

**THE FIREMAN'S GUIDE:
A HANDBOOK ON THE
CARE OF BOILERS**

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The fireman's guide: A handbook on the care of boilers by Karl P. Danistrom

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KARL P. DANISTROM

**THE FIREMAN'S GUIDE:
A HANDBOOK ON THE
CARE OF BOILERS**

C. P. Emison

THE
FIREMAN'S GUIDE.

A HANDBOOK

ON

THE CARE OF BOILERS:

BY TEKNOLOGFÖRENINGEN T. I., STOCKHOLM.
TRANSLATED FROM THE THIRD EDITION,
AND REVISED

BY KARL P. DAILSTROM, M.E.

Third edition



E. & F. N. SPON,
NEW YORK: 35 MURRAY STREET.
LONDON: 125 STRAND.

1886.

C. B. Emery.

PREFACE

Having noticed that boiler explosions too frequently occur through neglect or incompetency of the attendant, the translator has, with a view to lessen the number of such occurrences, placed this little book before the public; and he trusts that firemen, engineers and even boiler-owners may find in it much that may be of service to them.

The book was originally written and published in Sweden by a society of experienced engineers (Teknologföreningen T. I., Stockholm) urging that the best way to prevent accident and afford a saving of fuel was to give strict regulations as to how a boiler should be fired and managed. It was favorably received by the public and has passed through several editions.

The book is in two parts, *the first of which* contains, more extensively, rules and directions for the general care of boilers; *the second* a summary of regulations.

It has been the aim of the translator through this work to use only such words and phrases as shall be

readily understood by all classes for whom it is written.

I desire to return my best thanks to Messrs. J. E. Greensmith and T. M. North for much valuable assistance rendered in the translation and revision of this work.

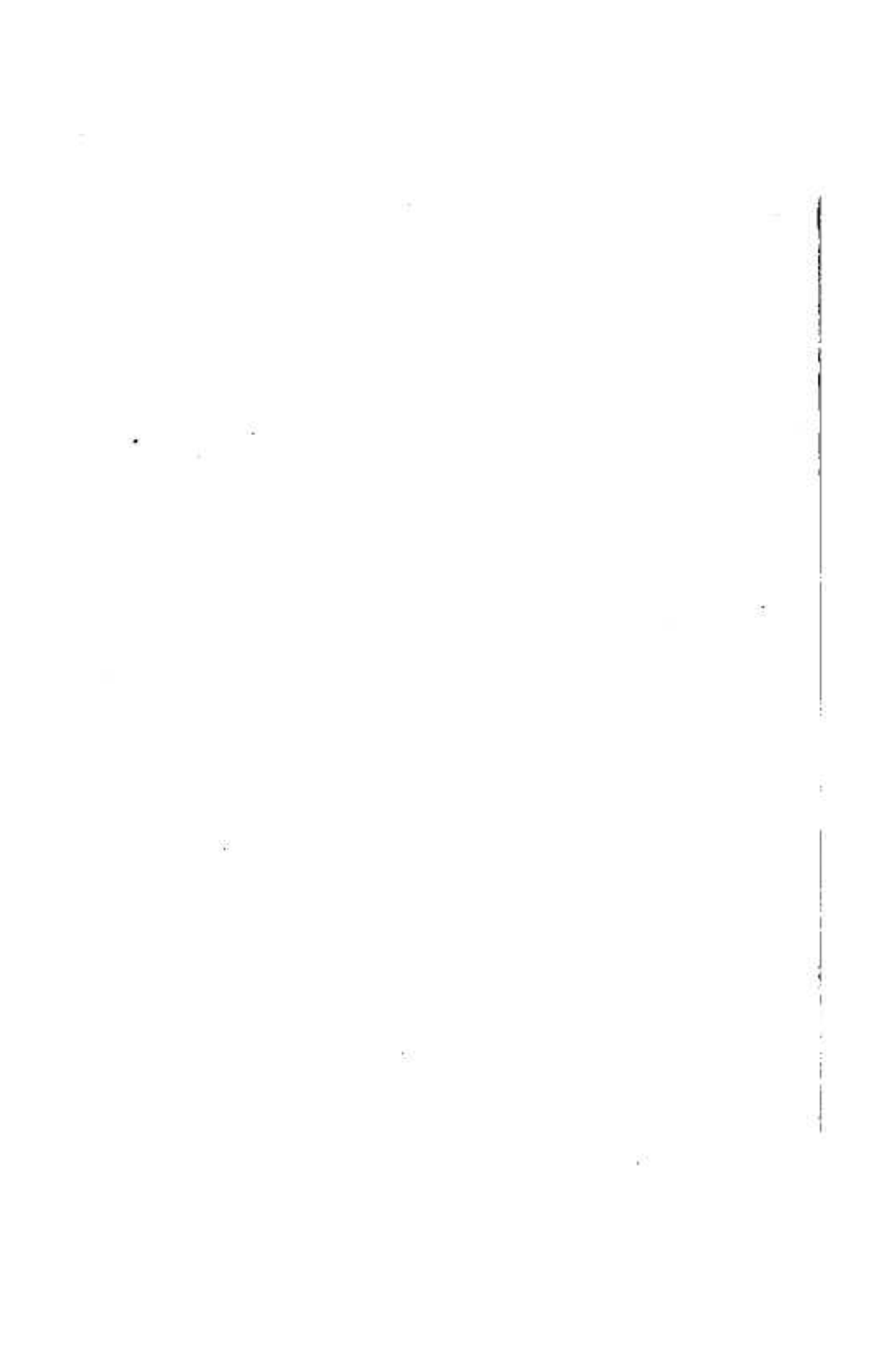
KARL P. DAHLSTROM, M.E.

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October 9, 1894.

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THE FIREMAN'S GUIDE.

INTRODUCTION.

THE proper management of a boiler is of just as much importance as its proper construction, as it is liable to get out of order and become dangerous. Besides, it is necessary, in case of danger, to know what precautions should be taken to prevent accidents and save life and property.

The fireman's duties are thus of far more importance and claim far more knowledge than is generally understood, and his responsibilities are great. To attend to his business in a proper manner, he should know his duties exactly and be reliable, sober, and careful. The safety of himself and fellow-workmen and the durability of the tools and appliances in his care depending on his doing his duties very faithfully, he should always do his best to keep his boiler in good condition and make himself familiar with its properties.

It can be learned *only by experience* how to fire in the best and most economical manner with different kinds of fuel, and what is said here in this matter is therefore to be regarded only as a direction.

As to the management of the boiler, it is of the greatest importance for the fireman to obtain necessary instruction, as faults and neglect that to people of inexperience seem to be of little note may often cause the most disastrous results. It is necessary that the fireman should pay strict attention to what there is to learn in this matter, and the following rules are a compendium of the principles every boiler-owner and fireman should thoroughly know, and the action that should be taken in regard to the safe management of boilers.

CHAPTER I.

FIRING AND ECONOMY OF FUEL.

Precautions before Starting the Fire.

Before starting the fire the fireman should see :

1. That there is sufficient water in the boiler ;
2. That the furnace* and flues are clean, and
3. That the grate-bars are in their right places ;
4. That there is nothing left in the furnace or flues (in case of repair having been made), and
5. That the upper gauge-cock is open to let out the air from the boiler, while steam is forming.
6. When the boiler is fed by hand-pump, he should see that this is in a good condition.
7. That dampers and doors move easily, and
8. That all other parts of the boiler are in complete order.

* In order to gain more simplicity of language, the word "furnace" is used through this work instead of the more correct "furnace or fire-box."