

Made in France

# THE UNIVERSAL CAMERA LUCIDA

MARQUE ET MODÈLES DÉPOSÉS

AN INSTRUMENT OF GREAT VALUE TO THE  
ARTIST, ARCHITECT, ENGINEER, NEWSPAPER  
AND ADVERTISING SPECIALISTS AND STUDENTS

The **Universal Camera Lucida**, is a means whereby drawings can be executed rapidly, of any subject and of any dimensions whatever; no previous experience in drawings is required. In other words, it is the ideal medium for every kind of drawing or designing work.

One of the advantages of the Universal Camera Lucida, is that extremely large sized enlargements (up to 36 times when the rod is at its full length) can be made with it, in addition to reductions, and the pencil point can be seen distinctly during the work. Its triangular, silvered prism is very luminous; its angle of vision is 90° thus making it possible to draw from nature from the near foreground to the highest points above the horizon.

The picture is focussed on the drawing-paper by fitting one of twelve lenses of varied foci and as it is thus quite unable to shift, parallax is avoided.

The Camera Lucida is particularly useful for professional draftsmen, since it saves them a good deal of time, but it is of still greater use to amateurs who make drawing or painting their hobby; it helps them to rough out their

drawings in a rapid and easy manner, with the indispensable accuracy. Beginners will find it a precious instrument because it instils in them the taste for drawing, their first unsuccessful and bitter disappointing attempts being avoided.

Painter-artists or designers use it for their landscapes portraits still life, etc.

Draftsmen and professional illustrators make use of it in all branches of industry, catalogue illustrating, page-setting, poster designing, furniture designing, architecture, jewellery, costumes, decorations, millinery, gold and silver plate, wall-paper, etc.

Reversed drawing for Etchings, Engravings and Lithographs is also a great feature; it does away with the looking glass, and saves much time as the copy is reversed with the right to the left.

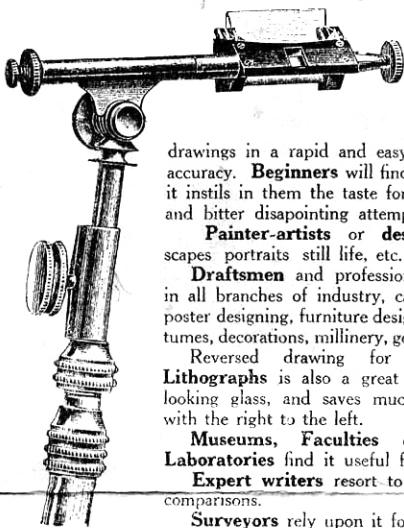
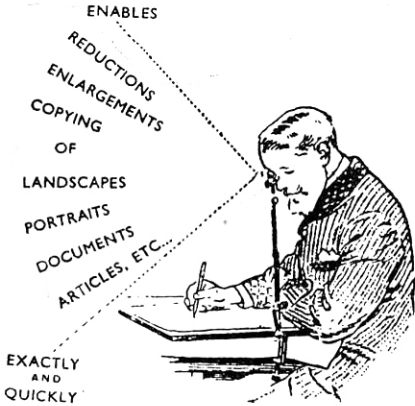
Museums, Faculties of Science and Medicine, Laboratories find it useful for making diagrams, etc.

Expert writers resort to its help for super-positions and comparisons.

Surveyors rely upon it for setting plans, and survey work.

Army Engineers and Artillery Officers; those in the Geographical and Aeronautical Departments utilise it for perspective sketching, of plans and maps, correcting photographs taken from aeroplanes, etc.

THE INSTRUMENT IS SUPPLIED IN A POCKET-CASE.



## PRICES

AVAILABLE IN TWO MODELS

"UNIVERSAL" No. 111

CAMERA "LUCIDA" (Original)

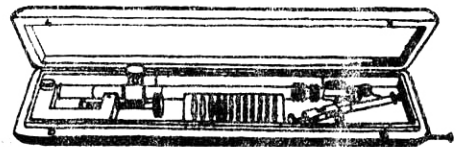
For enlarging, reducing and reproduction of drawings, sketches, etc. Telescopic slide tubes permit precision raising and lowering. Nickel-plated. With 3-draw telescopic slide tubes. With 12 lenses of different focuses; in Black leather case, lined with velvet and silk. Telescopic tubes extend to a 25-inch length. This is the original, genuine "Camera Lucida" and like all good things is being imitated. Beware of imitations.

Complete .....\$95.00

"SUPER DESIGNER" CAMERA LUCIDA No.121WP

A lower priced model with 8 lenses; polished brass but not plated; in waxed walnut box. Telescopic tubes extend to a length of 17 inches. Prism mount is plastic and not as strong as the "Universal" but very practical.

