

and in some cases bought his material, the drawings are altered, specifications altered, and even a different kind of material demanded. I can cite a case where no less than three changes were made in the drawing, while eleven different specifications were sent to the contractor. The contract called for delivery within a given period of time. Ye gods, would you believe it, seven days after that specified time had expired the final amended specification arrived!

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Mr. T. P. O'Connor, M.P., supplies a few further items, in a statement whose temperate and carefully restrained terms afford a sufficient guarantee of their truth. 'Now that one is free to speak, I hope Mr. Lloyd George will pay attention to some of the complaints which have been rife on this question of armaments. War is a time for rumors; and, therefore, one must be very careful in accepting any statement that one hears. But I have heard some statements from so many quarters, and so many other members of Parliament have heard them, that it is necessary to call the attention of Mr. Lloyd George to them. The most frequent and insistent of these statements is that London is full of men, both from great English and great American factories, who declare their readiness and their ability to supply the Government with millions of shells of all kinds; that they have hitherto failed to get even a proper hearing for their offers; that often their offers have remained unanswered, or been answered by a formal printed notice, and then were heard of no more. I think it right also to mention a complaint I have heard from more quarters than one—namely, that in these offers of shells men found themselves confronted with the necessity of going through a particular purchasing agent of the Government in the United States, and that this is a condition which some important American firms will not submit to.' All this fully bears out Sir Hiram Maxim's assertion that an adequate supply of the right sort of shells can be secured without serious difficulty if the undertaking is gone about in the proper way. That is Mr. Lloyd George's new task; and Mr. O'Connor, who is in a particularly good position to judge, is confident that the Minister of Munitions will speedily effect a change in the situation, and will mend or end the representatives of the great Circumlocution Office which has already so much to answer for.

Sir Hiram Maxim Speaks

The recently published autobiography of Sir Hiram Maxim reveals him as a man of abounding self-assurance and of an almost aggressive though delightfully unconscious egotism which greatly discounts the value of his very confident dicta on religious and theological subjects. But when he speaks on explosives and other mechanico-scientific topics he is on ground which he has made specially his own. On these matters he speaks as one having authority, and he is entitled to be listened to with attention and respect. The great inventor and gun king has recently been giving his views on the subject of high explosives and poisonous gas, and his statements, carrying as they do the special weight attaching to the utterance of the expert, are both interesting and reassuring. He explains, in simple fashion, the composition of the principal explosives at present in use; and for the benefit of those of our readers who are scientifically inclined we quote the passage. 'It appears that the old-fashioned black gunpowder has practically gone out of use in modern warfare. The German slow-burning brown powder that was used twenty-five years ago was chemically the same as black powder, but the charcoal was not burnt until it was jet black, and the nitrate of potash was not so finely ground as in the ordinary black powder, and it was this that caused it to be slow burning. The present explosives are principally tri-nitro-cellulose and nitro-glycerine. The nitro-glycerine and tri-nitro-cellulose, which is guncotton, can be mixed together, and these two, with a little vaseline added, is the smokeless powder of the British Army. Carbolic acid, which is made from coal tar, can be nitrated the same as guncotton,

and is known as tri-nitro-phenol, or picric acid. Picric acid is modified to some extent when used as a bursting charge in projectiles; if a small quantity of vaseline is mixed with it it becomes less sensitive to shock, while its disruptive effects are practically the same.' And then he gives us a valuable and cheering assurance as to the prospect of an adequate supply of the much-desiderated high explosives. 'I have never been among those who have taken a gloomy outlook of the gigantic war in which this country is engaged; certainly I do not think that eventually the Germans will triumph over us owing to our want of scientific skill and equipment. Just now we are hearing a good deal about the lack of high explosives, but there is no reason why there should be any deficiency, as vast quantities can be readily made in England, and, in addition to that, I have knowledge—in fact I am in touch with those whom, for the nonce, I will call outsiders, who are both able and willing to furnish any quantity that may be demanded. I repeat that there is no reason whatever why there should be any lack of high explosives, though we might not get all our deliveries immediately from foreign makers. But August would certainly be the latest date.'

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Sir Hiram then devotes his attention to the German use of asphyxiating gas, and declares definitely and emphatically that he has devised a completely successful method of countering the Germans' scheme. 'I do not believe that war by chemicals or poisons will be very long lived. It is quite true that chlorine in a gaseous form mixed with air has proved very effective recently, but this was because it was a surprise to us. It was something new, and we were not prepared for it. Chlorine in gaseous form is two and a half times as heavy as air, but in escaping from the receptacles in which it is contained it mixes with it at least five times its volume of air, and this, of course, reduces its specific gravity correspondingly, then, as it is blown down on the English trenches, it mixes with more air, and by the time it reaches our men there is at least twenty times as much air as chlorine; but this mixture is quite strong enough to produce fatal results. Of course, when there is twenty or thirty times as much air as chlorine, the mixture is only slightly heavier than the surrounding air, and it does not take much to dissipate it. And that is the last job I have been working on. I have designed an apparatus that will dissipate these poisonous gases very cheaply and effectively, and it is being made at the present moment; but of course it would not do to divulge the system I employ. As this apparatus of mine will remove all the terrors of chlorine, it is safe to say that its use will be discontinued. The War Office is receiving thousands of suggestions and systems from cranks who know nothing whatever of science or mechanics, and if they put me in the category of cranks the apparatus will not appear.' It may be trusted that even the War Office—unspeakably stupid as it has shown itself to be—will not assign Sir Hiram Maxim to the category of cranks without giving his project careful and thorough examination.

The Church-and-Bible Fiction

The usual Orange celebrations in memory of the 'glorious, pious, and immortal' William have come and gone, and the New Zealand public are, for the most part, in blissful ignorance of the fact that they have ever been held. At a time like the present, New Zealand citizens have something much more serious to think about. The larger and more reputable dailies have been judiciously silent regarding these gatherings and the crazy utterances which form their characteristic feature. Some of the journalistic smaller fry, however, gruelled for lack of decent reading matter and wanting in a sense of the fitness of things, have disfigured their columns and insulted their Catholic readers and subscribers by finding room for the oratorical hysteria which does duty for a 'sermon' on the occasion of this annual outbreak of cerebral trouble in the Orange camp. Included in this ignoble company is the *Wai-*