



# BUSCH Prism Binoculars and Monocles &c.

Telegraphic Address: "Purello," London.

Telephone: 2563 Central



Of AUG 1999

EMIL BUSCH OPTICAL CO. 35 CHARLES ST., HATTON GARDEN, LONDON, E.C.





### BUSCH PRISM BINOCULARS



ON A FRISM BINOCULARS are constructed on a formula first introduced by Porro in 1853, the principle of which is the use of reflecting prisms so placed in the body of the binocular that they serve the two-fold purpose of reinverting the image formed by the object lens, and reducing the length of the instrument to

about 1/3 that of the usual forms of binocular telescopes.

The effect of the prisms is shown in the illustration page 23 where it is seen that the rays of light entering the object glass are by reflection and deflection carried from the upper prism to the lower one and up again, passing out through the eye-piece.

The successful manufacture of binoculars on this principle has only become possible during the past few years consequent on increased scientific and technical skill, particularly in the production of more perfectly transparent and homogeneous glass.

The greatest possible skill is required in both the optical and mechanical construction, and only the best material must be used if satisfactory results are to be obtained.

Since it first became possible to manufacture prism binoculars our scientific experts have given undivided attention to their construction and improvement, until, at the present time, we are able to offer to the public a greater selection than that of any other one maker in the whole world.

We are thus able to fill the wants of every class to whom such aids to vision are either a necessity or convenience.

Our chief endeavour has been to improve the illumination, which in the earliest models of this form of binocular was not good enough to enable the glass to be satisfactorily used, except under favourable lighting conditions. The result of our experiments has been the production of the Stereo "Ultralux," "Terlux," and "Sollux" models, which are unsurpassed by any other binoculars of this class on the market.

The distinguishing features of Busch Prism Binoculars are that they give an exceptionally large field of view, well and uniformly illuminated, and sharply defined right up to the extreme margin.

As compared with the ordinary forms of binocular field glasses the field of view is two or three times greater.

The illustration on page 3 will afford some idea of the difference in the illuminating power of the various models, and it is only necessary to remind the reader that the brilliancy of the image is governed by the size of the objective through which the light passes.

It is thus apparent that the "Terlux" and "Sollux" models offer very great advantages as regards the brilliancy of the image.

The bodies of all Busch Prism Binoculars are made of solid castings of special alloy of aluminium, thus securing the greatest possible solidity with the least possible weight.

For the guidance of buyers, we may summarise the features

of the various patterns as follows:-

The Stereo "Lynkop" is the cheapest of our models. They can be used in all countries, and at all times when the lighting conditions are favourable.

The "Stellux" is the most portable of all Prism Binoculars, and smaller than the Stereo "Lynkop," although the proportionate illumination is the same. It is recommended as a "Universal" glass for the Theatre, Racing, and Touring, and as a Ladies' Binocular.

The Stereo "Ultralux" is perhaps the most popular model, because although not much more bulky than those mentioned above, it gives much greater illumination, and a stereoscopic effect, both of which are of great value to the Military Officer or Sportsman having occasion to use Binoculars in unfavourable lighting conditions.

The "Sollux" is a little larger than the Stereo "Ultralux," and the 6x size is specially recommended for Marine and Hunting purposes, the illumination and wide field of view being very valuable characteristics.

The "Terlux" has rightly been described as the "King of Prism Binoculars," and has received the approval of the most experienced users of Binoculars throughout the world. They are specially recommended to Military Officers, Sportsmen, Deer Stalkers, and on the extensive cattle ranches abroad where it is necessary to view objects at long distances with good illumination.

The two new models—the "Hellux" and "Marlux"—have been specially introduced for Nautical and Marine use, the intention being to combine with the special characteristics of the Prism Binocular in the matter of power and extensive field of view, the illumination of the Galileon Binocular.



