

New items are often added to our range of accessories. If what you need is not shown, it may be available or even under design. Let us know your requirements and if we possibly can we shall quote you.

W. WATSON & SONS, LTD., 313, HIGH HOLBORN, LONDON, W.C.I. HOLborn 2767

MICROSCOPES_

DISSECTING MICROSCOPES

Magnifier Stand. This magnifier holder is a very heavy casting on which is mounted an arm. The arm is attached to the base by a ball-socket joint. The ring carrying the magnifier can also be adjusted to any position, and clamped.

Code No. £ s. d.

7B84 Magnifier Stand, as described without magnifier - - (See page 2 for magnifiers)

"Simplex" Dissecting Microscope. This microscope is simple in design, fulfilling the requirements of the classroom for a small efficient instrument. It is fitted with rackwork focusing adjustment, a double-jointed lens arm for aplanatic or simple magnifiers in dissecting mounts, a stage measuring 70 mm. x 90 mm., and an adjustable mirror and opal disc. It is supplied with arm rests and a glass plate for the stage.

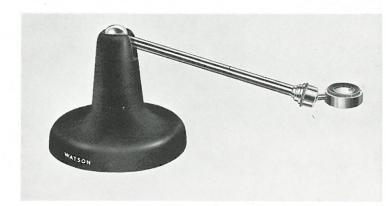
Code No. £ s. d.

7B82 Simplex Dissecting Microscope, as described without magnifier - (See page 2 for magnifiers)

"Universal" Dissecting Microscope. This microscope is a robust instrument with a heavy horseshoe foot and a stage measuring 75 mm. x 100 mm.; rack and pinion is provided for the focusing adjustment which operates the adjustable pillar carrying the double-jointed lens arm. A plane mirror and opal glass disc are provided, mounted in a gimbal fitting. The microscope is supplied complete with glass stage plate, metal plate background and metal arm rests.

Code No. £ s. d.

7B81 Universal Dissecting Microscope, as described without magnifier - -
7B107 Mahogany Case -
(See page 2 for magnifiers)









MAGNIFIERS



Aplanatic Magnifiers.

These magnifiers consist of a cemented triplet lens. They give a large flat field with excellent definition, and they have a good working distance. They each have the largest possible aperture and consequently yield a very brilliant image. They are supplied in three forms of mount: in simple dissecting mount, in a nickelled pocket mount and in a

combination pocket mount with two powers, permanently mounted. They are made in four magnifying powers.

		0	- 1	0															
		Х	6	working	distance	1.2	27", dian	neter	of f	field	1",	lens	diameter	0.68	37"				
		X	10	,,	,,	0.7	73",	,,	,,	,,	0.5",	,,	,,	0.56	52"				
		X	15	,,	,,	0.5	5",	, ,	,,	,,	0.35",	,,	,,	0.34	13"				
		X	20	,,	,,	0.3	37", ,	,	,,	,,	0.25",	,,	,,	0.28	31"				
Code No.			190														£	s.	d.
7B380			Αр	lanatic M	1agnifier	in	pocket r	nount		-	-	-			-	-			
7B381	X	10		,,	,,	,,	,,	, ,:		-		-			-	-			
7B382	X	15		,,	,,	,,	,,	,,		-	-	*			-	-			
7B383	X	20		1.1	,,	2.2	,,	,,		-	= "	-			-	-			
7B384	X	6		,,	,,	,, (dissectin	g mo	unt	-	-	-			-	-			
7B385	Х	10		,,	,,	,,	,,	,	,	-	=	-			-	-			
7B386	X	15		,,	,,	,,	,,	,	,	-	-	***			-	-			
7B387	X	20		,,	,,	,,	,,	,	,	-	_	-			-	-			
7B388	X	6 a	nd	x 10 Apl	anatic M	agn	ifier in	comb	inat	ion	mount	-			-	-			
						_													

Single Lens Magnifier. This gives good results and serves as a useful and cheap magnifier of x 8 in the standard dissecting mount.

Code No. £ s. d. 7B389 Single Lens Magnifier - - - - - - - - - - - -



Dissecting Magnifier Stand. This simple microscope is popular for elementary biology, etc. It has a cast metal base 4 in. \times $3\frac{1}{4}$ in., with an opal plate $2\frac{7}{8}$ in. \times $2\frac{3}{4}$ in. On a short vertical pillar is fitted a sliding arm to carry any magnifier in dissecting mount.

Code No. £ s. d.

7B83 Dissecting Magnifier Stand



OPTICAL ACCESSORIES____

OBJECTIVES

Apochromatic Series. We recommend these lenses because both visually and photographically they are truly apochromatic. The secondary spectrum is eliminated and the image produced by these objectives is of a very high standard, free from colour and of perfect definition. These objectives are particularly suitable for use with stained preparations and for photomicrography, and no refocusing is needed when using a variety of colour filters.

Fluorite Series (Semi-Apochromatic). The colour and spherical corrections of these objectives approach those of apochromats, and they have excellent depth of focus. The 16 mm. objective, although not having any fluorite components, is designed as a low power lens for this series and is used with the same compensating eyepieces.

Parachromatic Series. The objectives of this series incorporate features which make them unequalled for general work. The spherical and chromatic corrections are the best obtainable with this achromatic type of objective and the residual aberrations are reduced to negligible proportions. The very flat field is an outstanding feature of the low powers, whilst the higher powers have a relatively flat field and a long working distance.

Apochromatic Series

		Primary Mag.		Free Working			
Code No.	Focal Length	at 160 mm. t.l.	N.A.	Distance	£	S.	d.
				mm.			
7B228	16 mm. 🔞 "	× 9	0.30	7			
7B229	8 mm. $\frac{1}{3}''$	× 20	0.65	0.56			
7B230	4 mm. $\frac{1}{6}$ "	× 40	0.85	0.18			
7B231 O.I.	2 mm. $\frac{1}{12}''$	× 90	1.37	0.12			
*7B232 ,,	2 mm. $\frac{1}{12}''$	× 90	1.37	0.12			
*With Iris D	liaphragm in mount for u	se in dark ground illumi	nation.	O.l. = oil immersion.			







OBJECTIVES

OBJECTIVES AND NOSEPIECES

£ s. d.

