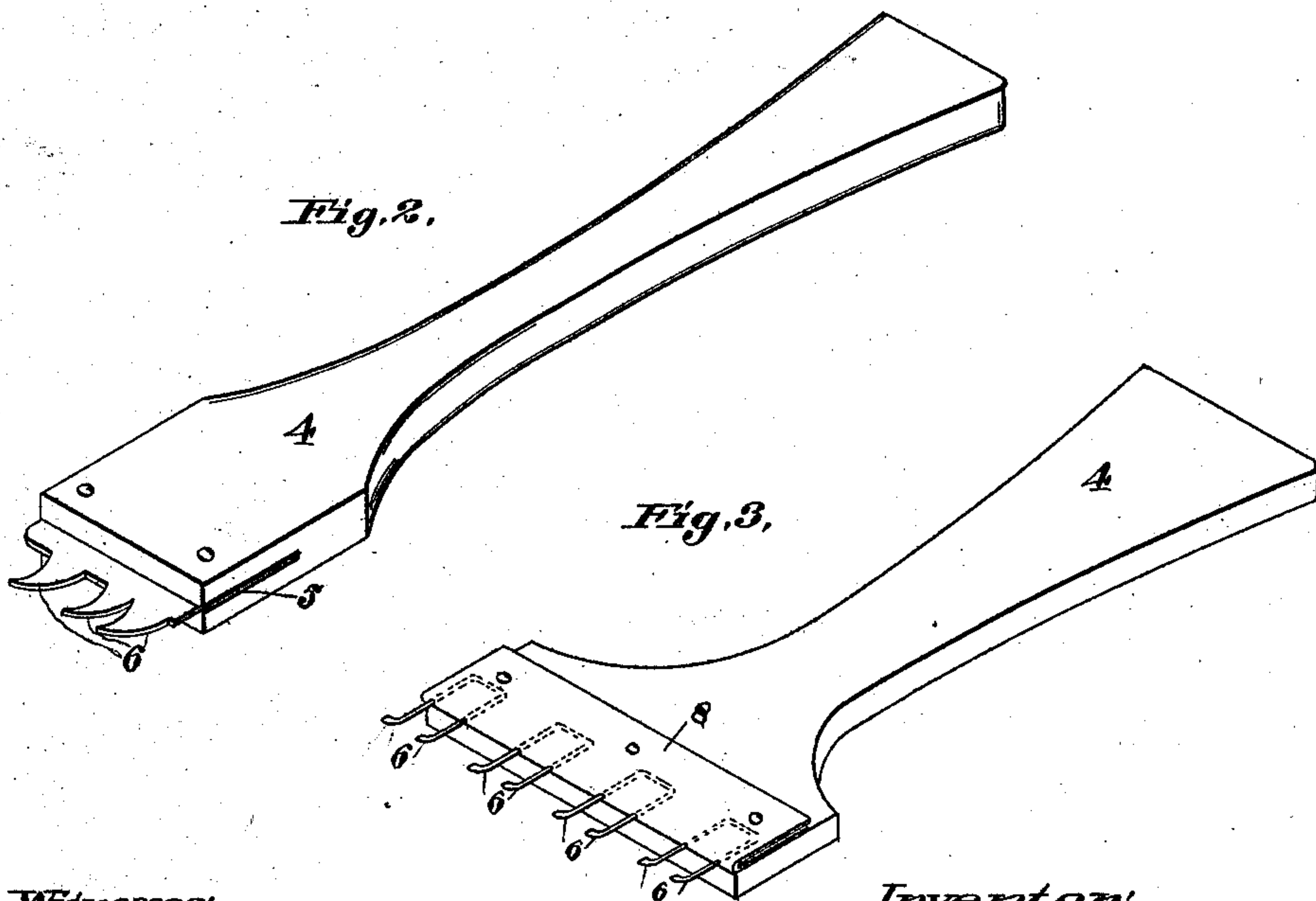