Complete .....\$47.00



THE MORILLA COMPANY

NEW YORK: 328 East 23rd Street

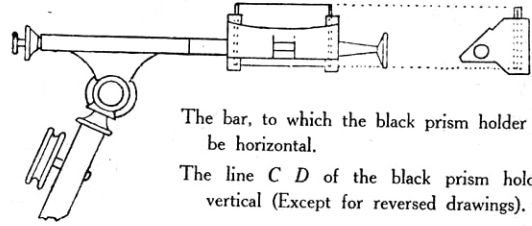
CHICAGO: 425 South Wabash Avenue

LOS ANGELES: 706 South Magnolia

## HOW TO SET UP THE INSTRUMENT



For indoor work : the instrument should be fixed to the edge of a table (drawing-table or any other, without beading); the work can be done sitting seated, as shown in the accompanying illustration.



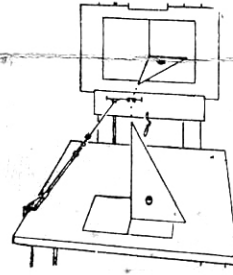
The bar, to which the black prism holder is fixed should be horizontal.

The line *C D* of the black prism holder, should be vertical (Except for reversed drawings).



For outdoor work : a folding table is a good thing to have (see page 1 : Folding Tables). They are light and steady and can be arranged for work done seated or standing.

When standing up, the prism can be raised to eye-level; the advantage underlying this method is that the drawing possesses a perspective the eye is accustomed to see when the drawer is standing.



The black prism-holder should be opposite both to the centre of the subject and the center of the paper on which the drawing is to be made.

This position is obtained by giving the rod of the appliance a greater or smaller inclination or by raising or lowering the prism holder.

## THE PRINCIPLE OF THE INSTRUMENT

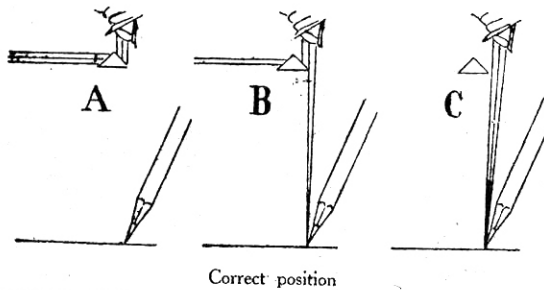
The instrument makes it possible to see both the reflection of the subject and the pencil point simultaneously on the paper; it only remains to follow the lines.

A special silvered prism contained in the black holder, deviates the luminous rays which fall on it, through an angle of  $90^\circ$ ; thus the rays representing any

manner of object leave the latter, strike the prism, pass through it horizontally and leave it vertically on their way to the eye which perceives the image as if actually on the paper. The lines are made with the pencil as indicated in the drawing below (position B).

## HOW TO LOOK INTO THE PRISM

Fit up the instrument as indicated above; then place the object in position, vertically, say 16 inches away. Arrange the prism 16 inches from the paper and look vertically straight on the edge of the prism to be seen in the notch (Fig. 2, page 1). It is shown in position B, in the accompanying figure, and should be strictly followed.



In this instance, as a matter of fact, the upper part of the eye pupil gets the luminous rays which have passed through the prism coming from the object : the eye sees the object. The lower part of the pupil gets the luminous rays from the pencil which it sees on the paper at the same time as the object. In that way, it is possible to draw the image of the object, as seen on the paper.

Positions A and C are bad.

In the case of A, the eye advances too far over the prism and only receives the rays from the object but does not get those coming from the pencil, at the same time. It is impossible to execute the drawing.

In position C, on the other hand, the eye is looking outside of the prism; in this case the rays from the object cross the prism but do not reach the eye which, owing to its position, only receives the rays from the pencil. It is not possible to execute the drawing as the image is not seen on the paper.

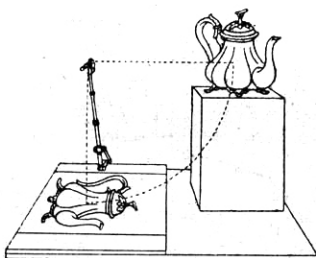
The eye not looking through the prism can remain open; in that way the point of the pencil is still more distinct and visible.

To see the top of the object, draw the eye back and the pencil will instinctively be pushed towards the top of the drawing. The reverse is the case, when the bottom of the drawing is being executed.

A uniform lighting of the subject and paper, is recommended.

**NOTE.** — Do not begin drawing until the image is very sharp and still on the paper; this result is obtained by bringing the subject nearer to the prism or pushing it farther away, according to the case.

Should the image be somewhat smaller or larger than the required dimensions it is only necessary to raise or lower the prism a little.



## FOR COPYING

(No lens is required)

To reproduce the subject in **equal size**, it is only necessary to arrange the prism at an **equal distance** from the centre of the subject and from the centre of the paper on which the drawing is being executed; focussing is carried out without lenses. Same size copying is the **only case in which the image is correctly focussed without the use of a lens.**

# HOW TO USE THE LENSES

All the twelve lenses bearing a number (1 to 12) engraved on the glass, are solely for the purpose of focussing, that is to say, to reflect the object very distinctly and still on the paper, even though the eye moves from right to left over the prism.

