Wales, which office he held until last year, when he was chosen Lord Monck's successor, as Governor General of the Dominion of Canada.

It is supposed by many that Sir John Young is the first wearer of the title. This is not the case. The baronetcy he inherited from his father, who earned it gallantly in the field, having served with distinction in India. Sir John succeeded to the baronetcy in 1848. His Excellency is married, and it is said that her Ladyship is a native of New South Wales.

Sir John is a handsome, pleasing looking, and very gentlemanly-appearing man. He is genial, cheerful, and happy in his manner, and has a pleasant way of speaking that is admired by all. He is sufficiently dignified without being cold and distant; and is said to be one of the most social and agreeable of men in private life. A correspondent speaking of him says :—"Sir John bears his sixty-two years well, and walks along our snow-clad roads, accompanied by the members of his staff, apparently relishing our crisp winter weather. In manner, he is genial and pleasant, being endowed with great *bonhommie*, and, I need hardly add, is a favourite with all classes."—*Telegraph.*

Arts and Manufactures.

ACOUSTICS AND BUILDINGS.

Mr. W. F. Barrett has been delivering a lecture on this subject to the Royal Engineers at the Brompton Barracks, Chatham, England, in which he drew their attention to the value of a curved over a flat surface for the reflection of sound, and the loss of sound by rolling round the walls of a building—a phenomenan which occurs when the sound-waves meet the wall at a very oblique angle. Hence, "just as we require a clear line of sight to see a speaker well, so we require a clear line of sound to hear a speaker well. Architects have sought to obtain this by a proper arrangement of seats in a building. Perhaps one of the most successful forms that has yet been adopted is that by which the seats in a building are not arranged in a perfectly straight line, gradually rising upwards, but in a curved line." This curved arrangement, he said, had proved successful in buildings where it had been tried.

The lecturer referred to the difference often experienced in rooms of the same size and proportions, in one of which the speakers can be heard, and in the other *not*, and asked, "What, then, is the cause of the difference?" Simply that the building which is most perfect for hearing in has more wood lining in its interior than the other. Some of the most perfect rooms in acoustics are almost entirely lined with wood, and others, built to imitate these, but without the wood linings, have failed almost altogether. The theatres of the Romans were notable for their good acoustic effects, and they were almost uniformly constructed of wood in the interior. "What, now, is the action of the wood? *It is to reinforce, by its own vibration, the sound of the speaker's voice.* When the string of an instrument is caused to vibrate by its own motion, it can stir but a very small portion of air; but when this string is associated with a surface of wood, it throws that wood into vibration, and thus creates a vibratory area of much larger surface, which produces a correspondingly greater disturbance of the air. In a piano, or harp, or violin, we do not hear the sound of the strings of any of these instruments, but we hear the sound of the wood to which those strings are attached." Some striking illustrations of the correctness of this theory were given by the lecturer.

By some simple experiments with the aid of a musical box, the lecturer also showed the value of different materials as regards this reinforcement of sound, wood taking the first place, slate next, tile next, and then broken plaster from a wall, which last gave practically no reinforcement of the sound. The lecturer also instanced the room in which he was then speaking, as originally being most imperfect for auditory purposes, and most painful to speak in. An alteration was made, and side pieces, formed of wood, were erected behind the speaker, and within these side pieces air-chambers, thus strengthening the reinforcement, and rendering speaking within the room perfectly easy, simply from the fact that everything said is taken up, and reinforced by the vibration of the screens behind the speaker.

The reinforcement of the voice of the speaker from another cause was then dwelt upon, a no-