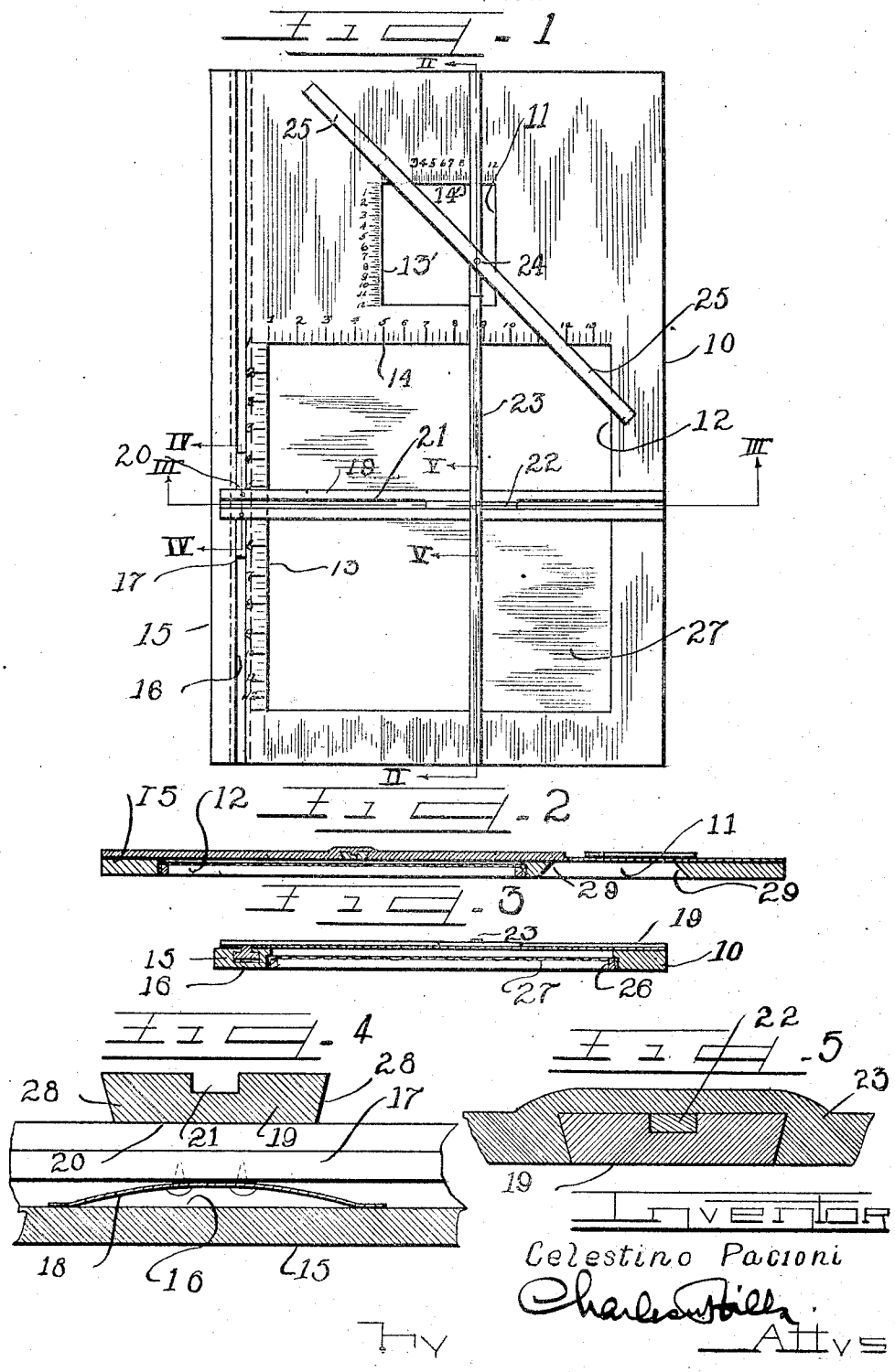
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INSTRUMENT FOR PROPORTIONAL DRAFTING

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INSTRUMENT FOR PROPORTIONAL DRAFTING.

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This invention relates to means for ascertaining and describing on a suitable receptive surface, the outlines of a remote object in substantially true relative dimensions and configuration.

The instrument is intended to serve as a gauge, adjustable to meet the exigencies presented, whereby visual immaginary sight lines, radiating from the human eye to the outlines of a remote object, are located and noted where they pass thru a relatively small adjustable intervening aperture, by indications which define linear dimensions, lines representing which are then transcribed upon an accompanying surface in proportional measurements. By this means, artists are enabled to outline on a canvass, or other like receiving surface, true proportional delineations of distant objects, and their locations with respect to other objects.

