Nov. 23, 1948. F. L. GOFF 2,454,380

PERSPECTIVE DRAFTING ATTACHMENT

Filed Jan. 17, 1947

Fig. 1

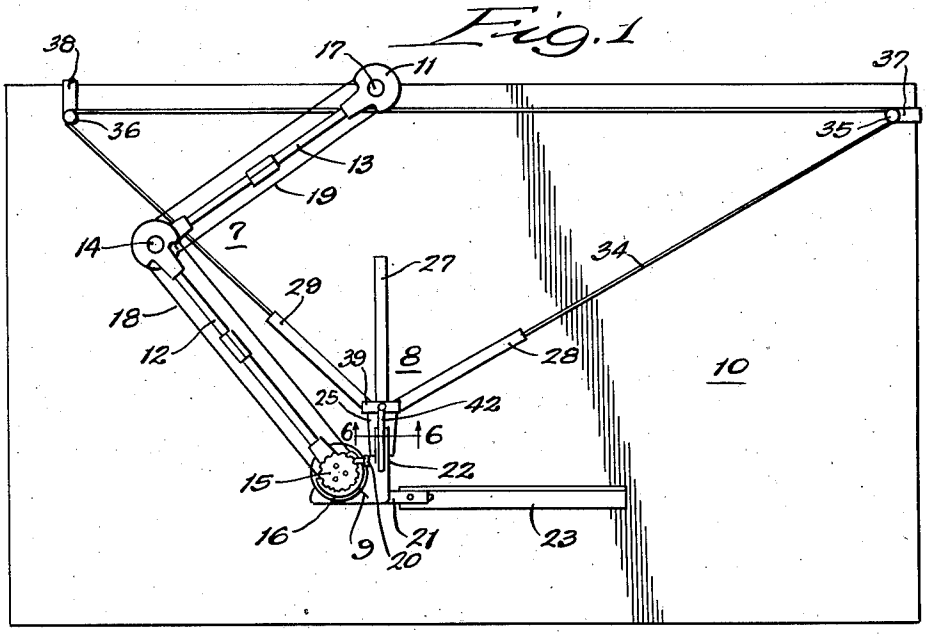


Fig. 2

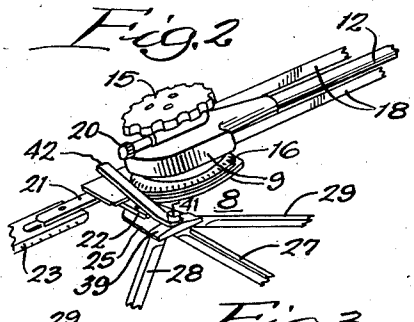


Fig. 3

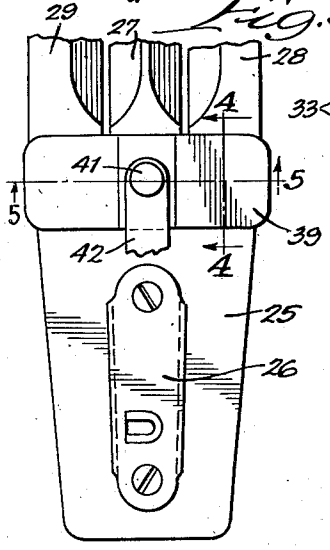


Fig. 4

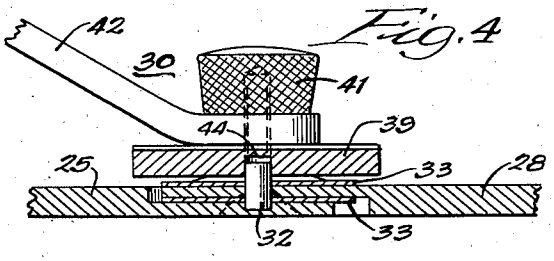


Fig. 5

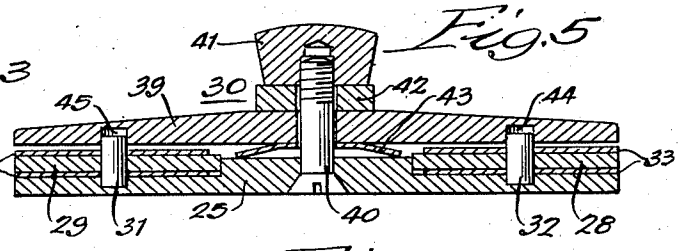


Fig. 6



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PERSPECTIVE DRAFTING ATTACHMENT

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2 Claims. (Cl. 33—77)

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This invention relates to an attachment for standard drafting equipment for use in drawing perspective views.

