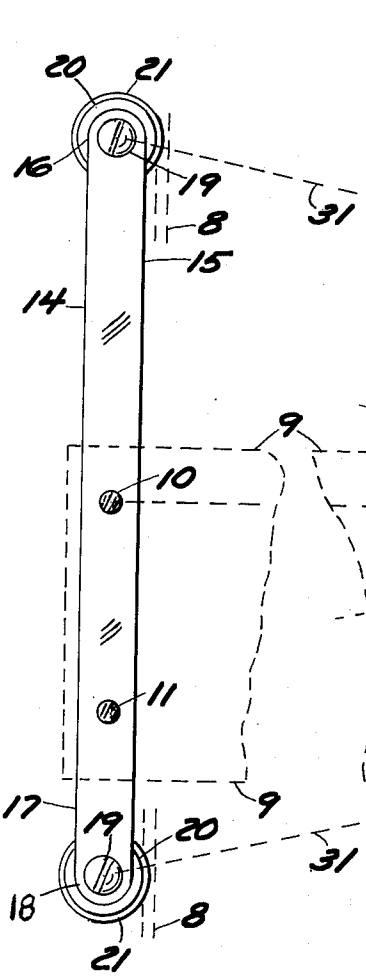
Jan. 31, 1956 H. E. SMITH 2,732,624

DRAFTING EQUIPMENT

Filed Jan. 26, 1953



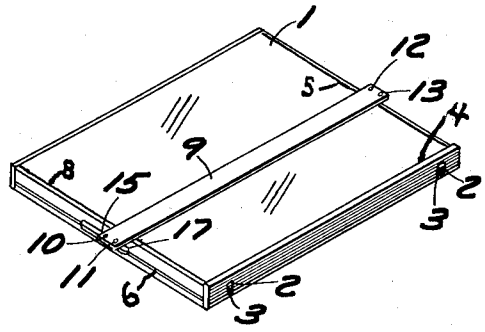


FIG. 1

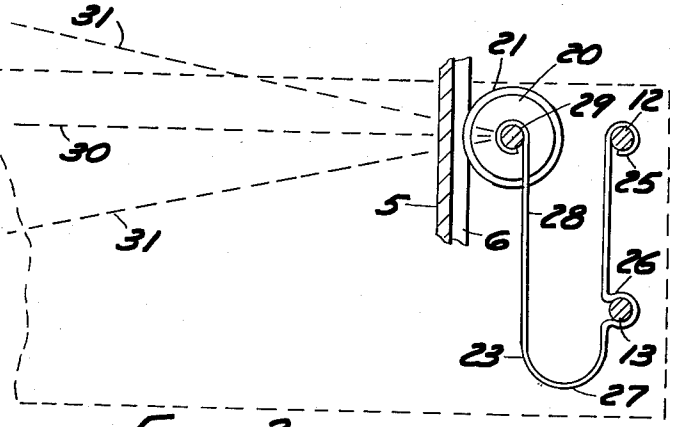


FIG. 2

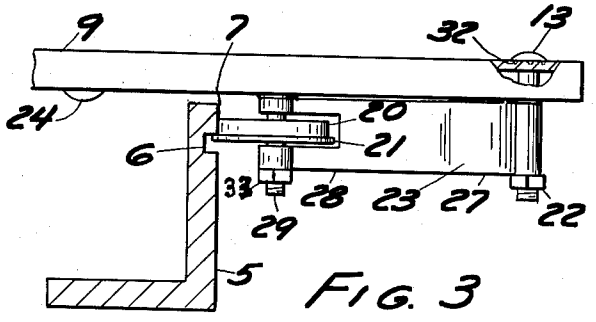


FIG. 3

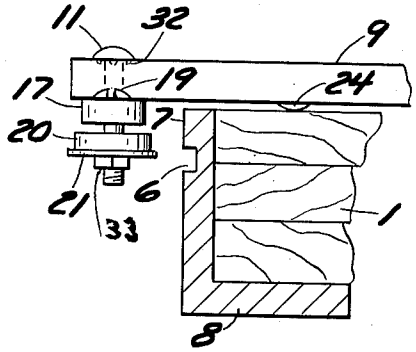


FIG. 4

HAROLD E. SMITH

Inventor

By

Attorney

United States Patent Office 2,732,624 Patented Jan. 31, 1956

2,732,624

DRAFTING EQUIPMENT

Harold E. Smith, Adrian, Mich.

