

(No Model.)

2 Sheets—Sheet 1.

A. K. O. MOORE & H. BOURCEY.

APPARATUS FOR SKETCHING.

No. 544,642.

Patented Aug. 13, 1895.

FIG 1--

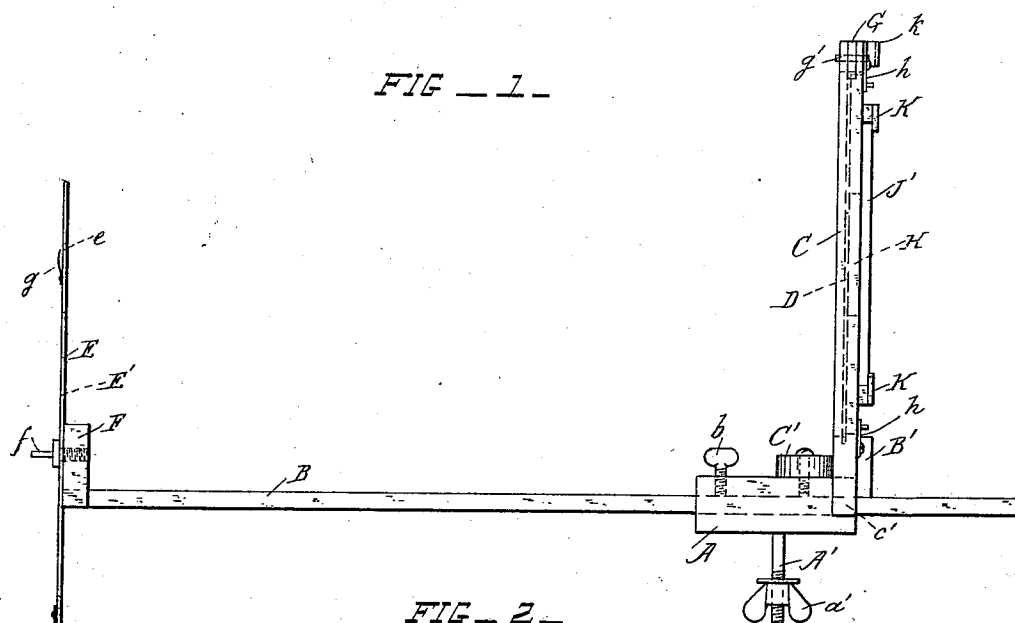
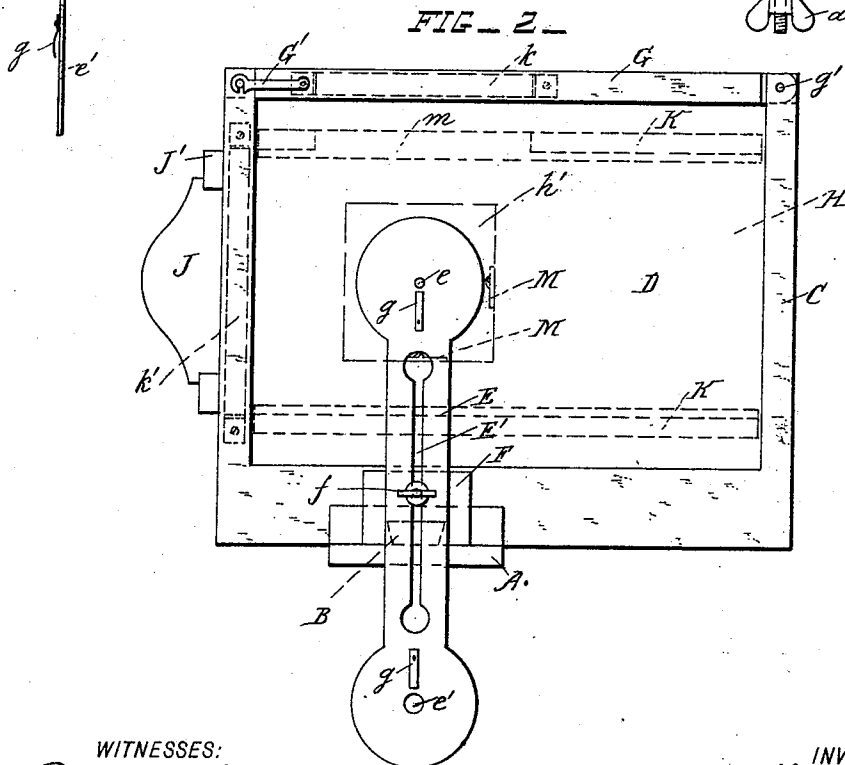


