



WOLLSENSAK  
PHOTOGRAPHIC  
SHUTTERS & LENSES

WOLLSENSAK  
CO. LTD.  
ROCHESTER, NEW YORK

CATALOGUE & PRICE LIST  
OF

WOLLSENSAK  
PHOTOGRAPHIC  
SHUTTERS & LENSES

1909-10



Wollensak Optical Co.  
ROCHESTER, N.Y., U.S.A.

ANDREW WOLLENSAK, PRESIDENT.  
H.C.GORTON, VICE PRES. & TREAS.  
J.C.WOLLENSAK, SECRETARY.

## PHOTOGRAPHY



UNDoubtedly photography is a factor of the highest importance in the civilization of the present day as the intelligent photographer is by necessity brought into intimate contact with both nature and science; but especially through the fact that it is now useful in so many different directions and from the close way in which it has become interwoven in both our business and social life, photography has grown to be practically indispensable to mankind. There is hardly a sphere in life where photography does not play a prominent part and both art and science have been strengthened and advanced in a most decided manner through its medium. The hard and fast line which formerly separated the photographer's domain from the artist's has long since vanished and photography has earned the right to be classed among the fine arts; but even those who do not admit that it is a means in itself of artistic expression must acknowledge that through developing the artistic temperament and increasing the study and observation of nature, it is responsible for much of the good taste of the present day.

All devotees of the art whether amateur or professional naturally desire to raise the standard of their work and to that end are constantly improving their equipment and learning new methods. To these progressive photographers we dedicate this catalogue assuring them of our desire to be of every possible assistance to them in realizing their ambition.

## OUR BUSINESS METHODS

ANY firm or corporation to be permanently successful must pursue a definite policy both in the manufacture and in the sale of its product, such course being decided upon by the executive officers. The business thus has a character of its own just as any individual has, and its success is largely determined by the verdict rendered on it by the purchasing public and the dealers.

We believe that it is good business to use every precaution to produce perfect goods, to sell them at a reasonable price, to guarantee them in every respect and to give our customers at all times liberal and courteous treatment with prompt service. To these ends all our energies are bent and the officers of this company, being in personal control of the different departments, can positively assure our trade that this policy will be strictly adhered to.

Knowing our product to be as nearly perfect as it is possible to make it, we are able to place on everything we manufacture an absolute guarantee of satisfaction as given herewith:

*WE HEREBY guarantee every article manufactured by us to be mechanically and optically perfect, and will refund the purchase price to any dissatisfied customer if claim is made within thirty days of date of shipment from our factory.*

WOLLENSAK OPTICAL COMPANY.



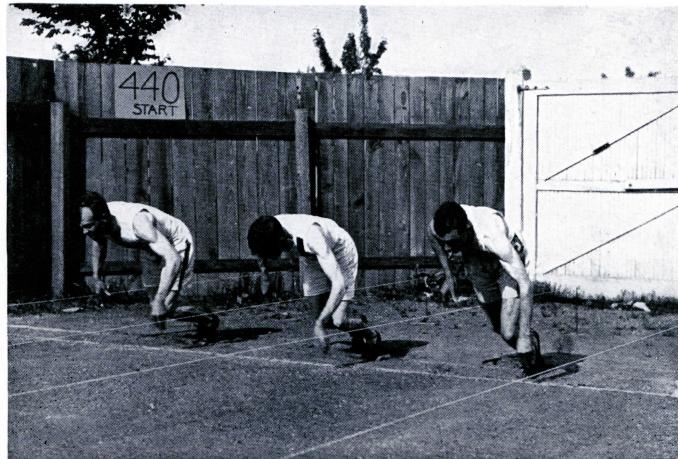
## PHOTOGRAPHIC LENSES



THE progress made in Photographic optics during the last decade has been very rapid and the improvement in methods of manufacture now makes it possible to sell a really good lens at a moderate price. We therefore do not hesitate to state that every lens we make is capable of producing first-class negatives as we use only imported glass and in grinding, polishing, centering and cementing each lens is carefully watched by our optical experts.

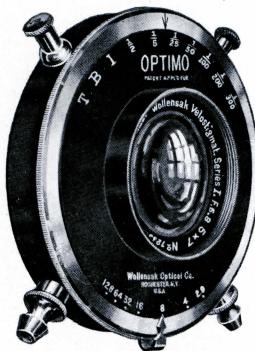
After all processes are completed, the lenses are subjected to a severe test and any not up to our standard are rejected. If we were not positive that our lens product was perfect we could not give the broad guarantee of satisfaction which we publish on the preceding page.

Our line as shown in this catalogue covers practically the whole range of photographic optics; many of the lenses (particularly the smaller sizes) being for amateur use. A number of others are for both professional and amateur use in portrait and view work and some are strictly professional in their design and optical properties. Our Velostigmat, Versar, Vitax Portrait and Series A. Portrait we consider at least equal to any lenses on the market in their special fields and our Wide Angles, Symmetrical and Rapid Rectilinear are standards of their grade. Besides covering the photographic field thoroughly, we also manufacture a great variety of lenses for various other purposes and will at any time submit samples and prices.



THE START AND THE FINISH.  
PHOTOGRAPHED BY G. E. PALFREY WITH VELOSTIGMAT LENS.

## VELOSTIGMAT LENSES.



EVEN though the formula for an Anastigmat lens is figured by the leading optical expert it may be necessary to make many lenses and some corrections before the highest degree of perfection possible is obtained. The Velostigmat is the evolution of our Royal Anastigmat and we manufactured it for two years under that name, but when our efforts to improve it reached the point where we felt that we had produced

a perfect lens of the type, we changed the name to Velostigmat. The mechanical and optical construction is of the highest order and the glass used is the best obtainable, the Velostigmat being corrected absolutely for chromatic and spherical aberration and astigmatism. The finish, whether mounted in barrel or shutter, is black enamel with white engraving which makes it durable, practical and attractive in appearance. Each lens is carefully studied and tested before it is shipped so that we can be positive, not only that it will be accepted, but that it will give unqualified satisfaction.

