

for the purposes of his various branches. The main office is a very handsomely designed chamber, the ceiling being the work of the Carrara Ceiling Co., Ltd., while the enrichments are chaste and well chosen. Complete accommodation is provided for the large staff. The typists' and waiting rooms are off the main office, thus ensuring privacy. The first floor consists of a large office, 40ft. x 28ft., with four rooms of smaller dimensions, and corridor, strong room and conveniences. The second floor contains an arrangement of offices detached and *en suite*, nine in number. Strong rooms are also provided. Natural lighting is everything to be desired, from the fact

granite, the whole well incorporated in a dry state, and then mixed with water and cast in moulds to the required shape. Further, artificial stone and paving slabs, to withstand wear and tear and atmospheric influences, etc., are satisfactorily produced by a composition of one part Portland cement, two parts fibre asbestos (perished), one part crushed brick, to six parts of water, thoroughly incorporated in a mill, the slurry being run out into moulds of the size and shape required, pressure applied, and then allowed to dry. The aggregates in some cases require crushing and grinding, it being a point of the utmost importance that the pieces of the various

Collapsed.

Do buildings ever collapse in the Dominion? There is no record of such a thing, as the fall of a building as unexpected as the proverbial "bolt out of the blue." As, however, the thing happens in old countries, and not at all through old age, the subject is not without its interest here. It was a burning question the other day in London. During the discussion, the point cropped up as to responsibility. Is any one responsible? Mr. W. Weaver, an authority on municipal engineering, during the course of that discussion, threw some clear light on the scene. "The collapse of a building," he said, "may be the first intimation to the district surveyor of its dangerous state. It is not his duty to find out the danger before the collapse; in fact, he cannot survey the building and become entitled to be paid for so doing until he has obtained the authority of the London County Council to make the survey." It follows, of course, that no one is responsible, after a new building is once inspected and passed, for anything that happens to it. The moral is that official inspection is not always a guarantee. From which may be concluded by those who choose to follow the discussion aforesaid, that it passes the wit of man to find a remedy. However, buildings do not fall like bolts out of the blue, in this Dominion at all events.

Dry Rot.

BY F. T. BANIES-HEWITT, F.S.I., IN *Illustrated Carpenter and Builder*.

Timber in balk and timber in log are both liable to dry rot, a fungus growth which attacks the timber under suitable conditions. Sapwood is more liable to attack, but even the best timber may fall under its ravages if it is in a damp and confined situation. Balk timber not properly ventilated in the timber yard or logs left lying in the forest are attacked by dry rot, especially the sap-wood. Here lies one of the dangers, for such balks or logs are frequently converted and much timber is



AUSTRALIAN HOMES.—Residency of Sir F. Darley, P.C., G.C.M.G., C.J. (Quambi, Woolahra, Sydney.)

that the light areas tend to the result. All the chambers are provided with gas heaters on a most modern principle, and electricity is installed everywhere. The sanitary arrangements are the most perfect of their kind. Ventilation has been very carefully considered by a system of regulated vents, perfectly controllable. Contract price, over £8000. Architects, Crichton and McKay; contractors, E. & A. Reynall; clerk of works, F. W. Hunt; fittings, Mainland and Barr; plumbing, R. Martin; lighting, Turnbull & Jones; painting, decorating, glass designs and embossing, R. and E. Tingey.

Portland Cement.

Portland cement is unquestionably the best cement for external plastering if mixed in the proper proportions, and the work prepared to receive it. The walls should be roughed, to form a key for the cement, then well brushed down and wetted. The cement, composed of Portland cement, one part, clean, sharp sand, two parts, should be laid on three-quarters of an inch thick. When the moisture is going off it should be scored, so as to form a key for the floating. The floating coat should be a quarter of an inch thick, composed of equal parts of Portland cement and washed sand, trowelled to a smooth, even face. Concrete lintels are composed of one part Portland cement to four parts coke breeze. Window heads, sills, slabs of concrete, are composed of Portland cement and sand, or granite chippings, slag, crushed stone, brick, etc. The concrete is composed of one part Portland cement to three parts of sand or

materials should be angular, and not round. Any local brand of Portland cement of the standard quality and strength is suitable, or such brands as "Saxon," "Peters," etc., will be found efficient. Cracks in such work are caused by inferior materials, workmanship, insufficient mixing, the work drying too quick, the laying of the cement on walls of too much suction for water, laying one coat on another before the lower one has properly set, or by the use of too little or much sand; lastly, the materials being spread out to cool, otherwise, if used hot, the concrete or cement work will blow after setting, causing cracks to appear on the surface—Charles A. Longley.

The average height of the elephant is 9ft.
A single tobacco plant will produce 360,000 seeds.



QUAMBI: GATE AND DRIVE.



delivered to various jobs already infected. Timber which is quite sound when going through the sawmill may contract dry rot during its voyage to this country, either from the ship or through being shipped wet and being subject to damp, warm, and stagnant air during the voyage. The worst specimens in a cargo may be covered by the fungus growth, which is white or greyish in colour, but in other cases the timber may only be marked with red spots. A test is to bore a gimlet or auger hole into the timber, and the appearance of the dust