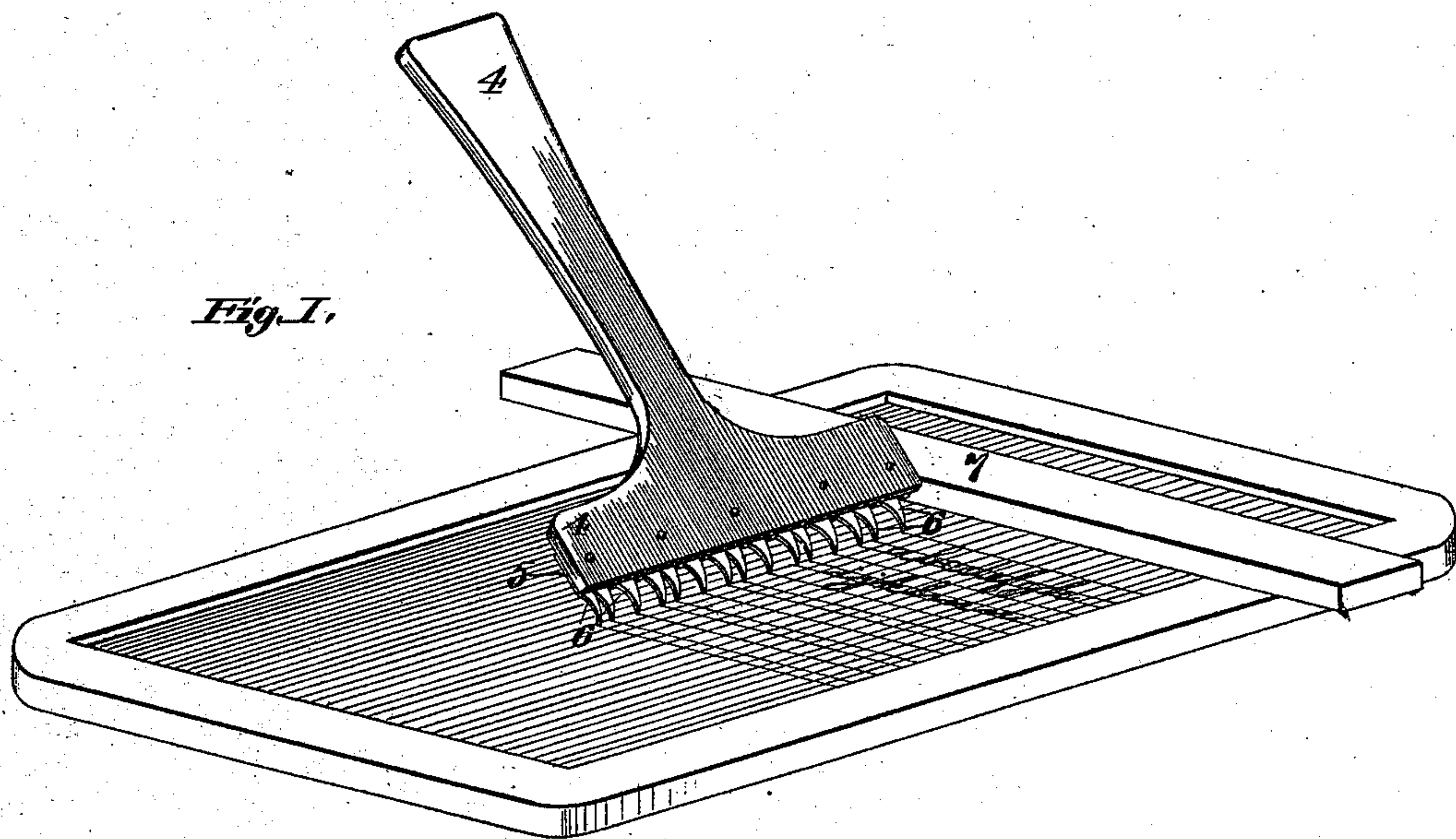


