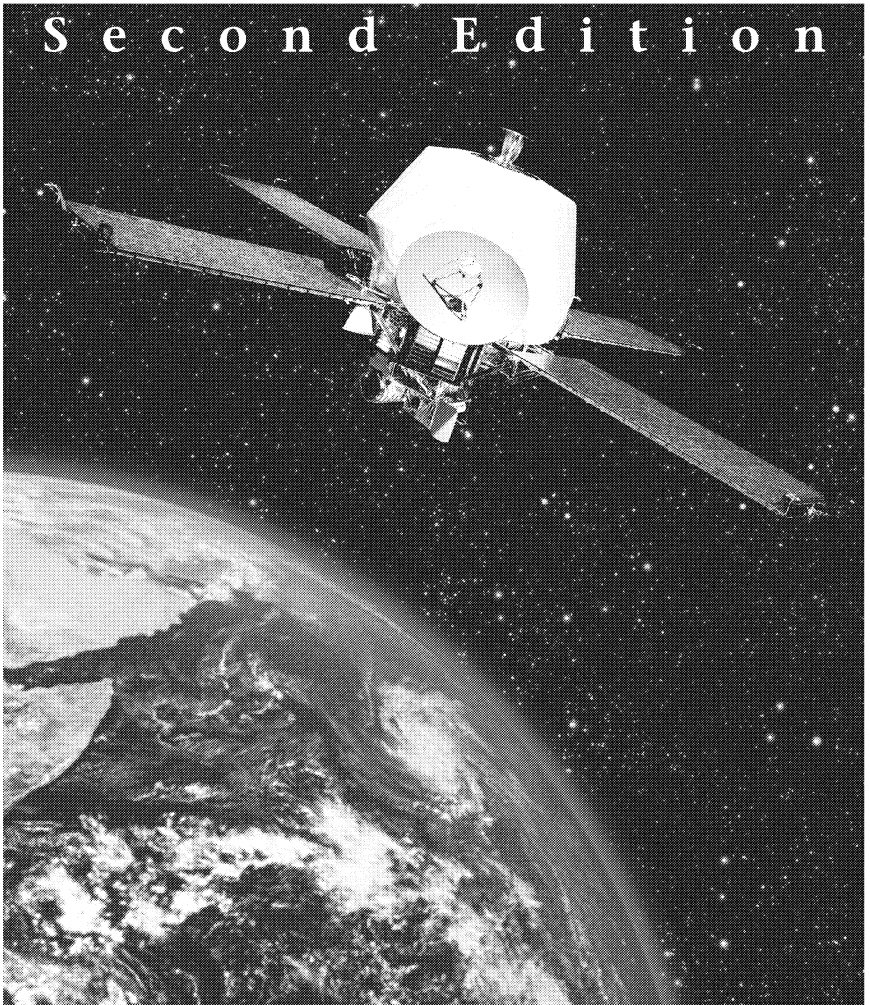


# *The Story of Inventions*

S e c o n d   E d i t i o n



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## **ANSWER KEY**

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A publication of  
**Christian Liberty Press**  
502 West Euclid Avenue  
Arlington Heights, Illinois 60004  
[www.christianlibertypress.com](http://www.christianlibertypress.com)

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ISBN 978-1-932971-21-7  
1-932971-21-1

Printed in the United States of America

# Table of Contents

Introduction . . . . .	v
Text Key . . . . .	1

## **Part I: Power**

<i>Chapter 1: James Watt and the Steam Engine</i> . . . . .	1
<i>Chapter 2: Invention of the Electric Engine and Electric Locomotive</i> . . . . .	2
<i>Chapter 3: Thomas Edison and the Electric Light</i> . . . . .	3
<i>Chapter 4: Enrico Fermi and the Atomic Age</i> . . . . .	4

## **Part II: Manufacturing and Production**

<i>Chapter 5: The Invention of Spinning Machines</i> . . . . .	6
<i>Chapter 6: Eli Whitney and the Cotton Gin</i> . . . . .	7
<i>Chapter 7: Elias Howe and the Sewing Machine</i> . . . . .	9
<i>Chapter 8: Cyrus McCormick and the Reaper</i> . . . . .	10
<i>Chapter 9: Henry Bessemer and the Making of Steel</i> . . . . .	11
<i>Chapter 10: Henry Ford and the Automobile</i> . . . . .	12

## **Part III: Communications**

<i>Chapter 11: John Gutenberg and the Printing Press</i> . . . . .	13
<i>Chapter 12: Samuel Morse and the Telegraph</i> . . . . .	15
<i>Chapter 13: Alexander Graham Bell and the Telephone</i> . . . . .	16
<i>Chapter 14: Nikola Tesla, Guglielmo Marconi, and the Radio</i> . . . . .	17
<i>Chapter 15: John Baird and the Television</i> . . . . .	18
<i>Chapter 16: The Invention of the Computer</i> . . . . .	19

**Part IV: Transportation**

*Chapter 17: Robert Fulton and the Steamboat..... 20*

*Chapter 18: George Stephenson and the Locomotive ..... 21*

*Chapter 19: The Wright Brothers and the Airplane..... 23*

*Chapter 20: John Holland and the Submarine ..... 24*

*Chapter 21: Goddard, Von Braun, and Rockets to the Moon ..... 25*

# Introduction

The answer key for *The Story of Inventions* (Second Edition © 2008) is provided by the staff of Christian Liberty Press to help the parent-instructor teach this course. In this answer key, we have provided model or representative answers to all the Comprehension Questions. The answers to these questions are either found directly in the text, or may be deduced from the reading selections. The student should do his own work out of the textbook and respond using his own words. Also, tests for this course are available through Christian Liberty Press.

