

**A PRACTICAL TREATISE ON GAS AND
VENTILATION, WITH SPECIAL RELATION
TO ILLUMINATING,
HEAT, AND COOKING BY GAS;
INCLUDING SCIENTIFIC HELPS TO
ENGINEER-STUDENTS AND OTHERS**

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A practical treatise on gas and ventilation, with special relation to illuminating, heat, and cooking by gas; including scientific helps to engineer-students and others by E. E. Perkins

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E. E. PERKINS

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ILLUMINATING, HEATING, AND COOKING
BY GAS.

INCLUDING
SCIENTIFIC HELPS TO ENGINEER-STUDENTS
AND OTHERS.

WITH ILLUSTRATED DIAGRAMS.

By E. E. PERKINS.

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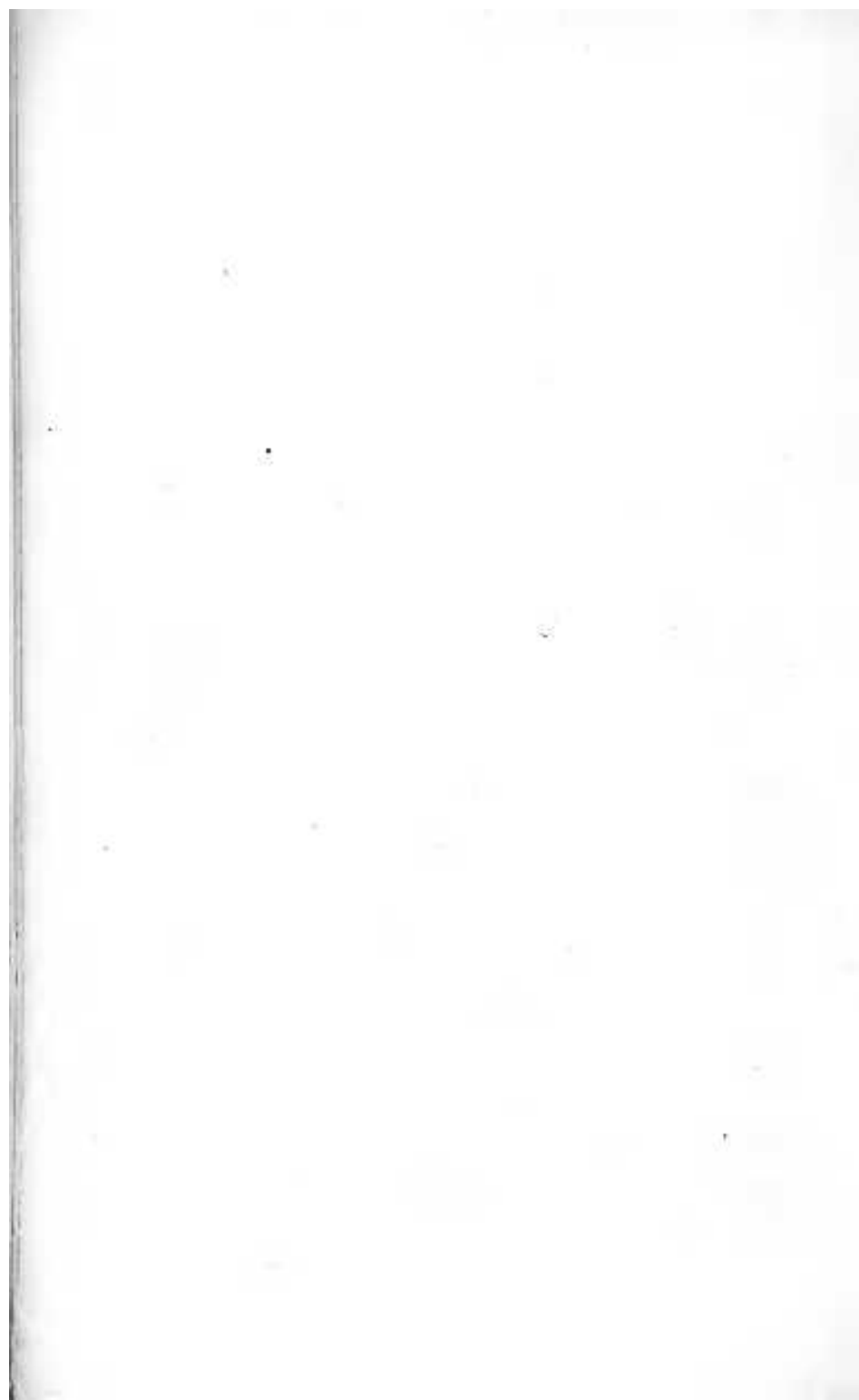
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ADVERTISEMENT.

THIS "Treatise" on Gas and Ventilation is addressed to all interested in the use of gas as a domestic and commercial article for illumination, heating, cooking, and other purposes.

The points dwelt upon have been divided; so that the consumers, while having the benefit of our experience and recommendation, may be made familiar with *causes* not generally understood, and *remedies* within their own resources; to the former of which they have been improperly and unnecessarily subjected—of the latter kept ignorant, either by the fitter or gas companies, or both. It is necessary to say, although all which is hereinafter to be said must be new, or nearly so, to the generality of consumers, much of it must, and all ought to be familiar to the fitter by his everyday practice, and philosophically known by every gas engineer.



INTRODUCTION.

FEW persons, when occupied by gas-light, ever stop to think how modern this convenience is—unknown to our grandfathers, not dreamt of a hundred years ago! *Washington* read by the light of candles instead of gas. *Franklin* died half a century before the invention of "*Hoe's Last Fast.*" *Jefferson* travelled on horseback instead of by railroad and steamboat, carrying a phosphorus bottle with matches and his own small wax candles as precautions.

Gas, now so common, was not even evolved from coal until 1739. Half a century elapsed before it was used for purposes of

illumination; and to Mr. *Murdoch*, of Redruth, Cornwall, England, about 1789, belongs the credit of this. At first he amused himself and astonished his neighbours, by riding about in a little steam-carriage, which at night was lighted by means of bladders filled with coal gas. In 1805 it became general in the *Manchester* factories, England; in 1807 the invention was announced in London, England; and by it London may be said to be brought, for at least half the twenty-four hours, out of darkness into light. The feeble glimmer of oil lamps, the glare of torches, the shouting of link-boys, and the lanterns always at hand, with the great-coats and umbrellas—the latter themselves then a novelty—were in full muster fifty years ago; but have now given way to a nightly illumination so splendid, and so happily adapted to great cities, that it may