		Fluorite Series	5		
Code No.	Focal Length	Primary Mag. at 160 mm. t.l.	N.A.	Free Working Distance mm.	£ s. d.
7B233 7B234 O.I. 7B236 ,,	16 mm. $\frac{2}{3}''$ 3.6 mm. $\frac{1}{7}''$ 2 mm. $\frac{1}{12}''$	× 10 × 50 × 90	0.30 0.95 1.30	7.7 0.22 0.12	
					1

Parachromatic Series

Code No.		Focal Ler	ngth	Primary Mag. at 160 mm. t.l.	N.A.	Free Working Distance mm.	1	£s.	d.
†7B200 †7B201 7B202		100 mm. 75 mm. 50 mm.	4" 3" 2"	× 0.7 × 1.25 × 2.75	0.15	45			
7B211 7B212 *7B215	O.I.	40 mm. 40 mm. 25 mm. 16 mm. 12 mm. 8 mm. 6 mm. 4 mm. 3.6 mm. 2 mm. 2 mm.	$\begin{bmatrix} \frac{1}{2}'' \\ \frac{1}{2}'' \\ \frac{1}{2}'' \\ \frac{2}{3} \\ \frac{1}{3}'' \\ \frac{1}{4} \\ \frac{1}{6} \\ \frac{1}{7} \\ \frac{1}{12} \\ \frac{1}{12$	x 4 x 4 x 6 x 10 x 15 x 20 x 30 x 40 x 45 x 100 x 100 x 100	0.13 0.10 0.21 0.28 0.34 0.50 0.50 0.70 0.94 1.25 1.28	18 17 14 7 3.5 1.5 1.2 1.0 0.7 0.23 0.23 0.23 0.4			
7B214	W.I.	3.6 mm.	1/7"	× 40	0.84	0.4			

*With Iris Diaphragm in mount for use in dark ground illumination. O.I. = oil immersion. W.I. = water immersion.

†These magnifications are calculated when the objectives are screwed in to the bottom of the drawtube.

Designed to yield a flat field in low power photomicrography.

All objectives, with the exception of 4", 3" and 2" Parachromatic series, are parfocal.

Rotating Nosepiece. These revolving objective changers are made to carry either three or four objectives. They are made with high precision from solid metal and are designed for accurate centration of parfocalled objectives. Each nosepiece aperture is numbered, the objective of lowest power being fitted into No. I and the next highest in No. 2 and so on.

Code No. £
7B260 Rotating Double Nosepiece - - 7B261 Rotating Triple Nosepiece - - 7B262 Rotating Quadruple
Nosepiece - 7B689 Nosepiece Compensating Adapter 7B688 Rotating Nosepiece

Dust Caps -



OPTICAL ACCESSORIES_



EYEPIECES AND POLARISERS

Angle Eyepiece. Many users of a monocular microscope desire to obtain inclination to the eyepiece when the microscope must be used in a vertical position. The angle eyepiece enables these conditions to be fulfilled. It is fitted with a prism, the surfaces of which have been coated. This modern treatment of glass surfaces virtually eliminates loss of light by reflection and, in turn, increases image contrast as well as apparent illumination. The attachment fits into the microscope body in place of the drawtube and within the unit is incorporated a tube length correcting lens with a magnification factor of x 1.5.



Ehrlich's Eyepiece. With square adjustable diaphragm, for estimating the relative proportion of red and white blood corpuscles in dry preparation.

Code No. £ s. d. 7B64 Ehrlich Eyepiece, complete - - -

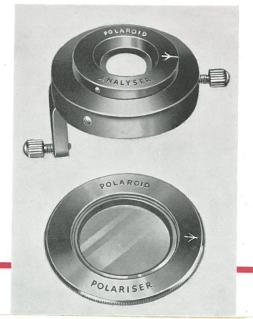
Tube Length Corrector. The high standard of correction of modern microscope objectives entails a great sensitivity to accurate tube length setting. If the cover-glass over the object is thicker or thinner than the standard 0.18 mm. or if a layer of mounting medium lies between object and cover, then the objective cannot give its best definition. The tube length corrector, or aplanatiser, corrects the errors introduced by any departure from either of the standard conditions of tube length or cover-glass thickness by an adjustable lens system which is placed above the objective. It is easily manipulated and has a range sufficient for tube lengths equivalent to 100–300 mm.

Polaroid Analyser and Polariser. Polaroid material is an excellent substitute for the Nicol prisms formerly used for polarising light. It is a prepared film which is cemented between optical glass discs. Two such plates are fitted into two suitable mounts, one fitting over the eyepiece with polaroid close to the eyelens and the other into the filter carrier beneath the substage.

Code No.		100000						f	S.	d
7B50	Polaroid Analyser	_	_	_		12	_	~	3.	u.
	Polaroid Polariser	-	_	-	_	_				









EYEPIECES

Huyghenian Series. These eyepieces are those most frequently used with achromatic objectives (Parachromatic series). They perform well with all powers in this series. Six magnifications are provided as shown below.

Holoscopic Series. The Holoscopic eyepieces are, fundamentally, compensating eyepieces in which the amount of compensation is continuously variable between wide limits. They are primarily for use with the Apochromatic series since with these objectives the degree of compensation required increases with the power. The eye lens is fitted with a sliding tube engraved with arbitrary divisions. Four magnifications are provided as shown below.

Compensating Series. This series has been computed especially for use with the Fluorite series of objectives. With these objectives, maximum field flatness and achromatism of magnification (compensation) are obtained. These eyepieces will also perform very satisfactorily with the higher powers in the Parachromatic series.

Micrometer Series. The micrometer eyepieces are Huyghenian in type and each is provided with a focusing eye lens. In the x 15 eyepiece, a graticule, 18 mm. diameter, is used, and in other powers, 21 mm. diameter. The eyepieces are not supplied with a graticule or scale unless ordered.

All the Huyghenian, Compensating and Micrometer eyepieces (the latter when in normal adjustment and with the exception of x 15), are parfocal.

			with the excep	reion of x 13), an	e parfocar.			
Code No. Single Eyepieces 7B300 7B302 7B304 7B306 7B308 7B310 7B312 7B314 7B316	Code No. Single Eyepieces 7B301 7B303 7B305 7B307 7B309 7B311 7B313 7B315 7B317	Type Huyghenian ,, ,, ,, Holoscopic	Power £ s. d. x 5 Ea. x 6 ,, x 10 ,, x 12 ,, x 15 ,, x 7 ,, x 10 ,, x 14 ,,	Code No. 7B365	with a high ey fortable use spectacles and plied in pairs	Power yepieces. These e been designed epoint for com- by a wearer of d are only sup- x 6 for use in roscopes. Pairs	£s	. d.
7B318 7B320 7B322 7B324 7B334	7B317 7B319 7B321 7B323 7B325 7B335	Compensating	x 20 ,, x 4 ,, x 6 ,, x 8 ,, x 10 ,,	7B331		pointer to eye- ghenian type e of ordering		
7B275 7B326		Micrometer ,,	x 5 ,, x 6 ,,	7B370	Pinhole eyepiec	e for centring -		
7B327 7B328 7B330		" "	x 8 ,, x 10 ,, x 15 ,,	7B371	Pinhole eyepie adjustable iris	•		

