June 21, 1932. S. M. SCHENKEIN 1,864,096

RULER

Filed Sept. 23, 1926

Fig. 1.

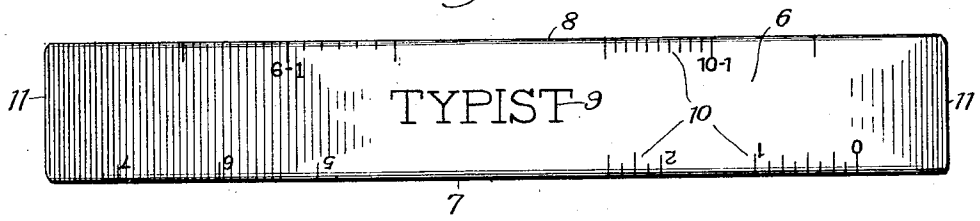


Fig. 2.

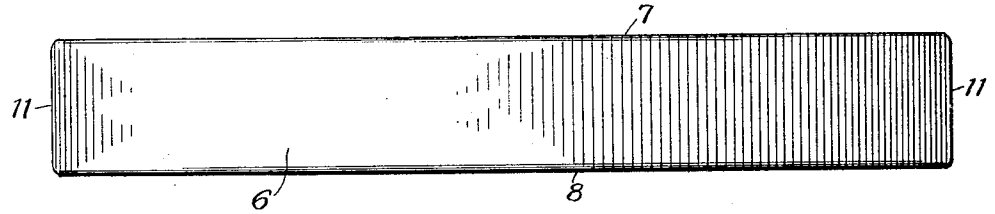


Fig. 3.



Fig. 5.

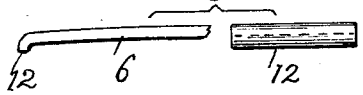


Fig. 4.

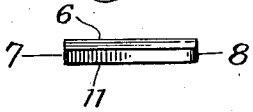


Fig. 7.

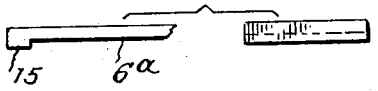


Fig. 6.

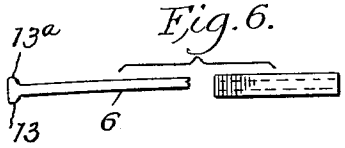


Fig. 8.

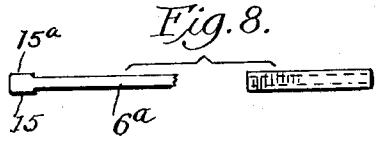


Fig. 9.

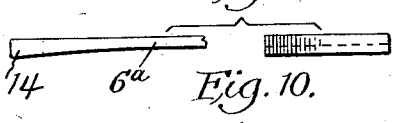
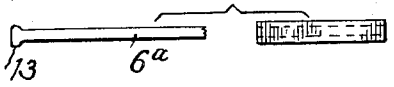


Fig. 10.



INVENTOR.

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BY

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1,864,096

UNITED STATES PATENT OFFICE

SAMUEL M. SCHENKEIN, OF NEWARK, NEW JERSEY

RULER

Application filed September 23, 1926. Serial No. 137,292.

My invention relates to rulers, paper weights, type line measures and guides and the method of making the same.

The object of my invention is to make a ruler, measure, or line guide, for copyists and general office work about the width of the usual fools-cap paper of metal, preferably ferrous metal, and of sufficient weight for use as a paper weight and which may readily be slid over paper from line to line by the copyist. I eliminate the drag which is usually due to the vacuum produced between the heavy smooth faced ruler and the paper as well as by the large friction surface usually presented by the contacting face of the ruler.

I believe I have overcome this in a novel manner as will hereinafter be described.

Referring to the drawing in which like parts are similarly designated—

Figure 1 is a view of the concave face of the ruler;

Fig. 2 is a view of the convex face;

Fig. 3 is a side view with the camber indicated somewhat exaggerated;

Fig. 4 is an end view;

Fig. 5 illustrates one end of the ruler with end turned down toward the concave face;

Fig. 6 illustrates an upset end with projections across both sides of the curved blade;

Fig. 7 illustrates a straight blade with a projection on one face across the end of the blade;

Fig. 8 is a straight blade with similar projections across both faces;

Fig. 9 is a modification of the manner of thickening the end of a blade;

Fig. 10 is similar to Fig. 6 showing the upset on the end of a straight blade.

