

## PREFACE

A great deal of reliable information has been given by the chemist and scientist to aid the mechanic to invent means to perfect combustion, but not many mechanics understand, and the many mechanics have not had the opportunity with knowledge to demonstrate their appreciation of chemistry, and the chemist or scientist has been ignorant of the way and had not the opportunity with mechanical knowledge in authority to apply his chemical knowledge, and as a consequence generation after generation has been born, have worked their lives out and shortened the lives of one another among the people, producing smoke, soot, cinders, sparks, poisonous gases, and great holes in the ground, prodigally exhausting nature's supplies of fuel, wasting the greater part, utilizing only the smallest part in combustion, taking only the less steaming power from the fuel, increasing the drain upon life by obliging the people to inhale the air, made impure by its diffusion with the smoke from only partly burned coal, the smoke diffusing in the air over large spaces above the earth, the invisible carbon monoxide, at once valuable as a fuel gas, its value wasted in smoke, an injury to human life and a loss to the world by the imperfect combustion of the fuel from which it is produced—as fully described and proved by tests.

Presidents of Railways and Transportation Companies are alike guilty with their engineers for the continual promotion of the smoke nuisance at great loss to the Railways, damage to the people, and loss to the country in which they operate; and alike responsible for loss of life from explosions, avertible as fully described.

Civic authorities are liable for the consequences from like abuses in stationary boilers; the civic authorities should be held responsible.