



THE "CAPITOL" FROM UNRETOUCHED NEGATIVE MADE WITH TRIAMAPRO CAMERA AT GROUND LEVEL. FULL VERTICAL CORRECTION WITH EXTREME LENS ELEVATION.

the Deardorff **HAND** *Camera with "SWINGS"*
a **UNIVERSAL INSTRUMENT** *for every photographic requirement*

—1947—

L. F. DEARDORFF & SONS

11 SOUTH DES PLAINES STREET, CHICAGO 6, ILL.

DESIGNERS AND BUILDERS OF PRECISION CAMERAS AND STANDS

FOREWORD

DEARDORFF CAMERAS AND OTHER DEARDORFF PRODUCTS SHOWN AND DESCRIBED IN THIS CATALOGUE ARE WHOLLY AMERICAN MADE BY L. F. DEARDORFF & SONS, 11 SOUTH DES PLAINES STREET, CHICAGO, ILL.

THE TRIAMAPRO CAMERA

Almost from the discovery of photography, there has been a most diligent search for a Compact, Light-Weight, and Sturdily-Made Hand Camera. A Hand Camera so designed as to permit the use of very short focus lenses for Wide Angle Work, fitted with long bellows for Copy and Telephoto Work, and the greatest latitude in movement of the Front Standard together with "Swings" for the correction of Vertical and Horizontal Distortion and the control of Vertical Plane, Incline Plane and Perspective Plane Depth of Field.

A Hand Camera designed for the Coupled Range Finder, Photo Flash Gun and Synchronizer so that they become definitely a part of the Camera.

SUCH A CAMERA PROVIDING ALL OF THESE ESSENTIAL FEATURES IS TRULY A UNIVERSAL INSTRUMENT.

The Triamapro Camera through its exceptional design and unlimited capacity for every class of photography makes it a most Universal Instrument as a Hand Camera. When used as a Tripod Camera its "Swings" correct perspective equal to that obtained with all Deardorff Cameras.

The Triamapro Camera has two separate beds. The Wide Angle Bed, which is mounted permanently to the bed of the box. This bed is double extension and will receive lenses from $2\frac{3}{4}$ " to $4\frac{1}{4}$ " focus. The Normal and Long Focus Bed is an integral part of the camera, and will accommodate lenses up to 19" focus. Both Beds are actuated through rack and pinion and are fitted with several stops.

The Triamapro Camera is Triple Extension. The metal movable Tracks are designed on the "V" principle and are adjusted and maintained to very close limits. This eliminates vibration and wear. The Principle Extension is actuated through rack and pinion and the extreme extension is manually operated. The Principle Extension is fitted with a friction lock.

The Triamapro Camera is fitted with Extreme Rising, and Falling, Double Swinging Lens Board, Double Sliding Front Standard and Swinging Bed. The Rising and Falling Lens Board is manipulated by rack and pinion.

The Triamapro Camera Bed operates through Spring Actuated Side Braces and may be lowered 30° , placed in normal position or raised 15° .

The Triamapro Camera Lens Board may be raised $2\frac{1}{4}$ " above center in addition to the 15° rise of the Bed. Therefore, extreme look down and look up angle shots with full "Swing" correction are easily made. If less correction is desired it may be controlled through the use of the Rising and Falling Lens Board.

The Triamapro Camera has a most novel hinge construction. This hinge is made of metal and extends the full width and length of the bed and the box. It is attached with screws to the wooden bed and the box and insures the greatest possible support and strength.

The Triamapro Camera is supplied with a Metal Revolving Back which is machined from castings and is light proof throughout the 360°. It may be used at any angle. It is supplied with four definite stops set at 90°. The Triamapro Camera is the Universal Camera for everyone.

SPECIFICATIONS

DETAILS OF CAMERA AND MOVEMENTS

For 4 x 5 plate, cut film, film pack, roll film holders or cut film magazines. Supplied with either Graphic or Graflex type backs. Photo Flash and Range Finder Equipment easily fitted.

Included on the Triamapro Camera is the Direct Wire View Finder, Peep-Sight, "T" Level, and Revolving Back. The Revolving Back is made to accept either the Graphic or Graflex equipment.

Bellows19" long
 Lens Board (Graphic Type).....4" square
 Lens Board rises and lowers.....3" overall
 Double Sliding Front Standard shifts.....3" overall
 Vertical Swing of Lens Board.....60° included angle
 Horizontal Swing of Lens Board....40° included angle
 Bed rises15°
 Bed lowers30°
 Bed and Lens board rise allows Look Up of.....30°
 Bed and Lens board drop allows Look Down of.....30°
 Main Bed lowers for Wide Angle lenses.....30°
 Separate Bed, with Rack and Pinion, for Wide Angle Lenses.

Back revolves completely around. Fitted with Focusing Hood, instantly removed for Tripod Focusing.
 Movable Tracks.....Non-wearing metal
 Focusing Rods and Pinions.....Steel
 Focusing Racks.....Brass
 Box and Bed Frame.....Wood
 Bed and Hinge (A complete unit)Steel
 Number of Tripod Sockets.....3

The camera when fitted with either the Graflex Type of Back and Focusing Panel or with the Double Spring Actuated Ground Glass Back for the Graphic fittings, weighs 6 $\frac{1}{4}$ lbs.

Box will receive 2 $\frac{3}{4}$ " lenses for extreme Wide Angle work and most 3 $\frac{1}{2}$ " F 4/5 lenses, or their equivalent in size, mounted to large shutters.

The Triamapro Camera Carrying Case is constructed of Wood, and covered with Top Grain Cowhide Leather and is fitted with Sesame Lock, Side Clasps and Handle. This case is made with compartments to hold several lenses mounted to shutters and lens boards, Graphic or Graflex Double Film Holders, Graflex Magazine Film Holders, Several Filters, Lens Hoods, Light Meter, Focusing Panel, Photo Flash Gun, Synchronizer, Reflector, Batteries, together with other small accessories. The interior is lined with velvet.

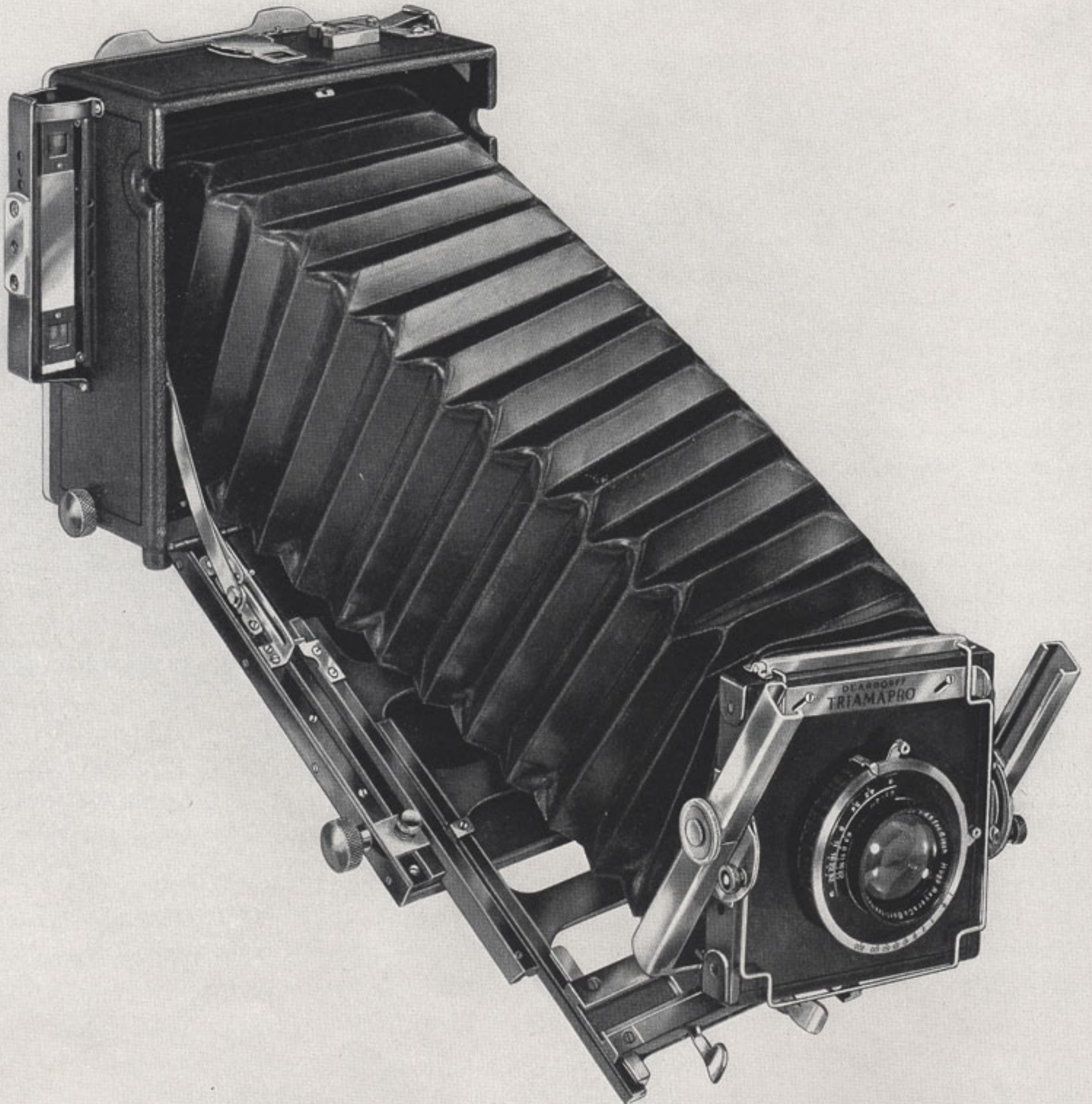
The Deardorff Precision View, Studio and Enlarging, Reducing and Copying Cameras and Stands illustrated in a separate catalogue meet the demand for the most universal commercial photographic equipment. A copy of this catalogue may be had upon request.

