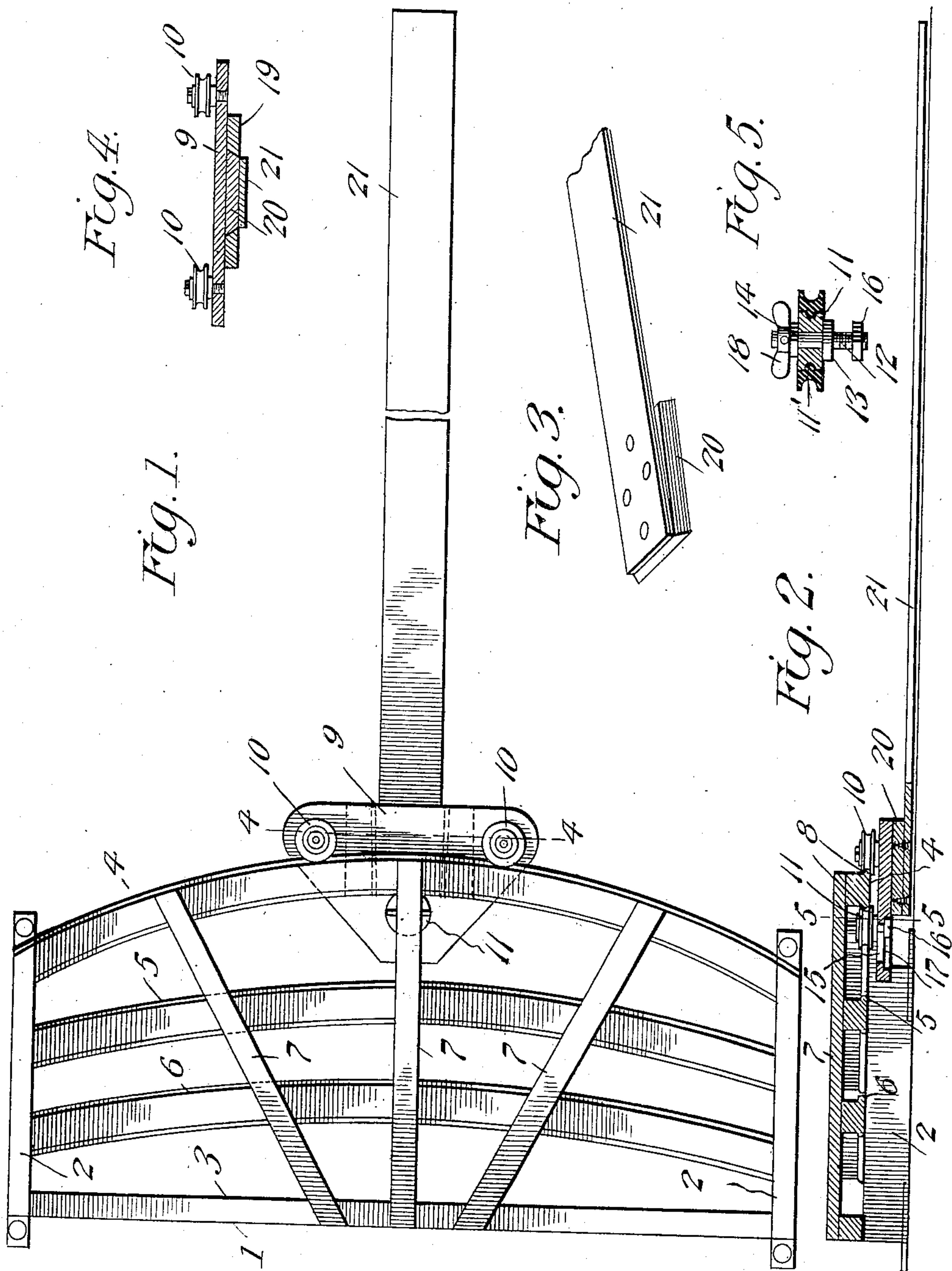


No. 891,777.

PATENTED JUNE 23, 1908.

W. LANGSTROTH.
DRAFTING INSTRUMENT.
APPLICATION FILED MAR. 5, 1907.



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WALTER LANGSTROTH, OF BALTIMORE, MARYLAND.

DRAFTING INSTRUMENT.

No. 891,777.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed March 5, 1907. Serial No. 360,672.

To all whom it may concern:

Be it known that I, WALTER LANGSTROTH, a citizen of the United States of America, residing at Baltimore, State of Maryland, have invented new and useful Improvements in Drafting Instruments, of which the following is a specification.

This invention relates to an improved drafting instrument for the use of architectural, mechanical, topographical and other draftsmen, the object in view being to provide a simple and effective construction of drafting instrument adapted to afford a convenient means in perspective drawing to enable the draftsman to readily determine and lay off lines when the vanishing point of lines is at such a distance as to be beyond the limits of the drawing board or table.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a top plan view of the instrument. Fig. 2 is a central longitudinal section thereof. Fig. 3 is a detail view of the inner end of the blade or straight edge. Fig. 4 is a detail section on the line 4—4 of Fig. 1. Fig. 5 is a similar view on the line 5—5 of Fig. 2.