OPTICAL ACCESSORIES____

MICROMETERS

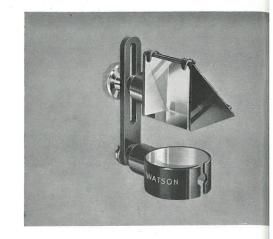
Holosc for the	Micrometers. On 21 mm. diam. discs to fit all state opic series and the x 15 Micrometer Eyepiece: 18 rese. We would however, recommend employing named as focusing eye lens, listed on page 6.	nm.	diam	. disc	s are	sup	plied
5						ſ	s. d.
Code No						L	S. d.
7B332		m. _' -	1		-		
7B336	Scale of 10 mm. divided into 100 parts, each division = 0.1 mm	n. bu	twith	cross I	ines		
7B337	Scale of 5 mm. divided into 100 parts, each division = 0.05	mm.	-	-	-		
7B338	Scale of 2 mm. divided into 100 parts, each division = 0.02	mm.	-	-	-		
7B339	Step Wedge of 10 mm. with 100 divisions numbered -	-	-				
7B340	Square, each side I cm., divided into 1.0 mm. squares -	-	-	-	-		
7B341	Circle divided into 0.5 mm. squares	-	-	-	-		- 1
7B342	Circle divided into 0.25 mm. squares	-	-	-	-		
7B390	Total area ruled into 1 mm. squares Circle 1 cm. in diameter, ruled into 1 mm. squares - Scale of 5 mm., divided into 1 and 0.1 mm. parts	-	-	-			
7B391	Circle I cm. in diameter, ruled into I mm. squares -	=	-	_	-		
7B392	Scale of 5 mm., divided into I and 0.1 mm. parts	-	-	-	-		
7B393	Scale of 5 mm., divided into I and 0.2 mm. parts	_	_	-	-		
Eyepiece	Graticules						
Lyepiece	Statitutes						
Code No.	**************************************					£	s. d.
7 B343		-	-	-	-		
7 B333	Patterson Globe and Circle for Dust counting	_	_	_	-		
7B663	Patterson Graticule, simple ruling	-	-	-	1.0		
7B345	For use with the Howard Mould Counting Chamber -	_	_	12	-		
7B662	Whipple ruling	-	-	_			
7 5002	Trimpple runing						
Micromete	alue of a division in any Eyepiece Micrometer is ascertained by means of a Stage er and varies with every objective and every tube length setting. The actual	2	3	5	7	6 9	10
size of eac	ch division is therefore immaterial as long as all divisions are equally spaced.						· ·
	Ö Ö Ö Ö Ö İ I I I I I I I I I I I I I I I				-	+	
0 1 2 2	4 5 6 7 8 9 10						
hidiidahiladaalaalaaliida		9				1	-
	7B332					1	,
	75352						
	7B333						9
Stage Mic	rometers (on $3'' \times 1''$ Best quality glass slips with cover glass)	-	_		-	+	^n
					107		
Code No.							
7B100	Divisions of 0.1 and 0.01 mm.		100.00		2000	+	
7B101	Divisions of 0.01 and 0.001 inches						
7B347	Cross Lines ruled at Centre of $3'' \times 1''$ slide -			7B3	340		
Causau M	ianamatan Evaniasa III						
Screw M	icrometer Eyepiece. This eyepiece is fitted wit	:h fi>	ced ai	nd mo	vabl	e ve	rtical
webs.	The movable web is operated by the engraved d	rum	at t	ne sid	de ar	nd b	asses
across	a comb, the teeth of which are cut one millime	tre	apart	Th	e we	h h	nas a
mavim	im travel of 95 mm. A monding can be talked to	/100	apai t	. III	- ***	11:	nas a
miximi	um travel of 9.5 mm. A reading can be taken to $I_{ m c}$	/ 100	tn pa	irt of	a mi	IIIm	etre.
Code No.						f	s. d.
	Screw Micrometer Eyepiece, complete in Aluminium	1-	_	4	_	~	J. U.
7B57	,, ,, Brass			-	10		
. 20.	,, ,, ,, ,, Diass	-	-	_	-		





PROJECTION AND DRAWING

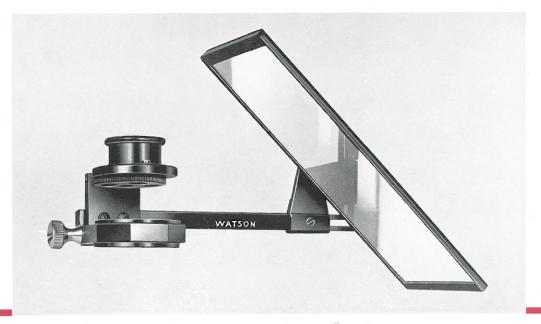
Projection and Drawing Prism. An accurate method of drawing a microscopic object is to project its image upon paper and to trace its outlines direct. This can be done by placing the microscope with its axis horizontal and attaching the Prism over the eyepiece. This method can also be used for projection on to a screen over short distances in teaching.



Code No.
7B152 Projection and Drawing Prism

The Abbe Camera Lucida. Improvements have recently been introduced in this model and it can now be used with any standard size eyepiece and by an observer without any previous experience or skill in drawing. There is liberal adjustment to the beam splitting prism for placing correctly with various eyepieces. Three filters are provided, mounted beneath the Abbe Cube.

£ s. d.



OPTICAL ACCESSORIES



CONDENSERS

Universal No. I Achromatic Condenser. A triple back lens is used to obtain a high correction of spherical aberration and a large aplanatic aperture. It is corrected for slips of 1.2 mm. thickness but can be used with slips slightly less in thickness by partly unscrewing the front lens so that it touches the slip when in focus. The total aperture is 1.0, the aplanatic aperture complete is 1.0, and with the front lens removed 0.4. The focal length is 10.0 mm., and with the front lens removed 20 mm. The diameter of the back lens is 20 mm.

Universal No. 2 Achrematic Condenser (long focus). This condenser has been specially computed to meet the occasional demand for an Achromatic condenser with the maximum aperture of back lens. It is similar in design to the No. I Universal but by the use of special optical glasses the diameter of the back lens has been increased to 27 mm. Its focal length is 14 mm. and 28 mm. with the front lens removed. The remaining optical data are the same as for the No. I.

