RESISTANCE OF MATERIALS, FOR BEGINNERS IN ENGINEERING

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FOR BEGINNERS IN ENGINEERING

BY

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PREFACE

The chief feature which distinguishes this volume from other American textbooks on the same subject is that the Principle of Moments is used consistently throughout in place of the usual calculus processes. By basing the work on this principle it has been found practicable to give a simple and obvious treatment of many topics for which the calculus is usually thought to be indispensable, such as the calculation of moments of inertia, the deflection of beams, the buckling of columns, and the strength of thick cylinders. Experience has shown conclusively that the average engineering graduate, and even the practicing engineer, is deficient in the ability to apply the Principle of Moments readily, but when thus used as the central and coördinating principle, it must necessarily make an indelible impression on the mind of the student and go far toward remedying this deficiency.

The mechanics of materials is of such fundamental importance in all branches of technology that it is important to begin its study as early in the course as possible. Heretofore it has been necessary to defer it — awaiting the completion of the calculus — until junior year, when the curriculum is already crowded with technical subjects requiring its application. This text makes it possible for the course to parallel or even to precede the calculus. In addition, it makes the subject available for trade or architectural schools where no calculus is taught.

Although simple and obvious, the treatment is adequate, and its simplicity in no way limits its range or generality. The text is supplemented by a variety of engineering applications, giving practical information as well as a mastery of the principles involved.

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