L. F. DEARDORFF & SONS

A separate price list gives complete prices of the Deardorff Triamapro Camera and prices of all accessories, including Range Finder, Photo Flash Gun, Lenses and Shutters.

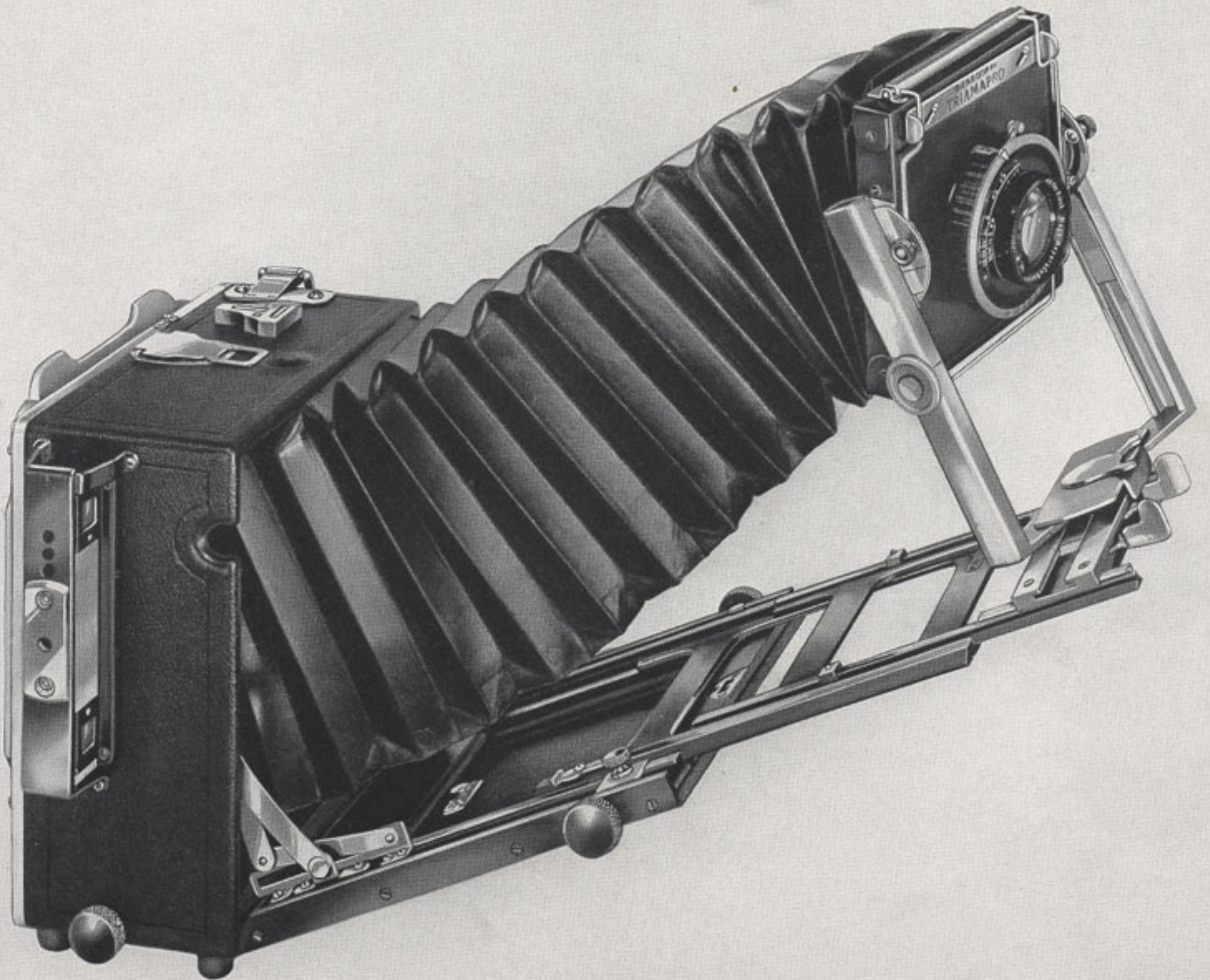
LOOKING DOWN

This illustration shows camera and lens board in a vertical position. Bed is lowered 30°, the front standard is moved laterally 1½" from center and swung horizontally 20°, the front board lowered ¾". This setting of the camera eliminates distortion of the vertical and horizontal lines, thus easily mastering a most difficult photographic problem.



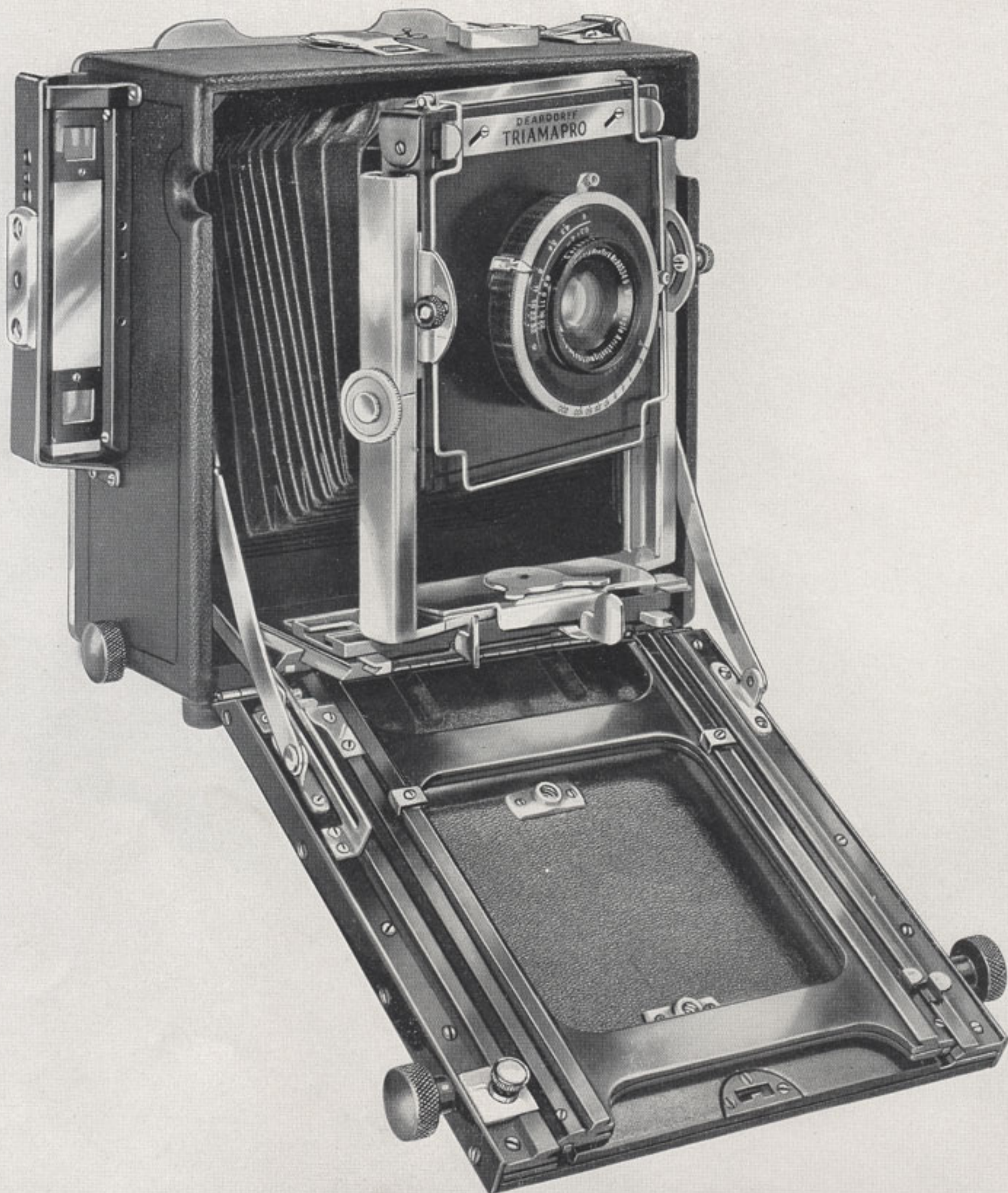
LOOKING UP

The back and front of the camera are vertical in this illustration. The bed has been raised 15° , and, all other movements are the same as in the preceding picture except the front has been raised $2\frac{1}{4}''$. Photographing objects above the camera without distortion is easily accomplished by this setting.