Application January 26, 1953, Serial No. 333,043

1 Claim. (Cl. 33—80)

This invention relates to facilitating lining or other locations, generally over a plane surface, in general layout operations.

This invention has utility when incorporated in a drawing board, hereunder specially equipped with tracks offset from the board face and extending along parallel edge faces, and a straight-edge of T-square analogy, adapted to coact with tracks in opposed relation, and thus responding to parallel line shifting and position holding for the straight-edge.

Referring to the drawings:

Fig. 1 is a perspective view of a portable drawing board, independent of table or other mounting or support therefor, which board has the automatically parallel straight-edge, shiftably associated therewith;

Fig. 2 is a plan view, on an enlarged scale, of anti-friction roller system for the straight-edge for shifting along tracks of a drawing board, major portions being suggested in dotted lines;

Fig. 3 is a view in side elevation of the yieldably mounted roller in the set-up, with such roller at outwardly thrown position, but in such position engaging the drafting board track; and

Fig. 4 is an end elevation of the head or T-end of the straight-edge, showing a roller clear of the board track at such end.

A rectangular layout or drawing board or area **1**, as of plywood, has screws **2** in slots **3** for adjustable stop or lower side strip **4**. Along the right edge of the board **1** is board rigidity and planar holding means or angle metal trim **5** with a groove or track guide **6** adjacent a track face **7** in proximity to the top face of the board **1**. Parallel to the trim **5**, the left edge of the board **1** is equipped with a similar trim **8** to the trim **5**. The trim **8** has its track guide **6** as a border for a track face **7**.

A straight-edge practical herein is of oak 3/16" thick and 2½" wide for a board **1** in the range of 4' spacing between the end trims **5, 8**. Definitely specially located and anchored in the straight-edge **9** are screws or pins **10, 11, 12, 13**. The screw **10** is central of the length of bar or T-head **14**. This bar **14** is held perpendicular or at right angles to the general direction of the straight-edge **9** by the second bolt or screw **11**. The mid-point screw **10** for the bar **14** is located in proximity to what is normally the upper or usually taken edge for layout work. This makes upper section or arm **15** of the bar **14** of greater extent to its free end **16** than is the other or shorter arm **17** to its free end **18**.

The end **16** of the bar **14** has a bolt **19** mounting a roller having a face **20** and a flange **21**. Also at the end **18**, there is a similar bolt **19** mounting for free rotation a flanged roller **20, 21**.

The stems of the pins **10, 11, 12, 13**, are screw threaded to receive nuts **22** in assembling the bar **14** and a U-leaf spring **23** with the straight-edge **9** under side, or side toward the board **1**. For spacing the under side of the straight-edge **9** from extended area of contact with the board **1**, there is spaced inward from the bar **14** and from

the spring **23**, convex face elements **24**, somewhat of the character of the heads of thumb tacks.

The leaf spring **23** has a wrap **25** at the pin **12**, and a wrap **26** at the pin **13**. There is thus established a holding for a flex region **27** or U-bend of the spring **23** for swinging of the spring free end arm **28** toward and from the pin **12**. The wrap free end of the spring arm **28** has a pin **29** rotatably mounting therein a third roller **20, 21**, which approximates the apex position of an isosceles triangle with the bar **14** as the base, with a median or perpendicular **30** between the pins **10, 29**, and equal sides **31** from the apex pin **29** to the bolts **19** at the arm ends **16, 18**. The U-form leaf spring is of imperforate body thruout its entire length, with the pin-embracing wraps of greater than semicylindrical extent.