Holoscopic Oil Immersion Condenser. The corrections for chromatic and spherical aberrations are effected by a triple cemented back combination. It can be used with slides up to 1.4 mm. in thickness and will give an aplanatic cone equal to its aperture. This condenser may be used dry (without immersion oil) or with the front lens removed for low power objectives. The focal length is 5.5 mm., and 12 mm. with the top lens removed. The full aperture is 1.30 N.A. when oil immersed, 1.0 when used dry and 0.60 with top lens removed. The aplanatic aperture when used dry is 0.92 N.A., and 0.55 N.A., with top lens removed.

Aplanatic Condenser. This is a three lens Abbe illuminator which can be used with all powers of Achromatic objectives. When used as an immersion condenser the numerical aperture is 1.40, or 1.0 if used dry; the equivalent focus is 9.5 mm.

With the top lens removed the aperture is reduced to 0.6 and the focal length is 14.5 mm.

Abbe Illuminator. This is a two lens uncorrected illuminator the maximum numerical aperture of which is N.A. 1.20. It is useful for simple routine work with achromatic objectives and lower power dark ground illuminator.





CONDENSERS

- Macro Illuminator. This is an excellent achromatic lens for illuminating large objects (up to 0.5 in. in dia.) for low power photomicrography.
- Zonal Dark Ground Condenser. This condenser is catoptric and designed on the concentric principle. It is intended to work through a slip of 1.2 mm. thick and must be used in oil contact with the slide. The objective aperture needs to be reduced to a value of unity by means of a funnel stop or iris diaphragm within the objective and under these conditions an intense black background is obtained.
- Zonal Dark Ground Condenser, Dry Model. This is similar to that described above but it has been specially designed for use with counting chambers. It is suitable for use with 4 mm. objectives and lower powers. A funnel stop is required for objectives of N.A. higher than 0.50.

Prices

					CS								
	Code No.			Туре								£ s.	d.
	7B180	Universal No. 1 Cond	denser (Optical Pa	art only)	-	-	-	-	-	_		
	7B176	Universal No. 2	,,	,,	11	-	-	-	-	-	-		
	7B184	Holoscopic Oil	,,	,,	,,	-	-		-	-	-		
1	7B192	Aplanatic	,,	,,	,,	-	-	_	_	-	-		
	7B196	Abbe Illuminator	,,	"	,,	-	_	_	_	-	-		
	7B174	Macro Illuminator	,,	,,	,,	-	-	_	_	-	-		
	7B188	Zonal Dark Ground	,,	,,	,,	-	-	_	_	_	-		
	7B189	,, ,, Dr	у "	,,	,,	-	_	_	-	_	_		
	7B156	Set of Metal Stops in	box for		und with	low r	ower	·s -		_	_		
	7B155	Funnel Stop to fit int	o O.I. o	biectives	for dark	groun	d -	_	_	_	_		
	7B664	,, ,, for use v	vith Zoi	nal dry co	ndenser	5		_	-	_	_		
		551 350		/									

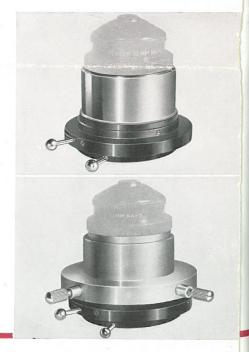
Plain Condenser Mount with precentred iris diaphragm and filter carrier. (Illustrated with condenser in position).

Code No. £ s. d. 7B158 Plain Condenser Mount - - -

Centring Condenser Mount with tubular condenser sleeve, centring adjustment, precentred iris diaphragm and filter carrier. By adjusting the centring screws the condenser and the precentred iris diaphragm together can be axially aligned with the optical system. (Illustrated with condenser in position).

Code No.

7B159 Centring Condenser Mount -
7B751 Adapter to mount condensers with R.M.S. objective thread to mounts with Abbe thread - - -



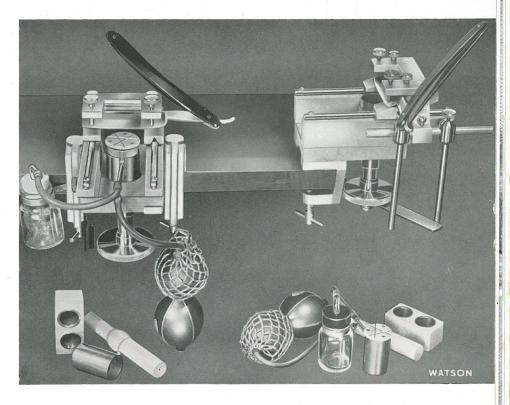


MICROSCOPE ACCESSORIES_____

MICROTOMES

Cathcart Microtome.

This is a robust simple type of microtome (illustrated on left of picture), suitable for schools, etc. It is simple to operate and sections may be cut from specimens embedded in paraffin wax and pith; it also has an ether freezing attachment for cutting frozen sections. The razor is held in a carrier which slides on two rails, and the thickness of the specimen is regulated by the "click" register on the large knurled head which is used for raising the specimen holder.



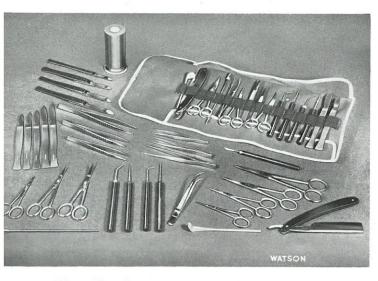
Code No.									£	S.	d.
7B395	Cathcart Microtome, complete as illustrated	-	-	-	-		-	-			
7B398	Extra Razor	-	-	-	-	-		-			
7B396	This is very similar to Model 395 described at and carrier are not supplied, but instead an iro	on sec	ction k	cnife i	n hold	er and	d furth	ner,			
	the "click" mechanism is omitted -		-	-	-	-	-	-			
7B399	Extra Cutting Iron	-	-	-	1-	-	-	-			

Cathcart-Darlaston Microtome. On referring to the instrument illustrated on right of picture, it will be seen that this model is similar in general principle to those previously described, but it has modifications which will permit the cutting of sections of a definite thickness. The modifications consist of the addition of a mechanism for automatically advancing the specimen for any pre-determined distance. The return movement of the razor carriage automatically raises the section by the selected amount ready for cutting.

Hand Section-Cutter. A simple but solidly constructed hand microtome with $l\frac{1}{2}$ in. diameter barrel and a well $\frac{11}{16}$ in. in diameter. The raising screw has 36 threads to the inch and can be adjusted to a fine degree.



