact that there is a builder in the case and that his province after all is to make the house for him.

Among the three parties there seems to be an impression in the mind of each that he is really the man who builds the house. The owner talks freely of the house he is building, while the architect does not hesitate to call it his, however much his idea may be cut and hacked; and in the meantime the builder goes ahead with the work, and with many portions does pretty much as he pleases.

The result of this combination, which a diplomat would call a "triparti agreement," but which is much more frequently a disagreement, is not always to the benefit of the work, and as the owner is the one who pays the bills, and generally lives in the house, the relations of the others to him are sometimes more interesting. Of course, he wants to get the best for the money, but he doesn't always know just what he does want, and hence it is the function of the architect to tell him what he wants, and the function of the builder to get it for him, and furthermore it is the province of the architect to see that he gets it.

This brings us the real question in hand, the function of the builder. He is expected to take the contract at the lowest possible figure, and to execute it in the best possible manner, and incidentally to make a fair margin of profit for himself, he not being in the business from purely philanthropic motives. In carrying out these laudable objects, he has his chart, his specifications, and the drawings, and if he keeps strictly to the imitations he does well. Much of the fault which is found with the builder is uncalled for, either in justice or in the specifications, and when his shortcomings, which are so frequently denounced, are heard, one is sometimes reminded of the housemaid who, when reproved for not having devined the intentions of her mistress, retorted: "Did you expect to get a mind reader for three dollars per week?"

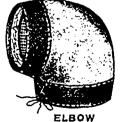
The builder is all right if he is only given a fair chance; but before he is called in at all, the owner and the architect should make up their minds as to what they really want and say so clearly and unmistakably, in specification and drawings. The articles which the owner should himself select ought clearly to be stated as being omitted from the specification and to be furnished when required; and then, with the addition of a limited amount of common sense, there may be good reason to expect mutual satisfaction, and what is still more destrable, a fairly good building when all is done.-The Trefoil.

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## PAINTS FOR METALS.

An account of some interesting researches on the value of paints for ironwork, made by Professor J. Spennrath, has recently been published in the "Deutsche Bauzeitung." As one result of these, Professo, Spenniath concludes that none of the metallic oxides commonly used combine chemically with linseed oil. The drying process depends exclusively on the absorbtion of oxygen by the oil, which is facilitated by the presence of the pigment in a purely mechanical way. The value of the different pigments used varies. Thus, zinc white, when used for outside work, rapidly swells to double its previous volume, owing to the absorption of carbonic acid gas and water. Sulphuretted hydrogen will cause red or white lead to act in a similar way, but, when pure, Professor Spennrath considers these two latter pigments satisfactory. Carbon paints are very stable, as in heavy spar, but the covering power of the latter is small. In order to test the relative durability of various paints, sheets of zinc were coated with a number of different kinds. The zinc was then dissolved away by acid, leaving a film of paint. All these films, it was found, could be destroyed by the action of dilute nitric or hydrochloric acids, while the vapors of sulphuric and acetic acids acted similarly. Alkaline fluids and gases also destroyed the paints rapidly, Pure water was found to be more injurious than salt water; hence the destructive action of sea water is to be attributed mainly to the mechanical effects of wash. Hot water was found to act more rapidly than cold. The most important discovery made was, however, the great influence of temperature. Films similar to those already described completely lost their elasticity and became brittle when exposed to a temperature of 203° Fahr. There was at the same time a large contraction. Similar effects are produced by prolonged exposure to considerably lower temperatures. Blistering he finds due to the inner coat of paint being so thick that it has not hardened thoroughly before the second coat is applied .- Varnish.

AQUARIUM CEMENT. - Two parts (by weight) of common putch and one part gutta percha, melted together in an iron vessel, and thoroughly incorporated by stirring.



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