

# GAS, GASOLINE AND OIL ENGINES

AN UP-TO-DATE BOOK ON THE SUBJECT OF  
EXPLOSIVE MOTOR POWER

FOR

STATIONARY, MARINE & VEHICLE  
MOTIVE POWER

BY

GARDNER D. HISCOX, M.E.

AUTHOR OF "MECHANICAL MOVEMENTS, POWERS, DEVICES," ETC., ETC.  
"COMPRESSED AIR AND ITS APPLICATIONS," ETC., ETC.

WITH 312 ILLUSTRATIONS

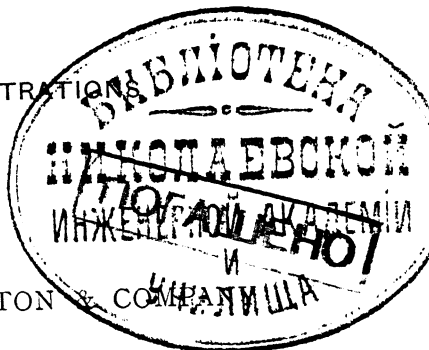
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## PREFACE TO THE TENTH EDITION.

The rapid progress in explosive motor design, and the adaptation of this class of prime movers to a vast extent for almost every want for small and intermediate power purposes in all parts of the world, has made a demand for the publication of more extensive details and descriptions of motor working parts, and especially of the heretofore troublesome conditions experienced in converting the fuel of explosive combustion into its best form for economical consumption for power, and its reliable ignition and combustion.

With this view the Author has revised the former editions of this work and added much new matter that shows progress in design, especially in the atomizing and vaporization of fuel elements, together with extended discussions on the management and care of explosive motors, with fully illustrated and described methods of ignition by the electric current and its generation.

The illustrated details of new Gas, Gasoline and Oil Vapor Motors and their parts, newly introduced, are in such proportions, together with the table of sizes of parts of motors of various powers, has been made so clear that almost any mechanical engineer or amateur draughtsman should be able to make the working drawings for an explosive motor for any kind of fuel in use for such purpose.

The new fuel, Alcohol, and its combination with gasoline for motive power is making an extended and economic exhibit in Europe and only requires legal regulation and freedom from revenue tax to make it a most acceptable material of explosive power for motor service in the United States.

The great increase of late in the number of motor builders with improved and special designs of motors for vehicle, launch and yacht propulsion, and as auxiliary power for yachts and fishing boats, has been the means of largely increasing the range of usefulness of this modern power. Its adaptation to the successful operation of bicycles has become a fact and is shown by illustrated descriptions of the latest models.

The ideal of a prime moving power, so cheap, so safe, and so easily managed, that is now in successful operation, and that has culminated in its real growth in the past quarter of a century, marks an epoch for the beginning of the twentieth century, that is a marvel in promoting our industries by the use of this new and economical power.

In view of the progress of the subject matter of this book the publishers have therefore reset this entire work, bringing it up to date.

SEPTEMBER, 1902.

GARDNER D. HISCOX.

## PREFACE.

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THE entire lack of literature on explosive motors made in the United States, with the exception of such as have appeared from time to time in our journals and magazines, and the constant inquiry for information on the subject, has induced the author of this work to endeavor to present in practical shape for the ordinary reader the principles and practice of this class of motors as they are manufactured in our own country. German, French, and English books on gas, gasoline, and oil engines scarcely allude to American engines or American practice.

The author has been favored by a large number of explosive-motor builders with illustrations and details of motors of their manufacture. He hopes that, by the publication of his work, many inquiries will be answered, and that seekers for small power will find in the explosive motor the economical prime-mover they desire.

GARDNER D. HISCOX.

JANUARY 1ST, 1897.

## PREFACE TO THE SECOND EDITION.

THE early exhaustion of the first edition has verified the author's prediction that there was need of a work of this character. The second edition has been corrected, revised, and contains much new matter, including data relating to the adaptation of these motors to vehicles and launches, a branch of the subject that is of great and growing interest.

The patents of 1897 under their proper heading have been added, and, to forestall inquiry, a list of the names and addresses of the builders of explosive motors in the United States, so far as they could be ascertained, has also been appended.

THE AUTHOR.

APRIL 15th, 1898.

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