

(No Model.)

J. J. HAMILTON.
PARALLEL RULER.

No. 407,350.

Patented July 23, 1889.

Fig. 1.

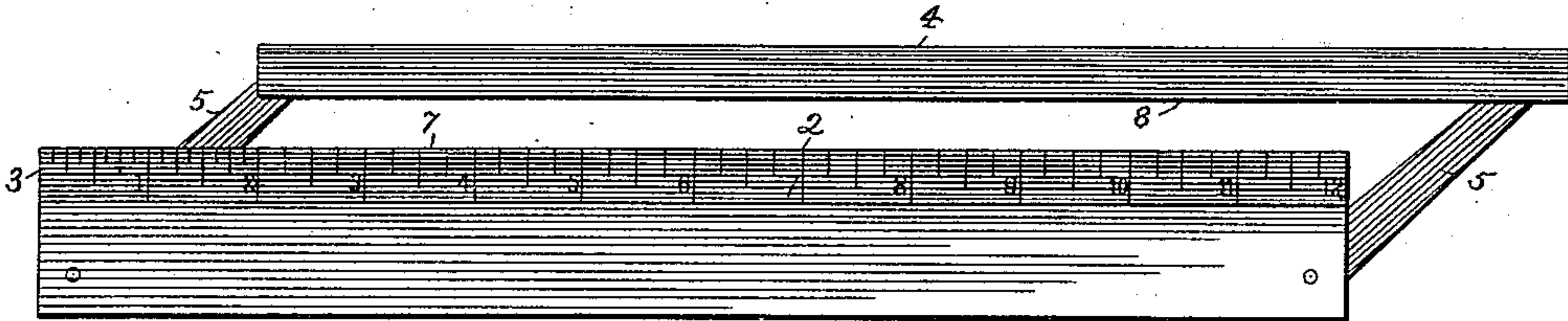


Fig. 2.

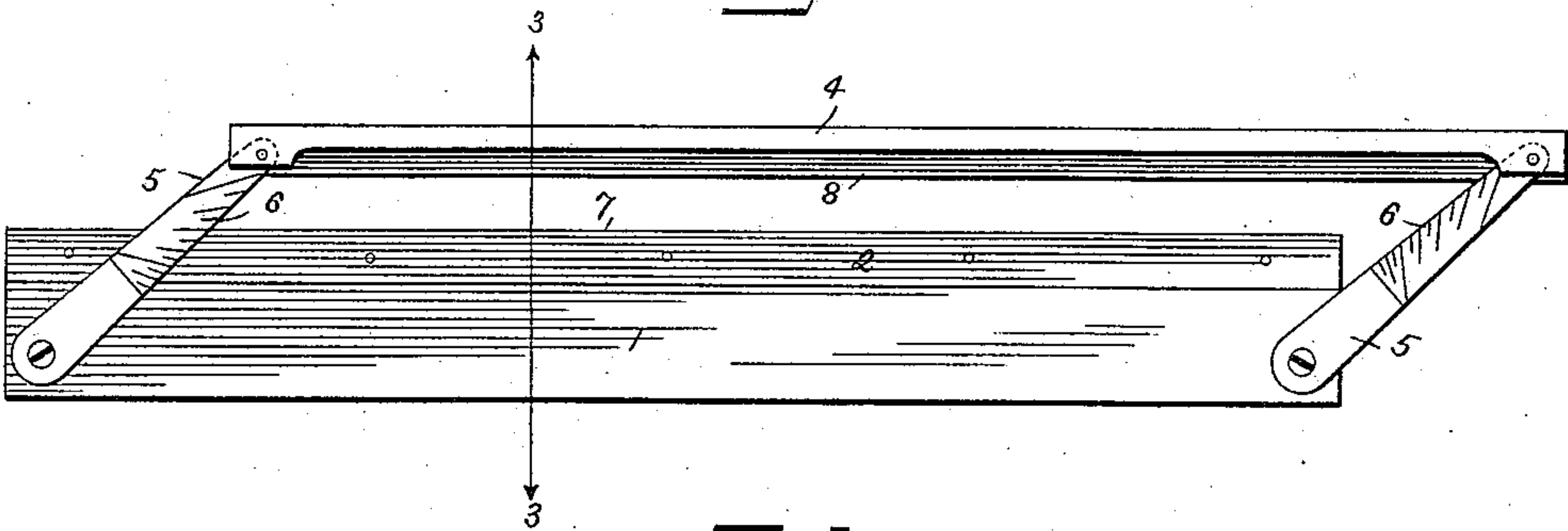


Fig. 4.

