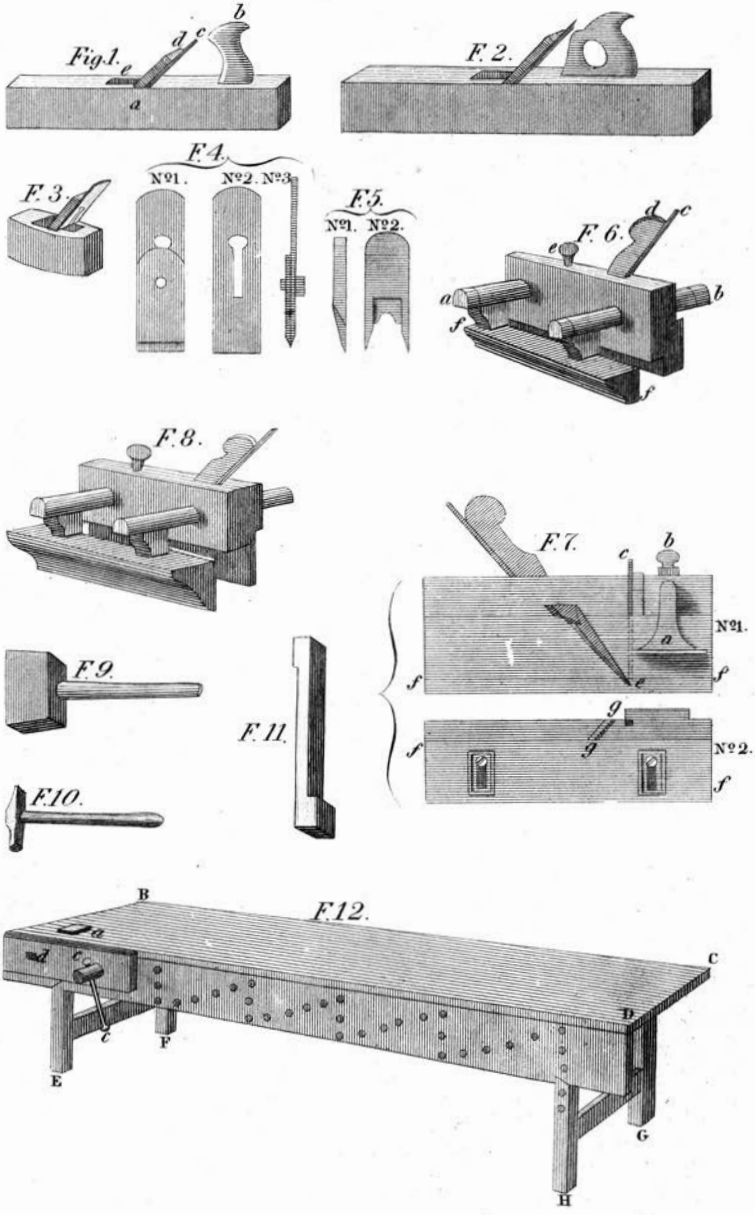
Joinery Plate XII.



THE

MECHANIC'S COMPANION,

OR, THE

ELEMENTS AND PRACTICE

OF

CARPENTRY, JOINERY, BRICKLAYING, MASONRY, SLATING, PLASTERING, PAINTING, SMITHING, AND TURNING,

COMPREHENDING THE LATEST IMPROVEMENTS

AND CONTAINING A FULL DESCRIPTION OF

THE TOOLS

BELONGING TO EACH BRANCH OF BUSINESS;

WITH COPIOUS DIRECTIONS FOR THEIR USE.

AND AN EXPLANATION OF THE

TERMS USED IN EACH ART;

ALSO AN

Introduction to Practical Geometry.

BY PETER NICHOLSON.

Illustrated with forty Copperplate Engravings.

PHILADELPHIA:

PUBLISHED BY JOHN LOCKEN,

NO. 311 MARKET STREET.

1845.

Publisher's Introduction

Why reprint Peter Nicholson's "The Mechanic's Companion" as the first book from Rude Mechanicals Press? Nicholson's first edition was in 1812, yet Joseph Moxon's "Mechanick Exercises" – the first English-language book on woodworking and other trades – was published more than a century before, in 1703. But while Moxon's is certainly an important book, I find "The Mechanic's Companion" is the better early resource, so that's why I chose it. It's easier to understand, includes far more written detail than "Mechanick Exercises" and the 40 engravings (rendered here as line drawings) give you a better look at the tools. Nicholson apprenticed as a cabinetmaker before becoming an architect and prolific author, and he grew up in a mason's household. He knew wherefore he wrote, and relied on masters for the sections on building trades with which he was less familiar. Plus, as he wrote in his introduction, it was hard to find a copy of Moxon's book when Nicholson was writing in the early 1800s – and it's harder to find and far more expensive now. Nicholson's stated goal was to emulate but update the earlier work, following "the excellent plan of Moxon."