It is to be noted that the median **30**, of the isosceles triangle from the triangle's apex, is parallel to the margins of the straight-edge **9**. The pins **10, 11, 12, 13**, of nearly flat convex exposed upper face or head portions, have tangs **32** from the under flat sides of such heads, which tangs embed in the face of the wood straight-edge **9** and thereby hold the respective pins from rotation as such pins are drawn to anchoring positions by the nuts **22**.

The roller-carrying bolts or elements **19, 29**, have at their lower or threaded end portions, nuts **33**. In practice, with the plane section or drafting board **1** flat, nearly flat or horizontal, anti-friction assembly of the straight-edge **9** therewith may work out acceptably thru the flanged rollers **20, 21**, in the balanced group of three thereof. With the straight-edge **9** poised clear of the area **1**, the straight-edge **9** is brought into proximity with the table top **1** (Fig. 3) and the flange **21** of the roller **20, 21**, on the spring arm **28** is directed say to ride in the groove **6** at the right, that is, in angle trim **5**. The element **29** is then swung toward the pin **12**, being in a direction approximating that of the line **30** extended. This action by grasping the straight-edge **9** is sufficient to provide clearance for the T-head bar **14** to be at the left of the trim **6** (Fig. 4) for the flanges **21** of the two rollers carried by the bar **14** to ride into the groove **6**, as the straight-edge **9** lying against the board **1** is released for the spring **23** to act. The faces **20** of the three rollers now ride on the tracks **7**, and all travel of the straight-edge **9** is now controlled in parallel with the side strip **4**. Usually draftsmen find its convenient to have the drawing board **1** with an upward tilt as away from the strip **4**. The straight-edge **9** may be stabilized against too free shifting toward the strip **4** or movement from a selected working position on the board **1**, thru establishing for the spring **23** effective slack take-up. However, there is still anti-friction mounting of the straight-edge **9** by the rollers **20, 21**.

What is claimed and it is desired to secure by Letters Patent is:

Drafting equipment comprising a plane portion marginally terminating in a pair of parallel bounds regions, there being first and second lineal seats, one at each bounds region and parallel to the plane portion, a strip of length spanning the plane portion and endwise extending to overlap beyond said regions, said strip having a width-providing side between parallel first and second straight edges, a U-form leaf spring of imperforate body thruout its entire length, said spring forming two legs spaced by a return bend, two strip engaging anchor pins, one of said pins being for one leg end of the spring in proximity to the first straight edge and spaced from the adjacent bounds region at the overlap underside of the strip, said other pin being adjacent the return bend in proximity to the second straight edge at the overlap underside of the strip, a first roller, a strip engaging mounting pin for the first roller on the free end of the other leg of the leaf spring in proximity to the first straight edge of

the strip for riding in a bounds first lineal seat, said spring having an integral arc wrap of greater than semicylindrical extent in an embracing assembly at said anchor and mounting pins, second and third rollers anchored with the strip adjacent the second lineal strip, said rollers defining an isosceles triangle with the first roller at the apex and the triangle median in proximity to said first straight edge and remote from the second straight edge of the strip, the spring return bend and third roller being in proximity to the second straight edge of the strip, the second roller being more remote from the first edge than the third roller is from the second straight edge.

References Cited in the file of this patent

UNITED STATES PATENTS

1,262,015	Carlson	Apr. 9, 1918
1,419,354	Boon	June 13, 1922
2,138,517	Sieveking	Nov. 29, 1938

FOREIGN PATENTS

24,635	Great Britain	Dec. 21, 1893
13,744	Great Britain	June 13, 1913
633,939	Germany	Aug. 12, 1936
878,183	France	Sept. 28, 1942
165,903	Austria	May 10, 1950