For use in the three popular sizes of the Folding Pocket Kodak we supply a Velostigmat lens in mounts which is of the exact focus required and these lenses can simply be screwed into the original shutter without any change or fitting.

On the following page we give price lists and all other necessary particulars in regard to these lenses.

## Velostigmat, Series I. f-6.8.

THE Series I. is a standard focus lens for general use and is well adapted for all the ordinary types of pocket, tripod and reflecting cameras, its great brilliancy, high speed and uniform definition making it particularly desirable for fast work and it will cover fully a plate one size larger than listed by stopping down to f-11.

No.	Free Aperture	Equivalent Focus	Plate Covered Sharply at f-6.8.	Price		
				With Barrel or Regno Shutter	With Autex Shutter	With Optimo Shutter
1	.75	5 Inches	3 1/4 x 4 1/4	\$ 30.00	\$ 33.00	\$ 38.00
2	.90	6 "	4 x 5	36.00	40.00	45.00
3	1.2	7 "	5 x 7	44.00	48.00	55.00
4	1.5	10 "	6 1/2 x 8 1/2	70.00	74.00	82.00
5	1.94	13 "	8 x 10	85.00	89.00	98.00
6	2.25	15 "	10 x 12	116.00		
7	2.44	16 1/2 "	11 x 14	156.00		

1-A Special 3 1/4 x 4 1/4-5" focus in mounts to fit No. 3 F.P.K. \$25.00.

2-A Special 4 x 5-6 1/2" focus in mounts to fit No. 3 A. and No. 4 F.P.K. \$30.00.

## Velostigmat Wide Angle, Series III. f-9.5.

Angle of Field, 90 degrees.

This lens is particularly adapted to interior, flash light, architectural and mechanical work and for all other purposes where a fast wide angle is desired. It gives a perfectly flat field, covers the plate sharply at full aperture and can be furnished mounted either in barrel or in shutters.

No.	Working Aperture	Equivalent Focus	Plate Covered at Full Aperture f-9.5.	Price		
				With barrel or Regno Shutter	With Autex Shutter	With Optimo Shutter
3	.48	4 3/4 inches	5 x 7	\$ 40.00	\$ 44.00	\$ 50.00
4	.60	5 7/8 "	6 1/2 x 8 1/2	60.00	64.00	70.00
5	.66	6 7/8 "	8 x 10	73.00	77.00	85.00
6	.85	8 5/8 "	10 x 12	100.00	104.00	112.00
7	1.00	9 3/4 "	11 x 14	134.00	138.00	147.00

## Vitax Portrait Lens, f-3.8.



we have rechristened it the *Vitax*. It has the extremely high speed of f-3.8 and while it is primarily intended for head and bust work it can be used to good advantage for groups by stopping it down slightly. It is handsomely finished in lacquered brass with black enamel trimmings and can be furnished either in barrel with iris diaphragm and cap or mounted with our Studio shutter. The diffusing attachment is extremely simple and effective, the front lens only of the rear system being movable so that the optical formula is preserved. By focusing *after* the diffusing knob is set at the desired point, the operator can secure a roundness and softness of the image free both from wiry definition and objectionable "fuzziness."

No.	Diameter of Lens	Equivalent Focus	Distance Lens to Sitter, for 2 in. Head	Outside Diameter of Flange	Price
1	3 inches	10 inches	About 6 ft.	5 $\frac{3}{8}$ inches	\$ 70.00
2	3 $\frac{9}{16}$ "	13 "	" 7 $\frac{1}{2}$ ft.	6 $\frac{1}{2}$ "	90.00
3	4 $\frac{3}{16}$ "	16 "	" 9 $\frac{1}{2}$ ft.	7 $\frac{7}{8}$ "	125.00

List prices if equipped with Wollensak between the lens Studio Shutter Style B: No. 1, \$76.00; No. 2, \$98.00; No. 3, \$135.00.

## Series A. Portrait Lens, f-5.



OUR Series A. is a moderate priced gallery lens fast enough for all ordinary work in busts, standing cabinet or groups. The mounting is brass highly polished and lacquered with black trimmings and it can be supplied either with iris diaphragm and cap, or with our between the lens Studio Shutter. It is primarily intended for portrait work and will produce brilliant and well defined negatives when used at full aperture and satisfactory groups when slightly stopped down. The Series A. really combines two lenses in one, as the front combination is corrected for use separately, which is a great advantage, as photographers often desire to use a single achromatic lens. This can be done with the Series A. by simply unscrewing the rear combination and putting the front one in its place and the back focus when used in this way is as follows: No. 1,—9 in.: No. 2,—11 in.: No. 3,—14 in.: No. 4,—17 in.: No. 5,—21 in.

No.	Size	Diameter of Lens	Equivalent Focus	Distance for Standing Cabinet	Outside Diameter of Flange	Price
1	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	1 $\frac{5}{8}$ in.	6 inches		3 $\frac{1}{4}$ inches	\$15.00
2	4 x 5	1 $\frac{7}{8}$ "	7 "	About 11 feet	3 $\frac{3}{4}$ "	20.00
3	5 x 7	2 $\frac{1}{4}$ "	10 "	" 14 "	4 " " 25.00	
4	6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	2 $\frac{1}{2}$ "	12 "	" 17 "	4 $\frac{1}{2}$ " " 35.00	
5	8 x 10	3 "	14 "	" 19 "	5 $\frac{1}{4}$ " " 50.00	

List prices if equipped with Wollensak between the lens Studio Shutter, Style B: No. 3, \$30.00; No. 4, \$40.00; No. 5, \$55.00.