DISSECTING INSTRUMENTS AND SLIDE BOXES



Dissecting Instruments.

Code No.		£	s.	d.
7B466	Canvas Roll for dissecting instruments			
	Microtome Razor, flat one side -			
7B464	Diamond Pencil			

Code	No.							£	s. d.
7B4	31 Sca	lpel,	Ebony H	landle	, "	Blade	-		
7B4		,,	,, ′	**	11"	,,	-		
7B4	33	,,	,,		$\frac{1\frac{1}{2}''}{\frac{1\frac{3}{4}''}{4}}$,,	-		
7B43	34	11	**	••	13"	.,,	-		
7B43	35	••	,,		2"	,,	-		
7B43	36 Sca	lpel,	Stainless	Steel	. "	Blade	-		
7B43	37	,,	,,	,,	11/1	,,	-		
7B43	38	,,		,,	$ \frac{1}{2}''$,,	-		
7B4	39	,,			13"	,,	-		`
7B4	40	"	100	,,	2"	"	-		,
7B46			le's Ne	edle	_	-	-		
7B44			Straigh		Point	. 6"			
7B4	43	"				5″	-		
7B44	22		,,	,,	,,		_		
7B44	\$100 man and	ssors.	Curved	Fine	Point	41"	-		
7B44			Cuived	Time		4½" , 4½" 3½"	_		
7B45		"CADE	Straight	- Blun	+ 6"	J 2	_		
7B45		ceps,	Julaigni	Diun	5″		-		
7B45		,,	Straight	Fino	20000000	550	## 28		
7B45		1000	Ju aigiii	. i ille,		-	- 5		
7B45		,,	"	,,	41/2	-	-		
		,,	C	", Eine	41//	-	-		
7B45			Curved	rine	41"		-		
7B63			orceps		n.	c			
7B4		edle i	n Wood	len Ha	ındle,				
7B45		,,			,,	Curv			
7B46	107.0		with Ste	eel	,,	Straig	ht		
7B45		ker	**		,,	- "			
7B46	100	,	,,,,,	20022	"	Curv	ed		
7B46			e, Nicke			-	-		
7B46	S2 Sec	tion l	-ifter, Si	ngle E	nd	-	-		

Slide Cabinets.

Fitted with trays to hold slides flat, with white knobs and index plates, glazed door with key, finished light or dark colour.

	Code No.	£ s. d.	Code No.	£	s.	d.
	Pine		Oak			
To hold 500, overall size $15'' \times 11'' \times 9''$ high	7B620		7B624			
", 1,000 ", ", $15'' \times 11'' \times 15''$ ",	7B621		7B625			

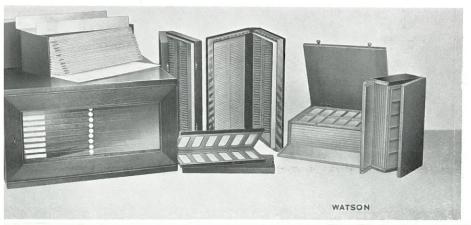
Estimates submitted for larger sizes.

Microscope Slide Boxes.

Cloth-covered cardboard, drop fronts, white card trays with jointed flaps. Slides are stored flat.

Code No.

78468 6 Trays to hold 54 - - - 78470 16 Trays to hold 144 - - - - 78470 16 Trays to hold 144 - - - - 78470 16 Trays to hold 144 - - - - 78470 16 Trays to hold 144 - - - - 78471 6 Trays to hold 36 - - 78473 12 Trays to hold 72 - - 78472 8 ,,,,,,, 48 - - - 78474 12 Double Trays to hold 144 - -



Rack Slide Cases

Code N	lo.	£	s.	d.
7B475	Cloth Covered, book form with index, to			
	hold 100 slides -			
7B476	Paper Covered, with			
	Index, to hold 100			
	slides			
7B477	Wooden, semi-			
	polished, to hold 100			
	slides			

Folding Pocket Cases

Code N	0.				£	s.	d.
7B478	To hold	12	slides	-			
7B479	,,	6	,,	-			

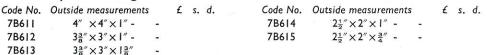
OPTICAL ACCESSORIES

DUST COVERS, TROUGHS, ETC.

Dust Covers. These covers are made from plastic material with welded seams, and fit comfortably over the microscope. They are made in three sizes.

Code No. f s. d. 7B617 14" \times 8" Suitable for Kima Microscope - - - - - 7B618 16" \times 9" Suitable for Service II and all Stereoscopic Microscopes 7B619 17" \times 11" Suitable for Service I and Bactil Microscope - -

Glass Troughs. These troughs, whether subjected to heat, acid or any other dissolving agent, remain intact and water tight. The plate glasses forming the sides are optically polished and parallel to each other, and they can be used for the storage and examination of material with the microscope, or as light filter tanks.



Object Marker. This is a diamond object marker which has an objective base to screw into the nosepiece of the microscope. A rotating mount is attached to this base and carries a stem mounted on a pressure spring within a centring mount. By this means the cutting diamond mounted on the end of the stem can be used to scribe a dot or a circle between 1.5 mm. and 4 mm. diameter on the cover-glass.

Code No. £ s. d. 7B249 Diamond Object Marker in Box - - - - -



Lens Cleaning Tissues.

Code No. 7B634 In pads of $4'' \times 3''$ with 50 tissues - - - - per dozen pads





£ s. d.

£ s. d.



