

**PRACTICAL
INFORMATION
FOR TELEPHONISTS**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649677849

Practical Information for Telephonists by T. D. Lockwood

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

T. D. LOCKWOOD

**PRACTICAL
INFORMATION
FOR TELEPHONISTS**

©

PRACTICAL INFORMATION

FOR

TELEPHONISTS,

BY

T. D. Lockwood
T. D. LOCKWOOD,

Electrician, American Bell Telephone Company.

NEW YORK:
THE W. J. JOHNSTON CO., LTD., PUBLISHERS,
167-177 TIMES BUILDING,
1891.

~~V. 4057~~ No. 4238.91.3
~~40.4~~



Clayton Fund

~~24 2~~
2

Copyright, 1888.
By W. J. JOHNSTON.

CONTENTS.

	PAGE.
Preface,	5
Historical Sketch of Electricity from 600 B. C. to 1882 A. D.,	7
Facts and Figures about the Speaking Telephone,	18
How to Build a Short Telegraph or Telephone Line,	22
The Earth and its Relation to Telephonic Systems of Communication,	34
The Magneto-Telephone—what it is, how it is made, and how it should be handled,	44
The Blake Transmitter,	55
Disturbances experienced on Telephone Lines,	64
The Telephone Switch-Board,	77
A Chronological Sketch of the Magneto Bell, and how to become acquainted with it,	89
Telephone Transmitter Batteries,	96
Lightning—its Action upon Telephone Apparatus—how to prevent or reduce Troubles arising therefrom,	103
The Telephone Inspector,	111
The Telephone Inspector: His Daily Work,	120
The Inspector on Detective Duty,	127
The Daily Routine of the Telephone Inspector,	143
Individual Calls for Telephone Lines,	150
Telephone Wires <i>versus</i> Electric Light Wires,	158
Electric Bell Construction, Part I.,	167
Electric Bell Construction, Part II.,	174
Housetop Lines, Pole Lines and Aerial Cables,	182
Anticipations of Great Discoveries and Inventions,	186

P R E F A C E.

No science is so pre-eminently the science of the age as that of Electricity; nor is any study so fascinating, or so enthralling to its votaries; and, when associated with its elder sister, "Magnetism," to work modern miracles, it is not for any living creature to limit the number, character or scope of its manifestations.

Justly prominent amid those manifestations stand the electrical transmission and reproduction of articulate speech; and to the fact that these ends have been accomplished, and that in consequence thereof a new industry has arisen, spreading itself over the civilized world in the short space of five years, are due the production and publication of the papers of which this little volume is composed.

Most of the articles were originally written for, and have already appeared in, *THE OPERATOR*; but in preparing them for publication in book form, they have all been carefully revised by the author, and, in nearly every instance, more or less re-written. They were all written with pleasure to the author, and with the desire that they might be not only interesting but profitable to the reader.

This book is not put forward as a text-book of electrical science, a manual of telegraphy, or even as a complete hand-book of the telephone; neither is it intended so much for the delectation and instruction of professional and accomplished electricians as a popular means of conveying practical ideas, mainly proved to be practical by actual practice, to that large and daily increasing constituency of telephone inspectors and operators; and, also, to the equally large class of amateurs who, by the spirit of the age, have become interested in the electric telephone and its practical application.

Very few technical terms have been used, and a light and sugar-coated style has in many cases been adopted, which, it is hoped, will aid in the assimilation of the solid food; and attract some persons to read who would shun with faintly-disguised horror the profound

axioms, the didactic theorems, and the abstruse equations with which wiser men have adorned and illustrated more pretentious books. In fact, it is the modest boast of the author that no algebraic equation or erudite expression of differential calculus finds place within these pages.

Both the author and the publisher have in various ways become acquainted with the fact that these papers have been read—in many cases, by men who do not often read—and they are proportionately gratified by such a knowledge. They have both, also, frequently received letters inquiring for the numbers of the paper in which these articles were printed, and they therefore believe that their publication in the present substantial form, will subserve the double purpose of a reply to such letters and a supply of the desired back numbers.

It must not be forgotten by those who differ from any views herein expressed that the writer, not being at present actively concerned in the management of any telephone exchange, is compelled to confine himself to generalities, and to indicate the methods which, subject to modifications by individual conditions, would be employed by himself; and, therefore, to glean the greatest profit from these pages, each reader must in practice make the requisite variations from the text to suit his own case.

If anything read in these pages shall tend to arouse ambition in the breast of youth, to cause a desire for self-improvement in any telephone employé, to implant zeal in a hitherto listless inspector, or to elucidate to any youthful aspirant to electrical or telephonic honors the daily and hourly problems of a telephone exchange, the aim of the writer will have been attained, and satisfaction will reign in his heart.—*Par Vobiscum.*

Practical Information for Telephonists.

HISTORICAL SKETCH OF ELECTRICITY FROM 600 B. C. TO 1882 A. D.

ON the sea-coast of Prussia, and indeed throughout the whole length of the Baltic coast, is found a hard, brittle substance, with a resinous lustre, sometimes found perfectly transparent, but more usually of varying degrees of translucency. It possesses a prevailing yellow color, passing from a pale, straw tint, to a deep orange. It is found in irregular masses, and has no taste, nor, at ordinary temperature, odor.

Named by the Romans, "Electrum;" in our own language, "Amber;" by the French, "Ambre;" and by the ancient Greeks, "Electron;" this substance has been known from the earliest ages; and is chiefly known at the present time as being the beautiful straw-colored substance that furnishes material for the mouthpiece of the fragrant meerschaum or holder of the luscious Havana.

But what has this to do with the mysterious and ubiquitous force?—Well, not much; only, were it not for the fact that some ancient fossil of a philosopher, whose name has not been handed down to us, while one day rubbing a piece of amber (or as he, being a Greek, called it, "Electron"), found that after a little friction had passed between him and the amber, it,