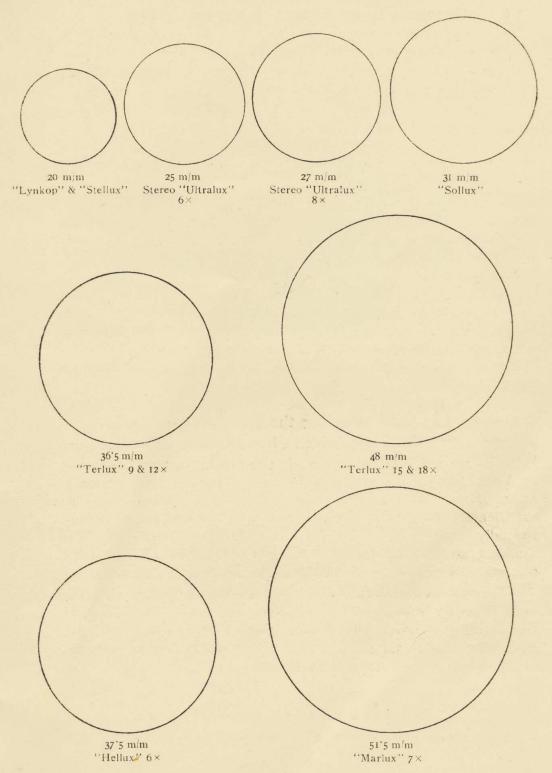
#### BUSCH PRISM BINOCULARS

can be obtained from all "Up-to-date" Opticians.



#### **ILLUSTRATIONS**

showing the different sizes of objectives in BUSCH PRISM BINOCULARS





#### Special Notice.

BUSCH PRISM BINOCULARS are Dust and Damp-Proof.



**B**LOCK showing the Difference in Field of View given by BUSCH PRISM BINOCULARS and the usual forms of Binocular Glasses.

The Inner Circle shows the View given by ordinary Binoculars, and the whole Picture that given by BUSCH PRISM BINOCULARS.

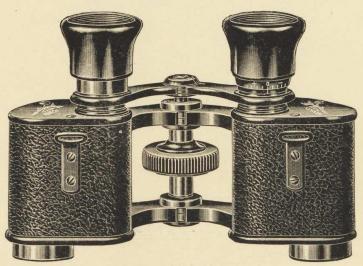
#### THE

#### BUSCH STEREO "LYNKOP"



#### PRISM BINOCULAR

(NEW MODEL.)



Half Natural Size.

THE BUSCH STEREO "LYNKOP" Binocular has been constructed to take the place of the "ROJA" and LYNKOP MODELS, the manufacture of which has now been discontinued.

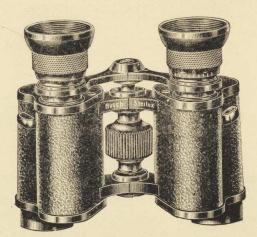
The new Model Stereo "Lynkop" gives a Stereoscopic Image, is of the highest quality, both optically and mechanically, and is provided with central screw focussing movement and the usual adjustment for pupilary centres. It is very portable and light, and for racing and tourist's purposes is highly recommended.

			В	INOCUL	ARS				
Magnifying Power	Diameter of Objective	Stereo- scopic effect		Field of View at 1000 yards.	Light Value	Weight without case	Price.	Telegraphic Code Word	
6 times 8 times 9 times 12 times	2Im/m 2Im/m 2Im/m 2Im/m	1.7 1.7 1.7	6.9° 6° 4.6° 4.3°	120 yards 105 yards 80 yards 75 yards	$9^{\frac{1}{2}}$ $5$ $4^{\frac{1}{2}}$ $3$	15 ozs. 15 ozs. 16 ozs. 16 ozs.	£ s. d. 5 0 0 5 10 0 6 0 0 6 10 0	Sterbinom Sterbinomo Sterbinomos Sterbinomoso	
	MONOCLES.								
6 times 8 times	2Im/m 2Im/m		6.90	120 yards 105 yards	9 <sup>1</sup> / <sub>2</sub> 5	$6\frac{1}{2}$ ozs. $6\frac{1}{2}$ ozs.	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Mono Monos	



#### The BUSCH "STELLUX"

PRISM BINOCULAR.



Half Natural Size.

THE "STELLUX" PRISM BINOCULARS are wonderful little instruments. They have greater magnifying power than that given by 95 per cent. of the usual Galileon forms of Field and Tourist Glasses, yet can be carried in the jacket pocket.