"The Mechanic's Companion" is also one of the first books I read on the trades (though I read only the Carpentry and Joinery sections at the time) when I first dove into hand-tool woodworking in early 2006. But it was a glued-together print-on-demand paperback that started to fall apart immediately after I opened it. What was inside was (and is) excellent; the book itself was not. I wanted an easily available and reasonably priced hardcover version that would outlast me – something I could read time and again without worrying about losing pages. So I made one.

I love old books. In high school, I dreamed of becoming a medievalist, in large part because it would be an excellent excuse to work with manuscripts and incunabula. Then I discovered that to be a proper medievalist, one has to know Latin and Greek, and possibly Aramaic. I decided to concentrate on Shakespeare and his contemporaries instead; they wrote in English.

But by the time I got to graduate school, there was this pesky thing called the World Wide Web, which, thanks to the ever-growing number of books available thereupon (through Project Gutenberg, various libraries and museums and, later, Google Books and the like), there was yet another layer between me, microfiche and the original books – so it was harder than ever to come up with an excuse to handle a centuries-old book. Reading on a screen just isn't the same. (I always forget to charge my eReader, and I can't jot notes in the margins.) Sure, you can print out those pages – but that's not the same as holding a good book in one's hands. And while books in any form are to me preferable, they aren't always built to last. In fact, they're often not, to which my paperback copy of "The Mechanic's Companion" attests.

Among the things that charm and astound me about old (really old) printed books is they are in many cases in better shape than some printed in my lifetime – though to be fair, some that have survived have been in low-humidity storage, with restricted handling, for nigh on a century. (Manuscript books – hand bound and written on vellum – are often in even better shape.)

Up until about 1850, printed books were on comparatively heavy paper that was made from rags, not wood pulp, and the long fiber strands from those rags made the paper stronger and more durable than wood-pulp paper. And, until about 1980, wood-pulp paper was typically acidic, thanks to the chemicals used to break down lignin. Acidic paper turns yellow after a few years and eventually becomes crumbly. (I'll bet you have a few books of this sort on your shelves – I do.)

Add to that pages that are individually glued to the spine rather than pages that are folded into signatures, then sewn through and glued into a book block (Smyth binding), and you have a book that looks bad and tends to fall apart. (Though very thin paper, like the onionskin of some of my "Complete Shakespeare" editions, is better glued than sewn; the thread would tear right through the flimsy paper.)

But old books have their problems – beyond that they're hard to come by and usually pricey. One problem I encountered on almost every page of the 1845 edition I've scanned for this project is "foxing," a rust-colored spotting of the pages that has been variously attributed to breakdown of metals in the ink, fungal activity and "multiple causes." In other words, there is no cause consensus. Regardless of its cause, foxing is distracting (and at times it obscures important details), which makes the reading experience less than ideal. Broken type is another common problem. Lead type was often used beyond its prime, so there are a lot of "broken" letters – particularly common on the crossbar of the lower case "e" and "t." Plus overinking leads to "fill in" – thus an "o," for example, appears as a solid dot.

I cleaned up all of those problems and more in Photoshop, painstakingly checking every page for legibility. I removed the foxing through a series of filters and other applications, and I replaced letters as needed so the meaning is clear, in some cases filling in missing pixels of black where the text was too degraded to be legible. I also increased the size of the type; the original type is awfully small.

Yet, I want the thing to retain period charm, so that it feels in some ways like reading a book from 1845 (albeit without the nifty stamped impression from an old press of every letter on the page). The images in the original were printed from copperplate engravings and "tipped in" (glued at the spine edge) after the signatures were assembled. As a result, the backs of these pages are blank when possible, and I've maintained the original page layout – except in a few cases where I'm quite sure the binder got it wrong.

At the back of the book is "Directions for the Binder," a page that indicates where to put the illustrations. In my 1845 copy, however, Plate 12 is not facing page 125 as instructed; it's opposite the title page. I put it in both places. And plate 20 is not facing page 155 as it should be; the binder tipped in the wrong edge and it's facing page 154 instead. I fixed that and several similar instances. So pre-1850 charm…but closer to what the author intended. But I left the original owner's signatures, which you'll find in a few instances – charm.

