

F. E. ROMIE.
 LINE SPACING DEVICE.
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1,383,759.

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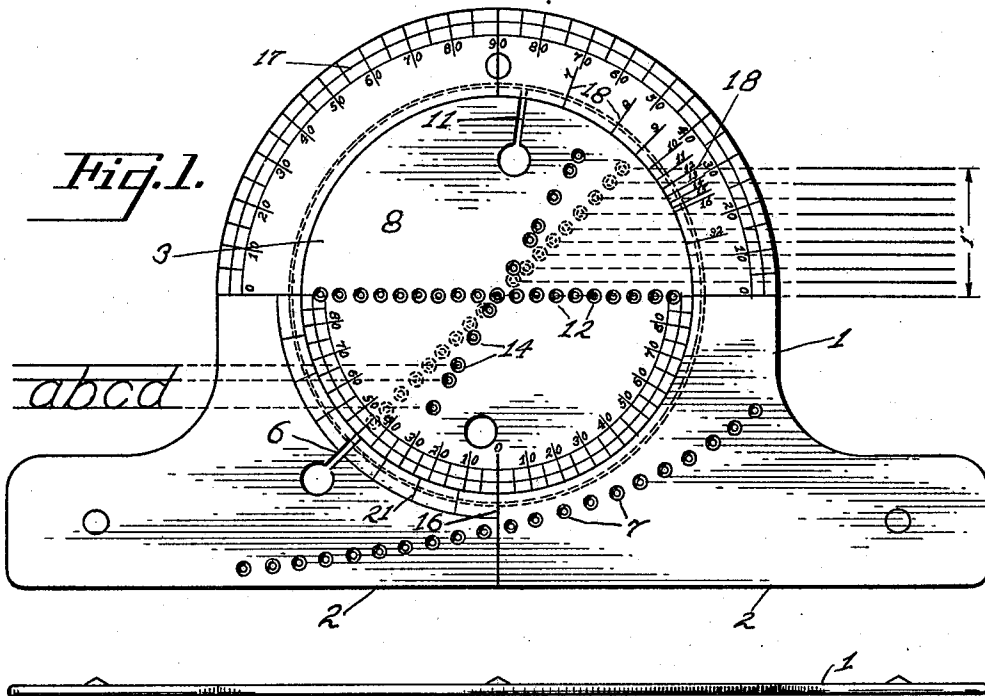


Fig. 2.

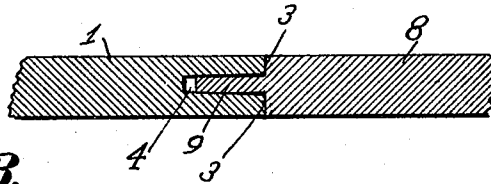
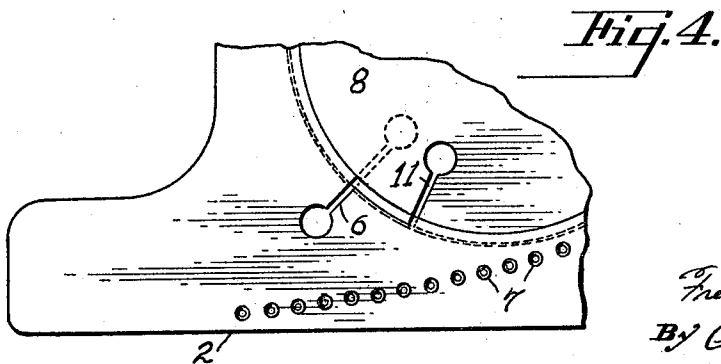


Fig. 3.



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LINE-SPACING DEVICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK E. ROMIE, a citizen of the United States, residing in the city of Oakland, in the county of Alameda and State of California, have invented a new and useful Improvement in Line-Spacing Devices, of which the following is a specification.

My invention relates to improvements in line spacing devices wherein a series of regularly spaced and alined apertures operate in conjunction with a base to divide a given dimension into a number of equal spaces when a pencil is placed in successive apertures and the device moved or reciprocated parallel to said base.

The primary object of the present invention is to provide a new and improved and simplified device for spacing lines at equal distances as in cross sectioning drawings or dividing any one of a number of given dimensions into equal spaces, or the same dimension into any number of spaces readily visible to the eye.

It is also an object of the present invention to provide an improved device of the character described having means for indicating the number of equal spaces into which a given dimension may be divided for certain positions of the device.

A further object of the invention is to provide a series of alined and regularly or specially spaced apertures whose position may be altered relatively to a base of the device, and also having means for indicating the number of spaces into which a given dimension may be divided.

I accomplish these and other objects by means of the device disclosed in the drawings forming a part of the present specifications wherein like characters of reference are used to designate similar parts throughout the said specification and drawings, and in which—

Figure 1 is a plan view disclosing the device;

Fig. 2 is an edge view of Fig. 1;

Fig. 3 is an enlarged, broken sectional view disclosing the means for normally preventing a movement of the apertured member relatively to the plate.

Fig. 4 is an enlarged broken detailed view disclosing the manner in which the rotatable member may be removed from or inserted into the circular aperture of the plate.

Referring to the drawings the numeral 1 is used to designate a plate, of any suitable shape or contour, having a base 2 and a circular aperture 3 whose periphery is provided with an annular groove 4 and a slot 6 extending from said periphery, the purpose of which will hereinafter be more fully set forth.