The field of view embraced is double that given by a glass of the older construction of the same power.

A Binocular which enables such a comprehensive outlook to be obtained on land, sea and racecourse, and on football, hunting and battlefield, as well as in the theatre, and which is so portable as to be carried in the jacket pocket, is one that must appeal to every user of Binoculars—even to those whose requirements necessitate also glasses of higher illumination, conditions necessarily involving more bulk.

Such a glass as the "STELLUX" can be a constant companion either for a lady or gentleman.

The "STELLUX" Binocular can be had in the usual hard Leather Case or in a flexible Purse Case as illustrations H and W on page 18.

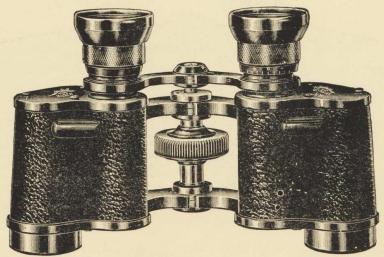
The Binocular in Case W costs 2/- less.

		BII	NOCU	LARS.		
Magnification	Angle of View	Field of View at 1000 yards	Light Value	Weight	Price	Telegraphic Code Word
4½ times 6 times 8 times	8.6° 6.9° 5.7°	150 yards 120 yards 100 yards	16 9½ 5	$10\frac{3}{4} \text{ ozs.}$ $10\frac{3}{4} \text{ ozs.}$ $10\frac{3}{4} \text{ ozs.}$	£ s. d. 5 10 0 6 0 0 6 10 0	Stellvier Stellux Stellacht
		M	ONOC	CLES.		
4½ times 6 times 8 times	8.6° 6.9° 5.7°	150 yards 120 yards 100 yards	16 9½ 5	$4\frac{1}{2}$ OZS. $4\frac{1}{2}$ OZS. $4\frac{1}{2}$ OZS.	2 10 0 2 15 0 3 0 0	Monvierstel Monostel Monachtel



#### The BUSCH STEREO "ULTRALUX"

PRISM BINOCULAR.



Half Natural Size.

### GIVES A STEREOSCOPIC IMAGE CENTRAL SCREW FOCUSSING MOVEMENT

THE STEREO "ULTRALUX" is a modified construction of our earlier and well-known "ULTRALUX" pattern, the improvement consisting of a rearrangement of the body and fittings, so that the objectives are wider apart than the oculars, thus securing an enhanced stereoscopic effect.

The objectives are larger than the patterns recorded on previous pages, and give an image about twice as brilliant.

To Military and Naval Officers and Hunting Men, who have occasion to use glasses at all times of the day, and under varying atmospheric conditions, and to whom the extra bulk of the "Terlux" model would be an inconvenience, the Stereo "Ultralux" Binocular will be found very advantageous.

The bars are hinged for the adjustment of the pupilary distance, and a central screw movement is provided for focussing.

The Prices include a Solid Leather Case with Shoulder Strap.

			BINOCU	LAR	S.		
Magnifica- tion	Stereo- scopic effect	Angle of View	Field of View at 1000 yards	Light Value	Weight without Case	Price	Telegraphic Code Word
6 times 8 times	1.8	7.4° 6.5°	130 yards 115 yards	16 10½	19 ozs. 20 ozs.	£ s. d. 6 0 0 6 10 0	Sterultra Stereoultra
<u> </u>			MONO	CLES	•		
6 times 8 times		7.4° 6.5°	130 yards 115 yards	16 10½	8 ozs. 8 ozs.	2 15 0 3 0 0	Monultra Monosultra

#### The BUSCH "SOLLUX"

PRISM BINOCULAR.





THE "SOLLUX" is the outcome of experiments to produce some of the characteristics of our popular "Terlux" Binocular in a more portable form.

The illumination is greater than the "ULTRALUX," but not quite equal to the "TERLUX."

The field of view, however, especially in the  $6 \times \text{glass}$ , exceeds that given by any other Binoculars of equal power.

The construction is similar to the STEREO "ULTRALUX," and consequently has the further advantage of Stereoscopic effect.

