

CHAPTER II.—INDUCTIVE EPOCH OF GALILEO.—DISCOVERY OF THE LAWS OF MOTION IN SIMPLE CASES.	
	PAGE
<i>Sect. 1.</i> Establishment of the First Law of Motion.....	322
<i>Sect. 2.</i> Formation and Application of the Motion of Accelerating Force. Laws of Falling Bodies.....	324
<i>Sect. 3.</i> Establishment of the Second Law of Motion.—Curvilinear Mo- tions.....	330
<i>Sect. 4.</i> Generalization of the Laws of Equilibrium.—Principle of Virtual Velocities.....	331
<i>Sect. 5.</i> Attempts at the Third Law of Motion.—Notion of Momentum...	334
 CHAPTER III.—SEQUEL TO THE EPOCH OF GALILEO.—PE- RIOD OF VERIFICATION AND DEDUCTION.....	
	340
 CHAPTER IV.—DISCOVERY OF THE MECHANICAL PRINCIPLES OF FLUIDS.	
<i>Sect. 1.</i> Rediscovery of the Laws of Equilibrium of Fluids.....	345
<i>Sect. 2.</i> Discovery of the Laws of Motion of Fluids.....	348
 CHAPTER V.—GENERALIZATION OF THE PRINCIPLES OF MECHANICS.	
<i>Sect. 1.</i> Generalization of the Second Law of Motion.—Central Forces...	352
<i>Sect. 2.</i> Generalization of the Third Law of Motion.—Centre of Oscilla- tion.—Huyghens.....	356
 CHAPTER VI.—SEQUEL TO THE GENERALIZATION OF THE PRINCIPLES OF MECHANICS.—PERIOD OF MATHEMAT- ICAL DEDUCTION.—ANALYTICAL MECHANICS.....	
	362
1. Geometrical Mechanics.—Newton, &c.....	363
2. Analytical Mechanics.—Euler.....	363
3. Mechanical Problems.....	364
4. D'Alembert's Principle.....	365
5. Motion in Resisting Media.—Ballistics.....	365
6. Constellation of Mathematicians.....	366
7. The Problem of Three Bodies.....	367
8. Mécanique Céleste, &c.....	371
9. Precession.—Motion of Rigid Bodies.....	374
10. Vibrating Strings.....	375
11. Equilibrium of Fluids.—Figure of the Earth.—Tides.....	376
12. Capillary Action.....	377
13. Motion of Fluids.....	378
14. Various General Mechanical Principles.....	380
15. Analytical Generality.—Connection of Statics and Dynamics.....	381