FIG 2--



WITNESSES:

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(No Model.)

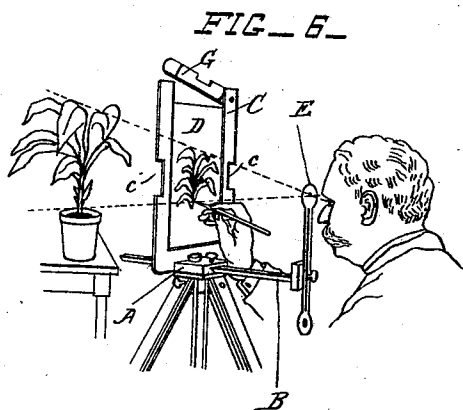
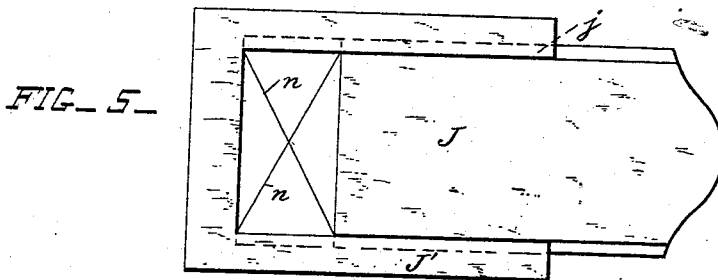
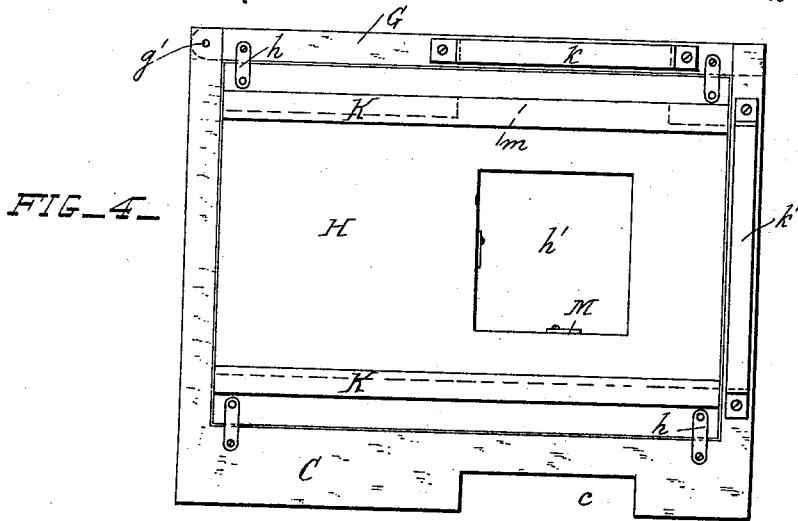
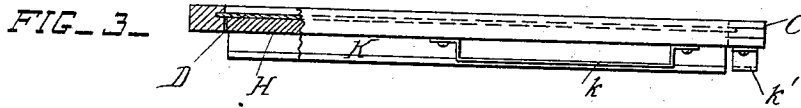
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UNITED STATES PATENT OFFICE.

AIMÉE KATHERINE OSBORNE MOORE, OF LONDON, ENGLAND, AND HIPPOLYTE BOURCEY, OF PARIS, FRANCE; SAID BOURCEY ASSIGNOR TO SAID MOORE.

