

A LIST OF US PATENTS ABOUT MICROSCOPE OBJECTIVES

After about 1920, companies in Europe considered it important to register their patents in the USA.

Previous to that many of their patents were only registered in Germany, France and the UK.

US Patents have been considered here only because they are freely and easily downloaded from the web and for at least 50 years reflect developments in all countries.

This is an extremely powerful research tool for historians of optical instruments.

Sometimes one finds an incredible dissertation on the optical theory of microscope lenses which is worth reading. Other times one needs to wade through Patent Lingo.

Note that lens prescriptions are not necessarily exact, nor are glass types all available.

For anyone who has not previously investigated this resource, the URL for the US Patent Office is

<http://patft.uspto.gov/>

More specifically, patent numbers may be plugged into

<http://patft.uspto.gov/netathtml/PTO/search-bool.html>

You may need to download a special TIFF viewer. Details will be found on their website.

Patent No.	Title
3138651	OPTICAL SYSTEM FOR MICROSCOPE OBJECTIVE
3174396	MICROSCOPE OBJECTIVE
3176583	WIDE FIELD MICROSCOPE OBJECTIVE
3241443	OPTICAL SYSTEM FOR MICROSCOPES HAVING A TWO-COMPONENT OBJECTIVE
3244074	FOUR COMPONENT MICROSCOPE OBJECTIVE
3262363	THREE COMPONENT MICROSCOPE OBJECTIVE OF LOW POWER
3264938	LOW POWER OPTICAL SYSTEM FOR MICROSCOPE
3272070	OPTICAL SYSTEM FOR STEREO-MICROSCOPE
3272071	MICROSCOPE OBJECTIVE HAVING TWO DOUBLET
3272072	THREE MEMBER MICROSCOPE OBJECTIVE
3297393	OIL IMMERSION TYPE MICROSCOPE OBJECTIVE
3355234	FOUR COMPONENT MICROSCOPE OBJECTIVE
3370903	UNIT MAGNIFICATION OPTICAL SYSTEM FOR ANGULAR MEASURING INSTRUMENTS
3380793	MICROSCOPE OBJECTIVE
3399016	METALLURGICAL MICROSCOPE OBJECTIVE
3399017	FLAT FIELD METALLURGICAL MICROSCOPE OBJECTIVE
3405993	HIGH MAGNIFICATION SEMI-ACHROMATIC MICROSCOPE OBJECTIVE OF THE FLUORITE TYPE
3410633	METALLURGICAL MICROSCOPE OBJECTIVE
3428389	METALLURGICAL OPTICAL SEMI-OBJECTIVE OF 80X MAGNIFICATION
3428390	METALLURGICAL OPTICAL SEMI-OBJECTIVE OF UNITY MAGNIFICATION
3437398	PLURAL MICROSCOPE OBJECTIVE USED WITH A COMMON TELESCOPE OBJECTIVE
3443862	ANASTIGMATIC MEDIUM-POWER MICROSCOPE OBJECTIVE
3450463	PHOTOGRAPHIC OBJECTIVE FOR PRECISION COPYING
3471218	FLAT FIELD APOCHROMATIC OBJECTIVE 7.5X, .20N.A.
3471219	12.5X MAGNIFICATION SEMIOBJECTIVE WITH FIELD FLATTENING LENS
3476462	LOW POWER MICROSCOPE SEMI-OBJECTIVE WITH FIELD FLATTENING LENS
3507554	5X MAGNIFICATION SEMI-OBJECTIVE WITH FIELD FLATTENING LENS
3514185	MICROSCOPE OBJECTIVE OF HIGH RESOLVING POWER
3514189	FLAT FIELD APOCHROMATIC OBJECTIVE
3515463	45X MAGNIFICATION SEMI-OBJECTIVE WITH FIELD FLATTENING LENS
3524694	FLAT-FIELD MICRO-OBJECTIVE WITH INCREASED MAGNIFICATION
3525562	MICROSCOPE OBJECTIVE
3537773	MICROSCOPE PLANO OBJECTIVE
3540798	TRIPLET TYPE SYSTEM IN OBJECTIVE LENS FOR MICROSCOPE
3551021	HIGH-POWER MAGNIFIER
3552830	THREE MEMBER MICROSCOPE OBJECTIVE HAVING A MAGNIFICATION OF 20X
3552831	THREE MEMBER MICROSCOPE OBJECTIVE HAVING A MAGNIFICATION OF 40X
3556642	MICRO-OBJECTIVE LENS SYSTEM
3572902	HIGH MAGNIFICATION ACHROMATIC MICROSCOPE OBJECTIVE HAVING A WIDE, FLAT FIELD
3584937	FOLDED REFLECTING MICROSCOPE OBJECTIVE
3592530	ANASTIGMATIC MEDIUM-POWER MICROSCOPE OBJECTIVE PROVIDING A FLATTENED IMAGE
3598473	THREE-MEMBER ACHROMATIC MICROSCOPE OBJECTIVE
3598474	OIL-IMMERSION-TYPE MICROSCOPE OBJECTIVE
3623792	OBJECTIVE LENS FOR A MICROSCOPE
3647282	A WIDE ANGLE FLAT FIELD MICROSCOPE OBJECTIVE OF LOW POWER
3659923	SIX COMPONENT 100X MICROSCOPE OBJECTIVE
3659924	FOUR MEMBER 100X MICROSCOPE OBJECTIVE
3659925	THREE COMPONENT 2.5X MICROSCOPE OBJECTIVE