The "Sollux" thus offers, in a portable form, the three most important features necessary for use on both sea and land, namely,—

#### Brilliant Illumination, Extensive Field of View :: :: and That Plasticity of the Image :: ::

which is so valuable in enabling the user to gauge the distance and relative position of objects under examination.

This plasticity of the image, or "Stereoscopic effect," is secured by placing the objectives at a distance apart exceeding that of the oculars.

The stability of the connecting bars and body, characteristic of Busch Prism Binoculars, is obtained by the use of solid castings of Aluminium alloy, a construction first introduced by Busch, the satisfactory nature of which is proved by its general adoption by most of the modern makers of high-class Binoculars.

The Prices include a Solid Leather Sling Case.

			BINOCU	LAR	S.		
Magnifica- tion	Stereo- scopic effect	Angle of View	Field of View at 1000 yards	Light Value	Weight without case	Price.	Telegraphic Code Word.
6 times 8 times	2 2	8.6° 6.2°	150 yards 115 vards	25 14	24 ozs. 24 ozs.	£ s. d. 7 10 0 8 0 0	Sollux Solluxacht
			MONO	CLES	S.		
6 times 8 times	::	8.6° 6.5°	150 yards 115 yards	25 14	II ozs. II ozs.	3 10 0 3 15 0	Monsollux Monacht

#### The BUSCH "HELLUX"

#### PRISM BINOCULAR.

(6 × Power.)

MB

New



Model.

One-third Natural Size.

THE NEW "HELLUX" PRISM BINOCULAR has been constructed specially for Nautical and Marine use. The light value exceeds that of any other Prism Binocular of similar size and weight. The objectives have a diameter of 37.5 m/m, and the light value is equal to 36.

The prejudice against Prism Binoculars which was developed in the minds of Nautical men by the use of the earlier models of high power Prism Binoculars with their small objectives has not yet been overcome, notwithstanding the fact that many large aperture Binoculars have since been introduced.

The "Hellux," however, will, we are sure, overcome all the objections which have formerly been raised to the use of Prism Binoculars at sea on account of lack of illumination.

The diameter of the cone of light considerably exceeds that of the pupil of the eye, which therefore receives the maximum amount of light possible.

The "Hellux" is constructed to give a stereoscopic image and fitted with adjustable bars and central screw focussing movement.

In addition to its special usefulness for Marine purposes, the "Hellux" can be satisfactorily employed in the Hunting Field and under all circumstances where the lighting conditions are unsatisfactory.

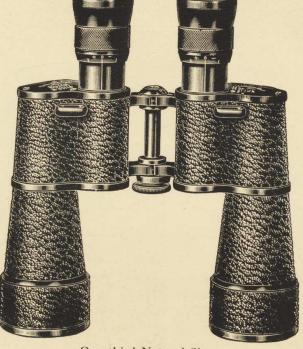
			BINOCU	LAR	S.		
Magnifica-	Stereo- scopic effect	Angle of View	Field of View at 1000 yards	Light Value	Weight without case	Price.	Telegraphic Code Word.
6 times	2.1	8·4°	150 yards	36	33 ozs.	£ s. d. 8 15 0	Hellux
			MONO	CLES	8.		1
6 times		8.4 <sub>o</sub>	150 yards	36	14 ozs.	4 2 6	Hellmonsechs

#### The BUSCH "MARLUX"

PRISM BINOCULAR.



New



Model

One-third Natural Size.

THE "MARLUX" PRISM BINOCULAR is another new model specially constructed to give great illumination.

It is made in one power only, giving a magnification of 7 times. The diameter of the objectives is 51'5 m/m., and the light value considerably exceeds that of the "Hellux," being equal to 51. It therefore gives greater illumination than any other Prism Binocular at present on the market.

It is, however, considerably larger than the "Hellux," but to those to whom great illumination is an absolute necessity, the "MARLUX" will be found invaluable.

This model is made only with the separate eyepiece focusing movement, but it is provided with adjustable bars and gives a stereoscopic image.