(No Model.)

A. G. W. WILL.
RULING DEVICE FOR SLATES, &c.

No. 413,591.

Patented Oct. 22, 1889.



Witnesses:

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UNITED STATES PATENT OFFICE.

AUGUST G. W. WILL, OF ST. LOUIS, MISSOURI.

RULING DEVICE FOR SLATES, &c.

SPECIFICATION forming part of Letters Patent No. 413,591, dated October 22, 1889.

Application filed May 4, 1889. Serial No. 309,592. (No model.)

To all whom it may concern:

Be it known that I, AUGUST G. W. WILL, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Ruling Devices for Slates, &c., of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

In order to properly instruct the young in writing it is necessary to teach them the correct proportion of letters, and for this purpose parallel lines have to be drawn upon slates, which determine the proper height of the various letters. A teacher's valuable time is often taken up by having a great number of slates to rule for pupils. So, too, by the methods now employed, when the slates are ruled and the writing-matter rubbed out, the ruled lines are also rubbed out, and it is necessary to rule the slates again. This repeated ruling of slates by teachers draws heavily upon their time, which could otherwise be profitably employed. To obviate this I have devised a hand ruling device for slates which is of small cost, and which may be used by almost any one to rule slates in a more perfect manner than the methods now employed, and I construct this device so that it permanently abrades or cuts the surface of the slate, whereby when the slate is once ruled it need not be reruled. The abrading or cutting is not, however, of sufficient depth to seriously affect the continuity or smoothness of the surface of the slate.

The invention consists of one or more series of elastic cutting-points secured to a handle, each cutting-point being arranged at such necessary or customary distances apart as may be required, and being practically independent of the others, so that when inequalities in the surface of the slate are encountered the elasticity of said cutting-points or teeth will cause them to follow the configuration of such surfaces, so as each point will cut a continuous line of uniform appearance whether the surface of the slate be rough or smooth.

Figure 1 is a perspective of a slate being ruled with a hand ruling device embodying

one form of my invention. Fig. 2 is a perspective of a modification of my hand ruling device in which said device carries but one series of cutting-points or teeth. Fig. 3 is a perspective of a modified way of constructing the ruling device.

The same figures of reference indicate the same parts throughout the several views.

4 is a handle of any suitable proportion, preferably made of wood. To this handle is attached an elastic plate 5, which has a series of cutting-points 6 cut or stamped therein. Said plate is preferably made of thin sheet-steel, and the cutting-points or teeth 6 are slightly curved, so that lines may be ruled in the slate close up to the frame. The plate may be secured in any suitable manner to the handle, and should be very elastic, so that the cutting-points will be very sensitive to inequalities in the surface of the slate when ruling the same, and should also be of sufficient hardness to abrade the surface of the slate in order to leave a permanent mark upon the same.

The device shown in Fig. 1 has several series of cutting-points—that is to say, will produce several series of lines for writing purposes with one stroke of said device, each series of lines being adapted to receive one line of writing. To rule a slate with such a device a thick ruler, as 7, is employed to guide the same. After one stroke of the ruling device the ruler 7 is moved down so that its edge coincides with the last line cut in the surface of the slate, and another stroke is made with the device, which rules more series of lines parallel with the first set.

The ruling device may be made of sufficient width to rule the whole slate with one stroke, if necessary; or it may be made to rule the slate with one or more strokes of the same—that is, cut several series of lines at one and the same time; or it may be made to rule but one series of lines, and will then be constructed as shown in Fig. 2. In the latter instance the same method of ruling the slate would be followed as before mentioned; but only one series of lines would be ruled at one and the same time. The cutting-points may be formed by wires soldered or otherwise fastened to a plate secured to the handle, something after the construction shown in

Fig. 3. In this latter figure is shown a modified way of constructing the device. Here the cutting-points 6 are formed by wires, every other two cutting-points being formed
5 by a piece of wire bent upon itself and secured between the two parts of a soft-metal folded plate 8, that is provided with holes through which the free ends of the wire pass. The folded plate 8 is secured to the handle 4 in
10 any suitable manner. The free ends of the wires are flattened and curved, as shown, to facilitate ruling.

I am aware that hand ruling devices or pens for ruling paper having a multiplicity of ruling-points are not new; but in these devices
15 the points do not cut or abrade the surface. Said points merely supply ink to the paper. I am aware, also, that ruling-machines for slates have been patented heretofore; but, so
20 far as I am aware, I am the first to devise a hand device having cutting-points for abrading the surface of the slate, and especially having elastic cutting-points, whereby the
25 said cutting-points will follow the inequalities of the slate.

What I desire to claim and secure by Letters Patent of the United States as my invention is—

1. A hand ruling device for slates, consisting of a handle carrying one or more series of
30 elastic cutting-points arranged at suitable distances apart for abrading the surface of the slate.

2. A hand ruling device for slates, consisting of a handle 4, an elastic metallic plate 5
35 carried thereby, and one or more series of curved teeth or cutting-points 6, cut or stamped therein and arranged at suitable distances apart, for abrading the surface of the
40 slate.

In testimony whereof, I have hereunto set my hand and affixed my seal, this 1st day of May, 1889, in the presence of the two subscribing witnesses.

AUGUST G. W. WILL. [L. S.]

Witnesses:

A. C. FOWLER,
M. S. REEDER.