3664728	OBJECTIVE HAVING A HIGH RESOLVING POWER
3700311	EIGHT COMPONENT 100X MICROSCOPE OBJECTIVE
3701588	REPRODUCTION LENS OF HIGH IMAGE-RESOLVING POWER WITH AN IMAGE-SIDE NUMERICAL A
3711186	MICROSCOPE OBJECTIVES
3743386	ACHROMATIC CONDENSER FOR MICROSCOPE
3744880	PRECISION COPYING LENS
3744881	MICROSCOPE OBJECTIVE
3746428	OIL IMMERSION TYPE MICROSCOPE OBJECTIVE
3756698	PLANAPOCHROMATIC OBJECTIVE LENS SYSTEMS FOR USE IN MICROSCOPES
3790254	MICROSCOPE CONDENSER SERIES
3806231	OBJECTIVE LENS SYSTEMS HAVING A LARGE WORKING DISTANCE AND ADAPTED FOR USE IN M
3822931	MICROSCOPE OBJECTIVE
3868175	FORTY POWER MICROSCOPE OBJECTIVE
3876291	TEN POWER MICROSCOPE OBJECTIVE
3879111	MICROSCOPE OBJECTIVE
3893751	40X MICROSCOPE OBJECTIVE
3893752	MICROSCOPE OBJECTIVE
3902791	40X MICROSCOPE OBJECTIVE
3902793	FIVE MEMBER OIL IMMERSION MICROSCOPE OBJECTIVE
3912378	OIL IMMERSION APOCHROMATIC MICROSCOPE OBJECTIVE
3914025	MICROSCOPE CONDENSER
3918791	FLAT FIELD VARIABLE POWER RIFLE SCOPE
3925910	OBJECTIVE LENS SYSTEMS FOR USE IN MICROSCOPES
3975087	FOUR ELEMENT MICROSCOPE OBJECTIVE
3982821	MICROSCOPE OBJECTIVE
3997246	MICROSCOPE ILLUMINATOR
4002406	MICROSCOPE CONDENSER
4002407	OBJECTIVE
4009945	MICROSCOPE OBJECTIVE
4027951	PARFOCAL LOW-MAGNIFICATION MICROSCOPE OBJECTIVE LENS SYSTEMS
4037934	MICROSCOPE OBJECTIVE
4045126	TWO-ELEMENT MICROSCOPE OBJECTIVE
4054369	FOUR-COMPONENT MICROSCOPE OBJECTIVE
4059342	MICROSCOPE OBJECTIVE WITH CORRECTING MEANS
4060306	ACHROMATIC APLANATIC CONDENSER
4084885	MICROSCOPE OBJECTIVE
4101201	LOW MAGNIFICATION MICROSCOPE OBJECTIVE
4128304	ABBE CONDENSER
4146304	MICROSCOPE OBJECTIVE
4150871	MICROSCOPE OBJECTIVE LENS SYSTEM
4166674	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4174151	MICROSCOPE OBJECTIVE LENS SYSTEM
4176912	MICROSCOPE OBJECTIVE LENS SYSTEM
4184747	MICROSCOPE OBJECTIVE
4200357	PHOTO EYEPIECE FOR MICROSCOPES
4204748	FOCAL RELAY LENS SYSTEM FOR AN INVERTED MICROSCOPE
4208099	MICROSCOPE OBJECTIVE LENS SYSTEM
4212515	WIDE-VISUAL-FIELD MICROSCOPE OBJECTIVE LENS SYSTEM
4227773	OBJECTIVE LENS SYSTEM FOR MICROSCOPES