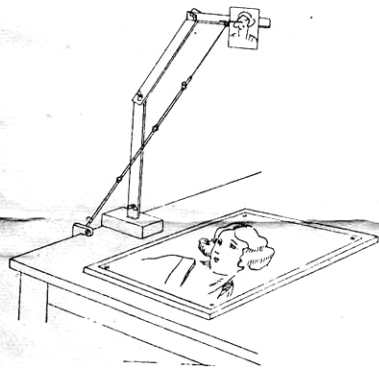
By consulting the following table, it is easy to find the number of the best lens to be used for any distance of the prism from the subject and the prism from the paper.

If the prism is 12 ins. from the paper		If the prism is 16 ins. from the paper		If the prism is 20 ins. from the paper	
and if the distance from prism to subject is	use lens number	and if the distance from prism to subject is	use lens number	and if the distance from prism to subject is	use lens number
6/16 - 3 ins	12,11 or 10	6/16 - 3 ins	12,11 or 10	6/16 - 2 ins	12 or 11
3 - 6 »	9	3 - 6 »	9	2 - 6 »	10
6 - 8 »	8	6 - 8 »	8	6 - 8 »	9
8 - 10 »	7	8 - 14 »	7	8 - 12 »	8
10 - 14 »	none	14 - 20 »	none	12 - 16 »	7
14 - 18 »	6	20 - 28 »	6	16 - 24 »	none
18 - 26 »	5	28 - 43 »	5	24 - 39 »	6
26 - 40 »	4	43 - 85 »	4	39 - 83 »	5
40 - 80 »	3		3 or 2	83 to horizon	4 or 3
80 to horizon	2				

## FOR ENLARGING

(lense No 6 to 12)

To reproduce the subject with **enlarged** dimensions arrange the subject **nearer to the prism than the prism is to the paper.**



For instance, to enlarge to twice the size, the subjects should be twice as near the prism as the prism is to the paper.

Put the subject say 8 ins. from the prism and the prism 16 ins. from the paper.

To enlarge 5 times proceed in the same manner, with the subject say 4 ins. from the prism and the latter 20 ins. from the paper.

In each of these cases, taking into account the height of the prism above the paper and the distance from the prism to the subject, see the above table to find the lens (No. 6 to 12) to be used for focussing, because

in this case, it is **absolutely necessary to have a lens for focussing.**

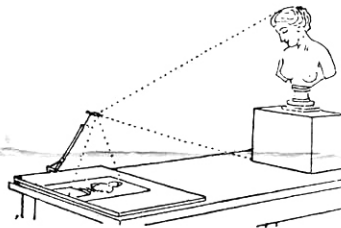
Very large-sized enlargements can be made, in fractions, but care should be taken that distances from prism to subject and prism to paper do not vary.

## FOR REDUCING

(lense No 1 to 6)

For reductions, the subject should be **farther from the prism than the prism is from the paper.**

For instance, to reduce to  $1/3$  the size, the subject should be three times as far from the prism as the prism is from the paper.



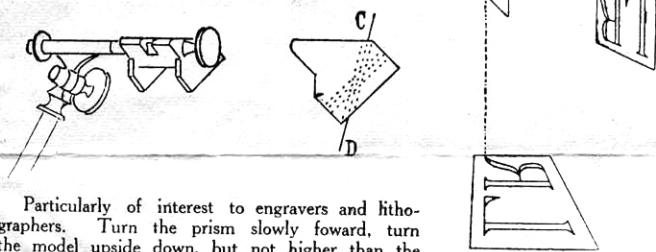
To reduce to  $1/10$  proceed in the same manner putting the subject 10 times as far from the prism as the prism is from the paper.

(This applies to landscapes because the distance from the subject is very great when compared to that from the prism to the paper.)

In each of these cases, taking into account the height of the prism above the paper and the distance from the prism to the subject, see the above table to find which lens (No. 1 to 6) must be used for focussing, because in this case it is **absolutely necessary to have a lens for focussing.**

## REVERSED DRAWING

for Engravers, etc.

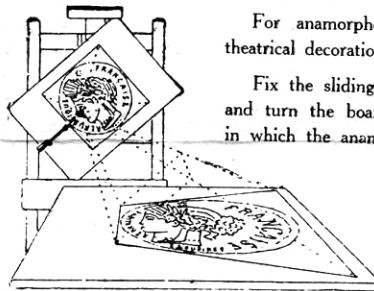


Particularly of interest to engravers and lithographers. Turn the prism slowly forward, turn the model upside down, but not higher than the prism, put the necessary lens in the first groove CD, and the object is reflected upright, reversed with the right now to the left.

## ANAMORPHOSIS

For anamorphosis or deformations, mostly for theatrical decorations.

Fix the sliding bar to the board with the model, and turn the board to an angle equal to the angle in which the anamorphosis should be seen.



In these cases, measure the distance from the prism to the table obliquely, and count from the centre of the anamorphosis.

## RECTIFYING PHOTOGRAPHS

To rectify a photograph in which the vertical lines have become converging, it is merely necessary to attach the photograph to the document holder and to tilt the holder or the drawing-board up or down until the image shows the lines parallel to one another.

This type of rectifications is often needed for photographs of high buildings

which have been taken from low down or photographs taken from an aeroplane at a certain angle.

If it is desired to enlarge or reduce the photograph at the same time as rectification is carried out, work in the same way as already described focussing with the suitable lens.