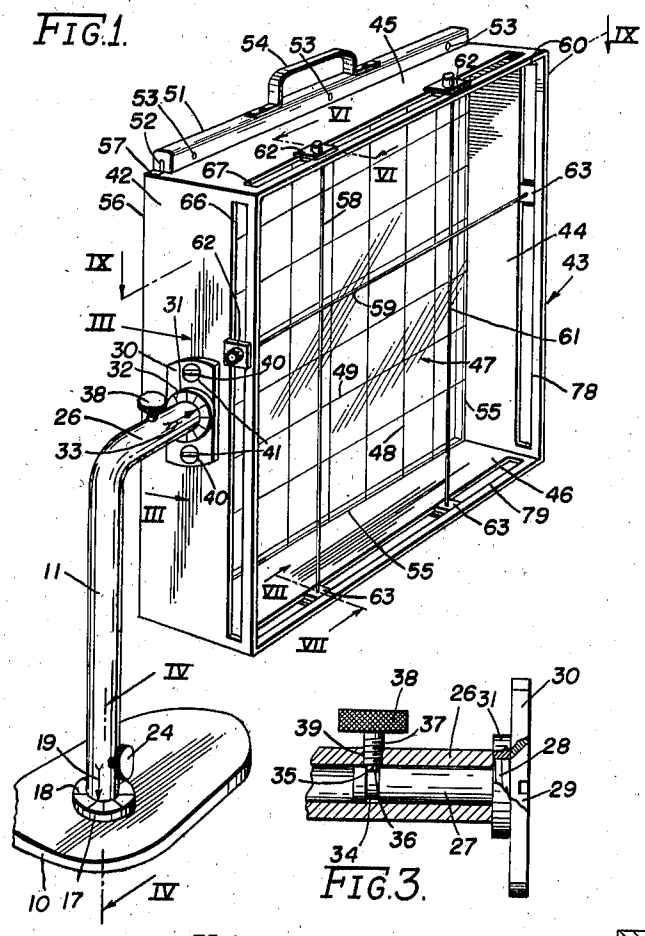
Nov. 18, 1941. H. G. PERRY 2,263,101

DRAWING SIGHT

Filed Nov. 14, 1940

FIG. 1.



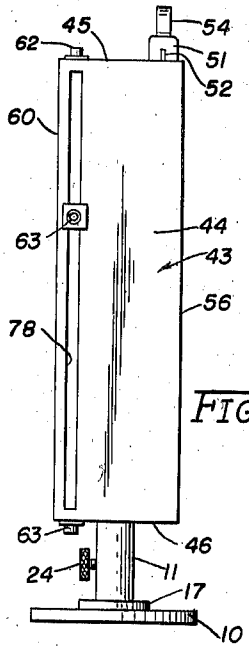


FIG. 2.

FIG. 3.

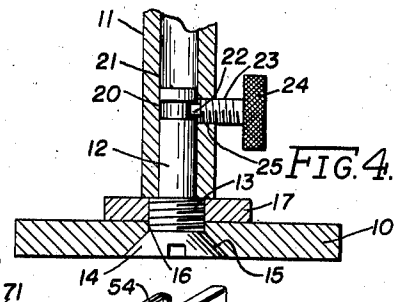


FIG. 4.

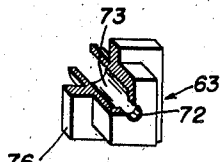


FIG. 5.

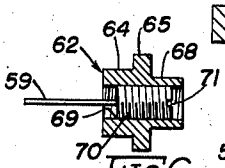


FIG. 6.

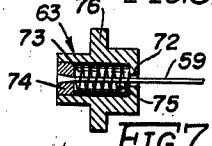


FIG. 7.

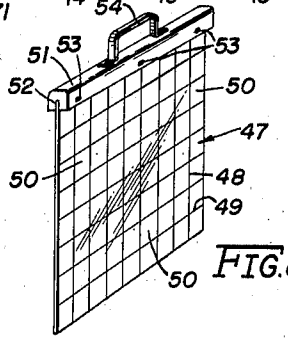


FIG. 8.

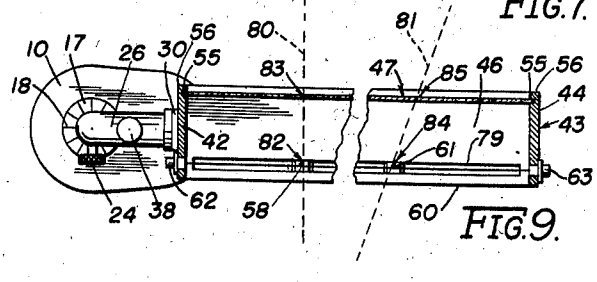


FIG. 9.