The plate 1 is also provided with a series of alined and regularly spaced apertures 7 arranged on a curve substantially tangent to the base 2 of the plate 1 whereby a series of lines may be drawn to produce gradually increasing or decreasing spaces by placing a pencil point in successive apertures 7 and reciprocating the plate 1 along its base 2, said base 2 being arranged to be moved along a straight-edge, T-square or the like not shown.

Rotatably mounted within the circular aperture 3 of the plate 1 is a member 8 arranged flush with both sides of the plate 1 and provided with an annular flange 9 whose width and thickness is slightly less than the width and depth of the groove 4 in the plate 1.

The plate 1 is preferably constructed of celluloid or some other suitable transparent material having resiliency and elasticity whereby the flange 9 of the member 8 will be frictionally engaged by the sides of the annular groove 4 to normally prevent a free rotation of said rotatable member 8, the purpose of which will hereinafter be more fully set forth.

The rotatable member 8 is also provided with a slot 11 extending inwardly from the periphery of said member and a plurality of regularly spaced alined apertures 12 preferably arranged on one diameter of the member 8, as disclosed in Fig. 1 of the drawings.

The rotatable member 8 is also provided with a second line of specially spaced apertures 14 arranged for producing a series of specially spaced lines for lettering, as disclosed at the lower left hand corner of Fig. 1 of the drawings.

The member 8 has a graduated protractor adjacent one portion of the periphery thereof, said graduations being arranged to register with an indicator point 16 on the plate 1 and at right angles to the base 2 thereof.

The plate 1 is also provided with a semi-circular top portion having a graduated protractor 17 thereon for convenience of drafts-

men when drawing or laying out plans and the like.

The plate 1 is further provided with a series of graduations 18 extending radially from the circular aperture 3, therein, said graduations 18 being arranged to indicate the number of spaces into which an inch may be divided by placing a pencil successively in the apertures 12 and reciprocating the plate along the base 2 when said apertures 12 are alined with said graduations. For instance when the apertures 12 are alined with the graduation numbered "9" as indicated in dotted lines in Fig. 1 of the drawings, a line one inch in length and arranged at right angles to the base 2 of the plate 1, will be divided into 9 equal spaces when lines are drawn by a pencil point applied in successive apertures 12.

The apertures 14, specially spaced, will similarly produce lines for lettering having two unequal spaces but of the desired width for the height of short and tall, or small and capital letters.

These special spaces for lettering and other similar purposes may also be altered by rotation of the member 8 to alter the angle of said alined and specially spaced apertures 14 relatively to the base 2 of the plate 1.

To indicate the width of these specially spaced spaces for various heights of letters I have provided specially spaced indicators or graduations 21 upon the plate 1 with which the specially spaced apertures 14 may be alined to produce the required spaces or lines, in the manner hereinbefore described.

The rotatable member 8 is normally held against rotation by the frictional engagement of the sides of the annular groove 4 against the annular flange 9 of the member 8 so that in operation the pencil point, not shown, may be inserted in successive apertures and the device moved by means of said pencil point while drawing the lines, without rotating the member 8 and thus destroying the spacing being produced by the movement of the plate 1 and rotatable member 8 therein while traversing the paper.

The member 8 may be readily removed from and placed within the aperture 3 by moving the slot 11 of the member 8 into register with the slot 6 of the plate 1, as disclosed in dotted lines in Fig. 4 of the drawings. While in this position opposite sides of the alined slots 6 and 11 are sprung into parallel planes when a further rotation of the member 8 will move the flange 9 on one side of the slot 11 beyond and parallel with the adjacent surface of the plate 1 and a complete rotation will remove the flange 9

entirely from within the groove 4. In replacing the above operation is reversed.

The alined apertures 7, arranged on a curve tangent to the base 2 will produce gradually increasing or decreasing spaces when a pencil point is placed in successive apertures 7 and the plate 1 reciprocated along its base 2.

This will produce shade lines to represent concaved or convexed surfaces.

The device may also be used to produce lines of almost any angle to the base 2 by alining the apertures 12 with the required graduation on the protractor 17 and placing points through the apertures on both ends of the line. By removing the plate 1 from the paper a line may be readily drawn between the two points.

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

1. A line spacing device comprising a plate having a straight-edge base and a circular aperture therein and an annular groove in the periphery of said aperture; a member rotatably mounted within the aperture and having an annular flange of less width and slightly greater thickness than the groove whereby the sides of said groove will tend to exert a pressure upon said flange to normally prevent a free rotation thereof, said rotatable member being likewise provided with a plurality of rows of regularly spaced and alined apertures which may be arranged at an angle to said base whereby a pencil placed in successive apertures will divide a given dimension into equal spaces when said plate is moved along said base.

2. A line spacing device comprising a plate having a straight-edge base and a circular aperture therein and an annular groove in the periphery of said aperture, a member rotatably mounted within the aperture and having an annular flange of less width and slightly greater thickness than the groove whereby the sides of said groove will tend to exert a pressure upon said flange to normally prevent a free rotation thereof, said rotatable member being likewise provided with a plurality of rows of regularly spaced and alined apertures which may be arranged at an angle to said base whereby a pencil placed in successive apertures will divide a given dimension into equal spaces when said plate is moved along said base; and means for indicating the angle of said rows of alined apertures to said base.

In witness whereof I hereunto set my signature.

FREDERICK E. ROMIE.