## Versar Series IV. f-6.



WE HAVE added this lens to our line to meet the demand for a general purpose lens equally useful for Portrait or View work. It is similar in construction to our Rapid Symmetrical but much larger in diameter and somewhat shorter in focus. The two elements are of the same focal length, being about double the equivalent focus, and can be used separately as they have all optical corrections.

The glass used is a high grade imported, and the grinding, polishing and centering is done with the utmost care.

The high speed of the "VERSAR" makes it a very desirable lens for gallery work for bust, full length and groups, and its construction is such that very satisfactory view work can be done with it by stopping it down slightly. When mounted in barrel it is furnished with iris diaphragm and cap. We strongly recommend the Versar to any one wishing a compact inexpensive lens to use for all classes of work.

Size	Diameter	Equivalent Focus	Price		
			Mounted in Barrel	With Regno or Studio Shutter	With Autex Shutter
4 x 5	1 1/4 inches	6 1/2 inches	\$ 22.00	\$24.00	\$26.00
5 x 7	1 1/2 "	8 3/4 "	28.00	30.00	32.00
6 1/2 x 8 1/2	1 3/4 "	9 3/4 "	36.00	38.00	40.00
8 x 10	2 "	11 3/4 "	48.00	52.00	
10 x 12	2 1/2 "	14 3/4 "	62.00	66.00	
11 x 14	2 7/8 "	16 1/2 "	76.00	80.00	
14 x 17	3 1/8 "	18 1/4 "	90.00		
17 x 20	3 3/4 "	22 1/2 "	110.00		

## Rapid Symmetrical Series V. f-8.



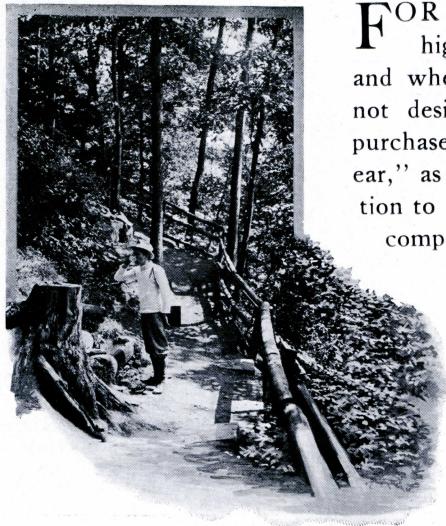
OUR Rapid Symmetrical Lens is suitable for all kinds of general photographic work, including portraiture and groups. It is of the convertible type, both systems being corrected for use separately so it can be used for long focus work, copying, enlarging, etc. It is composed of two combinations of imported glass each one consisting of a crown and flint accurately ground and polished and cemented together. While lacking the speed of the Versar it is more compact, so is suitable for the ordinary hand cameras and very desirable for many different purposes as it has three different focal lengths.

Size	Diameter	Equivalent Focus	Price			
			Mounted in Barrel	With Regno Shutter	With Autex Shutter	With Optimo Shutter
3 1/4 x 4 1/4	3/4 inch	5 inches	\$12.00	\$13.00	\$16.00	\$20.00
4 x 5	1 "	6 1/4 "	14.00	15.00	19.00	23.00
5 x 7	1 1/8 "	8 "	17.00	18.00	22.00	27.00
6 1/2 x 8 1/2	1 1/2 "	10 1/2 "	22.00	23.00	27.00	33.00
8 x 10	1 3/4 "	12 1/2 "	28.00	30.00	34.00	41.00
10 x 12	2 "	16 "	40.00	43.00		53.00
11 x 14	2 1/4 "	18 1/2 "	52.00	55.00		
14 x 17	2 3/4 "	22 "	70.00	75.00		
17 x 20	3 1/4 "	26 "	80.00	85.00		

### Focus of Separate Combinations when Used Singly.

Size	Rear Lens	Front Lens	Size	Rear Lens	Front Lens
3 1/4 x 4 1/4	8 1/4 inches	11 1/2 inches	10 x 12	26 inches	38 inches
4 x 5	10 1/2 "	14 1/2 "	11 x 14	31 "	43 "
5 x 7	14 "	18 "	14 x 17	37 "	51 "
6 1/2 x 8 1/2	17 1/2 "	23 1/2 "	17 x 20	44 "	60 "
8 x 10	20 "	28 1/2 "			

## Rapid Rectilinear Series VI. f-11.



FOR all ordinary work where high speed is not essential and where a convertible lens is not desired, we recommend the purchase of our "Rapid Rectilinear," as it is giving entire satisfaction to thousands of users. It is composed of two combinations of two lenses each, cemented together, both systems being of the same focal length which is about double the equivalent focus. It is made with the utmost care of imported glass, will cut the plate

sharply with good definition and when stopped down a little the work will compare favorably with high priced lenses used at full aperture. It is made in five sizes, the largest being 8 x 10 and can be furnished in barrel with iris diaphragm and cap or mounted in any of our shutters.

Size	Diameter	Equivalent Focus	Price		
			With barrel or Victus Shutter	With Regno Shutter	With Autex Shutter
3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	$\frac{3}{4}$ inch.	5 inches	\$ 9.00	\$10.00	\$13.00
4 x 5	1 "	6 $\frac{1}{4}$ "	11.00	12.00	16.00
5 x 7	1 $\frac{1}{8}$ "	8 "	13.00	14.00	18.00
6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	1 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	18.00	19.00	23.00
8 x 10	1 $\frac{3}{4}$ "	12 $\frac{1}{2}$ "	23.00	25.00	29.00



REDUCED FROM A 11 X 14 NEGATIVE BY FRANK R. BARROWS.  
VITAX LENS, DIAPHRAGM 4, DIFFUSION 3.

## Wide Angle Lenses.

Symmetrical W. A. Series VII, f-16. 80 degrees.

Extreme W. A. Series VIII, f-16. 100 degrees.