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2,263,101

DRAWING SIGHT

Henry G. Perry, Chicago, Ill.

Application November 14, 1940, Serial No. 365,621

5 Claims. (Cl. 33—64)

This invention relates to drawing sights and more particularly to an improvement in sketching devices to facilitate the reproduction of scenes, although it may be employed with equal advantage for other purposes.

It contemplates more especially the provision of an improved drawing sight that is adjustably supported having movable intersecting lines of vision to serve as an aid in preparing reproductions in proportional size in three dimensions with increased speed, accuracy and improved proportions.

One object of the present invention is to simplify the construction and improve the operation of devices of the character mentioned.

Another object is to provide a drawing sight that is adjustably supported for movement along intersecting planes to afford faster and greater variations in lines of vision so that objects can be reproduced from different view points and at varying angles.

Still another object is to provide a drawing sight having a plurality of movable wires that can be adjustably positioned to define different lines of vision within the limits of the sight area involved.

A further object is to provide a drawing sight having a view finder area that receives a view sheet detachably supported therein for ready substitution.

A still further object is to provide a plurality of view sheets having permanent squares inscribed therein to extend over the sight area for selected support in the view finder frame.

Still a further object is to provide a drawing sight having replaceable view sheets with different size squares inscribed therein in cooperation with slidably mounted lines of vision.

An additional object is to provide a drawing sight that is adjustably mounted in intersecting planes together with a plurality of replaceable view sheets having different size squares inscribed therein for cooperation with slidably mounted lines of vision.

Other objects and advantages will appear from the following description of an illustrative embodiment of the present invention.

In the drawing:

Figure 1 is a perspective view of a drawing sight embodying features of the present invention.

Figure 2 is a right end view in elevation of the drawing sight shown in Figure 1.

Figure 3 is a sectional view of a bracket support taken substantially along line III—III of Figure 1.

Figure 4 is a sectional view of a standard support taken substantially along line IV—IV of Figure 1.

Figure 5 is a quarter-sectional perspective view of adjustable wire anchoring mounts shown in operative association with the wires defining lines of vision in Figure 1.

Figure 6 is a sectional view of a slidable wire anchoring mount taken substantially along line VI—VI of Figure 1.

Figure 7 is a sectional view of a slidable wire anchoring mount taken substantially along line VII—VII of Figure 1.

Figure 8 is a perspective view of a transparent view sheet having squares permanently inscribed therein together with an edge mount for enabling the manipulation thereof for placement and removal in the drawing sight shown in Figure 1.

Figure 9 is a sectional plan view taken substantially along line IX—IX of Figure 1.

The structure selected for illustration comprises a base plate 10 of any suitable shape and construction to serve as a support for a tubular standard 11 that telescopically receives a stud 12 (Figure 4) through the lower end thereof. The stud 12 has a threaded shoulder 13 immediately above its tapered head 14 that serves as a complement of a correspondingly tapered seat 15 merging with an aperture 16 that extends through the base plate 10. A suitable collar 17 threadedly engages the stud shoulder 13 to rigidly mount the stud 12 to the base plate 10. The collar 17 is preferably provided with a plurality of uniformly spaced radial lines 18 that define angular positions relative to an arrow marker 19 inscribed vertically along the lower portion of the tubular standard 11 to cooperate with the radial lines 18 in determining the angular position of the standard 11 relative to its base 10.

An annular groove 20 is provided in the upstanding stud 12 proximate to the upper extremity 21 thereof to receive the reduced extremity 22 of a threaded shank 23 which has an enlarged knurled head 24 provided thereon to enable the radial manipulation of the threaded shank 23 that engages a correspondingly threaded aperture 25 provided through the wall of the tubular standard 11. With this arrangement, the tubular standard 11 may be rotated to any desired angular position determined by the arrow marker 19 relative to the graduated lines 18 and held against rotation in any selected position by turning down the knurled head 24 so that the extremity 22 of the threaded shank 23 will tightly en-

gage the seat of the annular groove 20 to preclude relative movement therebetween.

The tubular standard 11 extends upwardly to merge in a horizontally offset arm 26 which telescopically receives a stud 27. The stud 27 has a threaded shoulder 28 which terminates in a tapered head 29 to retain a bracket 30 thereon by means of a correspondingly threaded collar 31. The collar 31 is provided with uniformly radially spaced lines 32 that define angular positions relative to an arrow marker 33 inscribed longitudinally along the end portion of the horizontally offset arm 26 to cooperate with the radial lines 32 in determining the angular position of the bracket 30 relative to the horizontally offset arm 26. An annular groove 34 is provided in the stud 27 proximate to the extremity 35 thereof to receive the reduced extremity 36 of a threaded shank 37 which has an enlarged knurled head 38 provided thereon to enable the manipulation of the threaded shank 37 that engages a correspondingly threaded aperture 39 provided through the wall of the horizontally offset arm 26 of the standard 11.