BLOOD COUNTING CHAMBERS

COUNTING AND MOIST CHAMBERS

Code I		£ s. d.
7B59	diamoet, ongie cen, mona kunng	~ 3. G.
7B60	" " " " Neubauer Kuling	
7B60	" " " " " " " " " " " " " " " " " " "	
7B60	" " " " " " " " " " " " " " " " " " "	`
7B60	" " " " TUTCK NUTING	
7B60-	" " " " " " " " " " " " " " " " " " "	
7B60	Bouble Cell, Filolia Kulling	
7B606	" " " " " " " " " " " " " " " " " " "	
7B607	" " " " " " " " " " " " " " " " " " "	
7B608	" " " " " " Durker Kulling	
7B609	" " " " " " " " " " " " " " " " " " "	
7B610	" ," ,, Fuchs-Rosenthal Ruling	
C	omplete Hæmacytometers can be supplied upon receipt of full particulars	
	The particulars	
Excavated	Slips.	
Code No	*	£ s. d.
7B596	quantity one with circular cavity 15 mm. glameter	L S. Q.
7B597	" " ," ,, 2 circular cavities 15 mm, diameter	
7B598	" " " " " " " " "	
Howard M	lould Counting Chamber.	
Code No		
7B537		£ s. d.
. 2007	This has been designed in particular for the counting of moulds in jams, ketchups, fruit juices, etc., used with x 10 eyepiece and 16 mm. objective on a monocular microscope.	
	microscope. Complete with two cover glasses	
7B345	Eyepiece Graticule for use with x 10 eyepiece for above	
Simula Tu		
Simple Typ	pe Moist Chambers.	
Code No.		£ s. d.
7B657	The Class one of the A I III. WILL SHIRE diges bloke competed on with	£ 5. 0.
7B658	applicate either 15 mm. or 16 mm., diameter 2 mm. deep	
70030	Polished Glass Slip 3 in. x 1 in., with glass circle cemented on, with an aperture either 15 mm. or 18 mm., diameter 2 mm. deep	
	of to min., diameter 2 mm. deep	
Sperm Inva	sion Slide.	
Code No.		
7B616	This was designed for the examination of the penetration of cervical mucus by	£ s. d.
	spermatozoa	

MOUNTING MATERIAL

Cover Glasses. Made in best quality glass in three thicknesses, and packed in $\frac{1}{2}$ oz. boxes (no lesser quantity can be supplied).

No. 1 approx. 0.15 mm., No. 2 approx. 0.2 mm., No. 3 approx. 0.3 mm. diameter Squares Code Letter Code Letter Code No. £ s. d. Code No. £ s. d. 7B400 No. | Thickness per loz. 7B403 No. | Thickness per | oz. ,, 2 7B401 7B404 ., 2 7B402 ,, 3 7B405 ,, 3

Glass Slides or Slips. These are 3 in. x I in. (26 mm. x 76 mm.) with ground edges and are offered in various thicknesses in $\frac{1}{2}$ gross boxes.

Per 1/2 Gross Code No. £ s. d. £ s. d. 7B541 Best quality white glass, thickness 0.8-1.0 mm. -7B542 1.0-1.2 mm. -7B543 1.2-1.5 mm. -Labels Code No. £ s. d. 7B409 Adhesive Slide Labels, square, ruled 3 lines per 100 7B410 100 oval, plain 7B411 100 Aluminium Cell Rings in three diameters Cell Rings Code Letters Code No. £ s. d. 7B406 Cell Rings I/16" thick per doz. 7B407 ,, I/24" 7B408 ,, I/32"

Brushes





MOUNTING MATERIAL

TIOONTING MATERIA	
Turntable. The brass engraved table is balanced in the normal way on a hardened stee pin and rotates on a dead hard steel ball, ensuring a smooth and steady records.	
pin and rotates on a dead hard steel ball, ensuring a smooth and steady revolution. 7B414 Turntable	I
Code No. 7B414 Turntable -	
Cleaners	
Code No.	
7B413 Buff Blocks for cleaning	
7B413 Buff Blocks for cleaning cover glasses per pair	
Code No.	
7B418 Asphalt Varnish Grms. £ s. d. Code No.	
/B380 Brunswick Black - 25 /B42/ Glycerine Albumin - 25 . d.	
78416 Canada Balsam Natural - 25 78416 , Jelly Neutral - 25	
78417 78587 Oil Codemics L.C. 23	
(Kronig) - 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
(Noyer) 25 7B588 Paraffin Wax, filtered, tablets m. pts. 39° 45° 50° 53° 54°	
R.I. 1.666 - 56°, 58°, 63° and 66°,	
7 D421 Clove Oil 35	
75364 DePex Mounting Medium - 25 Immersion Oil, Non-Drying, § 02.	
7B430 7B699 " " ,, oz.	
7B426 Farrots' Madis 25 7B690 " " 2 ozs.	
Microbiological Stains—Dry 7B691 7B691 7B691 7B691 7B691 7B691 7B691 7B691	
Code No.	
7B591 Aniline Blue, soluble in clash J. Grms. £ s. d. Code No.	
7 Dieprica Carlet - 7 DOOD Gentian Violet	
78594 Page 8 78594 Page 7 78594	
/DDDY Brilliant Green - /DDD/ Malachite Green -	
7B546 Carmine 5 7B547 Chrysoidin 5 7B559 Violet 6B	
, port, Cill'ysoldin , poo, Violet ki	
7B549 Crystal Violet Bacteria - Bacteria -	
/B550 Eosin, soluble in water /B561 Orange G	
yellowish	
7 DOOS Safranin O, water and alcohol	
7B552 Fuchsin, Basic. For Bacteria, Feulgen's Reaction and elastin 7B564 Scarlet R. Fat Stain (Michælis) 5	
stain 5 7B565 Tartrazine 5	
Stains in Solution	
Code No.	
7B566 Aniline Gentian Violet (Stable) 50 7B572 Homotowylis Burger Mis. £ s. d. 7B572 Homotowylis Burger Mis. £ s. d.	
7B507 Carbol Fuchsin (Ziehl-Neelsen) 50	
7B506 ,, Gentian Violet 50 7B574 Leishman's Sealin Acid - 50	
7B569 Borax (Grenacher) Alcoholic 50 7B575 Light Green in Clove City	
7B570 Eosin Aqueous 50 7B576 , (Masson)	
783/1 Giemsa Stain, Gurr's Im- 783// Alkaline (Loeffler) - 50	
Proved 50 7B579 Safrania A - 50	
Stains and Reagents can be supplied in tablet form.	
The state of the s	

LAMPS

"Vril" Lamp. The 6 v. 30 w. bulb is mounted in a metal lamp hood; in front of this is fitted a condensing lens in a sliding tube which also carries a double filter holder and iris diaphragm. The hood is mounted on a vertical pillar with a heavy metal base. Adjustments are provided for height and inclination.

No.					£	s.	d.
7B267	"Vril" Lamp as describ	ed	-	-			
7B268	Transformer for use will lamp off 200/250 v. A.C.		he abo	ove -			
7B269	Resistance to work in with the above Transforn the intensity of light						
7B266	Spare Bulb 6 v. 30 w.	-	-	-			

"Universal" Lamp. This model is designed for use with the Pointolite bulb and in a simple form is suitable for gas-filled bulbs. The metal housing is fitted with a small bar on which is a double filter carrier, condenser and iris diaphragm. These can be adjusted for focus, etc., and clamped. The whole is mounted on an arm on which the lamp can be inclined or adjusted for height on a vertical pillar rising from a heavy base.