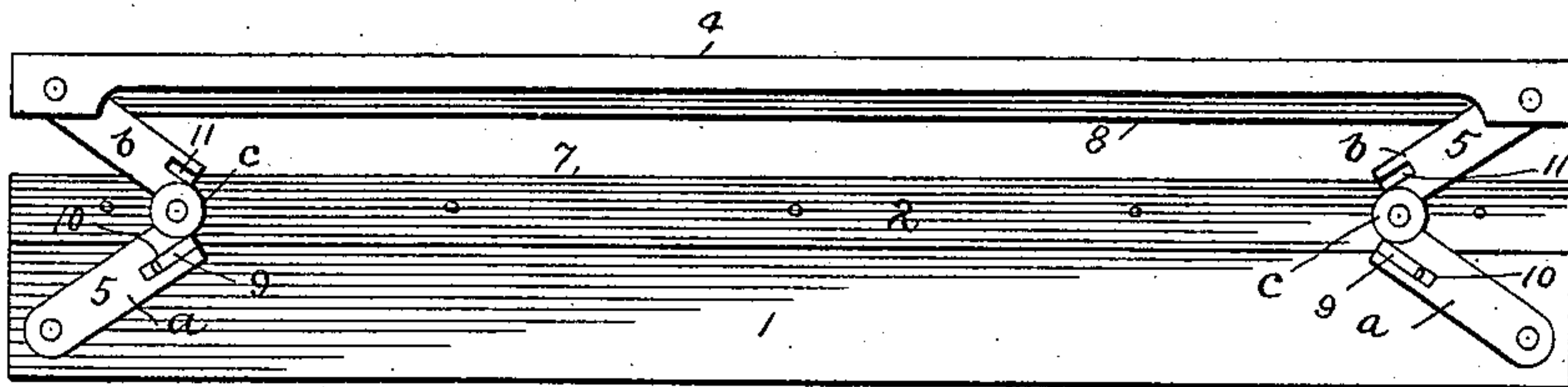
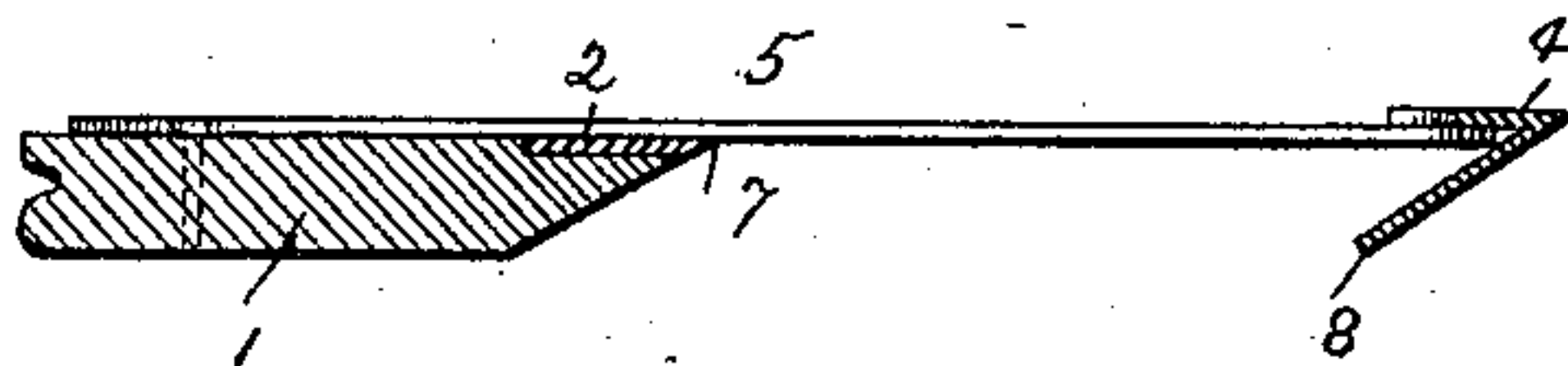


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN J. HAMILTON, OF ST. LOUIS, MISSOURI.

PARALLEL-RULER.

SPECIFICATION forming part of Letters Patent No. 407,350, dated July 23, 1889.

Application filed March 22, 1889. Serial No. 304,257. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. HAMILTON, a citizen of the United States, residing at St. Louis, Missouri, have invented certain new and useful Improvements in Parallel-Rulers, of which the following is a specification.

My invention relates to parallel-rulers; and it consists of the construction and arrangement of the parts thereof, to be hereinafter pointed out; and it further consists in providing one or both of the connecting-links with a peculiar scale, by the use of which one may easily and rapidly and yet accurately set the rulers, so as to insure that the lines to be ruled shall be at any desired distance apart.

That my invention may be the better understood, I have illustrated it in the accompanying drawings, wherein—

Figure 1 is a face view of a ruler having my invention applied thereto. Fig. 2 is a similar view from the opposite side of the ruler. Fig. 3 is a cross-section on the line 3 3, Fig. 2, the parts being enlarged; and Fig. 4 is a face view of a ruler having its connecting-links jointed.

