

**POINTS FOR BUYERS AND USERS OF TOOL
STEEL: BEING A GENERAL REVIEW OF THE
MAIN SOURCES OF TROUBLE MET WITH
BY CONSUMERS OF TOOL STEEL, ALSO
CONTAINING SUGGESTIONS ABOUT HOW
TO AVOID THEM**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649676217

Points for Buyers and Users of Tool Steel: Being a General Review of the Main Sources of Trouble Met with by Consumers of Tool Steel, Also Containing Suggestions About How to Avoid Them by George W. Alling

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By
GEORGE W. ALLING, M.E.

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(ILLUSTRATED)

DAVID WILLIAMS COMPANY
NEW YORK

1903
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BY THE
AUTHOR

DEDICATION.

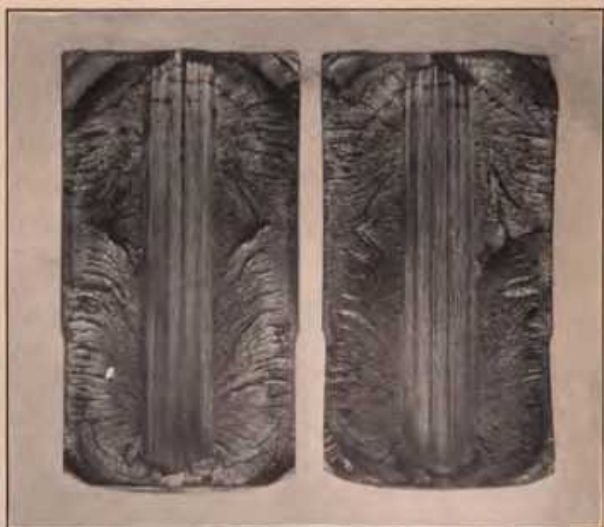
With a deep sense of appreciation of the courteous treatment received from the gentlemen named below, as well as from many other conscientious men, who, while fully safeguarding their firms' best interests, find time to accord courteous treatment to all, this work is respectfully dedicated to

H. O. HUKILL, Purchasing Agent for Pennsylvania Lines west of Pittsburgh, Pa., and

A. F. COLLING, Purchasing Agent for International Steam Pump Co., New York City, N. Y.

With the best regards of the author :

G. W. ALLING.



A Male Watch Case Die, burst in hardening because of piped center, one of the defects commonly found in carelessly inspected steel.

PREFACE.

P RIMARILY this work is designed for those who have not had the benefit of a technical education so as to enable them to extract from the numerous books that have been written on this subject the information which we have attempted to give in plainer language.

At the same time it is possible that the college graduate may find some points herein, which may be of use to him in actual shop practice, that may have been omitted in the existing books, under the impression that they were of minor importance.

No attempt has been made to contradict any of the many theories laid down by the numerous writers who have written on this subject, some of which doubtless have merit.

In short every effort has been made to employ plain language and simple descriptions, such as are best appreciated by practical mechanics, and such as can be readily applied by practical men in ordinary shops not equipped with all modern appliances, under the direction of a technically educated superintendent or master mechanic.

It is presumed that the average consumer of tool steel is most interested in obtaining results in the simplest and cheapest way, and that he will be glad to secure a work that will be easily understood by the workman on whom he depends to produce these results. To this end the very confusing remarks and tables about percentages of carbon for this and that sort of tool, which some are so fond of indulging in, and which are often very misleading and unreliable, have been omitted.

A little thought on the part of the reader will convince him that it is among the impossibilities to establish fixed rules for amounts of carbon for certain kinds of tools, when the fact is taken into consideration that this amount may be combined with

many different kinds of iron of varying quality, may be subjected to many kinds of treatment in making the steel, and to many more kinds of treatment in producing the tool at the hands of the various men who make them.

The views expressed about hardening, and the various methods used, may perhaps be slightly tinged with the writer's personal views, but these have been frequently confirmed by observation as well as by the testimony of first-rate mechanics. If they are found in some respects erroneous, it is hoped that they will be overlooked as only general rules are described.

Advertising in the reading matter of any sort has also been avoided, as what might justly be considered the best to-day may prove inferior in the near future.

It is an established fact that perfection can only be acquired by actual practice, and books simply assist a good mechanic as the lighthouse and compass assist the skillful pilot, and the chart tells where to find and avoid the rocks. The writer will feel well repaid if this small work should help the mechanic to steer clear of the numerous rocks and shoals found in the path of every toolmaker who has to make the many kinds of tools from the many kinds of steel furnished by the many kinds of steel makers.

It is hoped that the inexperienced buyer of steel and the average toolmaker will glean a few points from this work which will amply repay them for the trouble of reading it, and that they will find that it fills some of the gaps left open by abler writers.

The day is fast approaching when the high-class mechanic will supply himself with all printed information regarding his particular trade, and, after reading it, will separate the wheat from the chaff and apply what he finds good to actual practice.

If he finds by practical test that this work is worthy of a place amongst his reference books, the writer will be amply rewarded for the pains taken in writing it.

Yours very faithfully,

G. W. ALLING,
New York City.