**B**OTH of the above lenses are furnished either in barrel with iris diaphragm or in mounts to fit our shutters and if ordered in mounts the name of the shutter the lens is to be used with should always be stated. These lenses are equal to any of their type and cost, but where a wide angle lens is desired giving speed, definition and an absolutely flat field, we advise the purchase of our Velostigmat Wide Angle.

### PRICE LIST.

	4 x 5	5 x 7	6½ x 8½	8 x 10	10 x 12	11 x 14	14 x 17
Extreme W. A. in barrel		\$18.00	\$22.00	\$27.00	\$32.00	\$38.00	\$46.00
" W. A. in mounts		15.00	19.00	23.00	27.00	32.00	39.00
Sym. W. A. in barrel	\$9.00	12.00	15.00	18.00	22.00	27.00	34.00
" W. A. in mounts	7.00	9.00	12.00	14.00	17.00	21.00	27.00

For focal lengths and diameters see page 28.

## Single Achromatic Lenses.

Our single lenses are constructed of a crown and flint of imported glass and are carefully ground and polished. These lenses are used for special apparatus, fixed focus cameras, etc., and on page 28 we give focal lengths and diameters. We will be pleased to submit prices on receipt of specifications stating the necessary particulars in regard to the lens and mounting and quantity required. Our standard single achromatic lenses unmounted list as follows:

3½ x 4½ . . . \$ .75	5 x 7 . . . \$1.50	8 x 10 . . . \$3.50
4 x 5 . . . \$1.00	6½ x 8½ . . . \$2.25	10 x 12 . . . \$5.00

## SPECIAL LENSES



In the foregoing pages we have given full particulars in regard to our photographic lenses, but we also manufacture lenses for surgical instruments, telescopic rifles, reflectiscopes, magnifying mirrors, lanterns, stereoscopes, projection apparatus, condensers and a variety of other purposes. Our optical knowledge and factory equipment enables us to make lenses of all kinds and we are prepared to submit samples and prices on receipt of necessary specifications. Our experience is at the disposal of our customers as we will act in an advisory capacity and no charge will be made for such service unless it is necessary to do experimental work along new lines.

### Extra Large Lenses.

Lenses of larger sizes than shown in this catalogue will be made to order, as this enables us to meet the user's requirements exactly. In sending inquiry give full particulars of just what is wanted and we will quote lowest price consistent with best material and workmanship.

### Focal Lengths.

All orders for lenses where focus is not specified will be filled with the standard focus, but lenses of special focus can be furnished when desired.

### Prices of Lenses in Mounts Only.

Where we supply a lens mounted in cells only to fit customer's own barrel or shutter, a deduction of 15 per cent. is made from list price of lens in barrel.

NOTE—All our barrels are supplied with iris diaphragm, flange and cap.

## PHOTOGRAPHIC SHUTTERS



THE making of shutters for photographic purposes is confined to a comparatively few concerns on account of the fact that to design and manufacture an effective shutter is extremely difficult and also because basic patents cover most of the necessary mechanical movements. As this company holds a number of such patents it gives us obvious advantage and enables us to produce goods which are simple, reliable and effective. We now make thirty different styles and sizes of shutters covering the amateur and professional fields in all their branches of view, portrait and speed work, the latest addition to our line being the fast but compact and simple "Optimo" as described on the opposite page. Each shutter is described and illustrated separately, the light aperture determining what size it is necessary to use for any specified lens, and on page 28 will be found all necessary weights, dimensions, etc. Great care is taken in the construction and finish and we have as far as possible concealed all working parts within the cases which protects the mechanism from dust and injury and so increases their reliability.

We keep a careful record of every shutter manufactured, and should there be necessity for repairs or adjustment within six months from date of shipment, make no charge for putting them in perfect condition.

WOLLENSAK shutters are used by many of the leading camera and lens manufacturers, but can be obtained from any dealer or with any camera or lens by specifying them when giving the order. Prices given are for shutter complete with flange, bulb and tube.

## OPTIMO.



MANY attempts have been made in the past few years to produce a thoroughly satisfactory lens shutter fast enough to photograph successfully rapidly moving objects, but simple, compact and reliable. To meet the undoubted demand for a shutter of this description we have designed the "OPTIMO" and believe that it answers all requirements as it has many advantages over present models besides high speed. The five leaves *revolve* in making the exposure, one end passing from the opening and the other end taking its place, which makes high speed possible, and in opening and closing it shows a star-shaped aperture the points of the star reaching to the edges of the opening, thus giving the greatest possible illumination to the plate. Besides "Bulb and Time" the Optimo has a range of automatically controlled exposures ranging from one second to 1-300 of a second, the latter being sufficiently fast to cover any emergency. Although working at such a great speed it sets and releases easily by push buttons and operates without jar or recoil. It is readily adjusted for any desired exposure by means of a large milled disc and has iris diaphragm regulated by a separate lever. A much higher speed is claimed for some shutters but we believe the Optimo to be fast enough for all purposes and invite comparative tests.

No.	Light Aperture	Price	No.	Light Aperture	Price
1	$\frac{3}{4}$ inch.	\$14.00	3	$1\frac{3}{8}$ inches	\$18.00
2	1 "	16.00	4	$1\frac{3}{4}$ "	20.00

## AUTEX.



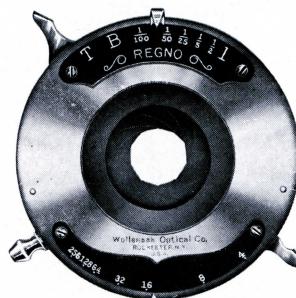
THE first self-setting shutter ever made was put on the market by this company in 1900 and a new model superseded it in 1902. This second model was continuously manufactured for six years and, although it proved very satisfactory, we have been able to make further improvements and so have discontinued it in Automatic (double valve), Regular (double valve setting) and Winner

(single valve automatic) models. The "Autex" has many points of superiority over the "Automatic" and is entirely different in appearance and construction, all working parts being concealed within the case and so protected from dust and injury. It is made in four sizes and loses nothing in reliability, speed or ease of operation on account of being automatic in action. The various exposures are governed by a lever at the top of the shutter which is much easier to operate than a disc and in addition to "Time" and "Bulb" it gives three fast and three slow instantaneous exposures and can be opened for focusing by simply pushing the lever to letter O.

