(No Model.) 2 Sheets—Sheet 1.

A. H. JOHNSON.

DRAWING BOARD.

No. 495,157. Patented Apr. 11, 1893.

Fig. 3.

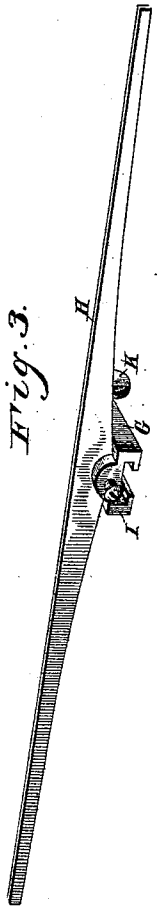
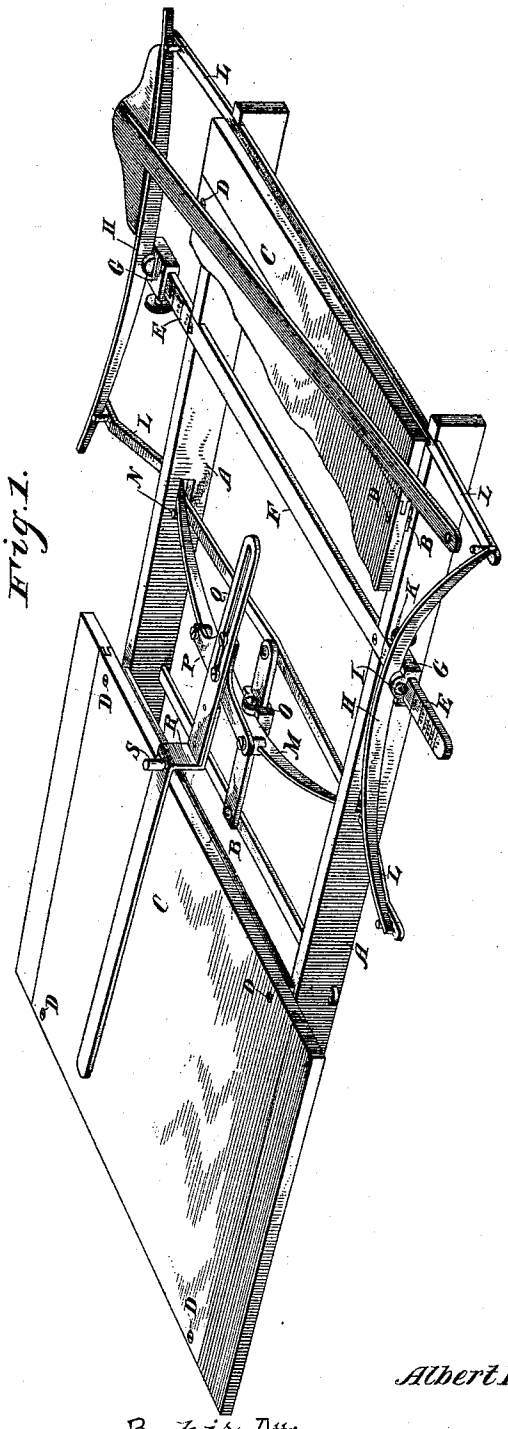


Fig. 1.



Witnesses;

J. M. Witherod.

C. E. Doyle.

Inventor

Albert H. Johnson,

By his Attorneys,

C. A. Snow & Co.

(No Model.) 2 Sheets—Sheet 2.

A. H. JOHNSON.

DRAWING BOARD.

No. 495,157. Patented Apr. 11, 1893.

Fig. 2.

