etc., for general purposes, such as passing examinations and to commit him for committee meetings and architectural societies. But it is a man's soul that has to be developed if we want to make an architect of him; and few book-worms have, I think, large souls, their chests are too narrow, and I can hardly fancy a good architect with a narrow chest even, for good work seems to come from the chest and shoulder as much as anywhere; and, if these are bent and hollow, so will the work they produce be weak and lifeless, however full of precedent and learning it may be.

HINTS TO DRAUGHTSMEN.

DRAUGHTSMEN, as well as others, have their little kinks, and the publishing of these kinks often helps others. A practical draughtsman gives the following simple suggestions, which will likely prove useful to some reader : In mixing up inks the process is very much expedited by heating the dish and water in which it is mixed before commencing. It often happens in the summer that the flies walk over a tracing and eat off the ink in a very provoking manner. The use of vinegar instead of water will prevent this. In making a tracing the cloth will take the ink much better if it is rubbed over with chalk. Tracing paper that has been rolled up may be straightened out effectively and expeditiously by drawing it over the edge of a table or drawing board, holding it down meantime with an ordinary threecornered scale. Where there are a large number of drawings made and kept, a great deal of trouble and confusion can be avoided by making all the drawings on extra standard sizes. If a size of 16 in. by 24 in. be adopted, then the next larger size would be equal to two of these, or 24 in. by 32 in. This enlarging or reducing may be carried as far as the circumstances require, but it is altogether best to do it by the doubling or halving process if possible. One of the advantages of standard sizes of drawings is that they may be kept in a case of drawings, the size of which is made to accommodate the standard sizes determined upon.

HARDENING CEMENT PAVING .- Portland cement paving will attain a considerable degree of hardness without any dressing or any special treatment; but paving laid in damp weather will ultimately attain a greater degree of hardness than that laid in very hot weather. Further hardening of the surface may be produced by keeping the work moist by means of wet clothes, or by damped sawdust or sand laid over the paving as soon as it has set; flooding the work with water, where this is possible, will be best of all. Miller mentions that cement work may be rendered very tough and hard by gauging the material with 10 to 15 per cent. of minion-the siftings of ironstone after calcination. Indurating concrete slabs causes them to become very hard ; by it their density is increased and their porosity lessened. A solution of soluble silicate of soda 1 part to 10 parts of water may be applied to in situ paving, but the pickle should not be applied until after the lapse of a couple of days, by which time some of the moisture will have evaporated and thus allow the silicated solution to penetrate the pores of the material, for which the silicate has a great affinity .- Building World.

PERSONAL.

F. X. Pronoveau, sr., contractor, Montreal, is dead.

John Reilly, of the firm of Reilly Bros., contractors, Regina, is dead.

Messrs. Hewitt & McLaren, architects, have removed their offices from Brantford to Ottawa.

Mr. H. A. Englehardt, a well-known landscape gardener, died in Toronto in the early part of the present month.

Mr. Barrow, city engineer, of Hamilton, was recently elected a member of the Sanitary Institute of Great Britain.

Mr. John M. Gill, president of the James Smart Manufacturing Co., of Brockville, was tendered a complimentary banquet by the employes of the company on his return from Europe recently.

Mr. Beaumont Jarvis, architect of Toronto, is receiving the congratulations of his friends on his recent marriage to Miss Anna Adeline Hamilton, daughter of Mr. James C. Hamilton, L.L.B., of Rosedale, Toronto.

The death by suicide is announced of Mr. John McIntosh, of Stellarton, Nova Scotia, a prominent and highly respected contractor. His death is believed to have been in a measure due to anxiety resulting from losses sustained by the recent fire at Windsor, Nova Scotia.

Wm. Craddock, a prominent contractor of Chatham, Ont., died in that city a fortnight ago, aged 73 years. Deceased was a native of Cornwall, England, but spent many years of his youth in France. In 1848, one year after his marriage, he came to Canada and located at Chatham, where he continued to reside, and where he occupied various important public offices.

USEFUL HINTS.

ASPHALT VARNISH FOR IRON.—A tar-asphalt varnish for iron consists of 30 parts West India copal, 30 parts American pine resin, 30 parts mountain asphalt, 6 parts yellow wax, 6 parts Venetian turpentine, melted, and mixed with 12 parts rosin oil, 10 parts linseed oil varnish, 30 parts oil of turpentine and 30 to 45 parts benzole.

ACID-RESISTING PUTTY.—A putty which will even resist boiling sulphuric acid is prepared by melting caoutchouc at a moderate heat, then adding 8 per cent of tallow, stirring constantly, whereupon sufficiently slaked lime is added until the whole has the consistency of soft dough. Finally about 20 per cent. of red lead is still added, which causes the mass to set immediately and to harden and dry. A solution of caoutchouc in double its weight of linseed oil, added by means of heat and with the like quantity (weight) of pipeclay, gives a plastic mass which likewise resists most acids.

DOUBLE WINDOWS.—According to Dr. Didtmann, of Linnich, the advantages of double windows may be cheaply procured by puttying in a second pane of glass in the inner rim of the window frames, on the outer rim of which the first one is put in. This creates between the two panes a layer of air inaccessible for the room air as well as the street air, which layer is a bad conductor of heat. In puttying in the pane, care should be taken that not only the inner surfaces are cleaned of dust and dirt, but also that the air between the panes be dry ; hence the work should be performed in dry weather only. Frostwork will never appear on such windows. In summer these windows are also a protection against the annoying heat of the direct rays of the sun. A room containing windows with double panes, at a temperature of about 90 degrees Fahr., will remain 8 degrees cooler than with single panes.

All iron that is used for structural work should be thoroughly covered or painted with a good preservative paint, just as soon as it is possible to do it after it leaves the foundry, or place where it is shaped up. The reason for this is that the moisture in the atmosphere permeates the pores of the iron and starts the rust to forming. These little corpuscles that gradually grow larger and larger with age, are not noticeable at first, and the iron is placed in position without anything being done to obliterate them. A great many are ignorant of the fact that because the rust cannot be seen, therefore there is no rust. There never was a greater mistake. Rust will always form on unprotected iron or steel, no matter how much it is protected under cover of bricks or stone, or wood either. Wherever the air can penetrate, it causes the moisture to settle, and this dampness breeds the rust ; the rust then feeds upon air and the substance on which it is first found.

In the imperial Russian theatres a new prompter's box has been introduced which offers a problem in acoustics, which has a wider application. In many cases the occupants of the boxes nearest the stage can hear the prompting almost as well as the actors. The new Russian invention consists of a box that resembles a shell, and which is enclosed within a short cylinder. The timber employed is perfectly dry; it is then thickly varnished and covered with alternate layers of felt and compressed paper. The prompter is at a depth which makes him invisible to the audience, and not one of his words can be heard in the auditorium. But from the form and method of construction of the box a whisper can be heard distinctly on the stage.