The main objects of this invention are, to provide an improved form of a simply constructed and easily usable attachment for the drawing of perspective views; to provide an improved attachment of this kind especially suitable for use with any of the standard drafting machines; to provide an improved construction and relative arrangement of straight-edges on an attachment of this kind for respectively determining the vertical and oppositely converging diagonal lines of a perspective view; to provide improved clamping means for temporarily holding the diagonally divergent straight-edges in any position; and to provide a perspective drawing attachment of this kind which is inexpensive to manufacture, which is easily assembled on a standard drafting machine, and which is positive in its operation.

A preferred form of perspective drafting attachment embodying this invention is shown in the accompanying drawings wherein:

Fig. 1 is a plan view of a drafting surface on the support for which is mounted a conventional type drafting machine wherewith is associated this improved perspective drafting attachment;

Fig. 2 is a fragmentary perspective of the drafting machine head with this improved perspective drafting attachment arranged thereon;

Fig. 3 is an enlarged fragmentary plan view of the supporting plate for the improved perspective drafting attachment;

Fig. 4 is a further enlarged cross-sectional detail taken on the line 4—4 of Fig. 3;

Fig. 5 is a similar view taken on the line 5—5 of Fig. 3; and

Fig. 6 is an enlarged cross-sectional detail taken on the line 6—6 of Fig. 1.

The more modern and conventional type drafting machine 7 wherewith a perspective drafting attachment 8 constructed in accordance with this invention is particularly adapted for use comprises a straight-edge supporting-head 9 mounted for movement in a plane parallel to the drafting surface 10 by means of a clamp support 11 and a pair of arms 12 and 13 pivotally connected together at 14. The clamp support 11 is secured to one edge—usually the upper edge—of the drafting-surface support (not herein illustrated). The arm 12 pivotally supports the head 9 with which is associated a hand grip 15 and an annular scale 16. The arm 13 is pivoted at 17 to the supporting clamp 11. Cables 18 and 19 serve to keep the straight-edge supporting-head in a predetermined

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angular position with regard to vertical and horizontal dimensions of the drafting surface 10, as may be determined by a locking means (not shown) arranged between the hand grip 15 and scale 16 on the one hand and the straight-edge supporting-head 9 on the other hand, which locking means is controlled by a release pin 20.

The head 9 is provided with a pair of right-angularly disposed chucks 21 and 22 each of which is adapted to removably support conventional straight-edges one of which is shown at 23. When it is desired to use the machine for perspective drawing the straight-edge normally supported in the chuck 22 is replaced by a perspective drafting attachment 7 embodying this invention.

The improved perspective drafting attachment 7 comprises a member 25 on which is supported a chuck-receiving shank 26 and straight-edges 27, 28, and 29 and a locking means 30.

The shank 26 is a wedge-like element with tapered sides adapted to fit in the chuck 22 and, being separately formed, is attached to the plate 25 by means of screws, as clearly shown in Fig. 3. The shank 26 thus supports the member 25 on the drafting machine head 9 so that the straight-edge 27 is at right angles to the straight-edge 23.

The straight-edge 27 is rigidly fixed on the plate 25 whereas the straight-edges 28 and 29 are pivoted to the member 25 on opposite sides of the straight-edge 27. These pivots are preferably in the form of pins 31 and 32 which, in Fig. 5, are shown to be set in recesses in the member 25 and do not extend through said member. Spacing discs 33 are arranged concentrically of the pins 31 and 32 on opposite sides of the straight-edges 28 and 29.

At their outer ends the straight-edges 28 and 29 are connected to the end of a flexible element 34 in the form of a coiled spring wire. This forms a loop which extends around rollers 35 and 36 mounted on the C-clamps 37 and 38. These clamps are adapted to be secured to the edges of the support for the drafting surface 10 to simulate the vanishing points of a perspective. Thus they cause the spring 34 to locate the straight-edges 28 and 29 in proper angular position with respect to the vertical straight-edge 27 for any position to which said drafting machine head 9 may be shifted over the drafting surface 10.

