

RESPONSIBILITY IN BUILDING.

RECENT ACCIDENTS.

THE formation of overhanging cornices demands great care on the part of builders. The accident in this respect, at the soldiers' chapel in the Birdcage-walk, some time ago, is doubtless remembered.

The death of a man was caused a few days ago at the Scotch Presbyterian Church, in Bradford, by the overbalancing of a stone cornice, and the jury included in their verdict censure of the parties concerned in the superintendence of the building. The architects, Messrs. Mallinson and Healey, have addressed letters to the local papers disclaiming any part in the transaction, and urging justly that the jury ought to have heard their evidence, and as there was neither architect nor mason on the jury, they ought to have obtained competent professional assistance—"since they appear greatly to have misapprehended the duties and responsibilities of an architect, and confounded them with those of the builder."

The resident partner says,—

"I requested the builder to take the precaution of *wrighting the cornice*, which, had it then been done, would have prevented its fall. Had I not given this warning, I should, nevertheless, not hold myself in the slightest degree responsible for what has occurred. The cornice had to receive upon it the weight of the pediment, which would have kept it in its place with much less hold on the wall than it actually had, and I am no more answerable for the neglect of its not being temporarily secured than I should be for the breaking of a rope, or the failure of a Lewis. There are many cornices in this town, as well as in other places, which overhang the supporting walls so considerably, that they are only kept in their places by cramps: would any reasonable person hold the architect responsible for what might occur in the interval betwixt laying the stone and securing it with the cramp; yet in what do the cases essentially differ? Every contractor is responsible for the work in his own department, and he as well as his workmen must be presumed to exercise sufficient care to prevent injury to others, failing which it is only just that they should sustain the blame themselves."

Firing Balconies.—A poor girl was seriously injured and nearly killed last week, in Percy-street, Pentonville, through a balcony, supposed to be fastened to the wall of the house, giving way. We have before this endeavoured to impress on builders the importance of care in securing such appendages. A committal to Newgate for manslaughter is one of the risks the careless in such matters run.

EXTINGUISHING FIRE BY EVOLVEMENT OF CARBONIC ACID GAS.

SIR,—I trust you will have the politeness to permit me a few lines in your journal, in reply to the letter of Mr. Dredge (inserted on the 30th ultimo), as I conceive there are inaccuracies and misapprehensions contained therein (to speak gently) which affect the soundness and practical character of my plan for extinguishing fires at sea. After summarily detailing my plan he remarks, "all this is perfectly correct in theory. It is just in the application where the difficulty lies;" and by way of illustrating this he refers to the imperfect state of combustion in furnaces generally, which, no doubt, demonstrates his idea of the discordance between theory and practice. For ourselves, we have always been of opinion, that there was a fallacy in the common axiom, as to the discordance between theory and practice; and, as chemists say, *fiat experimentum*, "test the plan by experiment." Has Mr. Dredge done this before he thought proper to pronounce his opinion on this matter? I have made many hundred experiments on the subject, in every form, mode, and shape, and invariably found the practice to correspond with the theory. A different result would give me much interest to investigate. Besides, I have proposed to different boards in different places, to demonstrate the truth of the theory by a variety of practical illustrations at twenty hours' notice; and should my other avocations permit, propose a public lecture on the subject. Mr. D. is in error when he states that 1 ton of timber will give 60,000 cubic feet of carbonic

acid gas. Timber dried at 350° loses 15 per cent. of its weight; and 100 per cent. of the remainder contains about 45 oxygen, 5 hydrogen, and 50 carbon in round numbers, so that it will give little more than 24 or 25,000 cubic feet.

Further, there is a positive inaccuracy in the statement, "that a small portion, however, of atmospheric air is sufficient to keep alive combustion." If Mr. D. has made experiments on the subject, it would be desirable to know the result. Mr. Taylor, an experienced chemist, states combustion is almost invariably checked in an atmosphere of 80 parts atmospheric air and 20 of carbonic acid gas. My numerous experiments prove the same. It cannot, therefore, be concluded "that this would prove fatal to Dr. Reid's plan." As certain as air is necessary to respiration, so I conceive it is as certain that my plan practically, when efficiently adopted, will extinguish all combustion.—I am, sir, &c.,

WILLIAM REID.

DRAINAGE OF THE KENSINGTON NEW WORKHOUSES.

STATE OF THE SEWERS.

WE have received the following from an influential member of the Kensington Board of Guardians, and know personally the facts of the case:—

SIR,—As a constant reader of "THE BUILDER," I know that you take an interest in sanitary regulations, and that it is within your province to notice them.

I send you therefore the copy of a report from the surveyors of the Sewers Commission, in respect of an abominable nuisance in the shape of the common sewer, of which the guardians of this parish have complained, and which they constructed, at a large outlay, for the drainage of the new workhouse, under the promise that the outlet for it should be deepened.

