

(No Model.)

J. W. LEEDS.  
FOLDING PARALLEL RULER.

No. 564,204.

Patented July 21, 1896.

Fig. 1.

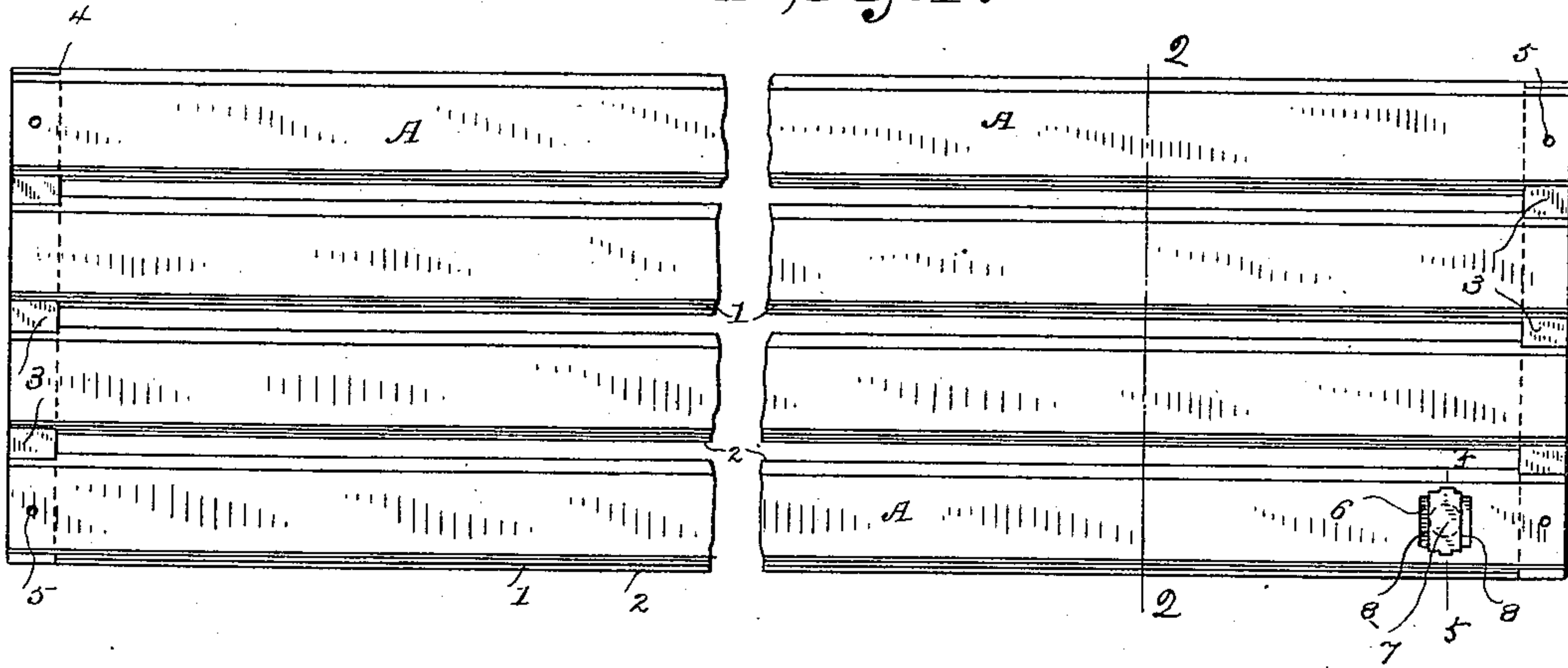


Fig. 2.

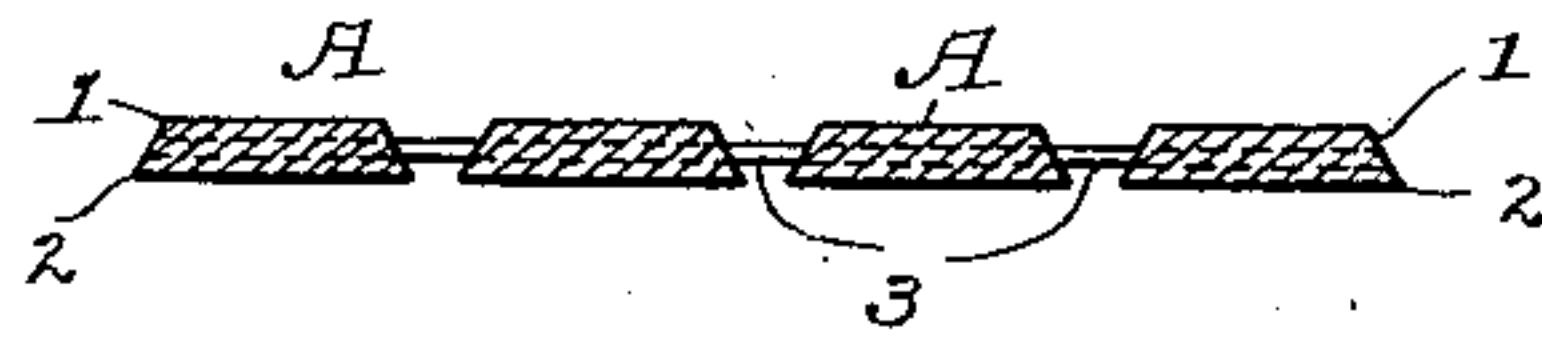


Fig. 3.