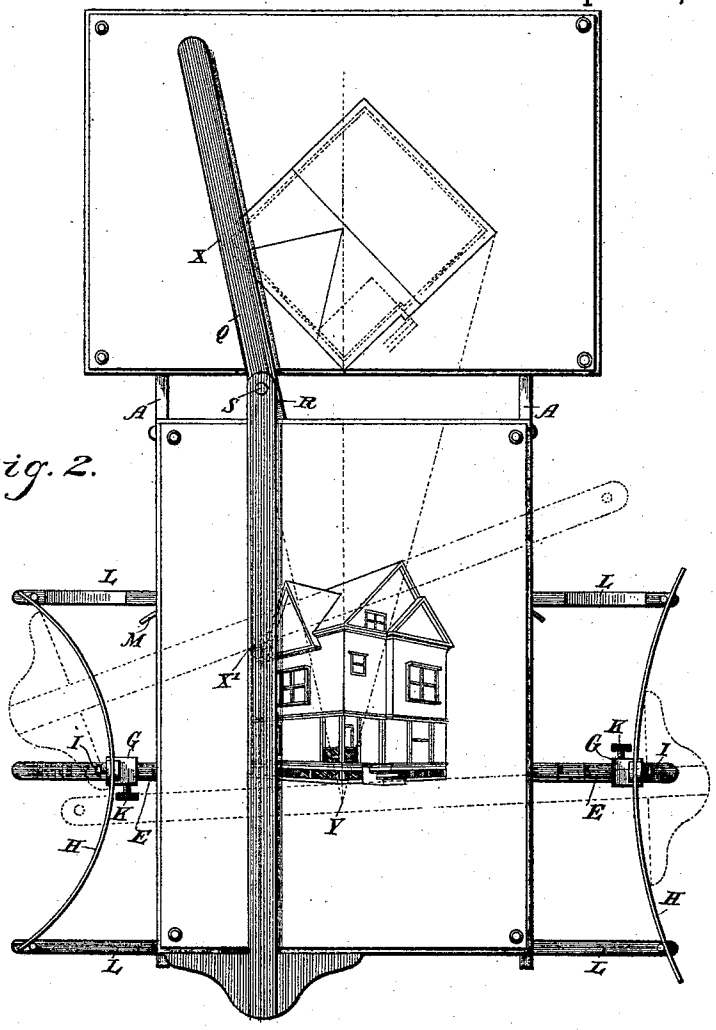
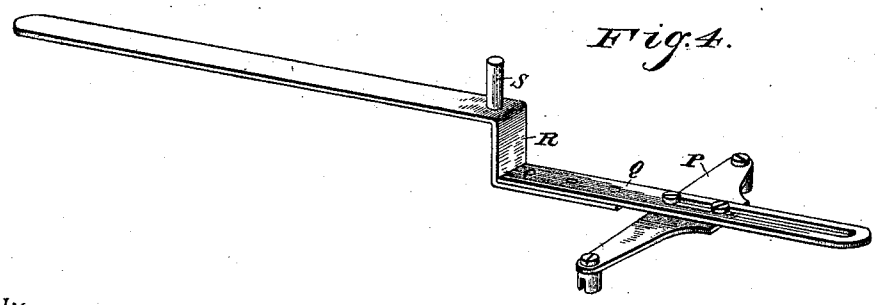


Fig. 4.



Witnesses;

J. M. Witherow.

O. E. Doyle.

Inventor
Albert H. Johnson,

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ALBERT H. JOHNSON, OF TAMPA, FLORIDA.

DRAWING-BOARD.

SPECIFICATION forming part of Letters Patent No. 495,157, dated April 11, 1893.

Application filed July 21, 1892. Serial No. 440,823. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. JOHNSON, a citizen of the United States, residing at Tampa, in the county of Hillsborough and State of Florida, have invented a new and useful Drawing-Board, of which the following is a specification.

My invention relates to drawing, and refers particularly to the boards used therein, the object of my improvement being to produce a board whereon perspectives may be drawn, the horizontal vanishing points, and point of sight being determined by gages provided for that purpose.

To this end the invention consists in a board provided at opposite sides with curves or curved guides, operated by slides mounted upon gages, for obtaining the horizontal vanishing points, and similar guides located beneath the board and provided with a swinging arm to determine the point of sight.

My invention is described in detail in connection with the drawings, and the novel features thereof are particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of a board embodying my improvement, broken away to show the devices for determining the point of sight. Fig. 2 is a plan view showing the boards provided with drawings, and indicating by dotted lines the manner of using a T-square thereon. Fig. 3 is a detail view of one of the curved guides with its attached slide. Fig. 4 is a similar view of the swinging arm detached.

The frame of my improved board comprises the parallel side-bars A A, connected by the transverse strips B, the boards or drawing surfaces, C C, being secured to said transverse strips by retaining-screws D.

Projecting from opposite sides of the frame, are the gage-arms, E E, preferably formed by the projecting ends of a transverse bar F, said arms being provided with scales to indicate the number of feet from the point of sight of the vanishing-points. Mounted upon these gage-arms are slides G, to which are connected the centers of the guides H, the slides being provided in their upper sides with transverse grooves to receive the lower edges of the guides, and the latter being secured in place by set-screws I. The slides are locked at the desired point of the gage-arms by thumb-screws K. The free ends of the guides engage vertical pins, which are carried by the lateral arms L, whereby the ends of the guides, which are of spring-metal, are held in place while the centers thereof are moved by means of the slides to produce the desired curvature. An ordinary T-square, placed within the curved guides with the ends of the head of the former bearing against the concaved surfaces of said guides, will lie in the direction of the horizonal vanishing-points of the drawing, as indicated in Fig. 2, for the reason that the blade of the T-square is perpendicular to the cord which is described by the head.