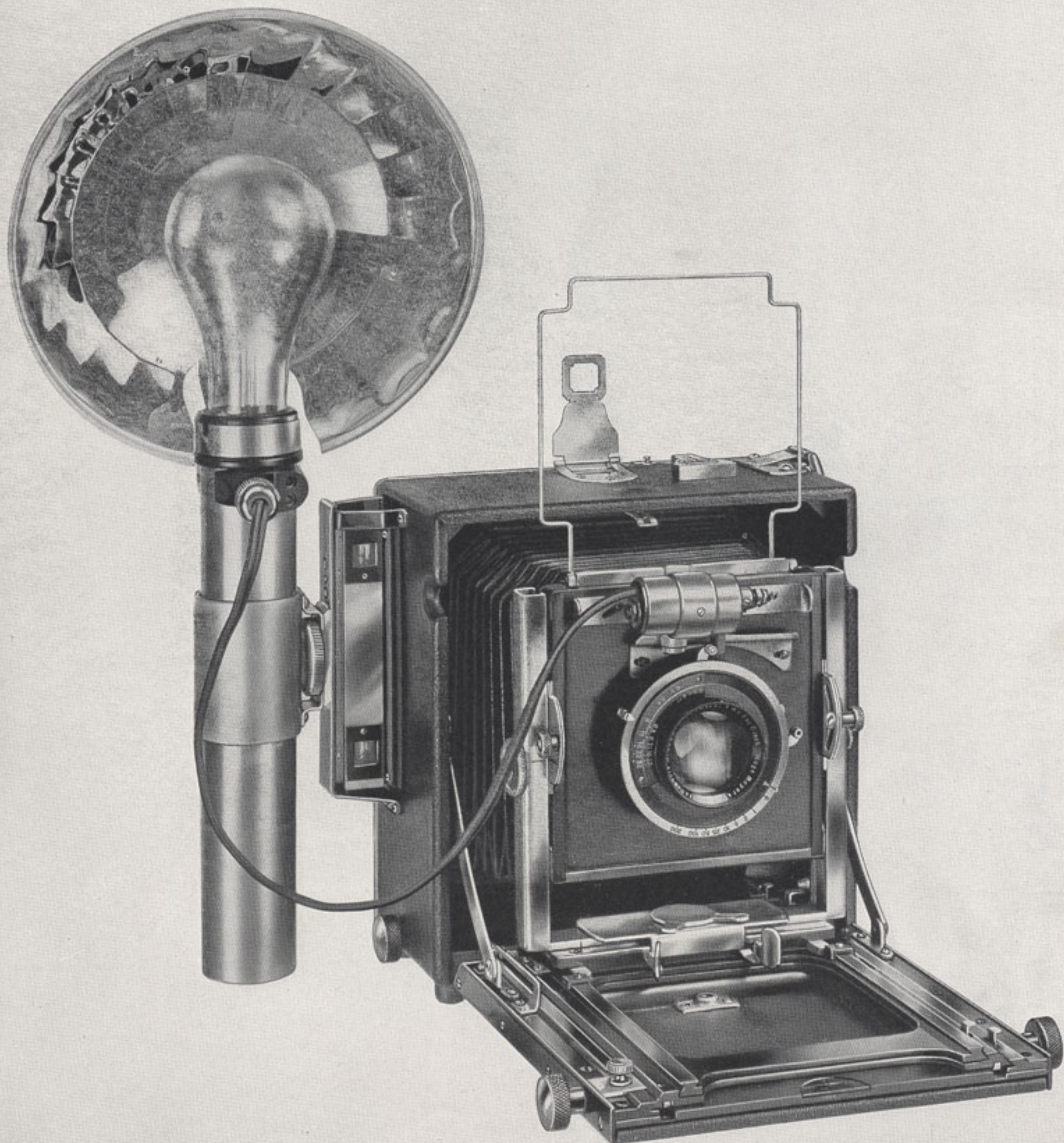
WIDE ANGLE SHOTS

This illustration shows the Camera set for an extreme wide angle shot. The bed is lowered and the back and lens board vertical. The front board raised. The front standard moved and swung laterally to control the converging parallel horizontal lines. Vertical and horizontal distortions are easily corrected even with lenses of short focus.



PRESS AND PHOTO - FLASH

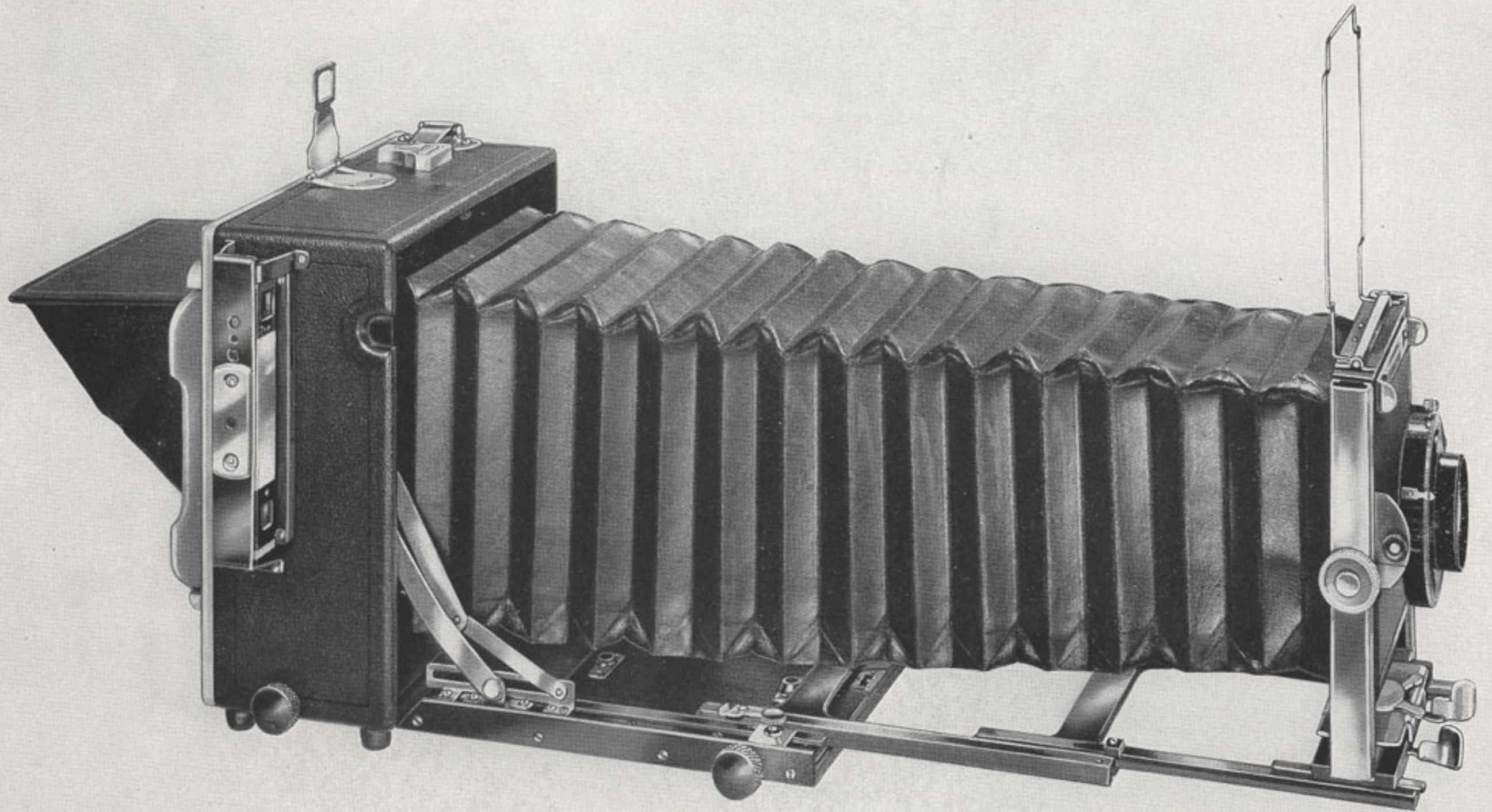
The Camera has been designed for the easy adaptation of Standard Range Finders and Photo Flash Equipment, and, when fitted by us with Deardorff fittings, they become an integral part of it. The Range Finder, Photo Flash Gun, Synchronizer, Peep-Sight and Wire Finder are shown in position.