4231637	SEVEN-COMPONENT MICROSCOPE OBJECTIVE
4232940	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4232941	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4251131	MICROSCOPE OBJECTIVE
4261654	AIR GAP TYPE MICROSCOPE OBJECTIVE
4279476	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4279477	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4280757	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4283123	MICROSCOPE OBJECTIVE
4322136	MICROSCOPE OBJECTIVE LENS SYSTEM
4326779	10X MICROSCOPE OBJECTIVE
4353624	AFOCAL RELAY LENS SYSTEM
4362365	ACHROMATIC MICROSCOPE OBJECTIVE
4373785	MICROSCOPE OBJECTIVE
4376570	MICROSCOPE OBJECTIVE
4379623	40X MICROSCOPE OBJECTIVE
4383739	MICROSCOPE OBJECTIVE
4384765	SIX-COMPONENT MICROSCOPE OBJECTIVE
4397529	ILLUMINATION SYSTEM FOR MICROSCOPES
4403835	OBJECTIVE LENS FOR MICROSCOPE
4417787	FIVE-COMPONENT MICROSCOPE OBJECTIVE
4418988	MICROSCOPE OBJECTIVE
4491394	IMAGE-FORMING LENS SYSTEM
4505553	MICROSCOPE OBJECTIVE
4537472	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4537474	OPTICAL SYSTEM FOR PROJECTION
4563060	MICROSCOPE OBJECTIVE
4575195	FLAT FIELD LENSES
4588264	MICROSCOPE OBJECTIVE LENS
4591243	MICROSCOPE OBJECTIVE
4592624	OBJECTIVE LENS FOR MICROSCOPE OF LOW MAGNIFICATION
4624535	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
4666256	MICROSCOPE OBJECTIVE LENS
4666258	AFOCAL ZOOM LENS SYSTEM
4704007	VARIABLE MAGNIFICATION ENDOSCOPE
4721372	OBJECTIVE LENS SYSTEM FOR AN ENDOSCOPE
4743094	FINITE CONJUGATE IMAGING SYSTEM
4753521	LENS SYSTEM FOR FOCUSING A DIVERGENT LASER BEAM
4768869	CATADIOPTRIC IMAGING SYSTEM
4834515	CATADIOPTRIC IMAGING SYSTEM WITH DIOPTRIC ASSEMBLY OF THE PETZVAL TYPE
4842384	OPTICAL SYSTEM OF THE PETZVAL TYPE
4934801	OPTICAL IMAGING SYSTEM
4938573	OBJECTIVE LENS SYSTEM
4953962	MICROSCOPE OBJECTIVE FOR ACCOMMODATING DIFFERENT COVER-GLASS THICKNESSES
4989957	OBJECTIVE LENS FOR MICROSCOPES
5000548	MICROSCOPE OBJECTIVE
5076676	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
5103341	UV-CAPABLE DRY LENS FOR MICROSCOPES
5132845	HIGH MAGNIFICATION OBJECTIVE LENS
5144475	OBJECTIVE LENS SYSTEM FOR USE WITHIN MICROSCOPE
5159492	OBJECTIVE LENS SYSTEM FOR USE WITHIN MICROSCOPE