And this one will last as long as a pre-1850 book. This edition of "The Mechanic's Companion" is printed on a fairly heavy, acid-free paper that is folded into signatures and sewn to the binding, between hard covers wrapped in cotton cloth and stamped in foil. Carry it into the shop (or to the building site); jot notes in the margins and on the back of the plate pages; open it wide. It can take it.

Megan Fitzpatrick
Cincinnati, Ohio
May 2018

PREFACE.

MORE than a century has elapsed since an ingenious and useful work on the Arts connected with BUILDING was published under the title of Mechanical Exercises, by the celebrated JOSEPH MOXON: that it was both useful and popular the various editions testify, and at this time it is become scarce and rarely to be met with. It can be no disparagement to its ingenious author, to say that the progress of science, and the changes in matters of art have rendered the work obsolete and useless. It treated on Smithing, Joinery, Carpentry, Turning, Bricklaying, and Dialling.

I have followed the excellent plan of Moxon and treated each art distinctly: I have first described the several tools belonging to each branch of business, next the methods of performing the various manual

operations or exercises, to which they are applicable, these are further illustrated and explained by numerous plates: the descriptions are made as plain and familiar as possible; and there are few operations but will be found fully and clearly explained: finally to each is added an Index and extensive Glossary of terms used by workmen in each art, with references also to the plates: and it has been my endeavour that the description with its definition should be clear, and show the connection between the science and the art, thereby producing a pleasing and lasting effect upon the mind.

The arts treated of are as follow: CARPENTRY, JOINERY, BRICKLAYING, MASONRY, SLATING, PLASTERING, PAINTING, SMITHING, AND TURNING, the whole preceded by a slight introduction to PRACTICAL GEOMETRY, and illustrated by forty copper-plates.

These exercises commence with those arts which work in wood, namely, Carpentry and Joinery which are much alike in their tools and modes of working: then comes Bricklaying, which with Carpentry are certainly the most essential of all in the construction of a building.

Masonry and Bricklaying are in reality branches of the same art, and both founded upon principles truly Geometrical, yet I have given the precedence to Bricklaying, because it is of the most general use in this country; yet it is generally admitted, that Masonry is the more dignified art of the two, or indeed of all the arts concerned in the formation of an edifice. On that difficult and intricate subject, the Theory of Arches, I have endeavoured to give a familiar, and I hope a satisfactory illustration.

Slating comes next to cover in the building: then Plastering, which is used in the finishing of buildings, and furnishes the interior with elegant decorations, and conduces both to the health and comfort of the inhabitants: Painting is not less useful than ornamental; it adds to the elegance of buildings, and tends to the preservation of the materials, whether wood or plaster.

Smithing or Smithry is extensively useful in almost every department of art as well as building; by it are made the tools which perform all the operations of the before mentioned arts, and therefore, though last, should not be least in our esteem. The use of

iron has also of late years been very much extended; in wheels for machinery, Iron Bridges, Rail roads, Boats, Roofs, Floors, and various other articles not necessary to enumerate here.

Turning is a curious Mechanical Exercise, and though not absolutely necessary in building, may be employed with advantage in many of its decorations. In this article I have given a legitimate definition of elliptic turning, by which, its principles are deduced to be that of the ellipsegraph or common trammel, and this without entering into further demonstration. This art is illustrated by plates, showing the principles of the machines, as well as by views of the machines and tools

As the practice of the arts here treated of, is founded in Geometry, and as the descriptions of the materials and of the tools may be referred to the several figures of that science, I have prefixed to the work such definitions as are necessary to the comprehension of any drawing or design, which is to be executed, accompanied by many useful problems, which will enable the mechanic to understand the configuration of its several parts in practice,

and to perform many useful problems upon true scientific principles. The problems for setting out work upon the ground, and those for reducing drawings to any scale or proportion, even without knowing the scale of the original drawing, will be found interesting, and very useful in practice.

This work, which treats of the first rudiments of practice, will be found particularly interesting and useful to gentlemen who practise, or are fond of the mechanical exercises, and to young men or apprentices in any of the professions, though, on some occasions, the older workmen may be benefitted by a perusal. The terms introduced are those in general use amongst workmen in London: and on this account it will be of essential service to young men coming to the metropolis. An art cannot be taught but by its proper terms. Other branches of art might have been introduced into this work, but those here treated of are intimately connected with each other, and have a natural affinity, and will, it is presumed, form upon the whole, a very interesting work to young mechanics; those who wish for further information in the building art, and particularly

on what relates to Geometrical Construction, may consult my other publications on Practical Carpentry.

Every art is improved by the emulation of its competitors: it is therefore the ardent hope of the author that the reader may not be disappointed of meeting with abundance of that information which his mind may be desirous to obtain.

PETER NICHOLSON.

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