

made to secure the necessary funds to erect the building. A building permit has been granted to John Rankin, par att. 2 story bk. dwellings, 110 112 Peter street, cost \$1,800.

FIRES.

The town hall at Port Hope, Ont., containing the market rooms, market clerk's residence, butcher stall and police cells was burned to the ground last week. Loss \$25,000; insurance \$10,000. St. Jude's Episcopal church at St. John N. B., has been destroyed by fire. Loss, \$10,000; insurance, \$2,280. The Government marine shipping office at the same place has also been destroyed. A. C. Vaughan's residence at Port Arthur, Ont., was destroyed by fire last week. Loss, \$5,000; insurance on building, \$1,000. A grain elevator at Alexandria, Ont., owned by W. D. McLeod, and occupied by J. E. McGregor & Co., grain merchants, was totally consumed by fire on Saturday last. The building was insured for \$1,000 and the contents for \$4,500, which will only partially cover the loss. — The Menzie block at Arnprior, Ont., containing Mr. Alexander Menzie's drug store, the telephone office, Mr. Campbell's grocery store, Dagenais clothing store and Russell's billiard room, was totally destroyed by fire last week. The total loss is placed at \$20,000. The Eric Glass Company's factory at Port Colborne, Ont., was totally destroyed by fire recently. Loss \$30,000; partially covered by insurance. On Sunday last fire at Charlottetown, P.E.I., destroyed the brick buildings on Queen street owned by Hugh Monaghan, and used for stationery and grocery stores. — The hardware store of Pringle & Clums, at Guelph, Ont., was completely destroyed by fire on Sunday morning last, together with the entire stock. The building was owned by Mr. Maurice O'Connor, and was insured for \$4,000. — The gents' furnishing store of E. J. Fallis, Yonge street, Toronto, was badly damaged by fire on Tuesday last. The building was owned by Messrs. Hughes Bros. — A building at Sarnia, Ont., known as the Pacific House and recently occupied by Mr. Maurice Joy as a hotel, was destroyed by fire a few days ago. It was owned by Capt. James Oag, and was fully insured.

CONTRACTS AWARDED.

WINNIPEG, MAN. The contract for constructing the Mavfair avenue sewer has been awarded to Mr. W. F. Lee, at the price of \$2,144.

PORT STANLEY, ONT. — The promoters of the London & Port Stanley Railway have awarded the contract for building slip dock at this place to a Cleveland firm, the contract price being \$15,000.

TORONTO, ONT. — Messrs. Medler & Arnot have been awarded the contract for cribbing on the Esplanade under the boat houses at \$2.79 per cubic yard, and that for other Esplanade crib work at \$2.07 per cubic yard.

HAMILTON, ONT. — The Board of Works have accepted the following tenders for annual supplies: Spikes, Carpenter & Ramsey, \$2.27 per keg; cedar and tamarac blocks, D. L. Vanlack, 37 cents per yard; lumber, R. Thompson & Co.

WOODEN STAIRCASES THE SAFER.

Can wooden staircases really be the best and safest? This question arises when one reads the remarks reported to have been made by Superintendent Savage, Chief of the Manchester Fire Brigade, viz.: "A wooden staircase is the safest in the case of fire. A staircase of stone looks incombustible, but once it is attacked and one keystone 'flies,' as we say, with the heat, the whole thing will go by the board. Wood is the safest building material in the world, so far as fire is concerned. Build your theatres, for instance, of wood coated with asbestos paint, and make everybody come upstairs to get out. Then you will never have a serious disaster. People cannot fall over each other when they are climbing, and a wooden staircase

will hold together as long as a scrap of it is left." This opinion, which is in accord with those of Captain Shaw and other experienced firemen, will be read with surprise by many theatrical managers and others. *Invention.*

MAKING SOLDER 'N BARS.

There are various ways of making solder, and nearly every person you meet, who knows something on the subject, when asked "How do you make your solder, what are the proportions, etc.?" replies invariably in a different tenor to what another of the fraternity has prescribed; so the better way, I think, is to hear what each has to say and then judge for one-self as to the best plan to adopt.

