A TREATISE ON THE BLASTING AND QUARRYING OF STONE FOR BUILDING AND OTHER PURPOSES; WITH THE CONSTITUENTS AND ANALYSIS OF GRANITE. SLATE, LIMESTONE.

ANALYSIS OF GRANITE, SLATE, LIMESTONE, AND SANDSTONE, TO WHICH IS ADDED SOME REMARKS ON THE BLOWING UP OF BRIDGES

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A Treatise on the Blasting and Quarrying of Stone for Building and Other Purposes; With the Constituents and Analysis of Granite, Slate, Limestone, and Sandstone, to Which Is Added Some Remarks on the Blowing up of Bridges by Sir John Burgoyne

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### SIR JOHN BURGOYNE

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BY GEN. SIR JOHN BURGOYNE, BART., K.C.B.

A Ret Edition



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### ADVERTISEMENT.

The importance of blasting, almost the only improvement which modern science has placed at the disposal of the quarryman to lessen his toil, has already exhausted several editions of this treatise; and the practical knowledge brought to bear on the subject by General Burgoyne, which it communicates, is so highly appreciated by all connected with stone and slate quarries, that a reissue of the treatise is again called for.

To the fifth edition an Appendix was added by Mr. Weale, containing some account of the failure of the attempts to blow up the unfinished bridge of Pesth by the Austrians in 1848; and of a like unsuccessful attempt by the same to blow up the bridge over the Ticino, near Magenta, in 1859. The first was communicated by the late Mr. William Tierney Clark, the engineer of the bridge; and the second is from the pen of General Burgoyne.

Mr. Weale also added the parliamentary speech of Captain Vernon when calling the attention of the House of Commons to the "Services of the Royal Engineers in the Crimea." That speech will ever be read with interest as a tribute justly paid to the skill and discernment of General Burgoyne during that campaign, more particularly as regards the siege of Sebastopol.

By way of Appendix Mr. Mallet has added a note upon "Mechanical Rock-boring and Cutting," as pursued at the Mont Cenis Tunnel, now in progress, and upon "Rock-hewing Machinery" employed upon various coal-seams in the north, and at the Holyhead Quarries, where the rock is quartzite.

To this edition a general Index is also now added.

January, 1868.



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