CLOSE-UPS — COPYING

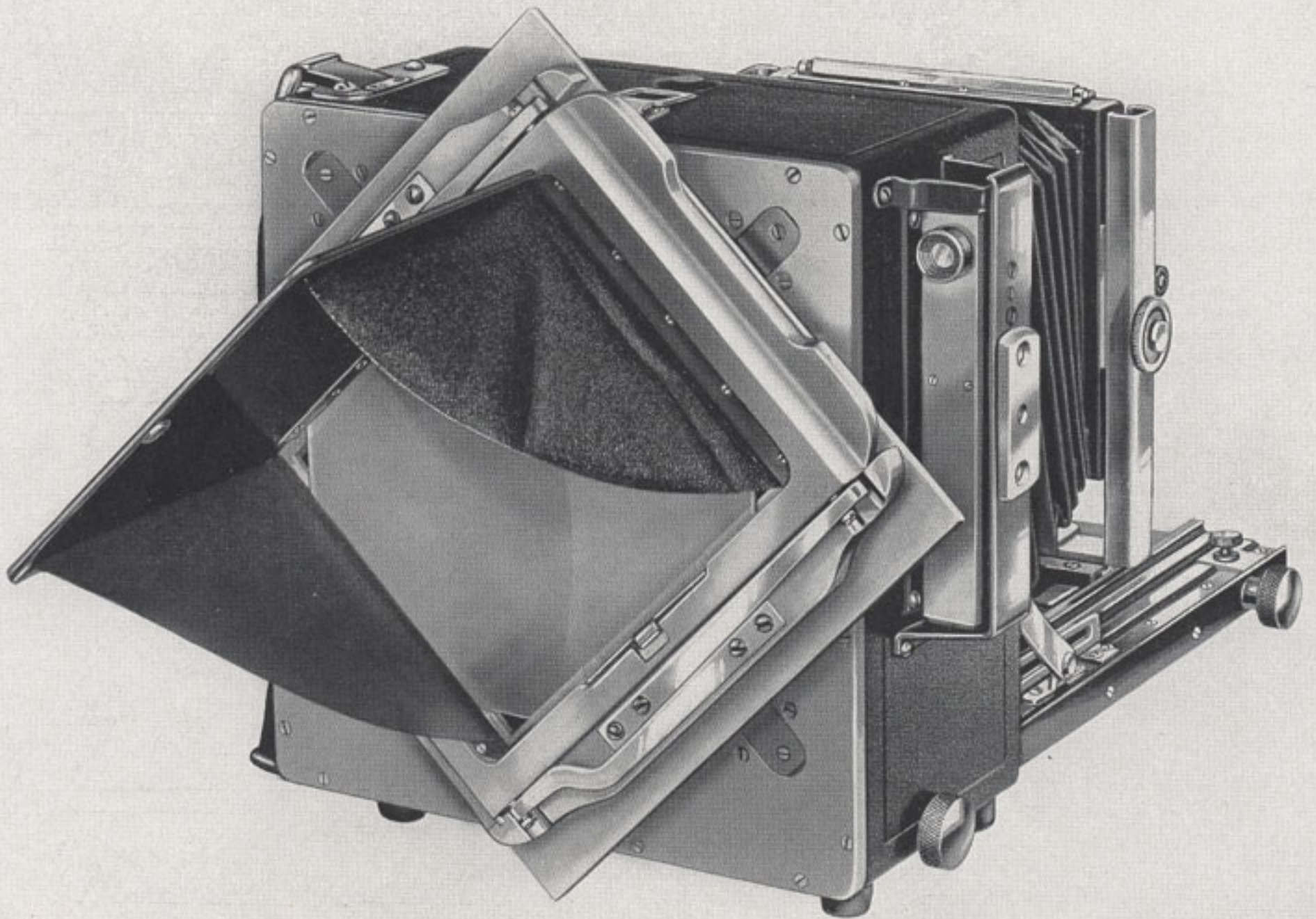
TRIPLE EXTENSION

The Camera bellows fully extended measures 19 inches. This long extension makes the Camera most versatile for Laboratory, Studio and Field work. Rigidity is extreme. There are three Tripod sockets. The bellows are almost square permitting the extreme "Swings", to be fully utilized. The bellows frame at the front standard is square, having an opening of $3\frac{1}{8}$ inches.



REVOLVING BACK

This view of the camera illustrates the metal Revolving Back, which is an integral part of each Triamapro Camera.



SPECIAL FEATURES

The Triamapro Revolving Back is made to very close tolerances. The Revolving Member rotates completely around 360° and is light-proof in all positions even with the slide drawn. It is fitted with four stops at 90° intervals but may be used at any angle.

The Ground Glass Focusing Panel is supplied with Focusing Hood when the back is fitted for Graflex Type Equipment.

The Ground Glass Frame, supplied with Focusing Hood, is Double Spring Actuated by Steel Springs when the back is fitted for Graphic Type Holders, instantly removed for Tripod Focusing.

Either Graphic or Graflex Type Backs may be supplied with the camera.

LENSES AND SHUTTERS FOR DEARDORFF TRIAMAPRO CAMERA

The lenses and shutters listed below represent the finest selection of foci for the Triamapro Camera. It is much more important that several foci be used with the Triamapro than to confine it to one or perhaps two focal lengths. This Universal Camera, and the Triamapro is just that, requires at least 3 foci; a wide angle lens, normal angle lens and one of long focus, for example 3 $\frac{1}{2}$ "", 6 $\frac{3}{8}$ " and 10" to 12". This Camera accepts many other foci to meet every possible condition.

The Apochromatic or Process type of lenses are best suited for commercial, illustrative, record, and color shots. Their optical excellence and the wide choice of focal lengths make them ideal for this work.

ARCHITECTURAL, ILLUSTRATIVE, RECORD AND COLOR PHOTOGRAPHY

EASTMAN KODAK COMPANY		Top Shutter Speed
8 $\frac{1}{2}$ "	F 6.3 Commercial Ektar Lens mounted in No. 3 Ilex Acme Synchro Shutter.....	1/200
10 "	F 6.3 Commercial Ektar Lens mounted in No. 4 Ilex Acme Synchro Shutter.....	1/150
12 "	F 6.3 Commercial Ektar Lens mounted in No. 4 Ilex Acme Synchro Shutter.....	1/150

C. P. GOERZ AMERICAN OPTICAL COMPANY

9 $\frac{1}{2}$ "	Apochromat Artar Lens F 9 mounted in regular No. 3 Acme Shutter.....	1/200
10 $\frac{3}{4}$ "	Apochromat Artar Lens F 9 mounted in regular No. 3 Acme Shutter.....	1/200
12 "	Apochromat Artar Lens F 9 mounted in regular No. 3 Acme Shutter.....	1/200
The above lenses may be fitted and supplied in Synchro Shutters		
7 "	Dagor Lens F 6.8 mounted in regular No. 3 Rapax Shutter.....	1/200
8 $\frac{1}{4}$ "	Dagor Lens F 6.8 mounted in regular No. 3 Rapax Shutter.....	1/200
	Same mounted in regular No. 3 Acme Shutter.....	1/200
9 $\frac{1}{2}$ "	Dagor Lens F 6.8 mounted in regular No. 3 Acme Shutter.....	1/200
10 $\frac{3}{4}$ "	Dagor Lens F 6.8 mounted in regular No. 4 Acme Shutter.....	1/150
12 "	Dagor Lens F 6.8 mounted in regular No. 4 Acme Shutter.....	1/150

