

In an article on modern French artillery, *Engineering* says: "To go back to the commencement, in the year 1842 Captain Treuille de Beaulieu submitted a report to the Minister of War, on rifled guns, in which a screwed breech-block is suggested. Certainly a part of the original credit for this must be given to the United States, where, in 1853, a joint patent was taken out by J. P. Schenkl and A. S. Saroni, for an interrupted breech-block. Two years after, the English Government purchased six guns from a manufacturer at Boston, in which the breech was closed upon the same principle, but they were absolutely useless owing to the crude and imperfect manner in which the work was carried out."

The importance of music is thus laid down by Lord Wolseley in his *Soldiers' Pocket Book*, page 209, 2nd edition, 1871: "Whenever it is possible, have music to march to. If the band is broken up, drums and bugles should play together, as the French do. Nothing is more martial in sound, and the men march a hundred per cent. better to it than in silence. If you have nothing else, get your men to sing by companies. During the long night marches in India, at the beginning of the Mutiny. I found that with singing we got on admirably, whilst when we marched in silence, as men will do after the first half-mile at night, they almost went to sleep, lagged behind, stumbled and fell. The moment a song was struck up the men stepped out briskly."

The ordnance officers in the War Department, in making their calculations for the 16-inch guns to be built for coast defence fortification, hope to overcome the defects developed in such guns built abroad. In most of the guns of this calibre thus far built, cracks have appeared between the jackets and hoops after the first few rounds have been fired. This is believed to be the result of errors in calculating the force of the explosion and the elastic limits of the metal. It is thought that the hoops have been stretched beyond their elastic limit by the explosion of the charge, and that the cracks are the results of the metal not returning to its original shape. It is believed that the guns to be built here have been so planned that the force of the explosion will be distributed evenly throughout all the jackets and hoops of the gun, without unduly straining any of them.

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W. R. PRINGLE, Secretary.

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