

CONTENTS.

	Page
LETTER from Mr. John Smeaton to Mr. John Ellicott, F. R. S. concerning some improvements made by himself in the air-pump, - - - - -	1
An engine for raising water by fire, being an improvement of Savery's construction, to render it capable of working itself, invented by Mr. De Moura, of Portugal, F. R. S. described by Mr. J. Smeaton, - - - - -	11
An account of some experiments upon a machine for measuring the way of a ship at sea,	14
An account of some improvements of the mariner's compass, in order to render the card and needle proposed by Dr. Knight, of general use, by John Smeaton, philosophical instrument maker, - - - - -	23
An experimental inquiry concerning the natural powers of water and wind to turn mills, and other machines, depending on a circular motion, - - - - -	27
An experimental examination of the quantity and proportion of mechanic power necessary to be employed in giving different degrees of velocity to heavy bodies from a state of rest, by Mr. John Smeaton, F. R. S. - - - - -	80
New fundamental experiments upon the collision of bodies, by Mr. John Smeaton, F. R. S. - - - - -	95
A description of a new tackle or combination of pulleys, by Mr. John Smeaton, -	107
A discourse concerning the menstrual parallax, arising from the mutual gravitation of the earth and moon, its influence on the observation of the sun and planets, with a method of observing it, by J. Smeaton, F. R. S. - - - - -	111
Description of a new method of observing the heavenly bodies, out of the meridian, by J. Smeaton, F. R. S. - - - - -	120
Observation of a solar eclipse, the 4th of June, 1769, at the Observatory at Aufthorpe, near Leeds, in the county of York, by J. Smeaton, F. R. S. - - - - -	122
Account of an observation of the right ascension and declination of Mercury out of the meridian, near his greatest elongation, September, 1786, made by Mr. John Smeaton, F. R. S. with an equatorial micrometer, of his own invention and workmanship; accompanied with an investigation of a method of allowing for refraction in such kind of observations, - - - - -	124
	Description

Cambridge University Press

978-1-108-06980-9 - Reports of the Late: John Smeaton: Made on Various Occasions, in the Course of his Employment as a Civil Engineer: Volume 4: Miscellaneous Papers, Comprising his Communications to the Royal Society, Printed in the Philosophical Transactions

John Smeaton

Table of Contents

[More information](#)

viii

CONTENTS.

	Page
Description of an improvement in the application of the quadrant of altitude to a celestial globe, for the resolution of problems dependant on azimuth and altitude, by Mr. John Smeaton, F. R. S. - - - - -	145
A description of a new pyrometer, with a table of experiments made therewith, by J. Smeaton, F. R. S. - - - - -	149
Description of a new hygrometer, by Mr. John Smeaton, F. R. S. - - - - -	160
Observations on the graduation of astronomical instruments; with an explanation of the method invented by the late Mr. Henry Hindley, of York, clock-maker, to divide circles into any given number of parts; by Mr. John Smeaton, F. R. S.; communicated by Henry Cavendish, Esq. F. R. S. and S. A. - - - - -	170
Remarks on the different temperature of the air, at Edyftone, from that observed at Plymouth, between the 7th and 8th of July, 1757, by Mr. John Smeaton, F. R. S. - - - - -	203
An account of the effects of lightning upon the steeple and church of Lestwithiel, in Cornwall; in a letter to the Right Honourable the Earl of Macclesfield, President of the Royal Society, by Mr. John Smeaton, F. R. S. - - - - -	205