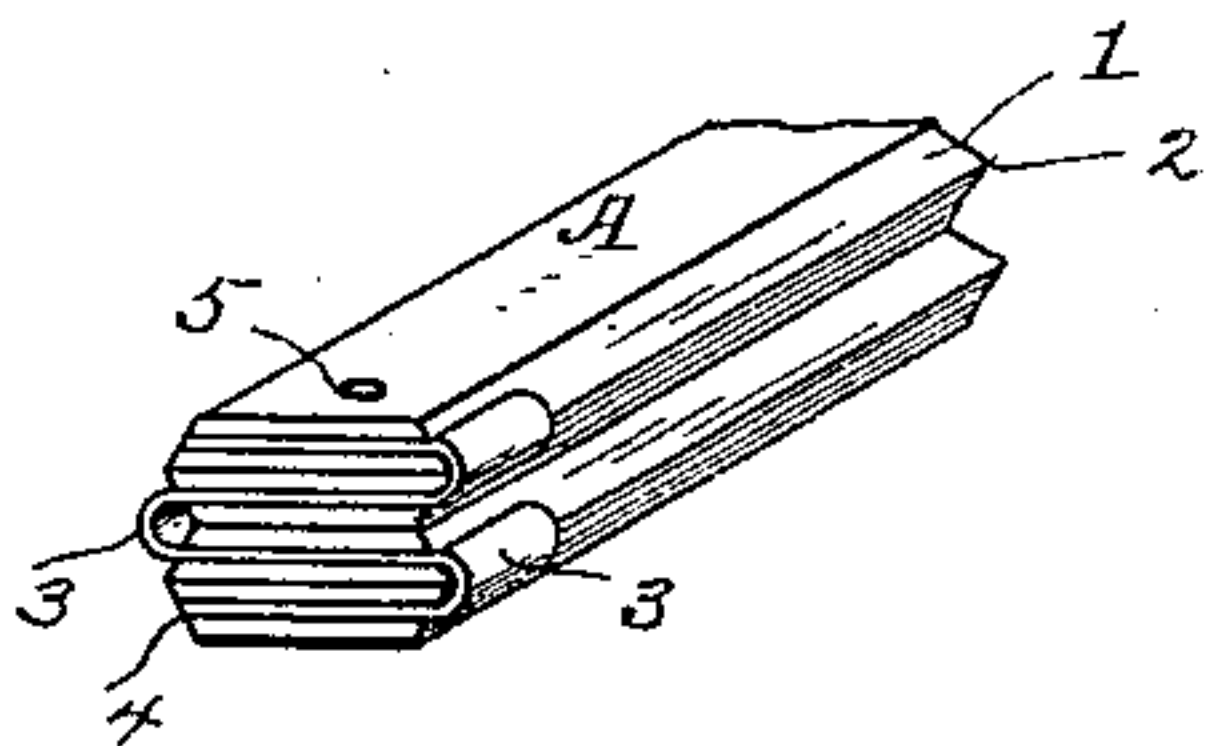


Fig. 4.

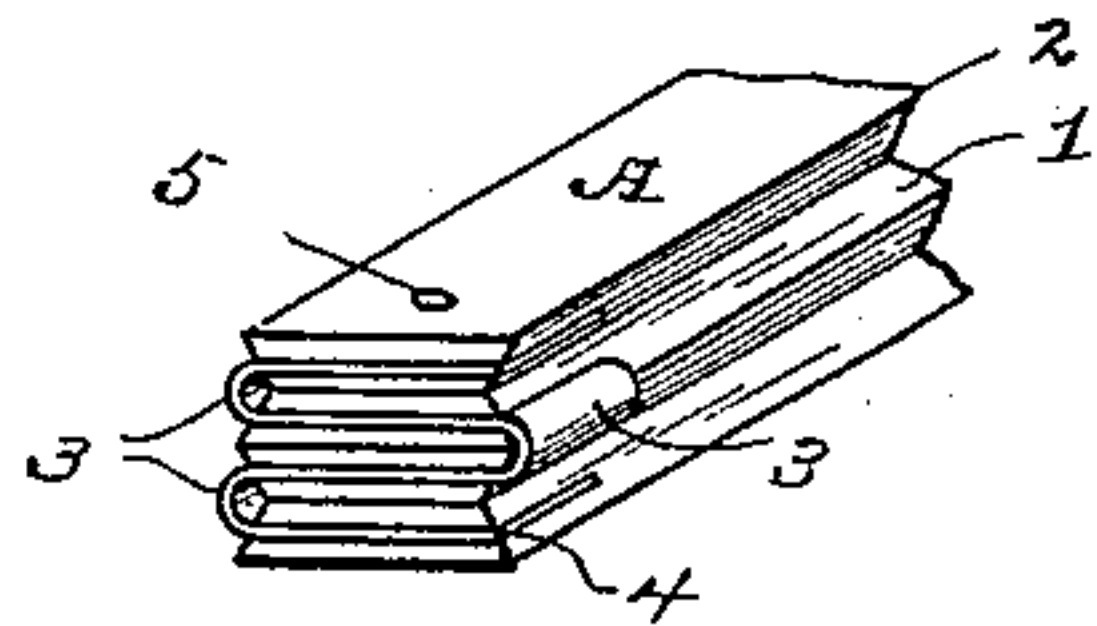
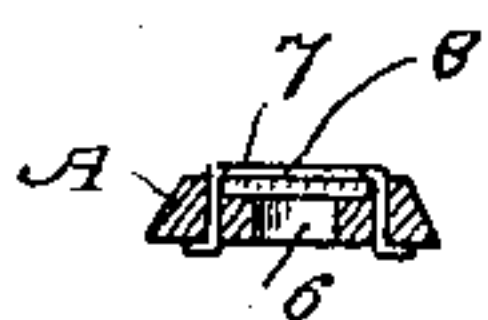