When it is known that the sewer in question takes almost the whole of the drainage of the town of Kensington and its contributory streams of filth, and that its *solid matter remains as a deposit in the sewer*, the injurious effects of which are admitted, and their increase contemplated,—is it not an insult to common sense, in the face of Boards of Health and the expected arrival of the cholera, to be told nothing at present can be done, but that "shortly," "when," &c., &c., some remedy may perhaps be found.—Yours, &c.

October 3.

[Conv.]

"On Barrow's-walk, Kensington.—If the surveyors could recommend any large case as urgently requiring attention, this is one. A workhouse is built, to contain 400 to 500 inmates on an average, the drainage for which premises is into a new sewer, which stands full of foul water and deposits, the evils of which will be fearfully extended when the new workhouse is fully occupied.

The sewer was put in, very properly, at a level which, by lowering the outlet, would have free discharge. What is required, therefore, is the bringing up an improved outlet. The nearest point for such purpose is Warwick-road, a distance of 2,500 feet from the end of the new sewer. The inclination to be obtained is rather more than 5 inches in 100 feet. But however much the surveyors regret the adverse circumstances under which the workhouse drainage rests, they do not feel justified in recommending, at this moment, the carrying out of this work; but as they are led to believe that the general survey will be (very shortly) completed, when a general view will be taken of the drainage of the whole district, they trust that the state of things complained of above will not remain long without a remedy.

(Signed) "JOHN ROE,
HENRY AUSTIN,
JOHN PHILLIPS.

September 21, 1848."

ZINC LABELS.—Labels of an economical and durable kind may be made in the following manner:—Damp zinc labels with a solution of alum, and while they are damp, write the name you require, and you will find the letters, when dry, are very difficult to efface.—*Gardeners' Journal.*

RAILWAY JOTTINGS.

THE Rother viaduct, near the junction of the Manchester, Sheffield, and Lincoln with the Midland, at Beighton, twenty of the thirty-six arches of which had been completed during the last twelvemonth, is now a mass of ruins, which, in falling, killed several of the workmen, and dammed up the river Rother so as to flood the whole neighbourhood. The piers having sunk fourteen inches and a half, the nineteenth arch was about to be shored up when it fell without further notice, followed immediately by 13 or 14 of those adjoining, and in a few minutes by the remainder. The piers still stand, but the water which overflowed the river during rains had found its way into their foundations, and hence the sinking, by a contingency which, surely, it would be natural to look for, and provide sufficiently against, on the banks or channel of any river, however usually moderate in its overflows. No close cutting of contract competitions can excuse such suicidal inefficiencies as these, even altogether irrespective of the question of the public safety. 'Rains' and 'overflows' are year after year blamed for such fatalities as if they were so unprecedented that no one would think of anticipating their destructive efficacy, or as if concrete and other available means were quite inadequate as safeguards and securities against them. There is at all events clearly no sense in building up laborious and costly structures such as this *without* sufficiently guarding against the utmost possible limits of the power of such well-known agencies, wherever there is any risk of their occasional occurrence.—A portion of the hill near Yarnsworth Church, upon which the South Yorkshire line of railway and the spoil bank rests, has slipped several feet. The spoil bank, which runs parallel to the line, consists of redundant material from the cutting in the cliff. It is of great height and breadth, and is supposed to have caused the slip in question.

—We lately noticed an instance of accurate tunneling; here is one of another kind:—In a railway tunnel in course of construction near Huddersfield, which had been bored at each end, thinking that the excavators would meet in the centre (says the *Preston Guardian*), it was discovered last week, that through defective engineering, the two sets of workmen were passing each other, having got six yards asunder, instead of meeting face to face. The tunnel will be about 7-8ths of a mile in length, and should have consisted of a gentle curve, but now it takes the shape of a dog's hind leg!—The Great Western Company have discharged 250 men from their works at Swindon, and the whole of the men employed at their factory are now working on short time, and probably will have to remain on short time during the whole winter. The company, we lately observed, have been inviting lectures, at Swindon, on emigration or colonization.—The atmospheric principle, during the time it was applied to the South Devon line, is said to have cost 108l. to carry 100l. worth of passengers. The workmen on this line are actively engaged between Lairn and Mutley tunnel.

ELECTRO-TELEGRAPHIC PROGRESS.

The autographic telegraph, if we may so call it, invented by Mr. Bakewell, and whereby "original writing, the character of which might be readily recognised," is copied at least, or written at second hand, if not at first hand, has been successfully experimented with between the metropolis and Slough, where it has been found that the same power which is requisite to work the needle telegraph is amply sufficient for the copying process. Messages written in London were received at Slough and copied on paper by means of a single wire and with double the rapidity of the needle telegraph. Mr. Bakewell, it is said, expects to be able to transmit *fac simile* copies of more than 400 letters of the alphabet per minute with a single wire; and, by using two wires as now practised, to have the rapidity doubled.—A more perfect mode of insulation, by help of gutta percha, has been suggested by Mr. Hamerton, superintendent of the Electro-telegraph Company. The Gutta Percha Company itself, too, it seems; have found out the perfectly insulating properties of this perfectly protean substance, for which we fear more