Werk

Titel: Applied Mechanics

Untertitel: An elementary general introduction to the theory of structures and machines ; Wit...

Autor: Cotterill, James Henry

Verlag: Macmillan

Ort: London

Jahr: 1884

Kollektion: maps

Signatur: 8 PHYS II, 1457

Werk Id: PPN616235291

PURL: http://resolver.sub.uni-goettingen.de/purl?PID=PPN616235291|LOG_0003

OPAC: http://opac.sub.uni-goettingen.de/DB=1/PPN?PPN=616235291

Contact

Niedersächsische Staats- und Universitätsbibliothek Göttingen
Georg-August-Universität Göttingen
Platz der Göttinger Sieben 1
37073 Göttingen
Germany
Email: gdz@sub.uni-goettingen.de

PREFACE.

On the author's appointment to lecture on Mechanics in the Royal Naval College, a course of elementary lessons was commenced, based on Rankine's well-known treatise, with such assistance as could be obtained from other sources. After some years this course assumed a tolerably permanent form, and it was thought desirable to print it, partly from the inconvenience to students of being exclusively dependent on oral instruction, and partly from an idea that it might be useful to others besides those who were immediately addressed. The place which these lectures occupy in the programme of the College will be found explained in an appendix.

The preparation of the work for the press has extended over a considerable period, and has been subject to many interruptions. There is therefore not always the unity desirable in a scientific treatise; nor is it by any means complete, even when due account is taken of the stringent limitations explained in the Introduction. It is, however, hoped that these deficiencies may be partly compensated for by the fact that the book is the product, of a great deal of experience in teaching the subject, and a great deal of consideration as to the matter which ought to find a place in a general elementary treatise. Nearly the whole has been delivered in the form of lectures, and some part has actually been printed from notes taken throughout one session by a member of the junior class at that time,* which were afterwards transcribed for the press by my assistant. Everything, however, of any importance has been re-written, with

*Mr. H. J. Oram, R.N.

alterations and additions, to make it better fit for publication. Throughout the object has been to give reasons, not rules, and, therefore, to subordinate the detailed application to the principles on which the theory is based. Especially has the author endeavoured to distinguish as clearly as possible between those parts of the subject which are universally and necessarily true, and those parts which rest on hypotheses more or less questionable. The book is intended to give that general knowledge of the mechanics of structures and machines which should accompany the detailed study either of naval architecture or of any special branch of engineering to which a student proposes to devote himself. Much, therefore, is excluded which might naturally be expected to form part of the work, simply because, however important, it is required only by a special class of students.

The introduction of descriptive details is not necessary to the plan of this work, except in certain parts of the theory of mechanism, nor, indeed, in a general treatise would it be possible to do it systematically within any reasonable compass. In the chapters on mechanism, however, they are required, and elsewhere it has been thought advisable to introduce them occasionally. Care has been taken to select working examples almost exclusively, the plates representing which have mostly been drawn for me by Mr. T. A. Hearson, to whom I am indebted for many suggestions and portions of the descriptive matter, together with some assistance in revising proof sheets and transcribing lecture notes for the press. The proofs have been read by Professor W. C. Unwin, M.I.C.E., to whose great technical knowledge I am indebted for some corrections. In a general elementary work there is not room for much that is new : in the references at the end of each chapter and in the appendix the various sources of information have been stated fully.

GREENWICH, *May*, 1884.