The above lenses may be fitted and supplied in Synchro Shutters

WOLLENSAK OPTICAL COMPANY

No. 3	Convertible Velostigmat Lens mounted in regular No. 3 Rapax Shutter	1/200
	Eq Foc 7" Front Foc 15 $\frac{1}{2}$ " Back Foc 10" F 7.7	
No. 3b	Convertible Velostigmat Lens mounted in regular No. 3 Rapax Shutter	1/200
	Eq Foc 8 $\frac{1}{4}$ " Front Foc 15 $\frac{1}{2}$ " Back Foc 12 $\frac{3}{4}$ " F 6.8	
10 $\frac{1}{4}$ "	Process Velostigmat Lens F 10 mounted in regular No. 3 Rapax Shutter	1/200
14 "	Process Velostigmat Lens F 10 mounted in regular No. 3 Rapax Shutter	1/200
6 $\frac{1}{2}$ "	Series IV Velostigmat Lens F 6.3 mounted in regular No. 2 Rapax Shutter	1/400
7 $\frac{1}{4}$ "	Series IV Velostigmat Lens F 6.3 mounted in regular No. 2 Rapax Shutter.....	1/400

The above lenses may be fitted and supplied in Synchro Shutters

WIDE ANGLE PHOTOGRAPHY

C. P. GOERZ AMERICAN OPTICAL COMPANY

3 $\frac{5}{8}$ "	Wide Angle Dagor Lens F 8 mounted in regular No. 2 Rapax Shutter	1/400
4 $\frac{3}{8}$ "	Wide Angle Dagor Lens F 8 mounted in regular No. 3 Rapax Shutter	1/200

The above lenses may be fitted and supplied in Synchro Shutters

WOLLENSAK OPTICAL COMPANY

3 $\frac{1}{2}$ "	Wide Angle Raptar Lens F 6.8 mounted in regular No. 1 Rapax Shutter	1/400
4 $\frac{1}{4}$ "	Wide Angle Raptar Lens F 6.8 mounted in regular No. 2 Rapax Shutter	1/400

No. 2 Rapax Shutter may be supplied in Synchro style

HIGH SPEED PHOTO FLASH PRESS RELEASE PHOTOGRAPHY

EASTMAN KODAK COMPANY

127 mm	Kodak Anastigmat Lens F 4.7 mounted in No. 2 Supermatic Synchro Shutter.....	1/400
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C. P. GOERZ AMERICAN OPTICAL COMPANY

5 "	Dagor Lens F 6.8 mounted in regular No. 2 Rapax Shutter.....	1/400
6 "	Dagor Lens F 6.8 mounted in regular No. 2 Rapax Shutter.....	1/400
5 $\frac{1}{4}$ "	Dogmar Lens F 4.5 mounted in regular No. 3 Rapax Shutter.....	1/200
6 "	Dogmar Lens F 4.5 mounted in regular No. 3 Acme Shutter.....	1/200
6 $\frac{1}{2}$ "	Dogmar Lens F 4.5 mounted in regular No. 3 Acme Shutter.....	1/200

The above lenses may be fitted and supplied in Synchro Shutters

ILEX OPTICAL COMPANY

5 $\frac{1}{2}$ "	Paragon Lens F 4.5 mounted in No. 2 Ilex Acme Synchro Shutter	1/300
	Same mounted in No. 3 Ilex Acme Synchro Shutter	1/200
6 $\frac{3}{8}$ "	Paragon Lens F 4.5 mounted in No. 2 Ilex Acme Synchro Shutter	1/300
	Same mounted in No. 3 Ilex Acme Synchro Shutter	1/200

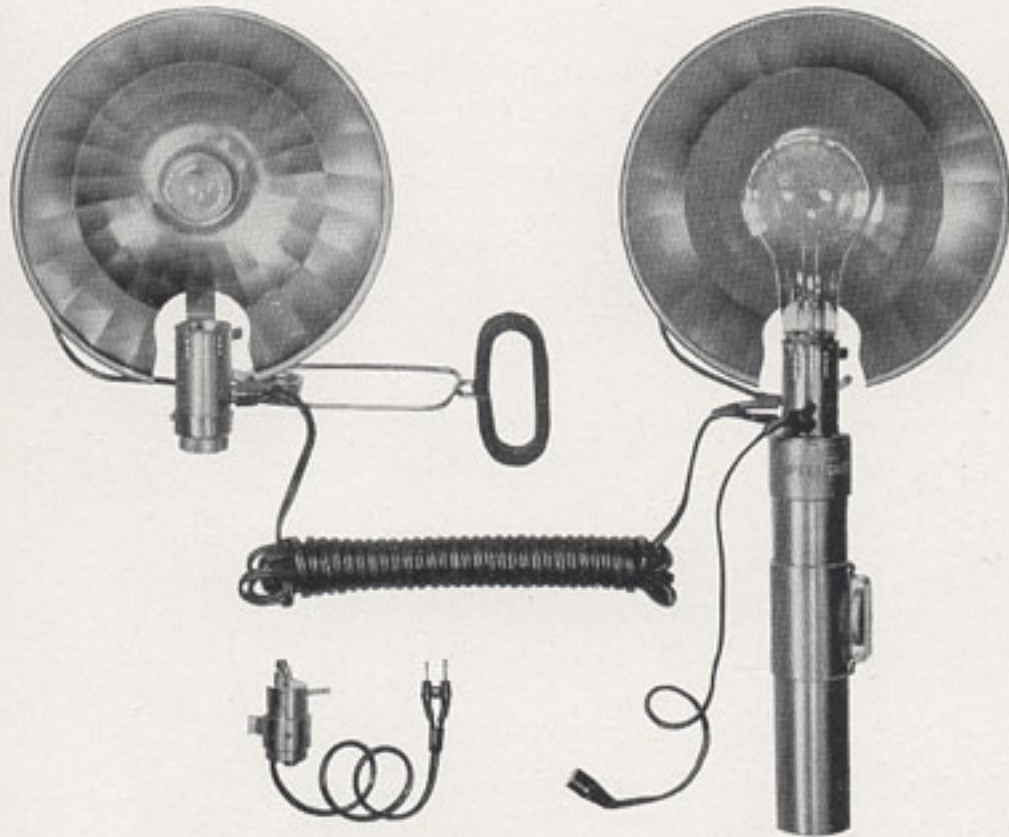
WOLLENSAK OPTICAL COMPANY

5 "	Series 11 Velostigmat Lens F 4.5 mounted in regular No. 2 Rapax Shutter	1/400
6 $\frac{3}{8}$ "	Series 11 Velostigmat Lens F 4.5 mounted in regular No. 3 Rapax Shutter	1/200

The above lenses may be mounted and supplied in Synchro Shutters

RANGE FINDERS AND PHOTO FLASH SYNCHRONIZERS

MENDELSON SPEEDGUN MODEL E-4



The E-4 Speedgun consists of a Battery Case, Twinreflector and Tripper. The battery case contains the operating switch, connections, supporting band and batteries. The Twinreflector accommodates regular bulbs of all sizes and the Midget bulbs such as Mazda No. 5 and the Superflash 25.

The Tripper is attached to the lens board and a special mounting bracket is included.

Accessories include Extension Cord, Reflector, and Synchro-Shutter Cord for Built-In Shutter Synchronizers.

MEYER RANGE FINDER



The Meyer Precision Range Finder determines the range by a measure of the parallax of the object viewed from the two ends of a base line which is contained within the instrument.

The Meyer Precision Range Finder overcomes the problem of how to focus exactly at every intermediate distance. In the Meyer Range Finder, the possibility of error is eliminated by means of an ingenious cam mechanism which automatically adjusts every range finder distance to every equivalent camera lens extension.

Users of Range Finders, who expect a definite accuracy in these instruments, have long awaited a Precision Range Finder which will enable them to obtain needle-sharp pictures. In the Meyer instrument, this goal has been achieved and it is intended for photographic workers who appreciate precise tools.

HEILAND PRECISION BUILT PRESS MODEL "S"



A precision-made instrument of the highest quality for professional and amateur use. Accurate synchronization is guarded by rugged construction which guarantees dependability and long life.

The three cell battery case can be instantly removed from the camera bracket, which is permanently mounted on the right or left side of the camera.

The Electro-Matic Coil is permanently mounted to the camera lens board. A durable 5-inch reflector is furnished as standard equipment.

Accessories include Extension Cord Synchro-Shutter Cord, Extension Socket, Multi-Socket and Fotoclamp Reflectors and Adapters.

KALART SYNCHRONIZED *PRISM RANGE FINDER



The Kalart Synchronized Prism Range Finder is coupled directly to the camera track, so that turning the focusing knob not only moves the lens forward and back but also operates the mechanism of the Range Finder.