In the drawings, 1 designates a ruler, which may be of any usual or preferred style, the one shown having one edge beveled and provided with a metallic strip 2 and with a scale 3 of inches and subdivisions thereof.

To the ruler 1 a straight-edge bar or ruler 4 is pivotally connected by the links 5, which are by preference pivoted to the rear side or face of the ruler 1, these parts together forming a parallel-ruler. One (and preferably both) of the links 5 is provided with a graduated scale 6, the lines of which are adapted to be brought successively into parallelism with a line on the ruler 1, the line which I prefer being the beveled edge 7.

As will be seen from an examination of Fig. 2, the lines of the graduation of the scale are not parallel with each, nor are they equal distances apart; but they are so arranged that when the links 5 are moved to carry the scale past the line 7 from any one graduation to the next the rulers will approach or recede from each other a certain determined distance for each graduation, so that while the lines are farther apart toward the outer ends of the links than they are nearer their fulcrums, still the bar 4 is moved an equal distance to-

ward or from the edge 7 for each and every graduation of the scale.

One link may be provided with a decimal or a metrical scale and the other with a scale, which will gage the movements of the two rulers by sixteenths of an inch.

The links 5 are pivoted to the ruler 1 near the ends thereof and the scales 6 placed along their inner edges.

The bar 4 is preferably of substantial V shape in cross-section, and is adapted to lie over the beveled edge of the ruler when the two are folded together, in which position the whole may be used as an ordinary ruler or as a paper-cutter, the two parts of the bar 4 coming together and forming a sharp edge.

When the ruler 1 is placed face down and flat in position for ruling, as shown in Fig. 2, the bar 4 is held with its inner straight-edge 8 close to but above the paper, so that it may be moved over freshly-ruled lines without blurring them.

While my invention is adapted to be used as an ordinary parallel-ruler, its particular advantage lies in the ease with which a user can gage the distance between the lines to be drawn and change the ruler from one gage to another without having to make measurements by means of the scale.

The invention is used in the following manner, supposing the scale to be a sixteenth-inch scale and the lines to be five-sixteenths of an inch apart. The links are first moved until the fifth line from the outer end of the scale is in line with the edge 7 of the ruler. The inner edge of the bar 4 is then placed directly above the line from which the one to be ruled is to be five-sixteenths of an inch, when the desired line may be ruled along the beveled edge 7 of the ruler 1. This operation is repeated as often as may be desirable, the last line ruled being in each case the base-line for the next succeeding. It will thus be seen that by means of the scales 6 parallel lines may be accurately ruled the desired distance apart without having to measure for each line, or even to measure between the first two lines, and that the distances between the different lines may be varied by simply moving the links 5, so as to bring different marks of the scale in proper position relatively to the fixed line on the ruler.

In Fig. 4 I have shown a ruler the connecting-links whereof are formed of two parts *a* and *b*, jointed together at *c*, so that when the two rulers 1 and 4 are closed together one will not project beyond the other at the end, as is the case when the links are rigid.

When jointed links are employed, devices of some style for holding the two parts of the links in line with each other must be employed, so that when the ruler is being used the links may operate as though each were of one rigid piece. A simple device of this character is that shown in Fig. 4, where 9 is a slide seated in a groove 10 in the part *a* of the link, and adapted, where the two parts of the link are brought into line with each other, to be slid across the line of division between the two parts and to lie partly in the groove 10 and partly in a groove 11 in the part *b* of the link, and thus hold the parts *a* and *b* rigidly in line with each other.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A parallel-ruler having one or each of its pivoted connecting-links provided with a graduated scale adapted to swing adjacent to a fixed line on the ruler, substantially as set forth.

2. A parallel-ruler having one of its pivoted

connecting-links provided with a scale the graduating lines of which are not parallel and are at different distances apart, and a fixed line on the ruler past which the said lines of the scale are moved, substantially as and for the purpose set forth.

3. A parallel-ruler having the two rulers connected by links pivoted near the outer ends of the rulers, and one or both provided along their inner edges with a scale 6, substantially as set forth.

4. The combination of the ruler having a beveled edge, the V-shaped straight-edge bar or ruler adapted to lie over the beveled edge of the ruler, and the connecting-links between the ruler and bar, substantially as set forth.

5. A parallel-ruler consisting of a ruler 1, having a ruling-edge, the connecting-links, and another ruler or bar having a straight-edge 8, and the last said ruler or bar being held by the said links above the surface to be ruled with its edge 8 close thereto, but not in contact therewith, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN J. HAMILTON.

Witnesses:

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F. L. WISSMAN.