The ruler 6 is made of metal such as iron, steel or other ferrous alloy and is a strip conveniently nine inches long, an inch and a quarter wide and about one-sixteenth of an inch thick, which dimensions are illustrative and I do not limit my invention thereto. The longitudinal edges 7 and ends 8 are rounded as are also the corners.

Only one face of the ruler is provided with indented markings, lettering 9, and scale marks 10, along the longitudinal edges.

The ruler is heat treated and oxidized, being uniformly covered with oxide and is made preferably of a ferrous metal with black oxide of iron coating.

An oxide is extremely hard, much more so than the metal itself. The object of having the ruler so coated is that it is non-reflecting or mat, makes the ruler less conspicuous when used as a line guide, does not unconsciously attract the eye of the copyist, therefore produces less eye-strain, and prevents rusting, especially from perspiration of the hands.

The method of oxidizing includes a heat treatment and this is done after the ruler has been through a die to mark the one face of it.

By only marking one face, the heat causes the ruler to have a slight camber or curve when cooled which is uniform from end to end or substantially so, so that the narrow ends 11 rest on the paper to hold the middle portion therebetween slightly above the surface of the paper or if there be a large number of sheets one on top of the other that tend to conform to the curvature of the ruler then the pressure on the sheets is greatest at the ends of the ruler and in use it can be shifted from line to line without dragging the top most sheet with it, even the thinnest tissue paper.

The camber therefore, does not have to be die formed or formed by a bending press, which considerably cheapens the manufacture. By reason of the ruler having substantial weight and body and non-flexible, the curvature is permanent and is so intended.

It will be noted that by giving the blade or body 6 of the ruler a slight camber the transverse edges 11 resting on the paper will ride on the surface with less frictional contact so that in dragging the ruler over the paper the friction will be along the over-turned or upset end of the blade in the direction of pull on the ruler as the typist shifts it from line to line. This edge friction is much less than surface friction over the entire blade, thus avoiding the drag.

In Fig. 5 I have shown the curved blade 6 turned down slightly across the end at 12.

In Fig. 6 I have shown the curved blade 6 up-set on the end so as to produce two por-

tions 13 and 13ª one on each side of the blade 6, the one 13ª preferably extends above the crown of the camber.

Fig. 7 shows the enlarged end 15 extending across the end of a straight blade 6ª on one face of the ruler.

Fig. 8 shows two such enlargements 15 and 15ª extending across the end on both faces of the ruler.

Fig. 9 illustrates a case where the end of a blade, either straight or cambered is gradually thickened at 14.

Fig. 10 is similar to Fig. 6 but applied to a straight blade.

Preferably both ends of the ruler are alike and it will be noted that in all the forms illustrated, whether the blades be straight or curved, the angles 12 to 15ª slightly raise the blade above a flat surface.

The extent of the elevation need be but small, a very small fraction of an inch is all that is necessary, so small as to be hardly perceptible.

While I do not limit myself to the height of these projections or to the extent of camber, those that I have made have about one thirty-second of an inch more or less but they must be substantially perpendicular to the longitudinal or measuring and guiding edge, else the drag on the paper will be too great. These flanges or flange-like enlargements across the ends of the ruler and guide are simply and easily made.

I claim—

1. A ruler and line guide, comprising a rigid, heavy strip uniform in cross section along its length bent slightly and uniformly from end to end so that the ends thereof will exert a greater pressure on paper sheets than the intermediate portion, thereby preventing vacuum between the ruler and paper and a drag on the latter.

2. A ruler and line guide comprising a rigid heavy strip of metal permanently bent with a slight substantially uniform camber from end to end.

3. A ruler and line guide comprising a rigid heavy strip of oxidized metal permanently bent with a slight substantially uniform camber from end to end.

4. A ruler and line guide comprising a strip of metal bent uniformly from end to end to permanent shape to contact with a flat surface at the ends only.

5. A ruler and line guide consisting of a rigid blade of a single thickness of ferrous metal of less width than length and less thickness than width, with upset ends forming transverse flanges and having a uniform camber from end to end and its surface oxidized to black oxide of iron.

6. A ruler and line guide comprising a metal blade having a uniform camber from end to end and transverse flanges across the ends on both faces.

7. A rigid ruler of a ferrous metal having a uniform slight camber from end to end and oxidized to black oxide of iron.

In testimony that I claim the foregoing as my invention, I have signed my name.

SAMUEL M. SCHENKEIN.