The bracket 30 is provided, in this instance, with a plurality of apertures 40 which receive threaded fasteners 41 therethrough that are anchored in the side wall 42 of the drawing sight frame 43. The drawing sight frame 43 has a vertical wall 44 parallel to the wall 42 and oppositely disposed parallel walls 45—46 that are joined to each other to define a rectangular frame. The open frame 43 serves as a sight through which objects may be observed for sketched reproduction on a separate sheet as will appear more fully hereinafter. As shown, the parallel walls 42—45 and 45—46 of the sight frame 43 are of substantial depth to provide a viewing chamber therethrough.

In order to divide the viewing chamber in the frame 43 into a plurality of uniform squares, a transparent view sheet 47 is provided with intersecting opaque lines 48—49 that define uniform squares 50 therein. The view sheet 47 is, in this instance, attached to a rigid bar 51 that has a longitudinally extending groove 52 to receive one edge of the view sheet 47. Attachment is effected between the view sheet 47 and the top bar 51 by means of a plurality of suitable fasteners 53 which extend transversely through the side walls of the bar 51 and the longitudinal groove 52 therein to engage the view sheet 47, thereby effecting permanent attachment of the bar 51 to one edge of the view sheet 47.

A handle 54 is attached to the view sheet bar 51 to enable the manipulation thereof for attachment and detachment to the opening defined by the frame 43. In order to conveniently associate and remove the view sheet 47 relative to the frame 42, longitudinal grooves 55 are provided in the inside surfaces of the side walls 42—44 and bottom wall 46 near the rear edges 56 of the frame 43 (Figure 9) to serve as complements of the corresponding edges defining the outline of the view sheet 47. A slot 57 is provided through the top wall 45 of the frame 43 in alignment with the grooves 55 so that the view sheet 47 may be displaced therethrough for reception in the grooves 55 with the view sheet top bar 51 resting on the top surface of the frame wall 45 (Figure 1).

This enables any number of view sheets 47 to be substituted or replaced by other view sheets of the same external size with squares 50 of smaller or larger size inscribed therein depending upon the dictates of commercial practice. In order that lines of vision may be marked with reference to any points or views of an object or moved from one view to the next for successive reproduction in proportional size, intersecting wires 58 and 59 are tensioned across the frame 43 proximate to the forward edge 60 thereof. Another wire 61 is tensioned across the frame 43 for extension parallel to the vertical wire 58, the wire 61 serving to fix the position of the eye with respect to the wire 58 so that the sketcher may leave the line of vision and always come back to the same point or line of sight as will be explained more fully hereinafter.

So that the intersecting wires 58—59—61 may be held taut and the point of intersection varied to correspond with selected points on an object to be reproduced, the wires 58—59—61 are mounted in confronting pairs of brackets 62—63. The brackets 62 consist of a square body 64 having an enlarged peripheral flange 65 thereon of corresponding shape to engage the outside surfaces adjacent longitudinal slots 66 and 67 provided near the forward edge 60 of the side walls 42—45 of the frame 43. The body 64 of the bracket 62 is sized to project within the slots 66—67 to freely slide therealong.

An axial extension 68 is provided on the bracket body 64 through which extends a threaded bore 69 to receive a correspondingly threaded stud 70 having a diametrical head slot 71 therein to enable rotation responsive to the use of a screw driver. Wires 58—59—61 are anchored in the stud 70 so that they may be tensioned or loosened depending upon the degree of rotation of the threaded stud 70 relative to the threaded bore 69 in the brackets 62. The other extremity of the wires 58—59—61 project through openings 72 provided axially through the bracket 63 to communicate with a recess 73. The recess 73 receives a correspondingly shaped cap 74 within which the wires 58—59—61 are anchored for displacement within the recess 73 of the brackets 63 against the urge of a coil spring 75 serving as a resilient mount therefor.

It will be apparent, therefore, that the wires 58—59—61 may be drawn tight against the urge of the spring 75 in that the body of the brackets 63 also has peripheral flanges 76 to engage the outer surfaces of the side and bottom walls 44—46 of the frame 43 owing to the provision of slots 78 and 79 therein. It will be observed with this arrangement that the wires 58—59—61 may be drawn taut to retain the confronting pairs of brackets 62—63 in any adjusted position within the limits of the slots 66—67 and 78—79. This affords the displacement of the intersecting wires 58—59—61 so that the line of vision may be varied and the position of the eye with respect to the line of vision oriented relative to the second vertical wire 61 that may be projected by the eye on another portion of the object to be reproduced.