The instrument embodies a frame 1 comprising parallel end supporting pieces 2, a rear cross piece 3, a plurality of track rails 4, 5 and 6 extending between said end supports, and a desired number and arrangement of braces 7 extending over the rear cross piece and rails and rigidly bracing and connecting them.

The rails 4, 5 and 6 are supported upon the end pieces 2 at a suitable elevation, and each is formed or provided with front and rear track surfaces 8, said rails being curved on arcs of different radii and fixedly secured at their ends to the end supports 2 in any preferred manner.

A car or carriage 9 is provided to travel upon either track, and preferably consists of a block or plate of triangular or substantially triangular form with its base or widest face forwardly disposed. Upon the upper forward surface of the block, on opposite sides of the center thereof, are mounted wheels or rollers 10, while upon the rear portion of the block is mounted a wheel or roller 11, said wheels or rollers being respectively grooved to engage the front and rear track surfaces of either track rail, whereby the carriage is adapted to travel transversely of the frame in an arcuate path.

The rear roller 11 is adjustably mounted to

regulate the pressure of the rollers on the rail to adapt the carriage to travel steadily thereon, as well as to enable the carriage to be applied to and removed from either rail. As shown, the roller 11 is revolvably mounted on an axle or stem 12 between a head 13 thereon and a retaining ring or washer 14. Below the head 13 the axle or stem is provided with a threaded portion to project through and slide within a guide slot 15 in the carriage and carries a nut 16 occupying a recess 17 formed in the carriage beneath the slot 15, the said nut 16 being arranged to bear against the walls of said recess by which it is held from rotation. Above the retaining member 14 the axle or stem is provided with a finger piece 18, whereby the stem may be adjusted to move the nut 16 into and out of clamping engagement with the upper walls of the recess 17 to hold the axle in adjusted position or permit adjustment thereof. By this construction the roller 11 may be adjusted relatively to the rollers 10 to cause said rollers to engage the track surfaces 8 with sufficient force to support the carriage for steady movement and prevent play thereof, and also to permit the carriage to be detached for the application to anyone of the tracks. The roller 11 is also provided with a soft rubber tire 11' to act as a cushion.

The carriage is provided on its under side with dove-tailed keeper strips 19 forming a socket to receive and hold a dove-tailed block 20 attached to the inner end of a blade or straight edge 21, whereby the latter may be attached to or removed from the carriage at will.

As before stated, the purpose of the instrument is to enable a draftsman making perspective drawings to readily determine and lay off lines especially when the vanishing point of lines is at such a distance as to be beyond the limits of the drawing board or table. In practice, a plurality of the instruments, having curved tracks varying in radii from each other, may be employed, and arranged upon the drawing, the blades of the same being held sufficiently above the surface of the drawing to be readily moved over the same. A frame may be used for determining each vanishing point. By a mathematical rule, the curve represented by the track in use can be placed at its radius distance from the vanishing point, and as each instrument is provided with a plurality of such curves of different radii,

and as an instrument is employed for determining each vanishing point, it will be apparent that the draftsman can readily arrange the instruments at the proper places on the table convenient to the drawing, so that by applying the carriage of each to the proper rail the blade may be connected therewith for adjustment in the desired arc of movement. The result is arrived at by setting the instrument on the table in such a manner that the blade will coincide with a horizontal line joining the two vanishing points.

It will be understood, of course, that the construction of the device may vary to a considerable extent within the purview of the invention as defined by the appended claims, and that the rollers may be provided with ball or other suitable anti-friction bearings to secure ease of adjustment, if desired.

Having thus described the invention what is claimed as new, is:—

1. A drafting instrument of the character described, comprising a frame having a plurality of spaced transverse segmental tracks of different radii arranged one in rear of the other, a carriage provided with a pair of front and a single rear wheel to travel upon the tracks, an axle carrying said rear wheel, said axle having a sliding engagement with the carriage for adjusting the wheel forwardly and rearwardly, means associated with the axle and engaging the carriage to retain said axle in adjusted position, and a blade connected with the carriage.

2. A drafting instrument of the character described, comprising a frame having a plurality of spaced transverse segmental tracks of different radii arranged one in rear of the other, a carriage provided with a pair of

front and a single rear wheel to travel upon the tracks, and formed with a slot, an axle carrying the rear wheel and on which the same is revolubly mounted, said axle being slidably mounted in said slot for adjusting the wheel forwardly and rearwardly, adjusting and fastening means associated with the axle and engaging the carriage to retain the axle in adjusted position, and a blade connected with the carriage.

3. A drafting instrument of the character described, comprising a frame having a plurality of spaced transverse segmental tracks of different radii arranged one in rear of the other, a carriage provided with a pair of front and a single rear wheel to travel upon the tracks, and formed with a slot and an underlying recess communicating therewith, an axle carrying said rear wheel and on which the same is revolubly mounted, said axle slidably fitting in said slot and being provided at its upper end with a finger piece and threaded at its lower end, a head upon the axle bearing on the upper surface of the carriage to hold the axle from downward movement, a nut upon the threaded end of the axle below the slot and occupying the recess, said nut being held from rotation by one of the side walls of the recess and bearing against the top wall of the same to cooperate with the head, whereby the axle is clamped in adjusted position, and a blade connected with the carriage.

In testimony whereof, I affix my signature in presence of two witnesses.

WALTER LANGSTROTH.

Witnesses:

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