			BINOCU	JLAR	RS.		
Magnifica- tion	Stereo- scopic effect	Angle of View	Field of View at 1000 yards	Light Value	Weight without Case	Price	Telegraphic Code Word.
7 times	2.1	6°	105 yards	51	43 ozs.	£ s. d. 12 10 0	Marlux
			MONO	CLES		1 4	7
7 times		60	105 yards	51	20 ozs.	6 5 0	Marluxmon



#### The BUSCH "TERLUX"

#### PRISM BINOCULAR.

THE favourable commendation of the Busch "TERLUX" by experts in all parts of the world may be said to have created a revolution in the construction of Prism Binoculars, and its continued popularity is sufficient

evidence that as regards illumination and definition, it is still unapproached by any other glasses on the market.

In all optical systems the increase of power entails loss of light and field of view, and in the Prism Binocular of the ordinary pattern the higher powers could only be satisfactorily used on bright clear days, because of the indifferent illumination.

In the "TERLUX" objectives of 35 m/m. diameter are used, which admit of three times as much light as is admitted by the ordinary patterns of Prism Binoculars.

Remembering that without sufficient illumination to enable the image to be clearly seen, great magnification is of no value, we confidently recommend this glass in preference to all others when good illumination is a necessity.

To Military and Naval Officers and Huntsmen, when a highpower glass has to be used under unfavourable atmospheric conditions, or in early morning, or at sunset, the "Terlux" will give



Half Natural Size.

greater satisfaction than any other Prism Binocular on the market.

Movable Sun and Spray Shades are provided, and the focussing and pupilary adjustments are the same as described in reference to the "LYNKOP."

		Bl	INOCU	JLARS.		
Magnifica- tion	Angle of View	Field of View at 1000 yards	Light Value	Weight without case	Price	Telegraphic Code Word.
9 times 12 times	4.6° 4.3°	80 yards 75 yards	15 9	28 ozs. 28 ozs.	£ s. d. 7 15 0 8 5 0	Terbin Terbinom
'		N	MONO	CLES.		
9 times 12 times	4.6° 4.3°	80 yards 75 yards	15 9	I2 ozs. I2 ozs.	3 12 6 3 17 6	Monterlux Monoterlux

# The DEER-STALKING "TERLUX"



#### BUSCH PRISM BINOCULAR.



Half Natural Size.

THIS Model is introduced only for those who must have a very high power glass, and are able to use it either on a stand or other support.

The vibration of the human body is such that it is not possible to obtain a satisfactory image with such a high power glass without steadying the instrument on or against a fixture.

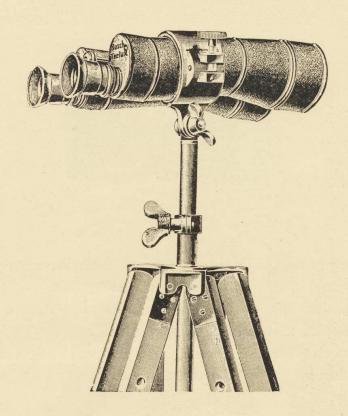
In order to secure the necessary illumination, the objectives are made still larger than the ordinary "Terlux" model, and have a diameter of 45 m/m.

The body is, of course, also larger, the 15 times size being  $8\frac{1}{2}$  inches, and the 18 times,  $10\frac{1}{2}$  inches in length.

		Bl	NOCU	JLARS.		
Magnifica- tion	Angle of View	Field of View at 1000 yards	Light Value	Weight without case	Price.	Telegraphic Code Word
15 times 18 times	3.4° 2.9°	60 yards 50 yards	9 31 ozs. 7 35 ozs.		£ s. d. 11 0 0 11 10 0	Terdeer Terdeerlux
		1	MONO	CLES.		
15 times 18 times	3.4° 2.9°	60 yards 50 yards	9 7	14 ozs. 16 ozs.	5 5 0 5 10 0	Termono Termonos



# The "TERLUX" TRIPOD STAND.



BINOCULAR VISION is so far superior to Monocular vision that objects can be defined with a Binocular that a Telescope would fail to reveal, and it will be found that even in comparison with large Telescopes having a magnification of 30 to 40 times, a Busch "Terlux" Prism Binocular, although of lower power, will, on account of the Stereoscopic relief afforded by Binocular vision and the brilliant illumination given by the optical system, frequently afford a better image.

