



A NEW PERSPECTIVE DRAWING TOOL.

In perspective drawing it is necessary to draw lines from a distant point at one side, called the "vanishing point." This point is frequently at such a distance as to require a very long drawing-board and straight-edge to produce the vanishing lines. The simple instrument represented in our engraving, called the "Perspective Linead," will accomplish this in the most perfect manner without requiring long boards or rules, and is therefore indispensable to all draughtsmen and artists who have to make perspective drawings.

This instrument consists of a long rule upon which are jointed two arms by a thumb-screw in such a manner that they may be set at any required angle. It will be observed on reference to the engraving that one edge of the rule and one edge of each arm come in line with the axis of the rule. In this position the instrument is adapted to produce vanishing lines from the left-hand side of the drawing only; to draw those of the right-hand side another instrument of the same kind is required, both forming a pair.

In drawing with the perspective linead the arms are pressed continually against two studs, which are fastened at a distance apart upon the edge of the drawing-board. One method for setting the perspective linead for use, which is the manner recommended, is as follows: After drawing the horizontal line for the intended perspective drawing, which is generally done by the T-square, a vertical line has to be drawn at right angles to it, up the side of the drawing-board, from which the vanishing lines are wished to be produced. Upon this line, at equal distances—generally about eight inches—from each side of the horizontal line, are to be placed the two studs, which are intended for the arms of the linead to slide against. These studs are fixed in position by pressing down the pin, which projects from the under side in the point of distance set off on the line. The upper or axial edge of the rule of the perspective linead is then placed along the horizontal line, and the arms (the screws of which have been previously loosened) are each brought to one of the studs, allowing the arms to take about the angle to each other thought to be required to produce the desired distance of vanishing point; in this position the arms are to be clamped. It is then necessary to try if the linead will correspond with the line which forms the top of the building, or other object intended to be placed in perspective, which is either sketched by judgment or drawn according to the rule of perspective. This is done by moving the rule up from the horizontal line, always keeping the arms in contact with and sliding against the studs. Should the vanishing point that would be given by the perspec-

tive linead, as now set, appear too near, it will be necessary to put the rule back on the horizontal line, from which it has always to be set, unclamp the screws of the arms, and press the rule back against the studs, keeping it still on the horizontal line, so as to flatten the angle of the arms the amount thought to be required; then clamp the arms again and make another trial.

If the vanishing point appears too far, the arms will require setting at a more acute angle. It is best in all instance to make a mark at the side of the end of the linead to show its position before alteration, to insure having about the distance from the last setting thought to be required. When the instrument is once set, it is right for all the vanishing lines from one side.

The above description may perhaps convey the impression that the instrument is difficult to use, but in fact it is quite easy in practice, as, after using the linead for a few perspective drawings, the angle at which the arms should be set for any particular drawing becomes so familiar that it may be judged sufficiently near for the first trial, or a slight alteration of this, to suffice.

VARNISH FOR WHITE WOOD.—Copal Varnish: Take of copal, liquefied, 3oz.; essence of turpentine, 20oz. Place the mattress containing the oil in a *balneum marie*, and when the water boils add the pulverized copal in small doses. Keep stirring the mixture, and add no more copal till the former be incorporated with the oil. If the oil, in consequence of its particular disposition, can take up 3ozs. of it, add a little more, but stop if the liquor becomes nebulous; then leave the varnish at rest. If it be too thick, dilute it with a little warm essence, after having heated it in the *balneum marie*. When cold, filter it through cotton, and preserve it in a clean bottle. This varnish has a good consistence, and is as free from colour as the best alcoholic varnish. When extended in one stratum over smooth wood which has undergone no preparation it forms a very brilliant glazing, which, in the course of two days in summer, acquires all the solidity that may be required. The facility which attends the preparation of this varnish by the new method here indicated will admit of its being applied to all coloured grounds which require solidity, pure whites alone excepted. Painted boxes, therefore, and all small articles, coloured and not coloured, where it is required to make the veins appear in all the richness of their tones, call for the application of this varnish, which produces the most beautiful effect, and which is more durable than turpentine varnishes.

EDGE-LAID BELT.—A better plan of making a broad belt than the usual American *double* leather belting sewn together, is made with the greatest ease, of any thickness or width, perfectly equal in texture throughout, and alike on both sides. It is made by cutting up the hides into strips of the width of the intended thickness of the belt, and setting them on edge. These strips have holes punched through them about one-eighth of an inch in diameter and one inch apart. Nails, made of round wire, clinched up at one end for a head and flattened at the other, are used for fastening the leather strips together. Each nail is half the width of the intended belt, and after the strips are all built upon the nails, the ends of the latter are turned down and driven into the leather, thus making a firm strap, without any kind of cement or splicings. When the strap is required to be tightened, it is only necessary to take it asunder at the step lines of the splice, cut off from one end of the strap at each step what is required, and piece up again with wire nails or laces, going entirely through the strap.—*E. Leigh.*

PRESERVING WOOD BY THE APPLICATION OF LIME.—The method of preserving wood by the application of lime, as pursued by M. Svostal, is published in the French journals. He piles the planks in a tank, and puts over all a layer of quick-lime, which is gradually slaked with water. Timber for mines require about a week to be thoroughly impregnated, and other wood more or less time according to its thickness. The material acquires remarkable consistence and hardness on being subjected to this simple process, and, it is alleged, will never rot. Beech-wood has been prepared in this way for hammers and other tools for iron works, and is said to become as hard as oak without parting with any of its well-known elasticity or toughness, and to last much longer than when not thus prepared.