AN ELEMENTARY TREATISE ON THE CONSTRUCTION OF ROOFS OF WOOD AND IRON. DEDUCED CHIEFLY FROM THE WORKS OF ROBISON, TREDGOLD, AND HUMBER

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An Elementary Treatise on the Construction of Roofs of Wood and Iron. Deduced Chiefly from the Works of Robison, Tredgold, and Humber by E. Wyndham Tarn

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E. WYNDHAM TARN

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OF

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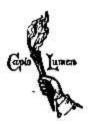
DEDUCED CHIEFLY FROM THE WORKS OF ROBISON, TREDGOLD, AND HUMBER

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Stith numerous Ellustrations

SECOND EDITION, REVISED AND CORRECTED



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PREFACE.

THE present little work is intended to introduce the student of architecture to the first principles upon which the roofs of buildings are constructed, and to enable him the more readily to understand the larger and more elaborate treatises upon this important sub-The work is divided into two parts, the first part treating upon the subject of wooden roofs, both ancient and modern, and also upon the method of ascertaining the strains which are exerted upon the several timbers of a trussed roof. The second part is devoted to the consideration of modern roofs constructed entirely of iron, a material now generally employed where wide openings have to be covered; and several examples of iron roofs of different design are described and illustrated, the principles of their construction being also explained.

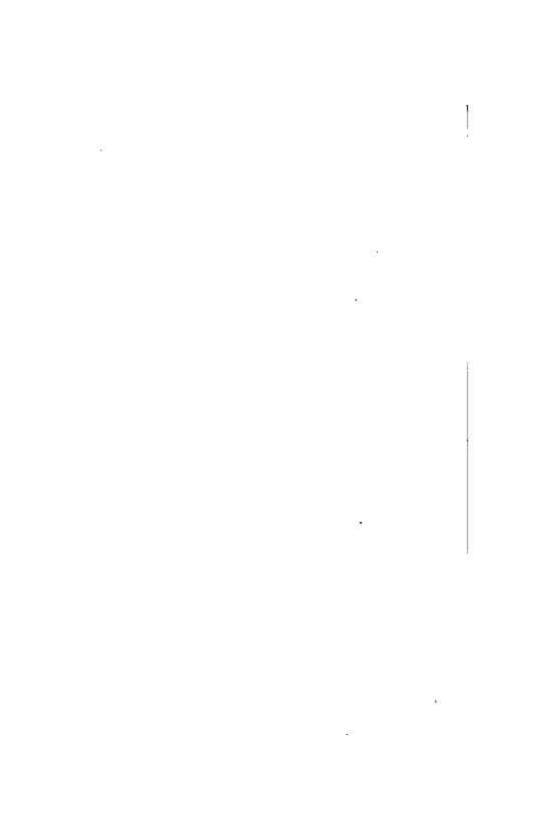


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ON THE

CONSTRUCTION OF ROOFS.

PART I.—ROOFS OF WOOD.

1. The word Roof expresses the covering of a house or other building, by which its inhabitants or contents are protected from the injuries of the weather; it also helps to bind together and give firmness to the walls of the structure. A roof is not only an essential part of a house, but it is often made a characteristic feature of its design; as, for example, the roofs of palatial, public, and private buildings in France, which are denominated the "Mansard," and more especially the picturesque roofs of the ancient châteaux of France. and the towers and castles to be found in various parts of Germany; in which much attention was often paid to their ornamentation. The timber roofs of many of the old buildings were made much heavier than was necessary for stability, and we consequently find that they have in some cases thrust the walls out of the perpendicular, where these have not been built of sufficient thickness, or strengthened by buttresses to resist their thrust.

In constructing a roof the object of the builder should be, so to arrange its several parts as to obtain a structure as light as possible combined with a maximum degree of strength.

2. In the present Treatise we shall limit the meaning