Fig. 5.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## FOLDING PARALLEL-RULER.

SPECIFICATION forming part of Letters Patent No. 564,204, dated July 21, 1896.

Application filed February 17, 1896. Serial No. 579,534. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. LEEDS, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Folding Parallel-Rulers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a folding parallel-ruler adapted for general use, and especially adapted for use in schools, as, for example, in ruling lines for music on blackboards.

With these ends in view I have devised the novel ruler of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to designate the several parts.

Figure 1 is an elevation illustrating my novel ruler in use as a parallel-ruler, as, for example, in ruling lines for music on a blackboard; Fig. 2, a section on the line 2 2 in Fig. 1; Fig. 3, a detail perspective illustrating the manner in which my novel ruler is folded when not in use or when it is desired to have a beveled edge; Fig. 4, a detail perspective illustrating the manner in which it is folded when it is desired to have a straight edge; and Fig. 5 is a section on the line 5 5 in Fig. 1, illustrating a crayon and pencil sharpener, which I preferably place in one of the strips.

My novel ruler comprises a series of strips A, each of which is provided with two straight edges, which are beveled from the point 1 to the point 2. Any number of these strips may be used, although I preferably use four, as shown in the drawings. These strips are secured together by means of flexible hinges 3 at the proper distance apart to permit lines to be made between them. In making these hinges I preferably use strips of leather, which I secure in place by forming slots 4 in the ends of the strips, in which the leather is inserted and secured by glue or in any suitable manner. Near the ends of the two edge strips I preferably provide holes 5, through which pins, tacks, or any suitable fastening

devices may be passed to hold the ruler in position on a blackboard or wherever it may be used. I also preferably provide, near the end of one of the strips, an opening 6, over which I place a plate 7 of metal sharpened at one or both edges, as at 8, which serves as a sharpener for crayons, pencils, &c.

The uses of my novel ruler will be apparent from the drawings. When a beveled edge is required, the ruler is folded as in Fig. 3, thus giving a beveled edge on each side. When a straight edge is required, it is folded as in Fig. 4, thus giving a straight edge on each side, and when it is desired to use it as a parallel-ruler either vertically, horizontally, or obliquely it is opened, as at Fig. 1, in which form it will be seen that it provides for ruling five parallel lines at equal distances apart. In ruling for music, having formed the five lines of the staff in the usual manner, should lines be required above or below they may be readily ruled at the same distance apart by placing two strips of the ruler above or below the staff, as may be required.

Having thus described my invention, I claim—

1. A folding parallel-ruler comprising a series of strips each of which is provided with two straight edges, beveled from one surface to the other and flexible hinges by which said strips are secured together at equal distances apart.

2. A folding parallel-ruler comprising a series of strips each of which is provided with two straight edges beveled from one surface to the other and each end of said strips being provided with a slot 4, and strips of leather secured in said slots whereby flexible hinges are formed which permit the strips to be folded in either direction substantially as shown and described.

3. A folding parallel-ruler comprising a series of strips each of which is provided with two straight edges beveled from one surface to the other, one or more of said strips being provided with holes to receive fastening devices, and one of said strips being provided with an opening 5 and over said opening with a plate provided with edges 8 for the purpose set forth, and flexible hinges where-



by said strips are secured together at equal distances apart.

4. A folding parallel-ruler comprising a series of strips having straight edges, beveled  
5 from the point 1 to the point 2, and flexible hinges whereby said strips are secured together at equal distances apart so as to permit the strips to be opened to rule a series of

parallel lines and to be folded in either direction.

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

JOHN W. LEEDS.

Witnesses:

A. M. WOOSTER,  
H. SINCERBEAUX.