PRODUCTION MILLING; A TREATISE DEALING WITH THE METHODS EMPLOYED IN PROGRESSIVE AMERICAN MACHINE SHOPS FOR OBTAINING QUANTITY PRODUCTION ON VARIOUS TYPES OF MILLING MACHINES

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PREFACE

RECENT years have witnessed the introduction of many improved methods of performing milling operations. On production work, where high rates of output are essential, this result has been accomplished in various ways, although mainly by a reduction of the nonproductive time of the men and machines in the milling department. In the preparation of this treatise, the author's object has been the same as that of a member of the planning department in a factory, who is called upon to devise methods of milling and to design fixtures that will enable repetition operations to be economically performed. Information and illustrations relating to the latest developments in production milling practice have been gathered by personal studies of the methods used in many of the most progressive manufacturing plants; and an acknowledgement is made to the large number of factory executives who have cooperated in carrying on this work. All of the methods discussed have been successfully used under actual shop conditions.

It has been assumed that all mechanics reading this book are familiar with the various types of production milling machines. For that reason, only brief descriptions of the essential features of each type of milling machine have been included. It is the purpose of this book to explain the application of some of the more efficient methods of operating milling machines on repetition work, rather than to discuss milling machine design. In connection with the examples of machining operations performed on the various types of milling machines, information is included covering the speed and feed at which each operation is performed and the rate of production that is obtained. In a great majority of these cases, the stated output is close to what would appear to be the maximum possible production

for the job; therefore, these data should prove of value to other manufacturers handling similar work, in checking up their results with a view to comparing them with those secured by others. No attempt has been made to deal with work-holding fixture design, beyond explaining certain fundamental principles which must be observed to keep the ratio of "loading time" to "cutting time" down to a point where a satisfactory output can be secured.

THE AUTHORS.

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