APPARATUS FOR SKETCHING.

SPECIFICATION forming part of Letters Patent No. 544,642, dated August 13, 1895.

Application filed July 27, 1894. Serial No. 518,786. (No model.) Patented in England April 18, 1891, No. 6,722; in Belgium October 5, 1891, No. 96,668, and in France October 9, 1891, No. 216,627.

To all whom it may concern:

Be it known that we, AIMÉE KATHERINE OSBORNE MOORE, of London, England, and HIPPOLYTE BOURCEY, of Paris, France, have invented certain new and useful Improvements in Sketching Apparatus, of which the following is a specification.

Patents have been obtained for this invention in the following countries: England, No. 6,722, dated April 18, 1891; France, No. 216,627, dated October 9, 1891, and Belgium, No. 96,668, dated October 5, 1891.

This invention relates to apparatus for sketching objects and facilitating artistic study; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the apparatus. Fig. 2 is a front view of the same, and Fig. 3 is a plan view of the main frame from above. Fig. 4 is a rear view of the main frame with the sliding frame removed, and Fig. 5 is a rear view of the sliding frame. Fig. 6 is a perspective view showing how the apparatus is used.

A is a block provided with a bolt A' and a thumb-nut a' or any other approved fastening device for attaching it to any convenient support.

B is a bar which slides horizontally in a hole in the said block, and b is a thumb-screw for clamping the bar to the block after its position has been adjusted.

B' is a plate secured to the rear end of the block A.

C is a frame provided with one or more recesses c for engaging with the notches c' in the block close to the plate B'.

C' is a clamping device, preferably an eccentric cam, pivoted to the top of the block A and adapted to secure the said frame in position. The frame C is oblong and is secured in a vertical position, with its longer side horizontal or vertical, as may be desired.

D is a removable plate of translucent material supported in the frame C. This plate may be of glass, celluloid, gelatine, muslin, or any other similar material upon which the picture or representation of any object may be drawn or marked.

E is a diaphragm-plate attached to the front end of the bar B. The diaphragm-plate E is provided with a small sight-hole e of the same size as the normal pupil of the human eye and a large sight-hole e' of about three-quarters of an inch in diameter. These sight-holes are preferably arranged at the opposite ends of the diaphragm-plate, and the middle portion of the said plate is provided with a slot E'.

The bar B is provided with a block F at its front end, and f is a thumb-screw which passes through the slot in the diaphragm-plate and secures it to the said block. The diaphragm-plate may be moved about, reversed, and adjusted to any position in its vertical plane, and so that either sight-hole e or e' may be central of the plate of translucent material at the rear end of the bar B.

The method of using the simple form of the instrument is illustrated in Fig. 6. This shows the object to be drawn in "normal perspective"—that is to say, the object is at such a distance from the eye as to be visible at a single glance without any effort or movement of the eyeball. The normal visual angle is about twenty-eight or thirty degrees. Objects usually fall within this angle when they are distant from the eye about three times their own greatest dimensions, and under these conditions they are seen in normal perspective. The diaphragm-plate is adjusted to bring the small sight-hole in front of the plate of translucent material, and the bar B is adjusted to place the sight-hole at that distance from the plate D which will make the object appear of the required size. The object is drawn by hand, as it actually appears to the eye, upon the said plate D, and an accurate perspective projection of it is thus obtained.

When the plate D is of glass, gelatine, or celluloid, the picture is preferably drawn on it with lithographic chalk. When the plate D is made of any other translucent material, the picture may be drawn with a pen, brush, etching-needle, or any other approved instrument suitable to the translucent material of the plate.

The picture drawn on the plate D may be transferred to paper or canvas in any approved manner; or, if desired, it may be used

as a means for verifying the form and perspective of a drawing of the same object made by a pupil in free-hand in the ordinary manner by placing the translucent plate over the said drawing.