The Autex has iris diaphragm, finger and bulb release, all levers polished nickel, case lacquered brass and plates black enamel with white letters.

No.	Light Aperture	Price	No.	Light Aperture	Price
1	$\frac{5}{8}$ inch	\$ 8.00	3	$1\frac{3}{16}$ inches	\$12.00
2	$\frac{7}{8}$ inch	10.00	4	$1\frac{9}{16}$ inches	14.00

## REGNO.



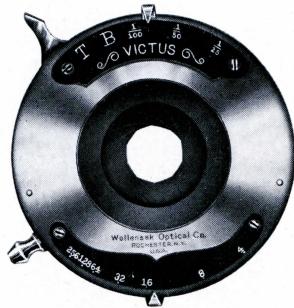
THE Regno takes the place of our well known and popular "Regular" and is similar to the Autex in appearance and operation, but it is necessary to set it before each exposure, which is done by pressing down the lever at the lower right hand side. It has not the special focusing device of the Autex and should be set on "Time" when it is desired to

have it stay open so that the ground glass may be used. It is made in six sizes for all lenses from  $3\frac{1}{4} \times 4\frac{1}{4}$  to  $17 \times 20$  and is listed at reasonable prices, being decidedly the most modern shutter on the market at the cost. It sets and releases easily even in the largest sizes, is free from jar or recoil and is extremely simple to adjust. The obvious advantage of having the pumps, which are the cause of nine-tenths of the shutter troubles, concealed within the case makes the Regno very reliable and the slow instantaneous exposures are not likely to vary from dust getting into the retarding pump.

We particularly recommend this shutter for all outfits which are subject to rough handling and exposure to dust and dampness and believe it to be capable of doing its work satisfactorily under almost any conditions.

No.	Light Aperture	Price	No.	Light Aperture	Price
1	$\frac{5}{8}$ inches	\$5.00	4	$1\frac{9}{16}$ inches	\$10.00
2	$\frac{7}{8}$ "	6.00	5	$2\frac{1}{16}$ "	14.00
3	$1\frac{3}{16}$ "	8.00	6	$2\frac{3}{4}$ "	20.00

## VICTUS.

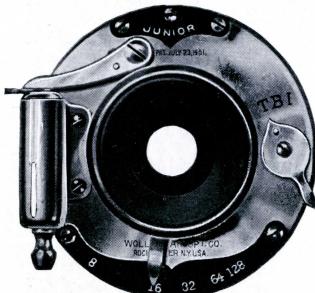


**T**HIS is a popular priced single pump shutter similar to the Autex and Regno in appearance and construction but lacking the slow instantaneous exposures. It gives time, bulb and three varying speeds of the fast instantaneous exposures and is automatic in its action. It is made in four sizes and the price of a lens mounted in this

shutter is the same as when mounted in barrel.

No.	Light Aperture	Price	No.	Light Aperture	Price
1	$\frac{5}{8}$ inch	\$4.00	3	$1\frac{3}{8}$ inches	\$7.00
2	$\frac{7}{8}$ " "	5.00	4	$1\frac{9}{16}$ "	8.00

## JUNIOR.



ous exposures by moving the indicator at the right.

The Junior is made without flange and is attached to the camera front by three small screws through the outer edge of the shutter.

Light Aperture . .  $\frac{5}{8}$  inch. Price . . . \$2.00



MISS ELIZABETH BRICE  
FROM A NEGATIVE BY FRANK C. BANGS.  
SERIES A. LENS, FULL OPENING, 2 SECONDS EXPOSURE.

## THE STUDIO SHUTTER.



can be attached to board by screws and has focusing attachment.

Style B is a between the lens shutter and is handsomely finished in brass with transparent lacquer. It is made primarily for use with our portrait lenses as it is only necessary to unscrew the barrel and screw on the shutter in place of the iris diaphragm and no special fitting is needed. The shutter itself acts as a diaphragm and can be set at any desired opening and also at full aperture for focusing purposes. Other makes of lenses can be used with the Style B by having them fitted specially.

No.	Outside Diameter	Light Opening	Style B will fit Portrait Lenses as follows:		Price Style A	Price Style B
			Series A	Vitax		
1	3 $\frac{1}{2}$ in.	2 $\frac{1}{4}$ in.	No. 3		\$ 6.00	\$ 8.00
2	4 $\frac{1}{4}$ "	2 $\frac{7}{8}$ "	No. 4		7.00	9.00
3	4 $\frac{7}{8}$ "	2 $\frac{15}{16}$ "	No. 5		8.00	10.00
4	5 $\frac{5}{8}$ "	3 $\frac{1}{2}$ "		No. 2	10.00	12.00
5	6 $\frac{7}{8}$ "	4 $\frac{1}{8}$ "		No. 3	12.00	14.00

## THE SKYSHADE SHUTTER.



IT IS a well known fact among photographers that a sensitized plate which is given an equal exposure over its entire surface will always show an over exposed sky and an under exposed foreground. To overcome this difficulty without the use of ray filters or orthochromatic plates we have constructed the Skyshade shutter, which has a single leaf rising from the bottom of the opening. It is automatic in its action and is constructed so that it can be instantly and firmly attached to the front mount or lens barrel by an automatic clamp and can be used with lenses mounted in barrel or which are already attached to shutters. As to mount it between the lenses would destroy most of its value it is not constructed for that purpose and has no iris diaphragm and the light opening used must be larger than the working aperture of the lens, or it will not illuminate the corners of the plate properly.