Hence we desire to put forward the claim of the higher power "TERLUX" Binoculars, 12, 15 and 18 times, as general "look out" instruments in place of the large and bulky Telescopes formerly in use.

Mounted on a stand such as here illustrated, a "Terlux" Binocular cannot fail to be of great value and interest, and we can strongly recommend them for use in Hotels, Boarding-houses, Hydropathic Establishments and Private Mansions at the seaside or in the country.

The stand is of polished wood fitted with metal clamps to hold the Binocular, and horizontal and vertical adjustments.

Price Complete - £3 0 0

#### The BUSCH "THALIAR"

#### PRISM OPERA GLASS.

3½ Times Power.





Three-quarter Natural Size. Model A.

If the large angle of view given by a Prism Binocular is advantageous in the field, it is of equal importance in the theatre, where it is desirable to obtain a comprehensive view of the stage and as many of the performers as possible.

The Busch "Thaliar" Prism Opera is beautifully finished, has a magnifying power of  $3\frac{1}{2}$  times, and can be carried in the pocket quite easily.

Model A has a black japanned body covered with seal grain leather, and is supplied in a neat leather purse with snap, and opera ticket pockets.

The adjustment for pupilary distance is accomplished in a simple and commodious way by bending the hinged bars to the necessary width of the user's eyes, and focussing is accomplished by a central screw movement similar to that provided in the ordinary forms of opera glass.

Size closed, 4 in.  $\times$   $2\frac{3}{4}$  in.

Price with Case Model H. or S. ... £5 10 0 ... ... £5 8 0

Weight without Case, 6 ozs.

Telegraphic Code Word, "Thaliarei." The field of view at 1000 yards distance is 205 yards.

# THE BUSCH "THALIAR" PRISM OPERA GLASSES



Can be had with 3 different models :: of cases as shown below ::

- Model H. is a stiff brown solid leather case with shoulder strap.
  - , W. is a flexible black grained leather snap case.
  - S. is a stiff leather case with mirror in lid and opera ticket pockets.



Model H.



Model W.



Model S.

When ordering please specify the kind of case required

# UNIVERSAL POCKET STAND

### FOR BINOCULARS AND TELESCOPES

The instrument illustrated is a portable form of Stand or support for Binoculars and Telescopes, which can be carried in the pocket.

It consists of a nickelled brass fitting with a "V" shaped table and a strong webbing band which is adjusted to hold the Telescope or Binocular by means of a rachet wheel.

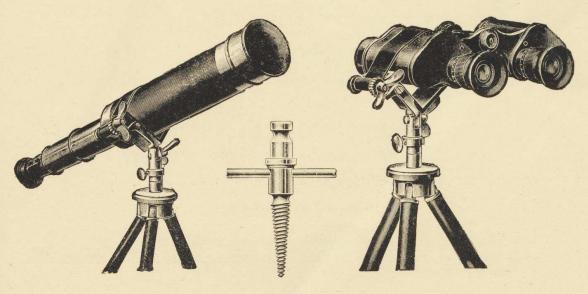
The table will support instruments from 30 to 100 m/m diameter.

It is fitted with horizontal and vertical movements, enabling the Binocular or Telescope to be turned in almost any direction.

The holder can be used either on an ordinary camera stand as illustrated, or with an attachment to screw into a tree or fence.

The illustrations show how the instrument can be used.

The Price Without the Tripod Stand ... 15/- With Tripod Folding Metal Stand ... 25/-







# Accessories for BUSCH PRISM BINOCULARS



Busch Prism Binoculars are constructed in a very special manner so as to prevent the entrance of dust or moisture. They can therefore be carried freely in the open air and the only protection necessary against rain, etc., is a covering for the eye-pieces.

The "Ocular Cover" illustrated is attached to the shoulder strap and can be raised or lowered as and when required quite easily. It will be of great service to Cavalry Officers and Hunting men.

Price 3/- each

Telegraphic Code Word "Eyecover"

Yellow Light Screens can be fitted to Busch Prism Binoculars for use in misty atmospheres and strong sunlight, and for viewing snow covered landscapes.