The device is intended to be fixed in its upright position with its top edge level as shown, and the observer is to look through the aperture at the boundary of some remote object, then the appropriate straight edge is moved over the aperture until one of its edges is in line with the line of vision, whereupon its position is indicated by the graduations bounding the aperture. The straight edge is now to be moved over the receiving surface to position indicated by a corresponding unit of its graduation and a mark is then made along the used edge of the straight edge, on the receiving surface. This operation is repeated until the outline of the observed remote object appears upon the receiving surface which will be proportional in size and configuration.

On the drawings:

Figure 1 is a plate or frame;

Fig. 2 is a sectional view taken on line II—II of Figure 1;

Fig. 3 is a transverse section taken on line III—III of Figure 1;

Fig. 4 is an enlarged section taken on line IV—IV of Figure 1; and

Fig. 5 is an enlarged section taken on line V—V of Figure 1.

As shown on the drawings:

A plate or frame 10 is provided with two openings, or apertures 11 and 12. These openings are shown to be rectangular in outline. The smaller opening 11 is immediately above the central portion of the opening 12.

Two angularly related margins, 13 and 14 of 12, are graduated near their edges in linear terms, as in inches and fractions thereof. Similar margins of the aperture 11 are in like manner graduated in corresponding terms in which the spaces indicated by the units are the same in number, but proportionately shorter. For example; if the aperture 11 be twenty-four inches wide and twenty-four inches long, the indicia on the aperture 11 should read in the same number of, but shorter units. That is to say, the scales 13′—13′ and 14′—14′ should each read in units from 1 to 24.

One side 15 of the frame is grooved, as at 16, from end to end. A T-shape cleat 17 is slidable in the groove and a spring 18 frictionally holds the cleat in selected position.

A horizontal straight edge 19 is secured to the cleat 17 at 20. The straight edge may be moved vertically and held in any selected position by the spring 18. The straight edge 19 is also longitudinally grooved, at 21, within which another cleat 22 is slidable laterally of the frame and longitudinally of straight edge 19. A vertically extending straight edge 23 is secured to the cleat 22 and is movable laterally across the face of the apertures 11 and 12 on the straight edge 19. The straight edges 19 and 23 are maintained at all times in planes at right angles to each other. Centrally pivoted on the straight edge 23, as at 24, is a third straight edge 25 and is frictionally retained in any selected position.

A frame 26 is fixed in the opening or aperture 12 and bears a stretched canvas 27 or other suitable surface upon which to receive marks to be made thereon. The straight edge 25 when not in use may be placed parallel with straight edge 23.

The instrument when about to be used for its intended purpose is first mounted upon a fixed support.

The operator then looks at a remote object thru the smaller aperture 11. If the portion of the outline of said object is in a vertical plane the straight edge 23 is slid laterally over the aperture 11 until its approaching edge is brought into the line of vision and the observed portion of said object. Assume now that said front edge indicates 15 on scale 14′ then the straight edge 23 is slid laterally until its front edge coincides with 15 on scale 14, a mark is then

made on the surface 27, the straight edge serving as a pencil guide. Observations are then made adjacent the opposite edge of aperture 11 and a graph line made in 27 as before. Straight edge 19 is then moved over the aperture to secure the indications denoting the top and bottom measurement of the observed object and corresponding lines are made on the receiving surface 27. The straight edge 25 is used in the same manner to secure the position of outlines which may be located in various oblique planes. The edges of the straight edges, 19, 23 and 25 are cut back, as shown at 28, to present a sharp front edge so that the rear part will not be interposed when looking thru aperture 11 at an angle to its front face. In like manner the bounding edge of the aperture 11 is cut back, as at 29, for the same purpose.

I am aware that many changes may be made and numerous details of construction may be varied through a wide range, without departing from the principles of this invention and I do not purpose limiting the patent granted hereon, otherwise than necessitated by the prior art.

Having described my invention, what I claim is:

1. In a device of the character described, a flat plate to support a receiving surface and having a rectangular orifice, there being graduations in linear terms near the margins of two angularly related edges thereof, a proportional rectangular receiving surface supported on said plate and located near said orifice there being graduations in linear terms near the margins of two angularly related edges of said surface and uniformly proportional to the graduations about said orifice; a vertically slidable straight edge movable over said orifice and said surface and a longitudinally slidable straight edge laterally movable over said orifice and said surface said straight edges serving as pencil guides and guiding means to hold said straight edges in predetermined angular relation.

2. In a device of the character described, a flat plate to support a receiving surface and having a rectangular orifice, there being graduations in linear terms near the margins of two angularly related edges thereof; a proportional rectangular receiving surface supported on said plate and located near said orifice, there being graduations in linear terms near the margins of two angularly related edges of said surface and uniformly proportional to the graduations about said orifice; a vertically slidable straight edge movable over said orifice and said surface and a longitudinally slidable straight edge laterally movable over said orifice and said surface; guiding means to hold said straight edges in predetermined angular relation and a straight edge pivotally supported on the laterally movable straight edge.

In testimony whereof I have hereunto subscribed by name.

CELESTINO PACIONI.