The instructor should first become familiar with the textbook, the textbook questions, and the answers to those questions in this answer key. The parent-instructor is strongly urged to be directly involved in the teaching process and not to leave the student alone with this course. Please take special note that the student must not have access to this answer key. The parent-instructor is responsible to track the student's progress.

When responding to the daily work questions, the student should follow these general pointers:

1. Restate the question in the answer.
2. Use complete sentences.
3. Demonstrate strong written expression.
4. Answer all parts of each question.
5. Use specific quotes or references to support the answer.
6. Avoid underdeveloped, abbreviated, or truncated answers.
7. Establish a high level of thought in the response.
8. Create a well-crafted and fully developed response.

Our hope is that this course, however, will not simply develop a more proficient reader. It is our desire that the student will also become a more discerning reader. Christians are responsible to analyze each reading selection in light of Biblical principles to determine whether the message contained in the work harmonizes with Holy Scripture. Virtually all writers intend to convey or impart some principles through their writings. Too many Christian young people and adults have been led to believe that

ideas and principles can be neutral. The fact is, every idea promoted by man has ultimate consequences for good or evil. A person's character is molded by his thoughts and actions: "For as he thinketh in his heart, so is he" (Proverbs 23:7a, KJV).

May God grant you grace and wisdom in fostering your student's knowledge and spiritual discernment in reading.

# TEXT KEY

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## PART I: POWER

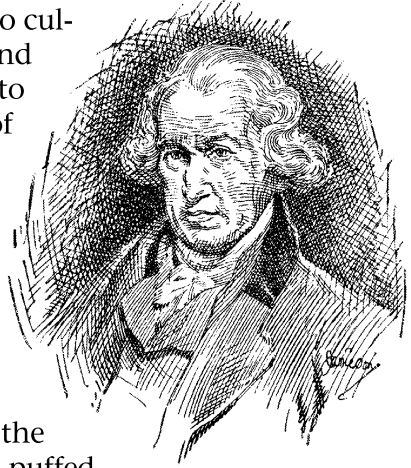
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### *Chapter 1: James Watt and the Steam Engine*

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#### Comprehension Questions (Page 18)

1. Cattle and horses were used to cultivate the fields. Windmills and water wheels were employed to grind corn and wheat. Most of the tools and machines at this time in history were worked by hand.
2. James Watt's most valuable invention was an engine that harnessed the power of steam in the late 1700s.
3. Beelzebub got its name from the way it wheezed, snorted, and puffed fire and smoke.



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**NOTE:** *Beelzebub* is a term that comes from the Bible and means "Lord of Zebub," that is "Lord of things that fly." In 2 Kings 1:2–3,6,16, Beelzebub refers to the Philistine god of Ekron. In the New Testament Beelzebub refers to Satan, the prince of demons (Mark 3:22; Matthew 12:24, 27; and Luke 11:15,18–19).

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4. The people used the steam engine to pump water and to hoist coal out of the mines. It was also used in grain mills to grind wheat and corn into flour.
5. The millers and their employees opposed the new engine because they were afraid of losing their livelihood, so they set fire to Mr. Watt's model mill. Financially, Boulton and Watt were in great need because all their profits had gone back into the business, and they needed additional funds to produce the new engines. They even had to mortgage the patents on Mr. Watt's invention to raise capital. Their

customers also refused to pay them, causing the partners to lose more money. On top of all this, dishonest people tried to get Parliament to take away their patents; some even used their ideas illegally.

- In memory of James Watt, people around the world named a measurement of electric power after this great inventor. The amount of light from light bulbs is measured in *watts*.

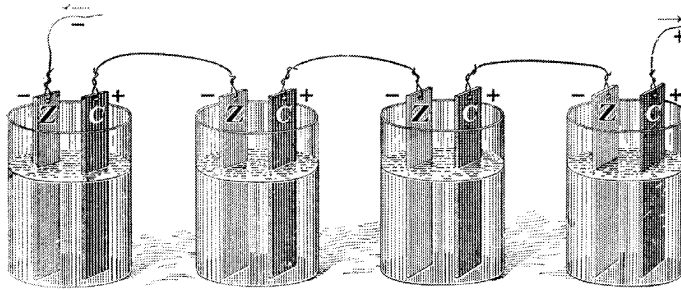
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## Chapter 2: Invention of the Electric Engine and Electric Locomotive

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### Comprehension Questions (Page 32)

- The two main parts of an electric engine are the *dynamo*, which produces the electricity, and the *motor*, which converts the electricity into power.
- Otto von Guericke invented the first electrostatic generator, which produced static electricity. Sir Isaac Newton improved the machine by replacing the globe of sulfur with a glass disk, which could be easily turned, and by using rubber and silk brushes that rubbed against the disk to produce the static electricity.



BATTERY: Z, ZINC PLATES; C, COPPER PLATES

- Count Alessandro Volta invented the first battery. He discovered that copper and zinc immersed in a brine (salty water) produced an electric current.
- A wise sailor placed a magnetized needle upon a float to learn which way was north. (This is called a compass.)
- Professor Ørsted discovered that passing electricity through a wire makes a magnet of the wire. This discovery