When lenses are mounted in barrel having a hood on the front, this should be removed and in ordering shutter the exact diameter of barrel or front mount must always be given. This shutter is furnished in a velvet lined leather covered case and is a useful addition to any photographic outfit.

No.	Light Opening	For lenses with Free Diameter of	Will fit barrels or mounts with Diameter of	Price
1	1 $\frac{3}{8}$ in.	Up to 1 inch	1 $\frac{1}{4}$ to 1 $\frac{9}{16}$ inches	\$10.00
2	1 $\frac{15}{16}$ "	1 $\frac{1}{8}$ to 1 $\frac{3}{8}$ in.	1 $\frac{5}{8}$ to 2 $\frac{1}{16}$ "	12.00
3	2 $\frac{1}{8}$ "	1 $\frac{1}{2}$ to 1 $\frac{7}{8}$ "	2 $\frac{1}{8}$ to 2 $\frac{3}{4}$ "	15.00

## STEREOSCOPIC SHUTTERS.



OUR stereoscopic shutters are controlled by a single mechanism which insures uniformity in operation of both the blades and diaphragms. The distance from centre to centre of the openings is  $3\frac{1}{4}$  inches which is the recognized standard, but the Senior Stereo can be varied in this respect at a slight additional charge. The Senior is a single pump shutter, gives instantaneous, time and bulb exposures, has a light aperture of  $\frac{5}{8}$  of an inch, a lens opening of  $1\frac{1}{8}$  inches and is attached to the front board by four screws through the case.

The Regular is a double pump shutter, gives bulb, time and six different speeds of exposures, has a light aperture of  $\frac{7}{8}$  of an inch, a lens opening of  $1\frac{3}{16}$  inches and is attached to front board by jamb nuts screwed on from the rear.

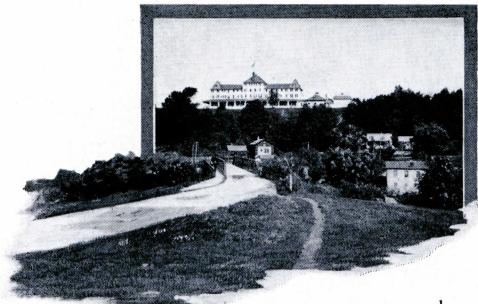
Senior Stereo	Shutter	With R.R. Lens $3\frac{1}{4} \times 4\frac{1}{4}$	With R.R. Lens $4 \times 5$	With R. Sym. Lens $3\frac{1}{4} \times 4\frac{1}{4}$
	\$8.00	\$15.00	\$18.00	\$24.00

Regular Stereo	Shutter	With R.R. Lens $4 \times 5$	With R. Sym. Lens $4 \times 5$	With Velostigmat $3\frac{1}{4} \times 4\frac{1}{4}$	With Velostigmat $4 \times 5$
	\$15.00	\$27.00	\$33.00	\$55.00	\$65.00



REDUCED FROM A NEGATIVE BY J. A. SCHAFER.  
VERSAR LENS, FULL OPENING.

## MOUNTING LENSES



more can be mounted in Wollensak shutters. The barrel is left intact, so that the lens may be used in either shutter or barrel. On page 28 will be found tables giving all dimensions of our different size shutters which will enable any one to determine the size necessary for a lens and on the same page will also be found the prices charged for mounting and fitting, making special scales, etc.

### Iris Diaphragms.

For the use of Lens and Optical Instrument manufacturers we make nine sizes of iris diaphragms which are furnished in compact form ready to insert in the lens barrel and have removable pin to attach to the indicator.

Number . . . .	1	2	3	4	5	6	7	8	9
Opening . . . .	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{3}{8}$	4
Outside Diameter .	$1\frac{13}{16}$	$1\frac{29}{32}$	$1\frac{25}{32}$	$2\frac{5}{32}$	$2\frac{7}{16}$	$2\frac{29}{32}$	$3\frac{1}{2}$	$4\frac{1}{4}$	$5\frac{3}{8}$
Price . . . .	\$1.50	\$1.50	\$1.75	\$2.00	\$3.00	\$4.00	\$5.00	\$6.00	\$8.00

NOTE—Above measurements are given in inches. The thickness of diaphragms vary from  $\frac{6}{16}$  of an inch for the No. 1 to  $\frac{9}{16}$  for the No. 9.

## SPECIAL ORDER WORK

OUR factory is equipped with modern labor saving machinery and our facilities and experience enable us to produce goods in our line of manufacture at a minimum of cost. We are prepared to accept orders for any article which we are equipped to make either in the shutter or lens departments and will be pleased to submit samples and prices on receipt of proper specifications.

### TERMS.

No goods are sent on consignment or memorandum but every article we ship is subject to our guarantee and if unsatisfactory can be returned for credit within thirty days from date of shipment.

Shipping instructions should always accompany orders but when not specified we will use our own judgment. Goods ordered by individuals or firms not having a satisfactory commercial rating will be sent C.O.D.

All goods are carefully packed and delivered to transportation companies and we cannot be responsible for damage during transit. No charge will be made for packing, all prices being F.O.B. at Rochester.

### "WOLLENSAK" SHUTTERS AND LENSES

can be purchased from any dealer in photographic goods, or will be furnished direct from the factory where dealers are not accessible. For further information and for special discounts to the trade, address

### WOLLENSAK OPTICAL COMPANY

ROCHESTER, N. Y.

LONDON,  
8 Bradford Ave.

PARIS,  
6 Rue Beranger.

HAMBURG,  
16 Grosse Bleichen.

Table Showing Weights, Dimensions and Openings of Shutters.

