

**BLEACHING, DYEING,  
AND CALICO-PRINTING.  
WITH FORMULA**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649075157

Bleaching, Dyeing, and Calico-Printing. With Formula by John Gardner

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](http://www.triestepublishing.com)

**JOHN GARDNER**

**BLEACHING, DYEING,  
AND CALICO-PRINTING.  
WITH FORMULA**



**BLEACHING, DYEING, AND  
CALICO - PRINTING.**

## ANNOUNCEMENT.

---

### TECHNOLOGICAL HANDBOOKS.

THIS series has been designed to meet the wants of those who, on account of the high price of an encyclopædia, are unwilling to purchase when they wish to consult but a small portion of it, and of others who seek for fuller information than can be found in works of such scope. It is hoped that these Handbooks will be of use both to the expert and the beginner.

Each book will be complete in itself, embracing information on several collateral subjects, illustrations being introduced whenever they will be found of advantage in explaining the text. They will be issued in handy form, at a low price.

The editing has been undertaken by Mr. John Gardner, who has had large experience in work of this kind, having been interested in the preparation of recent editions of "Cooley's Cyclopædia."

The first volume appeals to all interested in the Manufacture and Trade of ALCOHOL COMPOUNDS. The second, now offered to the reader, treats of BLEACHING, DYEING, and CALICO-PRINTING.

The third volume, which is in active preparation, will deal with ACETIC ACID and VINEGAR, AMMONIA, and ALUM.

J. & A. CHURCHILL.

[CHURCHILL'S TECHNOLOGICAL HANDBOOKS.]

# BLEACHING, DYEING, AND CALICO-PRINTING.

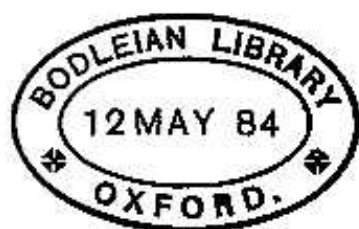
With Formulæ.



LONDON:  
J. & A. CHURCHILL,  
11, NEW BURLINGTON STREET.

1884.

1785 . e . 1 .





## EDITOR'S PREFACE.

---

ALTHOUGH the present volume claims to be little more than a summary of the arts of Bleaching, Dyeing, and Calico-printing, the Editor hopes it may, notwithstanding, be found a ready and serviceable manual for practical workers, and that in many cases, it may be instrumental in shortening the time and trouble, that would otherwise be expended in consulting the pages of larger and more elaborate works.

The Editor has to tender his grateful acknowledgments to his friends, Mr. J. F. HODGES, jun., of Belfast, and Mr. JAMES CHADWICK, of Manchester; the former for his valuable assistance in the compilation of the chapter on "Bleaching," the latter for his no less valuable contributions to the sections on "Dyeing and Calico-printing." To Mr. CHADWICK the Editor is indebted

for many of his formulæ, and additionally for a large amount of equally useful technical information.

Lastly, the Editor has to acknowledge his indebtedness to Mr. CROOKES' "Practical Handbook of Dyeing and Calico-printing;" URE's "Dictionary of Arts, Manufactures, and Mines;" WAGNER's "Chemical Technology," edited by W. CROOKES, F.R.S.; CALVERT's "Dyeing and Calico-printing," edited by STENHOUSE and GROVES, F.R.S., and SPON's "Encyclopædia of the Industrial Arts:" all of which works have been consulted in the preparation of this little volume.

JOHN GARDNER, F.I.C., F.C.S.

LONDON, *December*, 1883.

## CONTENTS.

---

CHAP.	PAGE
I. BLEACHING . . . . .	I
II. DYEING . . . . .	33
III. CALICO-PRINTING . . . . .	61
IV. DYE STUFFS . . . . .	133
APPENDIX . . . . .	193