Objects that are too large or too near the eye to be comprised within the normal visual angle are in "wide-angle perspective." Such objects are seen by the eye by means of several successive glances, accompanied by a movement of the eyeball sufficient to accommodate it to the wider angle required to include the greatest dimensions of the objects.

The picture of the object (such as a church-interior) is drawn on the plate D by reversing the diaphragm-plate and placing the large sight-hole e' in front of the plate D and adjusting the distance between the sight-hole and the plate D in the same manner as when the small sight-hole is used. In each case the diaphragm-plate serves to keep the eye at a certain distance from the translucent plate, and the picture as drawn on the said plate is a correct representation of the object as seen by the eye. In this respect the picture differs from the picture taken by a photographic camera in which portions of the object appear incorrectly foreshortened.

The diaphragm-plate is provided with springs g for holding spectacle-lenses in front of the sight-holes for the use of those persons who require them.

The frame C is preferably provided with a hinged upper side G, pivoted at one end on the pin g' and provided at the other end with the pivoted fastening-hook G' . The plate D slides in grooves in the frame, and may be removed, when desired, by raising the hinged side G.

If desired, the frame C may have a removable plate H secured to it by catches h behind the plate D. This plate H is provided with a sight-hole h' , and the picture may be drawn upon the translucent plate D in front of the sight-hole, if desired. If desired, the object may merely be observed through the sight-hole and the picture may be drawn upon the plate D at the right hand of the sight-hole, or upon a piece of paper laid on a table in any convenient position. If desired, any approved form of pantograph may be attached to the frame, and the picture may be drawn to a larger scale at the right hand of the sight-hole.

The size of the sight-hole may be varied by means of a slide.

J is a slide, which moves in grooves j of a frame J' . (Shown in detail in Fig. 5.)

The plate H is provided with horizontal guides K for the sliding-frame J' to engage with, and k and k' are guide-straps secured to the top and to one end of the frame C, respectively. The frame J' and its slide J

may be slid horizontally or vertically behind the sight-hole, according to whether the adjusted sight-hole is required to have its greatest length in a vertical or horizontal direction.

M are turn-buttons pivoted to the plate H for engaging with and securing the frame J' after it has been slid between the guides. The upper guide K is provided with a hole m for the frame J' to pass through when slid vertically downward through the guide-strap k .

The slide J is pulled out to the required extent, as shown in Fig. 5, and n are diagonally-arranged elastic threads having their ends attached to the frame J' and to the slide J. These threads are of india-rubber. They are drawn out to a greater or less extent, according to the position of the slide in its frame, and always extend diagonally between the opposite corners of the adjusted sight-hole. When the object behind the sight-hole is to be drawn upon a piece of paper, the slide is first drawn out so that the object is seen to the best advantage through the sight-hole. A rectangle proportional to the adjusted sight-hole is then drawn on the paper and is furnished with diagonal lines corresponding to the elastic threads. The object is then observed through the sight-hole and is drawn on the paper, the diagonal lines on the paper and the diagonal elastic cords serving as guides to enable the parts of the object to be drawn in their correct proportion and perspective.

If desired, the frame J' and the slide J may be used separate from the rest of the device for deciding the proportion of pictures, the frame being held up by hand between the eye and the object.

What we claim is—

1. The combination, with the frame C, of a plate of translucent material D secured therein, the plate H provided with a sight hole h' and secured behind the plate D, and a slide for adjusting the size and form of the said sight hole, substantially as set forth.

2. The combination, with the frame C, of the plate H provided with a sight hole h' and secured in the said frame, the guides K and the guide straps k and k' , and a slide for adjusting the form and size of the said sight hole and slidable horizontally or vertically in the said guides and guide straps, substantially as set forth.

3. The combination, with the frame J' , of the slide J sliding in the said frame, and the diagonally-arranged elastic threads attached to the said frame and its slide, substantially as set forth.

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Witnesses:

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WM. HILLIER.