Shutter	Weight	Outside Diameter	Light Opening	Lens Opening
Junior	2 $\frac{1}{4}$	2 $\frac{1}{8}$ x 2 $\frac{1}{8}$	5/8	1 $\frac{1}{8}$
Regno No. 1	2 $\frac{1}{2}$	1 $\frac{7}{8}$ x 1 $\frac{7}{8}$	5/8	3/4
" 2	3 $\frac{1}{4}$	2 $\frac{1}{4}$ x 2 $\frac{1}{4}$	7/8	1 $\frac{3}{8}$
" 3	3 $\frac{1}{2}$	2 $\frac{7}{8}$ x 2 $\frac{7}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{4}$
" 4	9 $\frac{1}{4}$	3 $\frac{5}{8}$ x 3 $\frac{5}{8}$	1 $\frac{9}{16}$	2 $\frac{3}{8}$
" 5	16	4 $\frac{5}{8}$ x 4 $\frac{5}{8}$	2 $\frac{1}{8}$	3
" 6	27	6 $\frac{1}{4}$ x 6 $\frac{1}{4}$	2 $\frac{3}{4}$	4 $\frac{3}{8}$
Optimo	1	2 $\frac{1}{4}$ x 2 $\frac{1}{4}$	3/4	1 $\frac{1}{16}$
" 2	6 $\frac{1}{2}$	2 $\frac{7}{8}$ x 2 $\frac{7}{8}$	1	1 $\frac{3}{8}$
" 3	11	3 $\frac{5}{8}$ x 3 $\frac{5}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{8}$
" 4	16	4 $\frac{5}{8}$ x 4 $\frac{5}{8}$	1 $\frac{7}{8}$	2 $\frac{3}{8}$

The size and openings of the Autex and Victus shutters are the same as the Regno. The weight of the Autex is the same and of the Victus about ten per cent. less.

NOTE—Weights given in ounces, dimensions in inches.

Table Showing Focal Lengths and Diameters of Single Achromatic and Wide Angle Lenses.

Focus	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	4 x 5	5 x 7	6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	8 x 10	10 x 12	11 x 14	14 x 17
Single Achromatic	4 $\frac{1}{2}$	5 $\frac{1}{2}$	7	10	13	15		
Sym. Wide Angle		4	5 $\frac{1}{4}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	9	10 $\frac{1}{2}$	13
Extreme Wide Angle			4	5	6	7 $\frac{1}{2}$	8	10 $\frac{1}{2}$
S. A. Diameter	3/4	7/8	1	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2		
Sym. Wide Angle		3/4	7/8	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$
Extreme Wide Angle			3/4	7/8	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$

Price List of Parts, Fitting Special Lenses, etc.

Mounting and Fitting	\$1.50	\$1.50	\$1.50	\$2.00	\$3.00	\$3.50	\$4.00	\$4.50
Extra Flanges	.50	.50	.50	.75	1.00	1.50	1.50	2.00
Caps	.30	.35	.40	.45	.50	.65	.75	1.00
Standard Double Mts.	.50	.60	.75	1.00	1.50	2.00	2.50	3.00

Fitting Studio Shutters, No. 1, \$3.00; No. 2, \$3.50; No. 3, \$4.00; No. 4, \$4.50; No. 5, \$5.00.

Bulbs and tubing, small, 20 cts.; medium, 25 cts.; large, 40 cts.

Special focus or diaphragm scales, 50 cts.



IN the foregoing pages we have given complete information in regard to our goods but have carefully refrained from stating anything but *facts and figures*, as we feel perfectly secure in leaving it to the users of our product to praise it and among the many testimonials on file we have selected these few which will give a general idea of the opinions held by our customers.

We have described our goods fully and outlined our methods and in the pages following we show our customers' opinions but back of it all is our guarantee (see page No. 3) of "satisfaction or money refunded."

### Velostigmats.

"Our remittance to-day covers the Velostigmat lens which I personally used on my camera during a recent pleasure trip. I desire to say that the lens proved very satisfactory in every respect and I put it to some very severe tests and was much pleased with the results."

T. P. ANDREWS, San Francisco, Cal.

"We enclose two prints that we made with full opening with the 8x10 Velostigmat lens we recently purchased from you. Our customer wishes to state that he thinks that he has in the Velostigmat the finest lens in this country for views and portrait work and that he is more than satisfied with it."

C. H. BREON & CO., Millheim, Pa.

"After six months of rigid trial I am glad to say that the Velostigmat has proven itself to be more than you claimed for it. I was a little skeptical about it at first, probably because other manufacturers made greater claims, but every doubt has flown and I am more than satisfied with the Velostigmat."

REV. G. H. ORVIS, Evans Mills, N. Y.

"My honest opinion of the Velostigmat is that there is no better lens on the market. In comparison with the high priced foreign lens owned by a friend, my Velostigmat showed much more covering power and better definition, which was freely admitted by the owner of the other lens. Many users of high grade lenses think they have to buy an imported article, but I believe as good, if not a superior article, is made in this country in your Velostigmat."

R. B. TURPEN, Marion, Ind.

## Vitax (formerly Royal) Portrait.

"I think it is the finest lens I ever used. It has a greater depth of focus than I thought possible with the great speed. I am very much pleased with it."

P. FRANK STONE, *Plainfield, N. J.*

"I am more than pleased with the 'VITAX' lens recently purchased and the pleasure I find in using it has caused me to lay aside other good lenses that I have used successfully for years."

"I wish you the commercial success that the fine working qualities of this lens warrant."

FRANK R. BARROWS, *Boston, Mass.*

"I have decided to keep the Vitax Portrait lens which you sent me as it has much more illumination than the other lens I am trying and meets my requirements more fully. What surprised me most was the great depth of focus it has for such a fast lens. The Studio shutter is fine, also the diffusing attachment."

F. E. KOELLA, *Toledo, O.*

"I like the Vitax Portrait lens which I ordered some time since very much indeed, and the softness and roundness of the image is exceedingly fine. I am what you might call a lens crank and have tried almost all makes, but the Vitax suits me better than any of them so you have in me a strong advocate of your lenses."