In mounts to fit the oculars,

the 4/6 pair

Telegraphic Code Word "Prismscreen"

### CORRECTION LENSES for Spectacle and Eyeglass wearers,

with astigmatism, can be fitted to Binoculars at a cost of

per 7/6 pair

The lenses are fitted to metal mounts to attach to the ocular. The oculist or optician's prescription is necessary, including a statement as to pupilary distance.

# MB

#### GRATICULES.

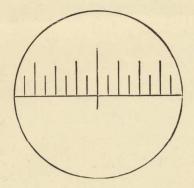
AGRATICULE consists of a small glass plate upon which is engraved fine lines and points. The plate is usually fitted into the right body of the Binocular. Its purpose is to enable the user to estimate the distance or size of objects.

If the distance is known, the graticule enables us to estimate the width or height of the object, and if the size of the object is known, we can estimate its distance. Various forms of graticule are in use principally for Naval and Military purposes.

We keep in stock two models of Busch Prism Binoculars fitted with the British Military pattern graticule, the design of which is illustrated below.

In ordering it is necessary to specify the pupilary distance of the user.

The plate is engraved with one horizontal and fifteen vertical lines at right angles to it as shown in the sketch.



The vertical lines are 30' apart. The centre line is 1° 30' above and 30' below the horizontal line, degree lines 1° above and half degree lines ½° above.

The two models are:

Price with

The Stereo "Ultralux" 8 times power £7 0

The cost of fitting the British Military graticule to customers' own Binoculars is 12s. each.

Other patterns can be supplied and fitted specially to order.

#### TREE SCREW CLAMP



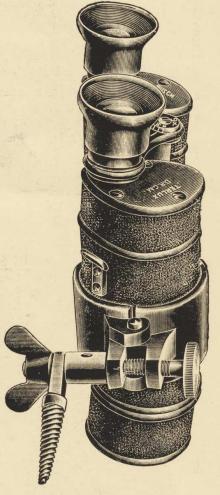
## FOR "TERLUX" MONOCLES AND BINOCULARS.

THE vibration of the human body is such that it is not possible to obtain a satisfactory image with a high power glass without steadying the instrument on or against a fixture.

The clamp illustrated can be used with all "Terlux" models, and is specially recommended for the high power sizes.

It serves the purpose of a stand, yet only occupies a space of three inches, and can be carried in the pocket, or attached to the glass, the screw being made to turn round out of the way when not in actual use.

To Naturalists, Military Officers, and Huntsmen, it will be found invaluable.



Tree Screw Clamp 15/- each

MB





# Separate Catalogues are published containing particulars of

Busch Photographic Lenses.

Busch Photographic Cameras.

Busch Bis-Telar Telephoto Lens.

Special descriptive Booklet with articles by Child Bayley, Esq., W. Thomas, Esq., and Captain Owen Wheeler.

Busch Rifle Shooting Telescope "The Visar."

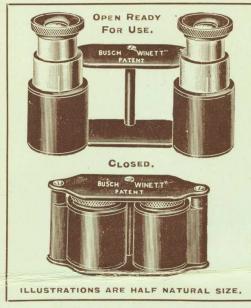
Busch Pocket Binocular "The Winett."



Free on Application.

THE

#### **Busch "WINETT" Pocket Binocular**



is the most wonderful little instrument ever put before the public. It embodies in the smallest possible form, features that are usually found only in binoculars both expensive and bulky.

It folds up like a small pocket magnifying glass, and can be carried with less inconvenience than a purse.

The magnifying power equals that of many binoculars of the old type, and the definition and other optical qualities are of the very best.

An ingenious arrangement permits the adjustment of the oculars to any pupillary distance. For normal vision the glass can be opened out ready focussed for instant use, and an adjustment is provided by means of which any difference in the power of the two eyes can be allowed for.

Never before has an aid to vision been offered to the public in a form so novel and compact as to arrant its universal use. As a constant companion on land, sea and racecourse, in the football, hunting and battle field, as well as at the theatre, it will be found invaluable.

PRICE, in Snap Leather Case, 25/-

EMIL BUSCH OPTICAL CO.,

35 Charles Street, Hatton Garden, London, E.C.