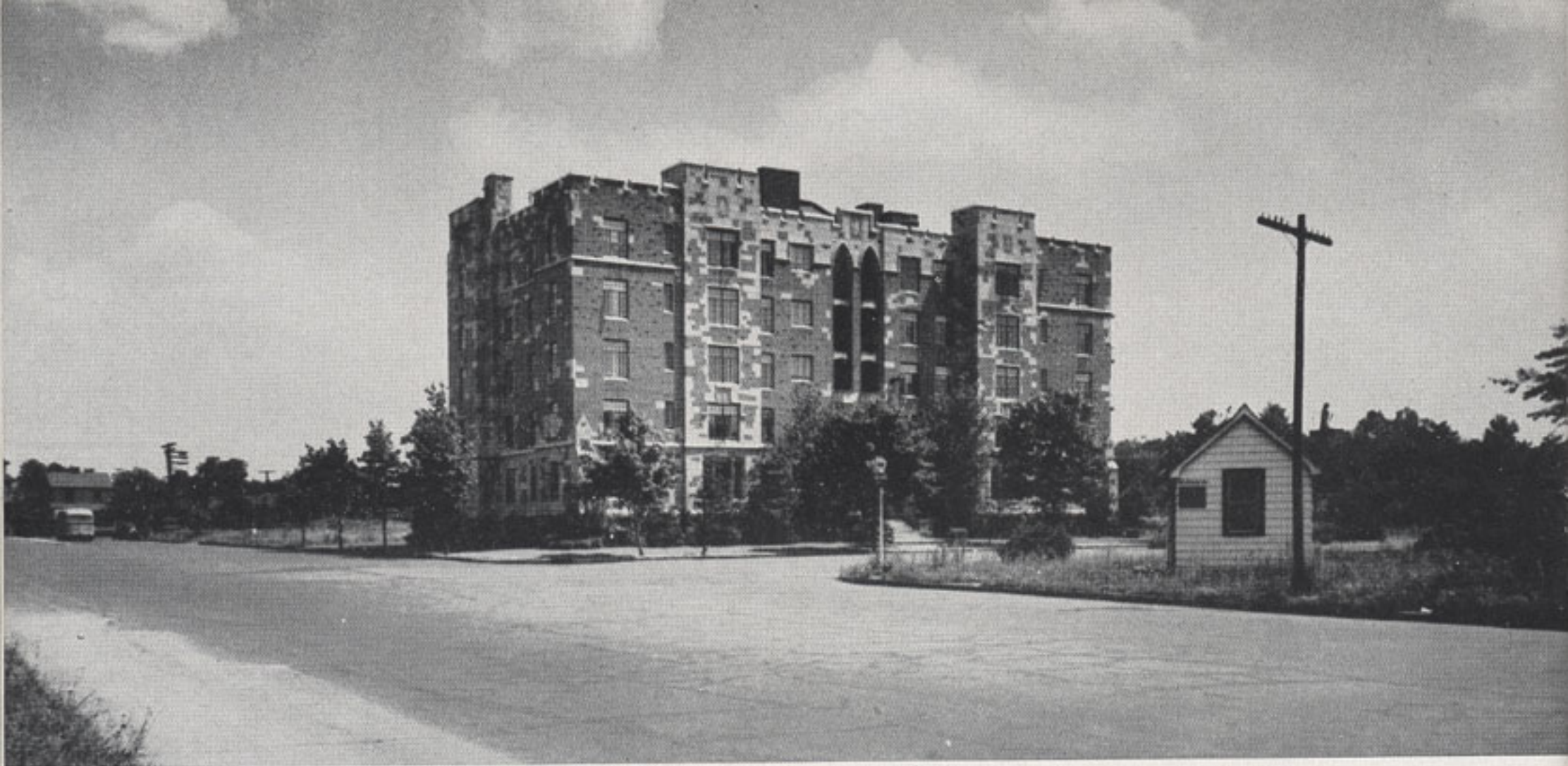
Open the camera and bring the lens standard forward to the infinity stop. Then look at the object to be photographed through the eye-piece of the Range Finder and turn the focusing knob of the camera until the two separate images which are visible super-impose. Proper focus is now attained.

The Kalart Focuspot is designed for focusing in total darkness or under adverse light conditions. When the Focuspot is switched on, a beam of light is thrown through the Range Finder. This light is split in two by the mirrors and is made to super-impose as one when proper focus is attained. *Reg. Trade Mark

KALART MASTER AUTOMATIC SPEED FLASH

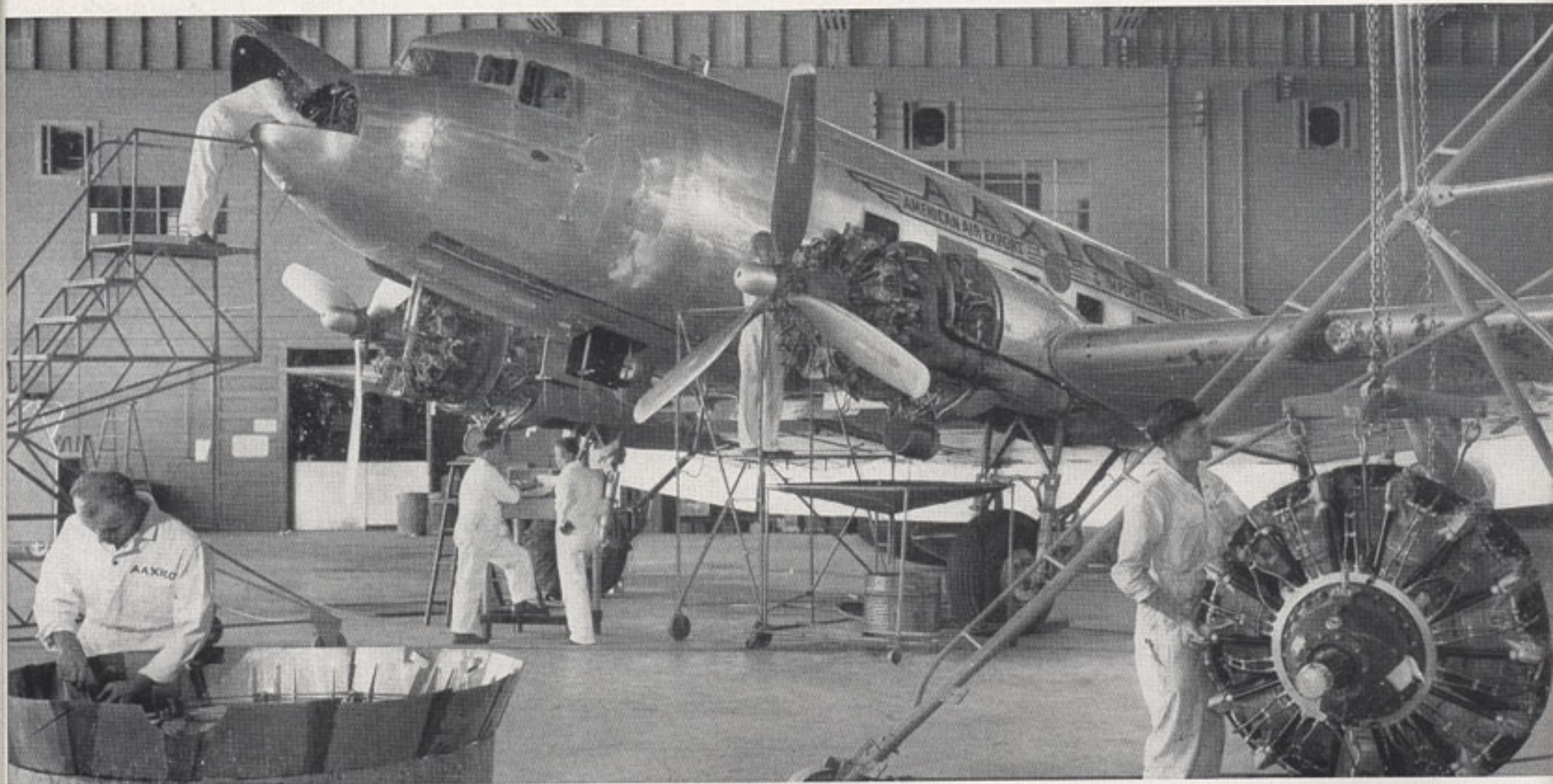
The Kalart Master Automatic Speed Flash attaches directly to the Model E Kalart Range Finder or to guard brackets of other models. It is mechanical in action and is easily attached and synchronized by the user.

The Kalart Master Flashing Unit is supplied for all built-in shutter synchronizers.



TRIAMAPRO WIDE ANGLE SHOT

Made with 3½" Focus F6.8 Wide Angle Wollensak Raptar Lens
Enlarged From Unretouched 4x5 Negative



TRIAMAPRO PHOTO FLASH INDUSTRIAL SHOT

*Courtesy Aaxico,
American Air Export & Import Co.*

Made with 5" Focus Goerz Dagor Lens
Enlarged From Unretouched 4x5 Negative

BY EDWARD O. KAMPER
Bloomfield, N. J.

