F. R. HORNIG.

CARPENTER'S COMPUTING SCALE.

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1,235,801. Patented Aug. 7, 1917.

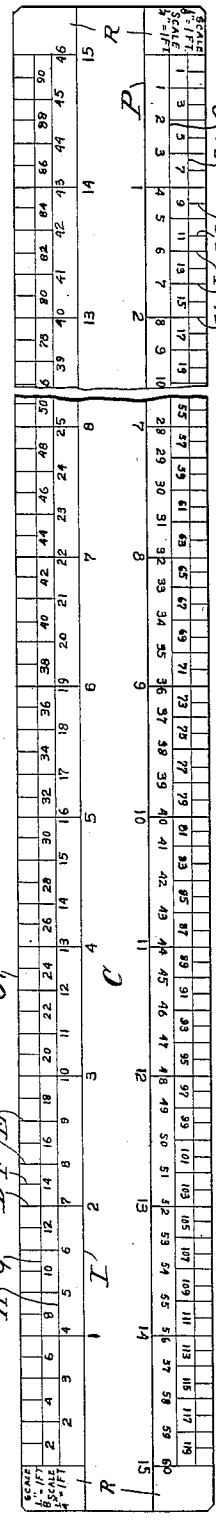


Fig. 1.



Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

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CARPENTER'S COMPUTING-SCALE.

1,235,801. Specification of Letters Patent. Patented Aug. 7, 1917.

Application filed February 16, 1914. Serial No. 818,877.

To all whom it may concern:

Be it known that I, FREDERICK R. HORNIG, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Carpenters' Computing-Scales, of which the following is a specification.

My invention relates to improvements in carpenters' computing scales.

The object of my invention is to provide a ruler which, when applied to an architect's floor plan drawings, will indicate not only dimensions, but will also show the number of joists or studs required, said ruler being further adapted for taking ordinary measurements.

In the drawings—

Figure 1 is a plan view of a ruler embodying my invention.

Fig. 2 is an end view of the same.

Like parts are identified by the same reference characters in both views.

As will be observed from a comparison of Figs. 1 and 2, the shape of my improved ruler is substantially the same as an ordinary ruler having its upper surface beveled in opposite directions, as shown at A and B, from a central flat surfaced portion C. The beveled portion A is divided off by lines D, E and F into inches, thirds of an inch and sixths of an inch. It is also divided longitudinally by lines G, H and I into a series of longitudinal belts. The belt between the line G and the adjacent side margin of the ruler is occupied solely by the scale marks. The marks D and E representing inches and thirds of an inch, extend across the second belt or zone between the lines G and H, and this belt is provided with a series of figures representing the number of joists sixteen inches from center to center required for any given dimension indicated by the ruler when applied to an architect's floor plans, if such floor plan is drawn to a scale of one-eighth of an inch to the foot. In this belt it will be sufficient to employ figures only in the spaces directly back of the terminals of the index lines F. Figures may therefore be omitted from the lines D and E, since one or the other of these lines will alternate between each successive two lines F and the number pertaining to each line D or E may therefore be ascertained from the adjacent numbers used in connection with the lines F as readily as if the numbers were actually applied directly to the lines D and E in this belt. It is not material to my invention, however, whether the numbers be applied to all of the lines or not, if applied at regular intervals and to a sufficient number of the lines so that the number of joists represented by the remaining lines or index marks can be instantly ascertained.

The belt between the lines H and I is also provided with index numbers indicating the number of joists required by the plan in case the drawing is on a scale of one-quarter of an inch to the foot. These index numbers are applied only to the lines D and E, since the lines F will in such case indicate only fractions.

The central belt C of the ruler may be provided with index marks for the inch lines only, these marks representing an ordinary ruler index.

The beveled portion B of the ruler is provided with transverse index lines K, L and M, which subdivide this margin of the ruler substantially in the ordinary manner into inches, quarter inches and eighth inches. But this margin of the ruler is also divided by lines N, O and P into longitudinally extending belts, the first of which is occupied only by the index lines, while the second between the lines O and N is provided with numbers indicating the dimensions in feet represented by the drawing if the drawing is on the scale of one-eighth of an inch to the foot. In this belt the intermediate figures may again be omitted, for if present the numerals would be too close together for clearness. The number represented by each line can be readily ascertained from the number appearing in connection with the adjacent line.

The belt between the lines O and P is provided with index numerals and these are preferably applied to the lines L and K, these being the lines to which no index numerals are applied in the other belt. The central belt C may also be provided with numerals designating the lines K which subdivide the ruler into inches.

The scale for the beveled portion B of the ruler preferably runs in the opposite direction from that on the beveled portion A. At the end of the ruler an unruled margin R is provided which designates the scale which each belt represents. For example, this projecting margin is provided opposite

the intermediate belt with the words "Scale $\frac{1}{8}$" to ft." The inner belt is provided with the words "Scale $\frac{1}{4}$" to ft."

In the use of my improved ruler, the carpenter desiring to bid upon plans as drawn by an architect, applies the ruler to the drawings using the beveled margin A to ascertain the number of joists required for the building, or any given part thereof. If the plans are drawn on a scale of $\frac{1}{8}$ inch to the foot, the carpenter will inspect the figures of the intermediate belt only, whereas if the scale is $\frac{1}{4}$ inch to the foot he will inspect the figures of the inner belt only.

To ascertain the length of any timbers indicated on the architect's plans, or of any other portion of the building, he will reverse the ruler and apply the beveled margin B, whereupon if the scale is $\frac{1}{8}$ inch to the foot, he will examine the intermediate belt to ascertain the number of feet represented by any given line on the drawing, using the inner belt in case the scale is $\frac{1}{4}$ inch to the foot.

It will be understood that the portion A of my improved ruler is laid out with reference to the common practice of spacing the joists of all ordinary buildings on sixteen inch centers, that is to say, the distance from the center of one joist to the center of the next as measured on transverse lines will be sixteen inches.

I claim—

A carpenter's computing rule subdivided along one margin into inches and fractions of an inch and having longitudinal zones indicated adjacent thereto and indexed along said longitudinal zones adjacent to such margin to designate lengths in feet on plans drawn to a predetermined reduced scale based on the fractions of an inch into which said margin is subdivided having such reduced scale indicated on said rule, said rule being also correspondingly subdivided on the other margin but having such subdivisions designated by numerals indicating the number of spaced structural members required for construction-work covering any given distance indicated on the plan, substantially as described.

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

FREDERICK R. HORNIG.

Witnesses:

LEVERETT C. WHEELER,

IRMA D. BREMER.