Having been "through the mill" myself I have gained a little experience here and there which has proved beneficial to me. These little hints which hereafter appear are given with the best intentions and in no spirit of braggadocio, and I will endeavor to make myself as explicit as I can, because they were found great obstacles or stumbling-blocks to the writer when he was paying his "initiation fees." In all large towns there are stores over which hang three gilt balls, which are best designated as "pawn shops," in these places are bought for a mere song, old pewter cups, teaspoons, etc., which they are generally willing to dispose of at a small remuneration of, say 150 per cent. We will consider then that our pewter is obtained, and from the same source we have bought some old lead — be careful about selecting this; if possible pick out sheet metal and above all avoid old gas pipe, as it is not lead at all. It is a composition which is known in the trade as "compo" and is not suited for the manufacture of solder.

Cut both the metals into small pieces and first put your lead in the crock or ladle, as it melts slower than the pewter; when same begins to fuse put in the pewter and at the same time drop in a little resin or a piece of tallow candle, which will cause all impurities to rise to the surface. These impurities should be skimmed off and the molten metal stirred up to insure a thorough amalgamation. The alloy should now be run out ready for use. There are various ways of doing this; some pour it out on a flag-stone, others in angle iron, etc., but the better way is, I think, to make it in bars, which keeps the metal in compact form and is handier to manipulate with than several modes that are adopted.

It simply consists of a piece of sheet iron about the same thickness as two cross (xx) tin, which is corrugated in arcs or half-circles, as figures elucidate, and can be made to any size to suit the fancy. A convenient size, however, is 12 inches wide by 18 inches long, which will be found large enough for several pounds of solder. Next make a framework of wood whose inside measure is scant the size of your iron plate after same is fluted, and in this frame secure at each end by means of three screws the sheet iron plate. Care should be taken to make frame fit snugly so that the solder will not run through, and, I might add for the inexperienced, that black iron must be used and not tin-plate, as molten alloy will adhere to the tin for "keeps". — *American Artisan.*

USEFUL HINTS.

The following is a simple receipt for making antique oak: Taking a weak solution of sulphate of iron in water, is used for a dark color, but requires a little practice, wiping the solution on a trial piece. A safer way for an amateur, is to use burnt umber in turpentine, when you can tone the shade to your taste.

Ordinarily it is best to remove all the material to be cut from surfaces on cast-iron pieces as a first operation. The reason for this is, that when the metal is taken from such surfaces, the internal strains are partly relieved, and the piece will change in shape. When, therefore, holes having positive relations to each other and to other working points have not been made after the removal of masses or extended areas of metal, these holes will

be found to have changed in their relations to each other after such removal in almost all such cases.

Varnish made with alcohol will get dull and spongy by the evaporation of the alcohol, which leaves water in the varnish, as all commercial alcohol contains water. Take thin sheet gelatine, says the *Western Painter*, cut it into strips, and put it in the varnish; it will absorb most of the water, and the varnish can be used clear and bright down to the last drop. The gelatine will become quite soft; it can be dried and used again.

PUBLICATIONS.

We desire to acknowledge the receipt of a handsomely lithographed calendar from Mr. Alex. Bremner, dealer in contractors' supplies, Montreal.

MUNICIPAL DEPARTMENT.

THE CITY HALL OF AMERICA.*

A decided advance in the designing of municipal structures is seen in the present time as compared with a period only a few years back. Buildings like the city hall of Milwaukee, or the old city hall of St. Louis perfectly featureless edifices, whose domes only help to make the poverty of the design more apparent and even semi-respectable buildings like the old city hall of Chicago, or pretentious things like that of Philadelphia, have long ceased to be possible. Architectural taste has grown out of the rut represented by the last one are too conspicuous to permit any defence. The most successful of recent efforts are to be found in small halls rather than in large ones. Of these, the city halls of Albany, New York, and of Cambridge, Winchester, and North Easton, in Massachusetts, may well be taken as examples. The last named especially ranks among the most beautiful of Richardson's design, and shows how thoroughly admirable the municipal buildings of a small community may be made, and what an addition they may become to the architecture of the town. Very different as each of these four designs are, they have this common characteristic:—a careful subordination of any evident effort. There is no straining for effect, no attempt to impress by some gigantic feature. They are calm, careful, scholarly buildings, each of which might well be taken as a model for town halls in other communities of similar size and importance.