H. C. RATH, *Green Bay, Wis.*

## Series A. Portrait.

"The  $6\frac{1}{2} \times 8\frac{1}{2}$  Series A. Portrait lens which I purchased from you last January has proven entirely satisfactory in every sense of the word. Its speed and great depth of focus and roundness of image is I think more than you claimed for it. I have used it incessantly for the last three months giving it all manner of tests and found it not wanting in any respect."

T. M. LAWSON, *Oil City, Pa.*

"I send herewith my check in full payment for six of your Series A. Portrait lenses size  $6\frac{1}{2} \times 8\frac{1}{2}$  which kindly send by express at once. The lens has made many friends here and I will say personally that I think very highly of it and consider it deserving of acceptance at the hands of any operator."

FELIX RAYMER, *Effingham, Ill.*

"I recently purchased one of your  $6\frac{1}{2} \times 8\frac{1}{2}$  Series A. Portrait lenses and now wish to secure your Studio shutter to use with it. I am more than pleased with the lens and it certainly is a remarkable one for the cost; slightly stopped down it seems equal to any lens made regardless of cost."

H. GAMAGE, *Westboro, Mass.*

"I am sending you a print from what I consider a remarkably fine negative made with your  $8 \times 10$  Series A. Portrait lens and I have been doing some splendid work with this lens and find the covering qualities and roundness perfect. I wish you success with your lens and assure you that I am more than pleased with mine."

L. D. BARROWS, *San Francisco, Cal.*

## Versar.

"I have tried the  $8 \times 10$  Versar lens you sent and find it to be just what I want. It works fast, cuts sharp at any stop, has a good depth of focus and you can make a sharp cabinet standing picture at 18 feet. I made a photograph yesterday of a baby at stop 4, instantaneous exposure, 4:30 P. M., and got a good strong negative. I am more than pleased with the lens and highly recommend it to those who wish a good quick working lens at a reasonable price."

W. O. PAYNE, *Warsaw, Ky.*

"Regarding the Versar lens you sent me a few weeks ago I wish to state that I find it a most excellent all around lens suitable for Studio work and especially good for full lengths and groups. The three-quarter length I sent you to-day was made at full opening and is evidence of the good covering power and general excellence of the lens which I am very well pleased with."

J. A. SCHAFER, *Bristol, Pa.*

"I am using an  $8 \times 10$  Versar lens and it is all that you claim for it. It is fast enough for any studio and makes standing cabinets wide open as sharp as a tack."

ABRAM HEALY, *Middleboro, Pa.*

"The  $8 \times 10$  Versar lens which I purchased from you some time ago is a very fine instrument in every respect and gives me perfect satisfaction."

FRED TITMAS, *Wilmington, N. C.*

## Rapid Symmetricals.

"We are so well pleased with one of your  $6\frac{1}{2} \times 8\frac{1}{2}$  Symmetrical lenses we desire your catalogue of portrait lenses with a view to purchasing one of those. You would hardly believe the work we do with the Symmetrical as we make good cabinets, heads and  $11 \times 14$  work with the rear combination and all around view work with the complete lens and we think it is great."

J. P. PAIGE & CO., *Photographers, Concord, N. H.*

"I am desirous of purchasing another of your lenses so please send me a catalogue. I have for the past six months been using one of your  $8 \times 10$  Symmetrical lenses with which I have obtained the very best results and I would not part with it for three times the price I paid for it."

F. W. KETTERER, *Detroit, Mich.*

"I have been using one of your Rapid Symmetrical lenses f-8 for the past year and am very much pleased with it. It is fitted with an Automatic shutter which has also given me perfect satisfaction, and I think that you do not claim enough in your catalogue as the picture I am sending will compare favorably with many higher priced outfits. This picture was taken in September with full opening, time 1-100 of a second and I do not think that it could be improved no matter what lens was used."

NELSON C. BENNETT, *Intervale, Me.*

"Please send me your catalogue as I desire to purchase another one of your lenses. I am using one of your  $8 \times 10$  Rapid Symmetricals and it does as good work as many lenses that cost three times as much so I would like to have another size of the same kind."

CHAS. W. KNIGHT, *Detroit, Mich.*

## Shutters.

"I would like to add a few words expressing my regard of your shutters as in the last five months I have been using one of them making from sixty to one hundred exposures almost daily. I have used it from Canada to Cuba and have always found it ready and reliable, meantime wearing out two shutters of other makes, yours being as good the last exposure as it was the first."

W. H. STOWASSER, Jr., *Barboursville, W. Va.*

"I am so fortunate as to possess a Wollensak Shutter for my 4x5 Anastigmat lens and I also use one on my 3½x4¼ outfit. I have always found both shutters most effective and trustworthy and consider them superior to any on the market."

MAURICE CASEY, *Ottawa, Can.*

"I am using one of your Studio shutters and am very much pleased with it. I consider it the best mechanical appliance on the market for use by professional photographers."

J. F. BRILLANTI, *Jerez, Mex.*

"I had the misfortune to break my Studio shutter and am sending it herewith for repairs. I would ask you to please rush it back as soon as possible as I cannot get along without it. It certainly is the best shutter for the studio I ever used."

LOUIS F. STEPHANY, *Pittsburg.*

"I have used your shutters for years with perfect satisfaction."

OWEN M. GATES, *Mansfield, O.*

"I am using two of your shutters, the 8x10 Regular and the 4x5 Automatic and I would not give them up for any shutters I have ever seen. This climate seems to make no difference in their working qualities and even at thirty degrees below zero all my negatives have been properly timed. My camera was carried on a pack horse most of last summer through mountains and in spite of that the shutters are still working perfectly. Those whom I have recommended your shutters to are as well satisfied as myself."

V. C. TRAPHAGEN, *Kemmerer, Wyo.*