Code No.		£	s.	d.
7B271	"Universal" Lamp, complete as described and illustrated, with 150 c.p. Pointolite Bulb A.C.			
7B747	As above but for D.C			
7B272	Resistance for working the lamp off 230/250 v. A.C.			
7B749	As above but for D.C			
7B273	Spare 150 c.p. Pointolite Bulb			
7B7 4 8	As above but for D.C			
7B270	"Universal" Lamp without arm, condenser, iris or carrier, with 60 watt bulb			

Substage Lamp. This electric-light attachment for the substage is designed to fit into the microscope tailpiece and is clamped in place of the stem of the mirror. This permits the use of any type of condenser in the substage. It is complete with a 6 v. 18 w. lamp and condenser lens, and a transformer with control for the intensity of light.

Code No.		£	s.	d.
7B154	Substage Lamp complete as described,			
	suitable for 200/250 v. A.C			
7B274	Spare Bulb 6 v. 18 w			
	Please advise voltage when ordering.			



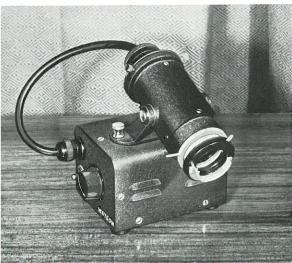












LAMPS

Bench Lamp. This is a simple lamp housing with a hinged cowl to prevent stray rays of light reaching the observer's eyes. The casing is finished in crackle black enamel and is supplied with a blue glass fitted in the front. The lamp is supplied complete with connecting flex and a 60 w. obscured bulb.

Code No. £ s. d. 78264 Bench Lamp complete with 60 watt bulb - - - - -

"Spot" Lamp. This small lamp, which was originally designed for use with the Stereoscopic Microscopes, when mounted on the small circular base can be used for a variety of purposes. The two joints in the arm allow the lamp house to be adjusted to any angle required to direct the light beam on to the object or the microscope mirror. The focusing lens ensures that maximum illumination is obtained. The bulb is 6 volt 18 watt and is fed through a Light Control Unit—a transformer which is provided with a regulating resistance and an on-and-off switch.

Code No. £ s. d.

7B278 "Spot" Lamp complete with Light Control Unit for 230 v. A.C. -
7B279 "Spot" Lamp complete with Light Control Unit for 110 v. A.C. -
7B274 Spare Bulb 6v. 18 w. for "Spot" Lamp

"Regulite" Lamp. This lamp is fitted with a 6 v. 30 w. projector type bulb, mounted in a metal hood with centring screws to the lamp holder. An aplanatic condenser with iris diaphragm and a double filter holder is mounted on the front of the hood which has a multiple thread focusing adjustment. The hood is mounted in a trunnion fitting attached to the upper surface of a housing containing a transformer and rheostat which controls the intensity of light; an "on" and "off" switch is also provided. For mains current supply 200/250 v. A.C., also 110 v. A.C. with ground glass disc.

Code
No.

7B153 "Regulite" Lamp as described 7B266 Spare bulb 6 v. 30 w. - - 7B173 Adjustable adaptor for raising "Regulite" lamp in housing above transformer

Please advise voltage when ordering.

ATTACHABLE MECHANICAL STAGES, &c.

Code No.

The "Service" Attachable Mechanical Stage. This stage is suitable for all Service microscopes and is secured to the plain stage by plugs passing through and clamping below the stage spring apertures, and when thus fitted is held quite rigid. The lateral motion of 76 mm. is achieved by rack and helical pinion guaranteeing long life combined with precise movement. The rackwork for the 37 mm. transverse motion is mounted centrally upon the base plate, thus minimising wear and giving theoretical direct drive. Millimetre scales are provided for each movement reading by verniers to 0.1 mm.

£ s. d.

7B60 "Service" attachable Mechanical Stage 7B750 Adapter to raise condenser when the
"Service" mechanical stage is fitted to a
"Service" microscope - - -

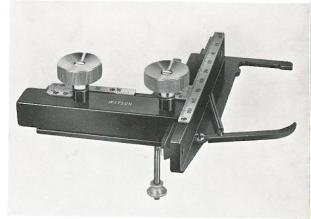


The "Student" Attachable Mechanical Stage.

Provision is made for attachment to the microscope by plugs passing through and clamping below the stage spring holes. This stage is solidly constructed of two castings with rack and pinion movements in each direction, which are provided with millimetre scales and verniers reading to 0.1 mm.

Code No. £ s. d.

7B61 "Student" attachable Mechanical Stage 7B62 "Student" attachable Mechanical Stage
without scales and verniers - - -



Warm Stage. This is a simple warming stage and is operated direct from A.C. mains up to 250 volts. The temperature is adjustable and it is thermostatically controlled, which automatically maintains the temperature constant to within 0.1°.



FILTERS, TROUGHS, BOOKS

£ s. d.

Chance-Watson Filters. These "pot glass" optical light filters provide a range of glasses in high transmission, and in many cases combined with sharpness of "cut" in the spectrum. The transmission curves include loss of light by surface reflection and are for a glass thickness of 2 mm. Being "pot glass" the tint is permanent and is evenly distributed throughout.

		Chance	Trans-								ance		Iran	1	
Index	Colour	No.	mission	Index				olour			Vo.		missi		
1	Ruby	ORI	5%	9		Day	/light	Blue		OB			249		
2	Red	OR2	21%	10		Blu	e			OB			0.99		
3	Deep Orange	OYI	42%	11		Pur	ple			OV			0.29		
4	Orange	OY2	60%	12			utral				110		79		
5	Yellow	OY3	77%	13			ra Vi			0>			0.029		
6	Light & Ortho	OY13	73%	14			a Red			<o></o>			0.019	6	
7	Green	OGRI	22%	15		Ult	ra Vi	olet		OX			0.109	6	
8	Blue Green	OB2	22%	16		*Hea	at abs	sorbir	ng	10	120				
Code No.													£	s.	d.
7B52	Chance-Watson light f	lter, 1층" (35 n	nm.) diameter	_	-	-	~	-	-	-	-	-			
7B53	Chance-Watson light f	ilter, $2'' \times 2''$ (5	$50 \text{ mm.} \times 50 \text{ mm.}$	-	-	-	-	-		-	-	-			
7B753	Case to hold 10 13" dia			=	-	-	-	-	-	-	-	-			
7B754	Case to hold 10 2" x 2	" filters -		-	-	-	-	-	-	-	-	-			
*7B755	Chance-Watson Heat	Absorbing filte	er l౩" diameter	-	-	-	-	-	-	-	-	-			
*7B756	99 99	,, ,,	2×2 ,,	-	-	-	-	-	-	-	-	-			
	When 10 f	ilters are subbl	lied at one time a	case is	sut	blied i	free o	f chai	rge.						

