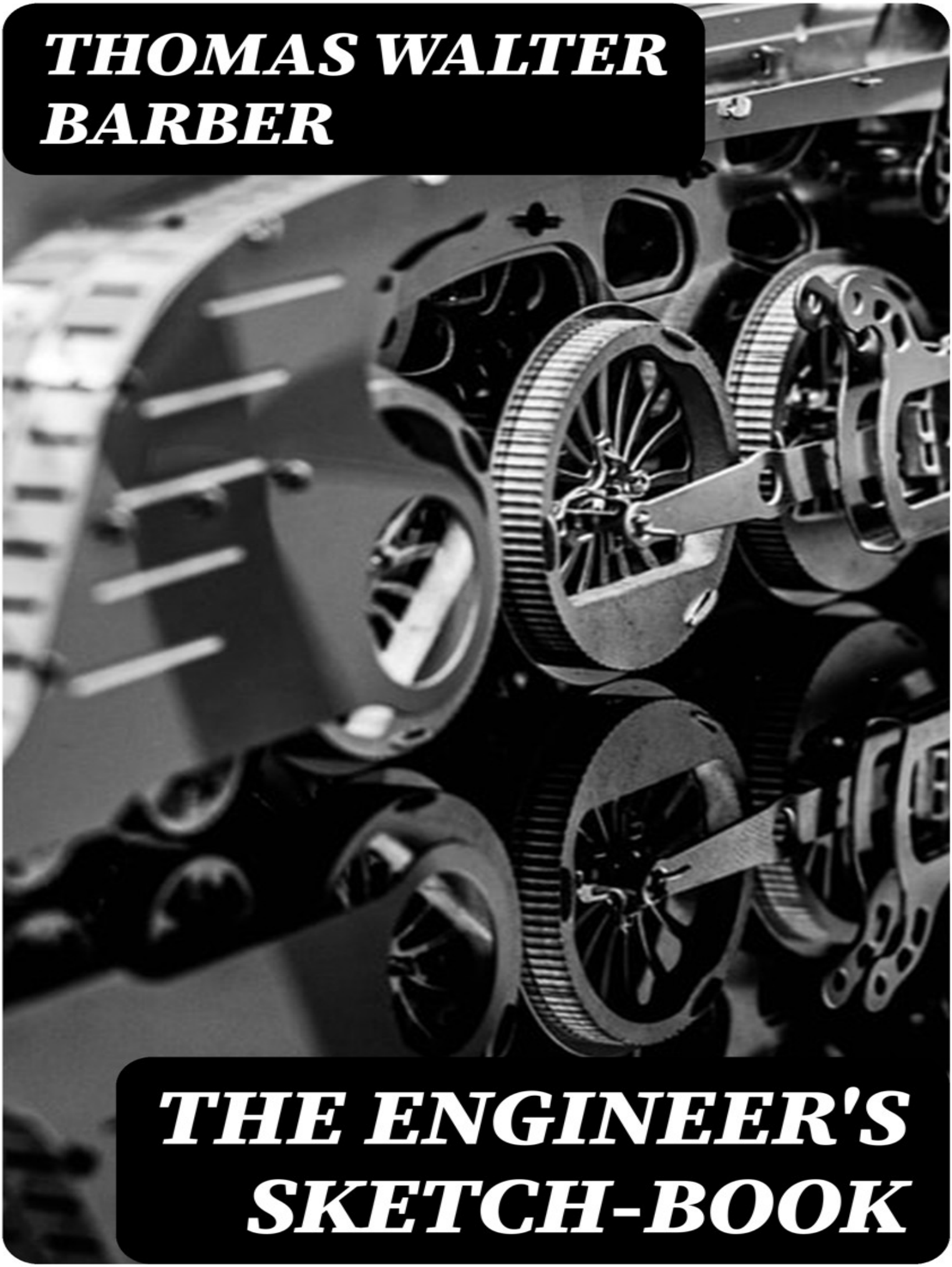
THOMAS WALTER BARBER



THE ENGINEER'S SKETCH-BOOK

Thomas Walter Barber

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Contact: DigiCat@okpublishing.info

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PREFACE.

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Every successful engineer is a born inventor; indeed the daily work of an engineer in practice largely consists in scheming and devising from previous experience new and improved processes, methods, and details for accomplishing them, and for simplifying or cheapening old forms of machinery and the work they produce, to enable him to successfully compete with others, who are perhaps as ingenious and enterprising as himself.

In the work of designing machinery the draughtsman has to rely mainly on his memory for inspiration; and, for lack of an idea, has frequently to wade through numerous volumes to find a detail or movement to effect a particular purpose. Hence, as a rule, every man’s work runs in a groove, his productions generally having the stamp of his particular experience and training clearly marked upon them.

In the course of twenty-five years of such experience, I have found the want of such a volume as the present, and endeavoured to supply the deficiency in my own practice by private notes and sketches, gathered promiscuously, until the difficulty of selection and arrangement became so apparent that I began to classify them, as they exist in the following pages. A few weeks of unusual leisure have enabled me to complete this work and amplify it by numerous additions, and it is now presented in the hope that it will be found of equal service to others engaged in the head-splitting, exhausting work of scheming and

devising machinery, than which I can conceive of no head-work more wearing and anxious, Several valuable works have already found numerous users, and there is no lack of admirable collections of memoranda, rules, and data for designing and proportioning the various constructive details of machinery; but, as far as I am aware, there is no work in existence which aims at the same purpose as is attempted in the following pages, viz. to provide side by side suggestive sketches of the various methods in use for accomplishing any particular mechanical movement or work, in a form easily referred to, and devoid of needless detail and elaboration. A sketch, properly executed, is—to a practical man—worth a folio of description; and it is to such that these pages are addressed. For the same reason it has been deemed undesirable to add to the various sketches any rules or tables relating to strengths or dimensions, which may be found in numerous well-known volumes.

Any suggestions or additions will be entertained and gratefully acknowledged.

THOMAS WALTER BARBER.