The locking means 30 comprises a bar 39 mounted on a pivot pin 40 on the upper end of which is threaded a knurled nut 41 and between which and the bar 39 is arranged the inner end of a lever or arm 42. A leaf spring 43 concentrically arranged with regard to the pin 40, between

the plate 25 and bar 39, normally urges the bar 39 away from the plate 25.

The bar 39 is of rectangular form and is positioned so that the ends overhang the pivoted ends of the straight-edges 28 and 29. Recesses 44 and 45 are formed in the under surface of the bar 39 to receive the pivot pins 31 and 32, respectively.

The lever or arm 42 extends rearwardly along the member 25 and at a slight angle thereto so that, when the attachment 8 is in place on the head 9, the outer end of the lever 42 is contiguous to the release pin 20. This permits the lever 42 to be depressed by the thumb or a finger of the hand which usually is used for actuating the said release pin 20.

The operation of the attachment is thought to be more or less obvious from the foregoing description and therefore to require only a general explanation.

When it is desired to use the drafting machine 7 for perspective drawings the usual straight-edge for drawing vertical lines on the drafting surface 10 is removed from the head 9 and this attachment 8 secured in its place. The C-clamps 37 and 38 will be relatively positioned on the support for the drafting surface 10 as determined by the character, size, and position of the perspective to be drawn on the drafting surface 10. Normally the drafting head 9 would be set so that the straight-edge 27 occupies a position to draw vertical lines on the drafting surface 10. Once the station point for a particular perspective view has been determined the drafting machine 7 is actuated so as to move the straight-edges 27, 28, and 29 into the positions desired to draw the lines representing the vertical height and the length and the width of the object the perspective view of which is to be placed on the drafting surface.

The drafting machine having been set to draw the diagonal lines representing the length and width of the object, the lever or arm 42 is depressed. This shifts the bar 39 against the action of the spring 43 into contact with the upper spacing discs 33 on the straight-edges 28 and 29. The straight-edges 28 and 29 thereby are secured against accidental displacement during the drawing of lines along either of these straight-edges.

If perchance it is desired to set the straight-edges 28 and 29 for the purpose of drawing of isometric representations, the knurled nut 41 may be turned down to shift the locking bar 39 into contact with the spacing disc 33 on the straight-edges 28 and 29. This will hold the straight-edges 28 and 29 against relative movement so long as the knurled nut remains in such position.

Variations and modifications in the details of structure and arrangement of the parts may be resorted to within the spirit and coverage of the appended claims.

I claim:

1. Drafting equipment comprising, a member formed with a shank adapted to fit a chuck, on a standard drafting machine a pair of straight-edges pivotally attached to said member, and positionable in various divergent angular relationships to represent the lines for a perspective drawing a bar superimposed on said member on a pin positioned between said straight-edge pivots with the ends of said bar disposed over the pivoted ends of said straight-edges, resilient means normally urging said bar out of contact with said straight-edge ends, a lever arm associated with said pivot pin and actuatable for depressing said bar against the action of said resilient means to contact said bar with said straight-edge pivoted ends for temporarily locking said straight-edges against accidental displacement during the drawing of lines therealong.

2. Drafting equipment comprising, a member formed with a shank adapted to fit a chuck, on a standard drafting machine a pair of straight-edges pivotally attached to said member, and positionable in various divergent angular relationships to represent the lines for a perspective drawing, a bar superimposed on said member on a pin positioned between said straight-edge pivots with the ends of said bar disposed over the pivoted ends of said straight-edges, resilient means normally urging said bar out of contact with said straight-edge ends, a nut threaded on the upper end of said pivot pin, a lever arm having the inner end thereof interposed between said nut and said bar and having the outer end extending above at an incline to said member and actuatable for depressing said bar against the action of said resilient means to contact said bar with said straight-edge pivoted ends for temporarily locking said straight-edges against accidental displacement during the drawing of lines therealong.

FRANCIS LEE GOFF.

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