In projecting a perspective from a plan view, it is necessary, in order to determine the correct proportions of the former, to establish a point of sight at the desired distance from the supposed building or object, and to enable this point of sight to be established by scale in order to obviate the necessity of measurement to produce the desired foreshortening of the perspective, I provide a construction similar to that used for determining the horizontal vanishing-points, the same consisting of a curved guide M, the ends of which engage pins N, located near the side-bars of the frame, and the center of which is carried by a slide O, similar to those above described, and mounted upon a gage-arm, which is located centrally between and parallel with the side-bars.

A head P, provided at its ends with depending notched studs to engage the upper edge of the curved guides, operates in connection with the guide M, and carries a blade Q, provided with a slot to operate on pins on the head, and further provided with an offset R, whereby the free end of the arm lies on the surface of the supplemental drawing board or surface. Adjacent to the said offset, and on the plane of the drawing surfaces, is arranged a pin S, with which is adapted to be engaged the eye or perforation T, which is usually found in the end of the blade of an ordinary T-square.

The devices for obtaining the point of sight are located below the plane of the drawing

surfaces, and the free end of the swinging arm projects from the perspective, its free end lying upon the plan view from which the perspective is projected, as shown in Fig. 2. With the eye or perforation of the T-square engaged with the vertical pin at the offset of the swinging arm, and the inner side of the head of said T-square operating in contact with the opposite edge of the drawing surface upon which the perspective is to be drawn, it will be seen that by moving the T-square laterally of the drawing, the free end of the swinging arm is caused to describe an arc, while the vertical pin is held by the T-square at a uniform distance from the near edge of the drawing surface. Thus, the point X, on the plan view, as shown in Fig. 2, when projected by means of the device as described, is projected upon the point X′ of the perspective, the lines of projection being indicated in dotted lines in said figure. It will be seen that all lines of projection from the plan to the perspective, converge toward the assumed point of sight, Y, at the center of the perspective.

It will be understood that the graduations upon the gage-arm are arranged with respect to a certain scale upon which the drawings are to be made, and the curve described by the guide is a segment of a circle of which the particular graduation indicates the length of the radius.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a drawing apparatus, the combination with a drawing-board, of a curved guide located thereunder, a swinging arm carried by said guide so as to lie at all times in the direction of the radius of the circle of which the guide forms an arc, one part of said arm projecting beyond the edge of the board, and a T-square pivotally connected to the projecting portion of the arm, substantially as specified.

2. A drawing-board, having an adjustable curved guide, a head provided with notched studs to slide on said guide, and a swinging arm carried by said head and held at all times in the direction of the radius of the circle of which said guide is an arc, in combination with a T-square connected to said swinging arm, substantially as specified.

3. A drawing-board, having a curved guide, a head to slide on said guide, and a swinging arm attached to and longitudinally movable upon said head, in combination with a T-square connected to the swinging arm, substantially as specified.

4. A drawing-board, having a curved guide, a head slidably mounted thereon, and provided with guide-pins, and a slotted swinging arm having its slot engaged by said pin and carrying a vertical pin at the plane of the drawing surfaces, in combination with a T-square having its eye or perforation engaged with said vertical pin, substantially as specified.

5. A drawing-board, having laterally-projecting gage-arms, and the spring-metal guides engaged at their free ends with stationary pins and carried at their centers by slides operating on said gage-arms, in combination with a T-square, the ends of whose heads bear against the concave surfaces of said guides, substantially as specified.

6. A drawing-board, having laterally-projecting guides, slides mounted on said guides and provided with thumb-screws, and guides attached at their centers to said slides and engaged at their free ends by stationary pins, substantially as specified.

7. A drawing-board, provided with lateral arms bearing pins and arranged in pairs, the intermediate graduated arms bearing slides, and the spring-guides carried at their centers by said slides and engaged at their ends by the said pins, substantially as specified.

8. In combination with a drawing-board, a swinging arm provided with a pin at the plane of the upper surface of the board to engage the eye or perforation of a T-square, substantially as specified.

9. In combination with a drawing-board, a curved guide, means for adjusting the curvature of said guide, and a swinging arm provided with a head to slide on said guide, and having a T-square detachably connected thereto substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT H. JOHNSON.

Witnesses:
SAM. P. FRIERSON,
AUSTIN C. ORDWAY.