TRIAMAPRO MADE NEGATIVES

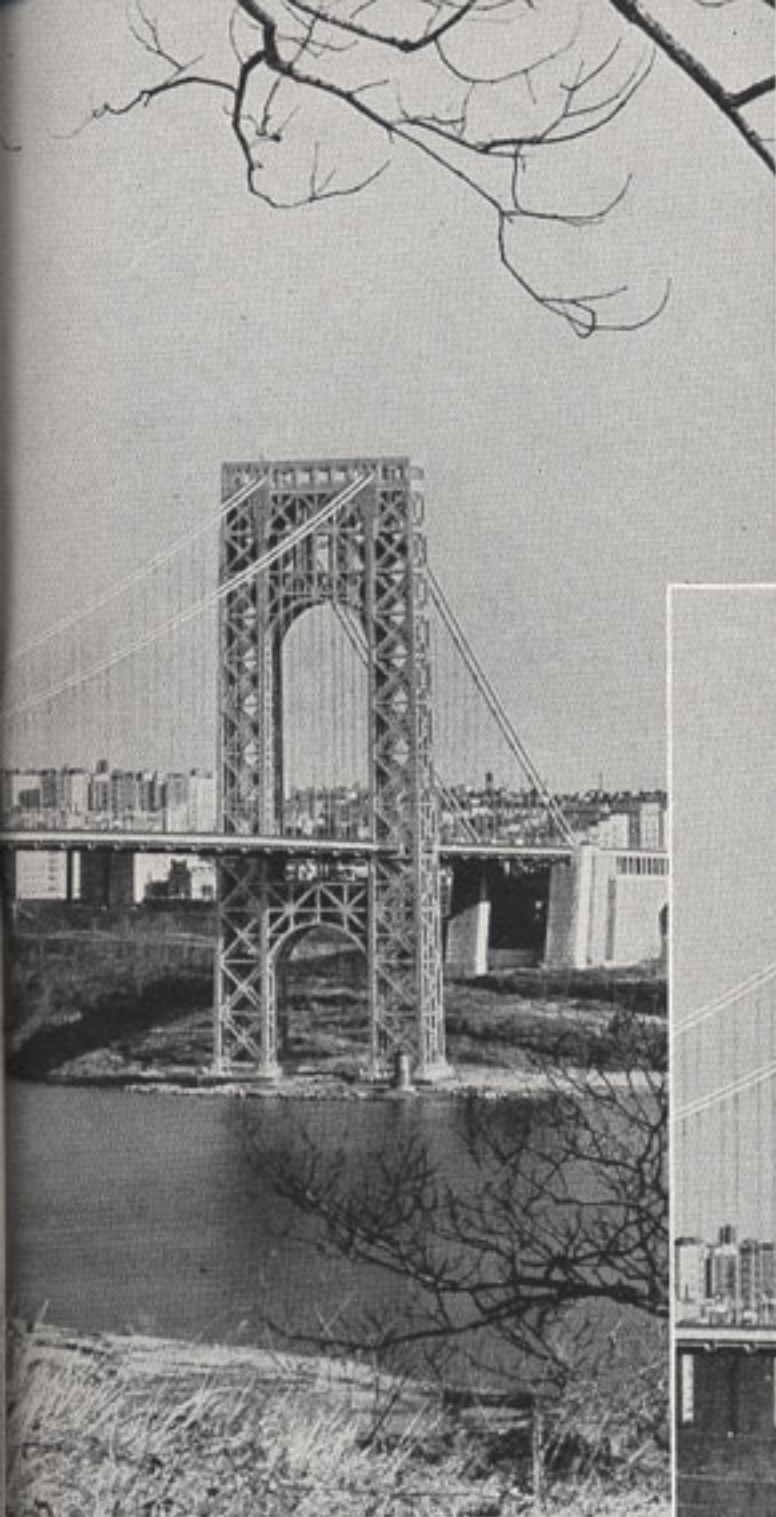
TRIAMAPRO CONVERTIBLE LENS SHOT

Enlarged from unretouched 4 x 5 Negatives.

Triple convertible lenses are indicated in many fields of photography. Their use with the

TRIAMAPRO

immediately signalizes the universal qualities of this superior instrument.



Made with 7" Focus Series 1A Wollensak Convertible Velostigmat Lens.

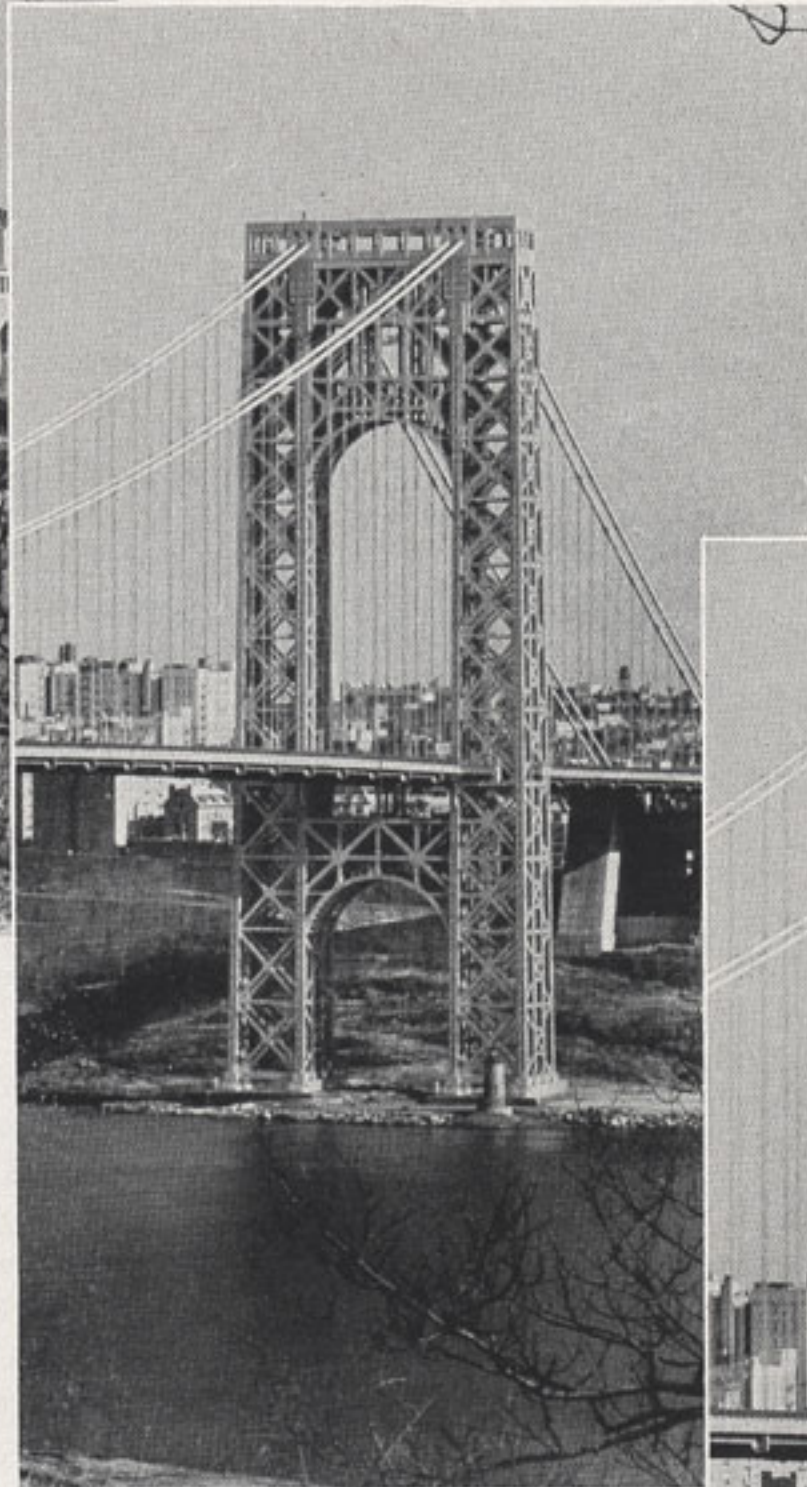
MAKE REAL PICTURES

Corrective photography requires many focal lengths, critical definition, flat field and color corrected lenses. The

TRIAMAPRO

is designed for this difficult work, including wide angle, normal angle and narrow angle photography. It is truly universal in its scope.

ARE THE BEST IN PICTURES



Made with 10" single combination.



Made with 15½" single combination.