We have no city hall in any of the larger cities nearly as successful as these. It may not be that our architects are incapable of handling the more complicated problems suggested in large buildings, for they are solving other questions quite as complex and difficult every day. Doubtless the simplicity of the plan of the small town has much to do with the success of the designs. There is no need to have innumerable bureaus, with multitudinous subdivisions for clerks. In the smaller towns an office for the mayor or chief executive and his clerks, with a room for the aldermen or council, and one or two committee rooms, suffice for all necessary purposes. Even when the court-rooms are included, the complexity of the edifice is not greatly increased. To these, in many instances, is added a room for public meetings, the town hall pure and simple, which may readily be made the most conspicuous feature of the design, and thus help in the making of a successful building rather than hinder it.

This latter feature is, of course, quite unknown in the halls of large cities, but the difficulties of the problem are not lessened by its absence. One of the most difficult features presented in large cities is the building of a hall which will continue to be large enough for municipal needs for a term of years. Philadelphia has undertaken to solve the problem by building a structure much too large for current necessities. Brooklyn has sought relief by erecting a series of additional

* A paper by Mr. Barr Ferree, published in the *Engineering Magazine*.

buildings, a group not without some picturesque variety, but unfortunately wanting in individual merit. Boston must at once build an entirely new hall, or enlarge its present building to such an extent as to be practically a new edifice. New York has seen its municipal departments overflowing into a dozen outside structures at the cost of an enormous rent-roll, and still is undetermined in what manner to find relief. In that city, however, the question turns more upon location than upon ways and means, though it is difficult to understand why, with the ample available ground in City Hall Park which is now chiefly appreciated by an endless army of loafers, there should be any hesitancy on this score.

The simple resolution to build will not solve the problem in the metropolis or elsewhere. Notwithstanding the lack of success, which has attained many attempts in municipal architecture, the public has not outgrown the idea that the city hall must be an impressive structure. And public opinion is quite right. But what a thing should be is often very different from what it is. Our cities are so rapidly becoming examples of commercial architecture that it seems not unreasonable to ask that in one type of building at least some monumental feeling be permitted, into which the ornamental shall be allowed to enter to a greater extent than into a business building. But the large buildings have failed so often to fulfil this public feeling that it would seem to be better, in the end, to treat our city buildings as business buildings, which, in very truth, they are. This does not mean that a city hall should be a gigantic office building, like the Masonic Temple of Chicago, or the Produce Exchange of New York, or the Ames Building of Boston, admirable examples of commercial structures as they are; but the problem should be attacked in a business manner, treated in a common-sense style, and the result in a measure left to take care of itself. It is well enough to have a dome, if the style of architecture permits it, or a tower, if that be more in keeping with design, but neither of these elements should be made the fundamental part of the whole, nor should the effort be simply to have a great dome or a lofty tower regardless of everything else. Instead of being the first consideration such things should be the last. The greatest dome will not render any building more useful, nor will its utility be added to by the loftiest or most beautiful tower. Like every modern structure the city hall has a use, as well determined and as evident as that of an office building or a hotel. No one should think of putting a dome on an office building for simple external grandeur, and in this utilitarian age towers are filled with rooms and made as useful as the lower portions of the structures they adorn.

(To be continued.)

BURNT CLAY FOR ROADS.

The *Davenport Democrat*, published in a city whose brick paving has been introduced extensively, advocates burnt clay for street improvement. It says, Gumbo, or burnt clay, such as railroads are using for ballast, is the material suggested, and competent engineers and roadmakers believe that it will make a road equal, if not superior, to macadam or gravel at much less expense.

"This burnt clay ballast is peculiar in its properties. There is no other material like it, and its distinguishing characteristics are such as to make its friends believe it is the very thing for a road.

"It is made by heaping up long rows of clay with soft coal, much like the coke ovens with which travelers through Pennsylvania are familiar. Any kind of clay that is free from sand will do. The rows are fired and tended so that they burn in the proper manner and the result, when the fires go out, is a lot of burnt clay. It is red in color, about like ordinary brick. It is porous and highly absorbent. It is as hard as anything that is of the earth or earthy. It is easily settled into a firm mass without being packed as stone and other materials are. It will not support