

Preface

With the rapid development of society and technology, the rise of artificial intelligence, robots, big data, meta universe and other science and technology, the cultivation of technological innovation ability is particularly important for college students. We should not only cultivate students' innovative thinking ability and practical ability, but also cultivate students' comprehensive application ability of basic theoretical knowledge. In actual life and work, we will encounter many problems. If we adopt traditional methods, it is difficult to find efficient solutions to problems. Therefore, we need to put forward a new and efficient method to solve the problem by combining the actual problems and using appropriate technological innovation methods and practical methods.

Science and technology are the primary productive forces, and the cultivation of technological innovation ability and innovative thinking is the foundation. We have accumulated certain research experience and foundation in technological innovation and invention, and authorized many National Patents in China, involving scientific and technological invention and life; we has published many scientific and technological invention papers, mainly involving technological innovation product research and development, technological basic theory research and robot innovation design; guided students to participate in various technological innovation and robot competitions, and won many awards. For example, the patent "Automatic Infant

Assisted Milk Powder Bubble Machine Based on Mobile Phone Control” mentioned in this book is also a problem, which was found when feeding baby milk powder. For this reason, we carried out innovative design and research, authorized this patent, and got the Chinese Utility Model Patent. The relevant ideas and methods in this book have obtained a lot of research results. We hope that through the study of the research contents and practical cases in this book, readers can carry out scientific and technological innovation research and practice to a certain extent in combination with their actual life and work conditions, and obtain their own innovation research results. This is also one of the main purposes of writing this book.

This book takes the practice of technological products as the main line of research, and takes technological innovation as the research method. It is divided into five chapters for research and analysis. The main research contents of this book are arranged in a progressive manner, which consists of “Basic theoretical knowledge → Innovative methods → Research practice → Case research and analysis”, forming a four-dimensional research method and content. The research contents include the basis of technological innovation and invention, technological production and innovative product research, technological invention and case study, practical model case study of scientific and technological products and appearance design case study of scientific and technological products.

Due to the limited level of the author, the shortcomings in the book

are inevitable. We expect experts and readers to criticize and correct.

Author: Jing Ning

June 2022 in Yunnan Agricultural University, China