5159492	OBJECTIVE LENS SYSTEM FOR USE WITHIN MICROSCOPE
5191473	OBJECTIVES
5216545	OPTICAL LENS SYSTEM FOR MICROSCOPES
5235465	OBJECTIVE LENS SYSTEM FOR USE WITHIN MICROSCOPE
5270860	OBJECTIVE FOR MICROSCOPES
5270860	OBJECTIVE FOR MICROSCOPES
5383058	ZOOM LENS
5440422	METHOD FOR MANUFACTURING ULTRAVIOLET MICROSCOPE DRY OBJECTIVES AND MICROSCOPE
5444573	MICROSCOPE OBJECTIVE
5469299	OBJECTIVE LENS SYSTEM
5500767	OBJECTIVE LENS AND METHOD OF MEASURING ITS PERFORMANCE
5500770	MACROLENS SYSTEM FOR EMISSION MICROSCOPY
5502596	IMMERSION MICROSCOPE OBJECTIVE
5517360	IMMERSION MICROSCOPE OBJECTIVE
5530590	LIQUID-IMMERSION TYPE OBJECTIVE LENS SYSTEM FOR MICROSCOPES
5532878	OBJECTIVE LENS SYSTEM FOR MICROSCOPES
5532879	MICROSCOPE OBJECTIVE LENS
5546228	RE-IMAGING OPTICAL SYSTEM
5555133	OBJECTIVE LENS FOR MICROSCOPE
5636058	MICROSCOPE OBJECTIVE LENS AND MICROSCOPE USING THE SAME
5657166	CONDENSER LENS SYSTEM FOR USE IN A MICROSCOPE
5659425	IMMERSION MICROSCOPE OBJECTIVE
5699196	MICROSCOPE OBJECTIVE LENS AND MICROSCOPE
5699197	MICROSCOPE WITH A CONDENSER LENS SYSTEM HAVING A TAPERED PORTION
5739957	OBJECTIVE LENS SYSTEM FOR FLUORESCENCE MICROSCOPES
5739958	MICROSCOPE OBJECTIVE LENS SYSTEM WITH CORRECTION RING
5774272	LOW-MAGNIFICATION APOCHROMATIC MICROSCOPE OBJECTIVE LENS
5798870	MICROSCOPE OBJECTIVE LENS AND MICROSCOPE
5805346	FLUID IMMERSION MICROSCOPE OBJECTIVE LENS
5808807	MICROSCOPE OBJECTIVE LENS WITH CEMENTED BICONVEX TRIPLET
5861996	OBJECTIVE LENS SYSTEM FOR A MICROSCOPE
5886826	MICROSCOPE OBJECTIVE
5886827	MICROSCOPE OBJECTIVE LENS WITH SEPARATED LENS GROUPS
5889617	OBJECTIVE LENS SYSTEMS
5889618	OBJECT LENS FOR MICROSCOPE
5774272	LOW-MAGNIFICATION APOCHROMATIC MICROSCOPE OBJECTIVE LENS
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5889617	OBJECTIVE LENS SYSTEMS
5889618	OBJECT LENS FOR MICROSCOPE
5930032	UV IMAGE FORMING OPTICAL SYSTEM AND LENS FOR UV RADIATION
5940220	MICROSCOPE OBJECTIVE LENS WITH VARIABLE CORRECTION OF ABERRATIONS IMPARTED
5978147	IMMERSION MICROSCOPE OBJECTIVE
5982559	IMMERSION MICROSCOPE OBJECTIVE LENS SYSTEM