

	Foreword by John Harris	8
	Preface	9
	Acknowledgements	10
	Introduction	II
I	History of Drawing Instruments and their Makers Early civilizations to the Renaissance – the Renaissance and the era of exploration; 1400–1600 – the Age of Reason; 1600–1700 – the Age of Enlightenment; 1700–1800 – early industrialization; 1800–1900 – twentieth-century manufacturers	19
2	Literary Evidence Early technical treatises on mathematical instruments – eighteenth-century treatises on mathematical instruments – seventeenth- and eighteenth-century handbooks and patternbooks – trade cards – London instrument makers' publications – encyclopaedias – nineteenth-century text-books – twentieth-century text-books	35
3	TYPES OF INSTRUMENT Straight Lines Styli – early ruling pens – eighteenth- and nineteenth-century ruling	57
	pens – specialist drawing pens – technical pens – pencils – technical pencils	
4	Circles and Dividing Compasses and dividers – dividers – callipers/cylindrical compasses	69
5	Curves Ellipses (elliptical trammels; ellipsographs; templates) – spiral curves – parabola and hyperbola – conchoid curves – large radius curves – irregular curves – free curves	89

6	Squaring and Ruling Squares (triangle set squares; adjustable set squares) – Rules (parallel rules; rolling parallel rules; tee-squares; parallel motion rules)	105
7	Measurement Measuring to scale (scale rules) – measuring angles (protractors; folding arm protractors)	115
8	Copying, Enlarging and Reducing Copying (triangular compasses; prickers; tracers) – enlarging and reducing (proportional compasses; pantographs; eidographs)	125
9	Proportion and Ratio Sectors (architectonic sectors; architectural proportional rods)	135
10	Perspective Aids Perspectographs – delineators	144
	CASES OF DRAWING INSTRUMENTS	
	Introduction	153
	Presentation cases	156
	Magazine cases	161
	Medium-sized cases	173
	Pocket cases	185
	Flat wallet cases	193
	Colort accetton of museum collections	TO 5
	Select gazetteer of museum collections	195
	Select bibliography	197
	Photographic acknowledgements	200
	Index	201