Books. Below are a small selection from the large number of books in stock.

			0	
Code No) .			
7B666	Animal Cytology & Evolution	by	M. J. D. White	
7B667	Biological Staining Methods	by	G. T. Gurr	
7B660	Elementary Histological Technique	by	T. Holder	•
7B661	Handbook of Practical Bacteriology	by	T. J. Mackie & J. E. McCartney	•
7B668	How to Use the Microscope	by	Hall	•
7B669	Lecture Notes on the Use of the Microscope	by	R. Barer	
7B670	Microscope Objects—How to Mount Them	by		-
7B671	Microtomist's Vade-Mecum (Bolles Lee)	by	Gatenby & Beams	-
7B672	Notes on Diatoms	by	Taylor	-
7B673	Photomicrography	by	C. P. Shillaber	-
7B674	Practical Microscopical Metallography	by	Greaves & Wrighton	
7B675	Practical Microscopy	by	Martin & Johnson	-
7B676	Practical Section Cutting & Staining	by	E. C. Clayden	-
7B677	Prism & Lens Making	by	F. Twyman. F.R.S	-
7B678	The Binocular Microscope	by	Ockenden & Sartory	-
7B679	The Intelligent Use of the Microscope	by	C. W. Olliver	-
7B680	The Microscope	by	Theodore Stephanides	-
7B681	The Microscope—Its Theory & Application	by	J. H. Wredden	•
7B682	The Principles of Practical Bacteriology	by	Johnson & Simpson	-
7B683	The Use of the Microscope	by	J. Belling	-
7B684	Working with the Microscope	by	J. D. Corrington	-
	~	5.0		



INDEX

Abbe Camera Lucida -				0	M. 10 0
Abbe Illuminator		-		- 8	Magnifier Stand 1, 2
Analyser	_			9, 10	riccitatifical Stages
Angle Eyepiece	1424 T	-	-	- 5	Micrometer Eyepieces
Aplanatic Condenser-			-	- 5	ricrometers
Aplanatic Magnifiers		-	· •	9, 10	Microscope Mirrors -
Apochromatic Objectives -		-	-	- 2	Microscopes, Dissecting
report offiatic Objectives -	-	-	-	- 3	Microtome(s)
Bench Lamp					Microtome Pazon
Blood Counting Charles	-	-	-	- 18	Mirrore
Blood Counting Chambers		-	-	- 14	Moist Chambers 13
Blow-pipe		-	-	- 12	Mounting March 14
BOOKS		- 2	-	- 20	Mounting Material 15, 16
Brushes			28	- 15	Mounting Media 16
			130	- 13	
Cabinets					Needles 12
C- 1			-	- 12	Nosepieces
Canvas Roll		-	-	- 8	Nosepiece Adaptor -
Cathcart Microtomes -		-	-	- 12	Noseniace Dustress
Call Bin-	-	-	-	- 11	
Cell Rings		-	-	- 15	Objective Boxes
Centring Condenser Mount		-	-	- 10	Objectives
Chance-Watson Filters -	-	=3	-	- 20	Object Markon
Cleaning lissues	-	_		- 13	- 13
Compensating Evenieces -	102				"Parachromatic" Objectives 3.4
"Complec "Eyepieces	(57)	-	1.0	- 6	
Condensers		-		- 6	Plain Condens 44
Condenser Mounts -		-	-	9, 10	Plain Condenser Mount 10
Counting Character	-	-	-	- 10	Plastic Dust Covers 13
Counting Chambers	-		-	- 14	Pointer Eyepieces
Cover Glass Cleaners -	-	-		- 16	rolariser
Cover Glasses	-	-	_	- 15	Projection Prism 8
				13	Ü
Darkground Condensers		_	-	- 10	Razors 12
Diamond Object Marker		-		- 13	"Regulite "Lamp
Diamond Pencil			- 5		Ringing Brushes
	-	-	-	- 12	Rotating Nosaniasas
Dissecting Microscopes -		-	-	- 12	
Dissecting Stand	-	-	-	- 1	Scalpels 12
Dissecting Stand Drawing Prism	-	-	-	- 2	
Drawing Prism	-	-	-	- 8	Screw Micromata F
Dust Covers		-	-	- 13	Screw Micrometer Eyepiece 7
FI II II I					Section Cutter
Ehrlich's Eyepiece	-	-	-	- 5	Section Litter 12
Eyepiece Graticules	_		_	- 7	seekers
Eyepiece Micrometers	-	_		- 7	Semi-Apochromatic Objectives
Eyepieces	1000	107	570		
Excavated Slips		-	-	- 5, 6	Simplex 'Dissecting Microscope 19 Single Lens Magnifier - 3 Slide Boxes - 12
	-	-	-	- 14	Single Lens Magnifier
Filters					Slide Boxes
Elizania Oli I	-	-	-	- 37	Slide Cabinets 12
	-	-	-	- 3, 4	Slide Cabinets 12
rorceps		-	~	- 12	sides, Glass
Glass Slides - Cli					Slips, Excavated
Glass Slides or Slips	1 5	-	-	- 13	Slips, Glass
Glass Troughs Graticules	-	-	_	- 13	Sperm Invasion Slide
Graticules	_	_	_	- 7	"Spot "Lamp !T
				- /	
Hand Section-Cutter	_	-		- 11	
"Holoscopic" Condenser			-	- 11	"Student" Associated M. I
"Holoscopic" Eyepieces -		2	-	9, 10	"Student" Attachable Mechanical Stage 19
Howard Mould Counting Chambe	-	-	-	- 6	Substage Lamp 17
Huyghenian Eveniens	er -	-	-	- 14	Troughs 13
Huyghenian Eyepieces	-		-	- 6	Tube Length C
Illuminator ALL					Tube Length Corrector
Illuminator, Abbe	-	-	_	9, 10	Lurntable -
Immersion Oil	-	-		- 16	16
Inclination Unit		_	_	- 5	"Universal" Condenser 9,10
		150	e 13	- 3	Universal Dissecting Microscope
Labels	- 2	4		- 15	
Lamps		-			
Lens Cleaning Tissues				17, 18	"Vril" Lamp
	-		-	- 13	1/
Macro Illuminator	_	8		10	Warm Stage 19
Magnifiers	9 17)			- 10	- 12
	-			- 2	"Zonal" Darkground Condensers 10
					To provide the second to the s

LIST 2547B. Improvements in design are introduced from time to time, so that illustrations used in this list may not be correct in every detail.

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