BUY FOCI FOR THE TRIAMAPRO

THE "WHY" OF SWINGS FOR—DRAWING, PERSPECTIVE, AND "DEPTH OF FIELD"

Tilting the bed of the camera either upward or downward demands the use of the DEARDORFF TRIAMAPRO CAMERA as it permits, through the proper manipulation of the Swinging Bed, Swinging and Sliding Front Standard and Swinging Lens Board, depth of field, correct drawing and perspective. Vertical Lines can be made to remain vertical and Horizontal Parallel Lines can be made to converge slowly or not at all and Circular Lines in true perspective.

THE FUNCTION OF "SWINGS"

THE VERTICAL SWING OF CAMERA BED

To control distortion of the Vertical Lines at the negative by permitting the Camera back to be swung parallel to the Vertical Lines of the subject.

THE VERTICAL SWING OF THE CAMERA FRONT

To bring the plane of focus of the lens in co-incidence with the negative for the control of Vertical and Inclined Plane Depth of Field.

THE LATERAL SWING OF CAMERA

To control perspective in parallel Horizontal Lines or the vanishing points of those lines.

THE LATERAL SWING FRONT

To bring the plane of focus of the lens in co-incidence with the negative for the control of Perspective Plane Depth of Field.

THE LATERAL SLIDING FRONT

To permit the Camera to be swung laterally to control perspective in parallel Horizontal Lines and to center the scene on the negative.

Thus the greatest "Depth of Field" is possible with the lens at full aperture and, therefore, permits larger "taking" apertures with greatly improved sharpness of definition throughout all planes of focus than is possible with cameras having limited movements. Fastest exposures can, therefore, be made under all conditions.

HOW TO USE THE TRIAMAPRO "SWINGS"

1. Fasten the DEARDORFF TRIAMAPRO CAMERA to the tripod head.
2. Open the bed and pull out the front standard. Set the bed in the required position for Looking Down, Looking Up, or Normal, with the base of the box in a level position.
3. For Looking Down Shots, lower lens board to desired position.
4. For Looking Up Shots, raise lens board to desired position.
5. Focus as sharply as possible one third the way into the plane representing the greatest Depth of Field, with the lens at full aperture.
6. A careful examination at the ground glass will reveal the amount of Depth of Field the lens is capable of giving. Now while watching the ground glass swing the lens on its lens board in the direction of the greatest Depth of Field, and note, that which was not entirely in "sharp focus" now comes into reasonably "sharp focus".
7. Again focus as sharply as possible to gain the greatest sharpness in this Depth of Field with the lens still at full aperture.
8. If Horizontal Lines converge too quickly for true perspective, swing the complete camera on the tripod head so that the back of the camera is more nearly parallel to the part of the subject showing the converging lines. Slide Front Standard to the proper position to include the view required and swing the front as near parallel to the back as is necessary to obtain the greatest Depth of Field. Note carefully that the perspective is now satisfactory and there is no distortion of the Vertical and Horizontal Lines.
9. Again focus as sharply as possible to gain the greatest sharpness in this Depth of Field with the lens still at full aperture.
10. Still watching the image on the ground glass, "stop down" until the whole view is sharp.
11. RESULT . . . PERFECT conditions under which to make a negative . . . Resulting negative perfect . . . No distortion of lines together with true perspective.

HAND-CAMERA PROCEDURE

12. For Normal Hand Camera Work, hold the camera level.
13. Focus carefully on ground glass, through the Range finder or use focusing scale.
14. Employ as large a "taking aperture" as possible, for shortest exposures and maximum critical definition.
15. Employ fastest possible shutter speed consistent with lighting conditions to overcome vibration and body movement.

TO THE PROFESSION

The apparatus which we manufacture and describe in this catalogue may be found displayed in the leading professional photographic stores everywhere.

Careful examination may be made and the various operations fully explained by competent people in these stores.

We design and manufacture apparatus for special requirements and will welcome correspondence direct with our factory.

GUARANTEE—All Deardorff cameras and other equipment manufactured by us and listed in this catalogue are guaranteed as to material and workmanship for one year from date of purchase.



TERMS

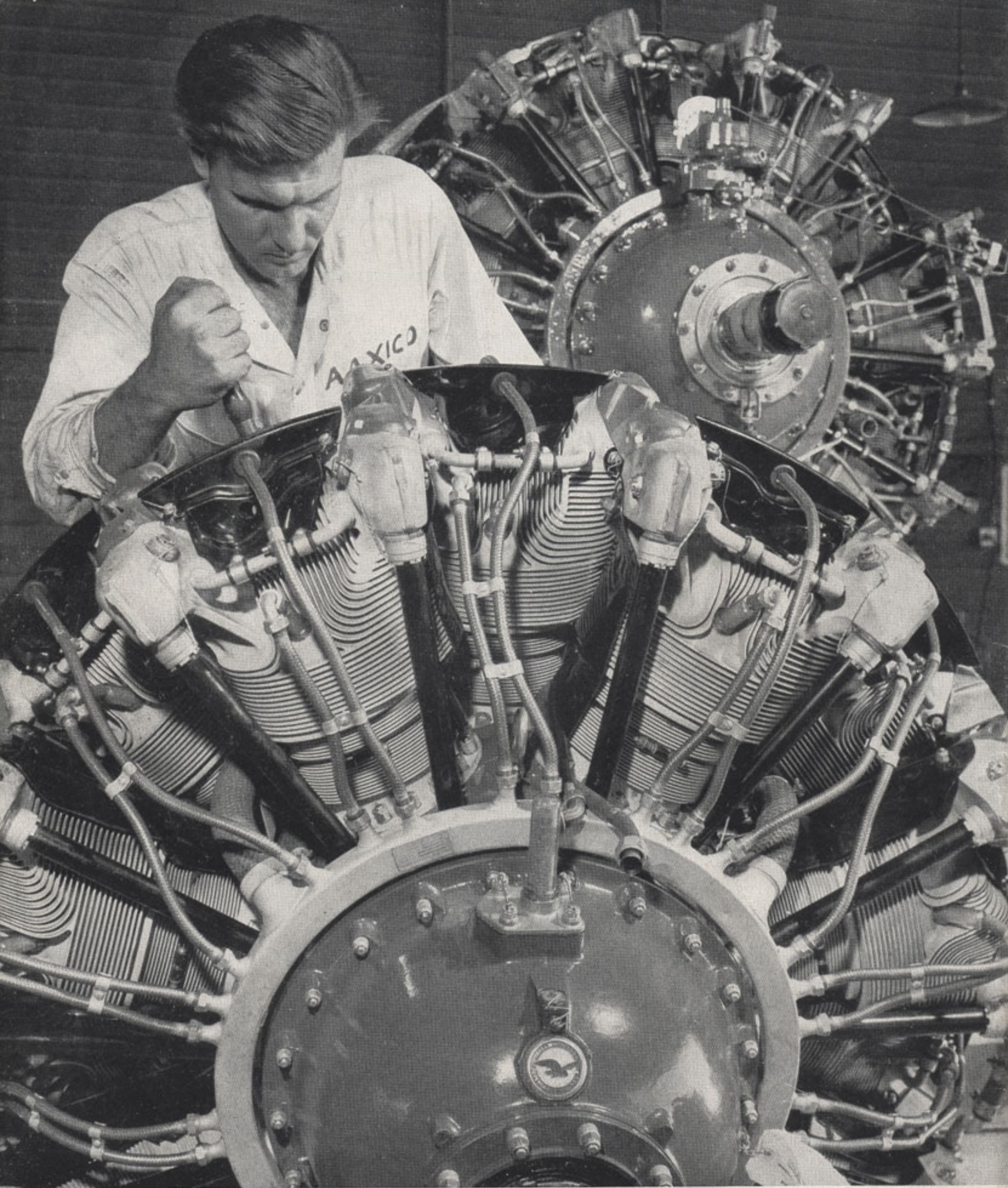
To avoid delay, purchasers with whom we have no account and who have no mercantile rating should accompany their first order with commercial reference or remittance in cash, money orders, New York or Chicago current funds, as your local check may be subject to collection charges.

No C.O.D. shipment will be made unless sufficient funds to cover delivery charges both ways accompany the orders. Goods made on special order or sent on approval will not be forwarded C.O.D.

Equipment made to order is NET.

All shipments F.O.B. our factory, Chicago.

Separate price list gives complete prices for the Deardorff Cameras, Stands and other accessories.



TRIAMAPRO COMMERCIAL ILLUSTRATION

*Courtesy Aaxico,
American Air Export & Import Co.*

Made with 5" Focus Dagor Lens
From Unretouched 4x5 Negative

BY EDWARD O. KAMPER
Bloomfield, N. J.