This is illustrated by the dotted lines 80 and 81 in Figure 9. For instance, the eye will be directed along a straight line 81 which aligns with the vertical wire 58 to determine two imaginary points 82 and 83 that are directly in line with the eye. Holding the eye in the same position and looking in the direction of the other wire 61, two additional imaginary points 84 and 85 are determined. The appreciable depth of the viewing chamber defined by the frame 43 having its side walls of substantial depth, assists in accurately orienting the observer's eye position

from the viewing chamber within the frame **43**. By remembering these two points **84—85**, the latter being preferably oriented with respect to the squares **50** and the object that is to be sketched, the sketcher may always go back to the same position along the line of vision. This position may be changed from time to time by slidably displacing the intersecting wires **58—59** so that the point of their intersection corresponds with various points selected upon the object.

Then, too, perspectives can be proportionally reproduced by turning the frame **43** relative to its axially supporting arm **26** and this position will be indicated by the calibrated radial lines **32** relative to its marker **33**. Other angles or viewpoints from which the object is to be sketched may be selected by changing the position of the frame **43** with respect to the vertical standard **11**, and this position will be determined by the graduated lines **18** relative to the arrow marker **19**. Consequently, the position of the frame with respect to the eye can always be varied and retaken as occasion may require.

In reproducing a picture, landscape, or other object, it may be viewed through the view sheet **47**. The sketcher has a correspondingly lined guide sheet available on his desk or sketching board with proportionally sized squares therein. The transparent or translucent sketching sheet is preferably placed over the correspondingly lined guide sheet so that the original painting, landscape or other object is seen through the view sheet **47** according to the respective squares therein. It is sketched on the transparent or translucent paper in accordance with similar squares seen therethrough from the guide sheet.

In this manner, the entire object that is being viewed may be conveniently, accurately and rapidly reproduced on the sheet that is placed over the correspondingly lined guide sheet so that proportional reproduction can be completed without entailing any appreciable time, variation, proportions and inaccuracies. Then, too, perspectives as well as reproductions from different view points may be rapidly effected. Even though the reproduction is not completed at one sitting, the adjustments and other graduated indicators permit the resetting of the frame **43** to correspond with the original setting. For that matter during the reproduction, the frame **43** can be changed from one position to another and then returned to the initial position to facilitate intermediate observations that may be found desirable.

Various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention or any features thereof, and nothing herein shall be construed as limitations upon the invention, its concept or structural embodiment as to the whole or any part thereof except as defined in the appended claims.

I claim:

1. A drawing sight comprising a frame, a transparent view sheet mounted in said frame, said view sheet having opaque intersecting lines inscribed therein to define uniform squares, means for adjustably supporting said frame in a variety of angular positions, wire mounting brackets slidably mounted along said frame, and parallel intersecting sight wires resiliently anchored in said mounting brackets for relative adjustment in normal planes and tensioned across said frame in spaced parallel relation to said view sheet.

2. A drawing sight comprising a frame, a transparent view sheet mounted in said frame, said view sheet having opaque intersecting lines inscribed therein to define uniform squares, means for adjustably supporting said frame in a variety of angular positions, wire mounting brackets slidably mounted along said frame in normal planes, and a plurality of parallel intersecting sight wires anchored in said mounting brackets and tensioned across said frame in spaced parallel relation to said view sheet.

3. A drawing sight comprising a rigid frame having an open sight or view chamber, intersecting lines extending across the sight area of said frame to define uniform squares in a common plane, and intersecting sight wires extending across said frame in a spaced parallel plane relative to said intersecting sight area lines to provide a viewing chamber of appreciable depth.

4. A drawing sight comprising a frame having an open sight or view chamber, said view chamber having intersecting lines extending therein to define uniform squares, and a pair of parallel wires intersecting another single sight wire tensioned across said frame in spaced parallel relation to said first named intersecting lines to enable orienting the observer's eye to a definite position relative to the viewed objects.

5. A drawing sight comprising a frame, a transparent view sheet mounted in said frame, said view sheet having opaque intersecting lines inscribed therein to define uniform squares, means for adjustably supporting said frame in a variety of angular positions, wire mounting brackets slidably mounted along said frame, and a pair of parallel wires intersecting another wire, said last named parallel and intersecting wires being anchored in said mounting brackets and tensioned across said frame in spaced parallel relation to said view sheet to constitute sight orienting wires relative to the intersecting lines on said view sheet.

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