

**THE MAGNET:
FAMILIARLY DESCRIBED
AND ILLUSTRATED BY A
BOX OF MAGNETIC TOYS**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649314553

The Magnet: Familiarly Described and Illustrated by a Box of Magnetic Toys by Charles Tomlinson

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

CHARLES TOMLINSON

**THE MAGNET:
FAMILIARLY DESCRIBED
AND ILLUSTRATED BY A
BOX OF MAGNETIC TOYS**

THE MAGNET:

FAMILIARLY DESCRIBED

AND

ILLUSTRATED BY A BOX OF MAGNETIC TOYS.

By CHARLES TOMLINSON.



LONDON:

JOSEPH, MYERS, & CO., 144, LEADENHALL STREET.

1857.

The Apparatus required for the Experiments mentioned in this little book is contained in a Box supplied by Messrs. JOSEPH, MYERS, & Co., and consists of the following articles:—

1. Two Bar Magnets with Armatures.
2. Horse-shoe Magnet and Armature.
3. Two Magnetic Fishes and Metal Rod.
4. One Magnetic Swan.
5. Iron Balls, about six in number, and of three different sizes.
6. Box of Iron Filings.
7. A Piece of Muslin.
8. A Knitting Needle or steel wire.
9. One Spinner.
10. Horizontal Needle, Stand, and Point.
11. Dipping Needle.
12. Compass.
13. Iron Nails or Brads of different sizes.

THE MAGNET.



WHEN a boy goes into a toy-shop to purchase some article suited to his taste and to the amount of his pocket-money, he is bewildered by the extent and the variety of the display. He has long since discovered the mysteries of top and marbles, of kite and ball, and though his relish for them is as keen as ever, he does not wish to expend his capital on any one of these objects, but would like to have something new. What shall it be? Casting his eyes around he sees hanging up in the window a magnet—a piece of steel bent into the form of a very long horse-shoe, with a bit of iron connecting the two ends which are of bright metal, while the rest of the horse-shoe is

covered with sealing-wax, no doubt to prevent it from getting rusty.

And you, my young lady, deeply learned in the mysteries of dolls and the economy of dolls'-houses, will not, I am sure, object to put off for an hour the tea-party to which your dolls had invited the dolls of your school companion, while your brother exhibits to you the wonders of his newly purchased magnet. He will show you how it will take up mamma's scissors, run away with your own needles, and even make a needle move about on a plate if held underneath, and by rubbing it on the blade of a pen-knife it will enable that article to take up small bits of iron and steel. But your brother has soon shown you all that he knows about the magnet and you are anxious to get back to your dolls or perhaps to join your school-fellows in the game well-named *les Graces*. But suppose that instead of the horse-shoe magnet, papa or mamma, or some kind uncle or aunt, should present you and your brother with a box of magnetic toys, you would, I am sure, not object to give up a whole evening to an examination of their wonders.

Here is such a box:—it contains not only a magnet in the form of a horse-shoe, but also straight

bar-magnets and a compass, which as you know very well is used by people on board ship, to enable them to find their way when out of sight of land on the open sea; here too are fishes and a swan and a number of other toys that perhaps you do not know the use of.

I am going to tell you something about all these things which I hope will amuse you. I will try not to be dull or difficult, and will not use many hard words. Should you, however, find me dull, the fault will belong to me and not to the magnet; for though the magnet may be in some respects difficult to understand, and some very hard words are used to explain much that it does, there are so many beautiful things to be learnt about it that you will, I am sure, not only wonder how such things can be, but also how they were ever found out.

It is more easy to remember a word and to understand the thing it is meant to express when we know how the word came first to be used, just as we take more interest in a person when we know his father and mother, sisters and brothers, than if he stood quite alone in the world. Now the word *magnet* is got from *Magnesia*, a place in Asia.

Minor, where there is found a kind of iron ore which takes up pieces of iron and steel just as your brother's horse-shoe magnet does. The people who lived in this place a very long time ago called this dark stony-looking ore by the name of *magnes*, after the name of the place, from which we get our word *magnet*. A piece of this magnetic iron ore, properly shaped and arranged, so as to show its peculiar properties, is called a *natural magnet*, to distinguish it from steel magnets which are made artificially and are hence called *artificial magnets*. The natural magnet is also called a *lode-stone*, from an old word signifying *leading or guiding stone*, because a great many hundred years ago people made use of this stone to guide them over wide deserts where there are no hills or houses, roads or finger-posts to show them the way.

By means of the natural, or artificial magnet, we can make another magnet out of a bar or wire of steel. In such a case we are said to *magnetise* the bar or wire, and the bar and the wire are said to be *magnetised*. The branch of knowledge which tells us about these things is called *magnetism*; and the person who makes this science his peculiar study is called a *magnetician*. There is no reason