

(No Model.)

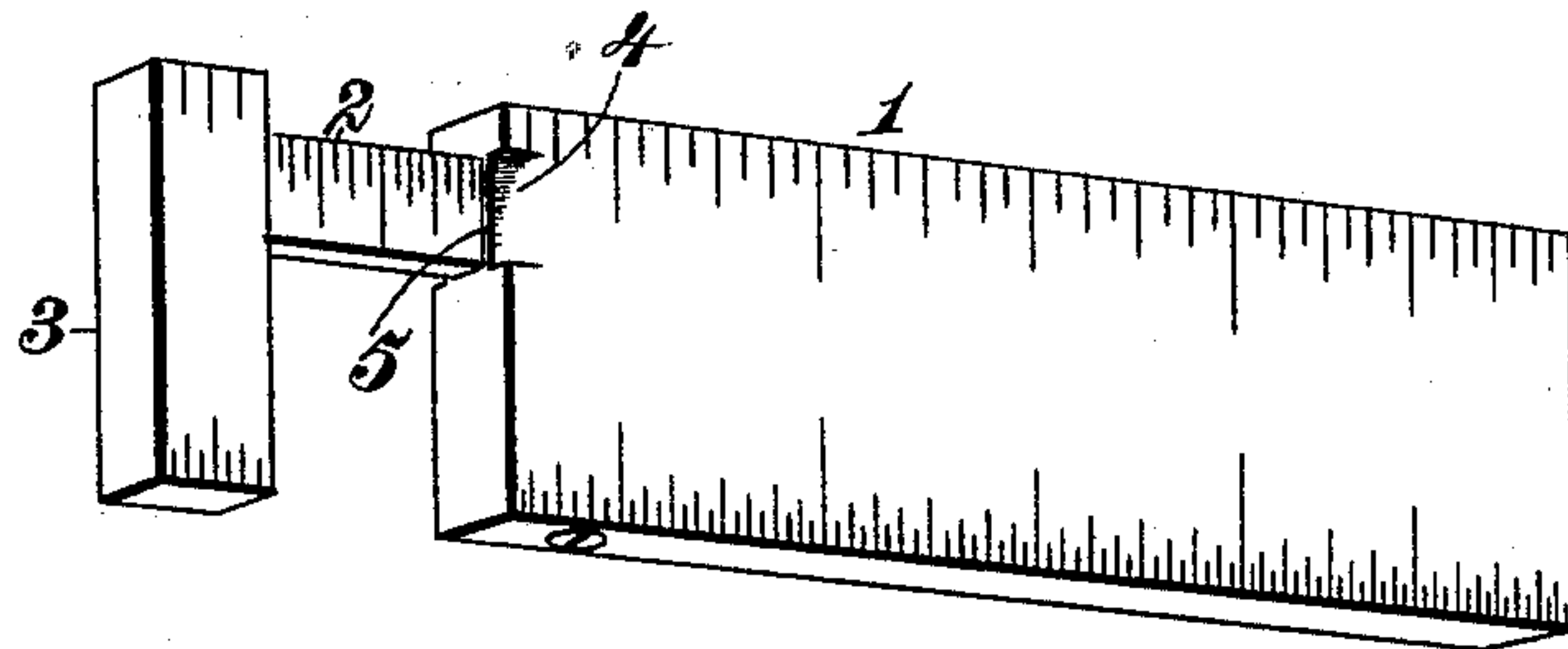
S. H. BELLOWS.

CALIPER RULE.

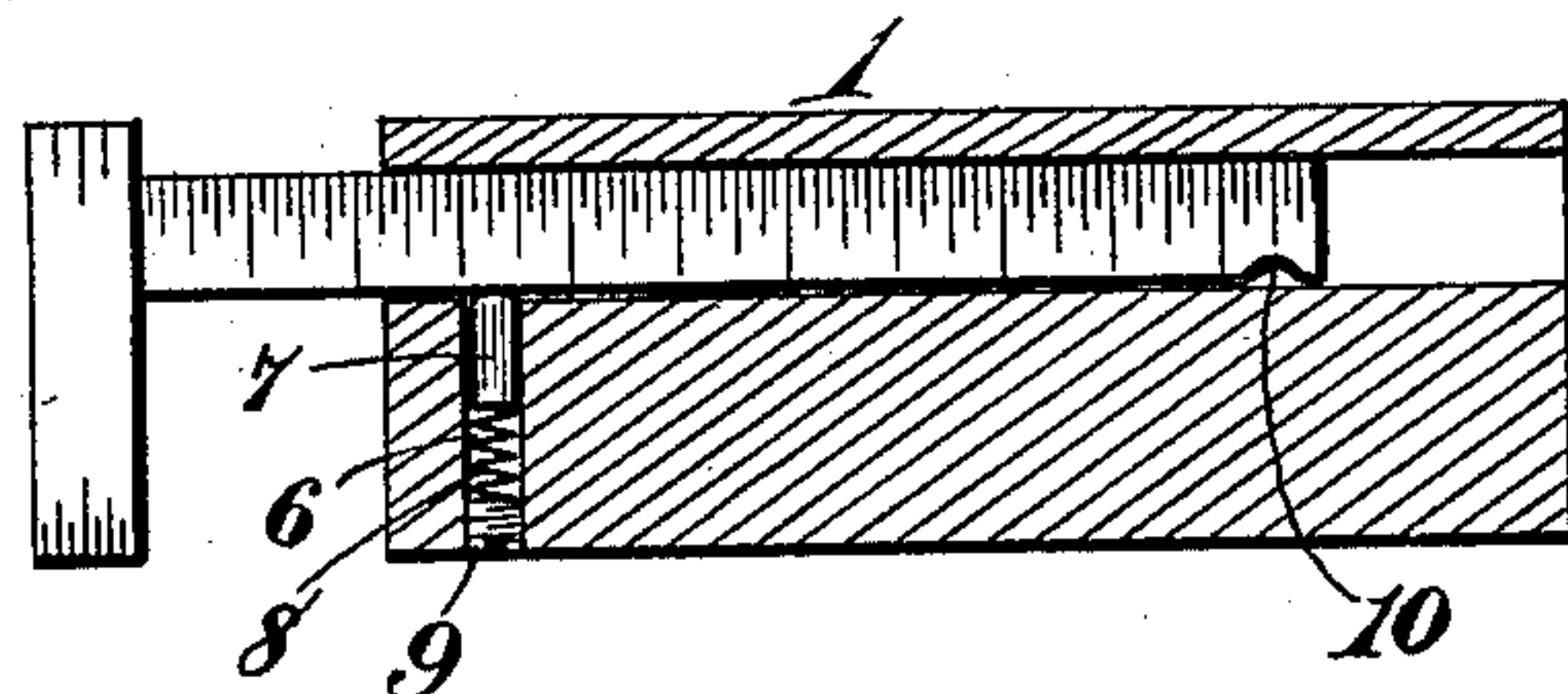
No. 297,056.

Patented Apr. 15, 1884.

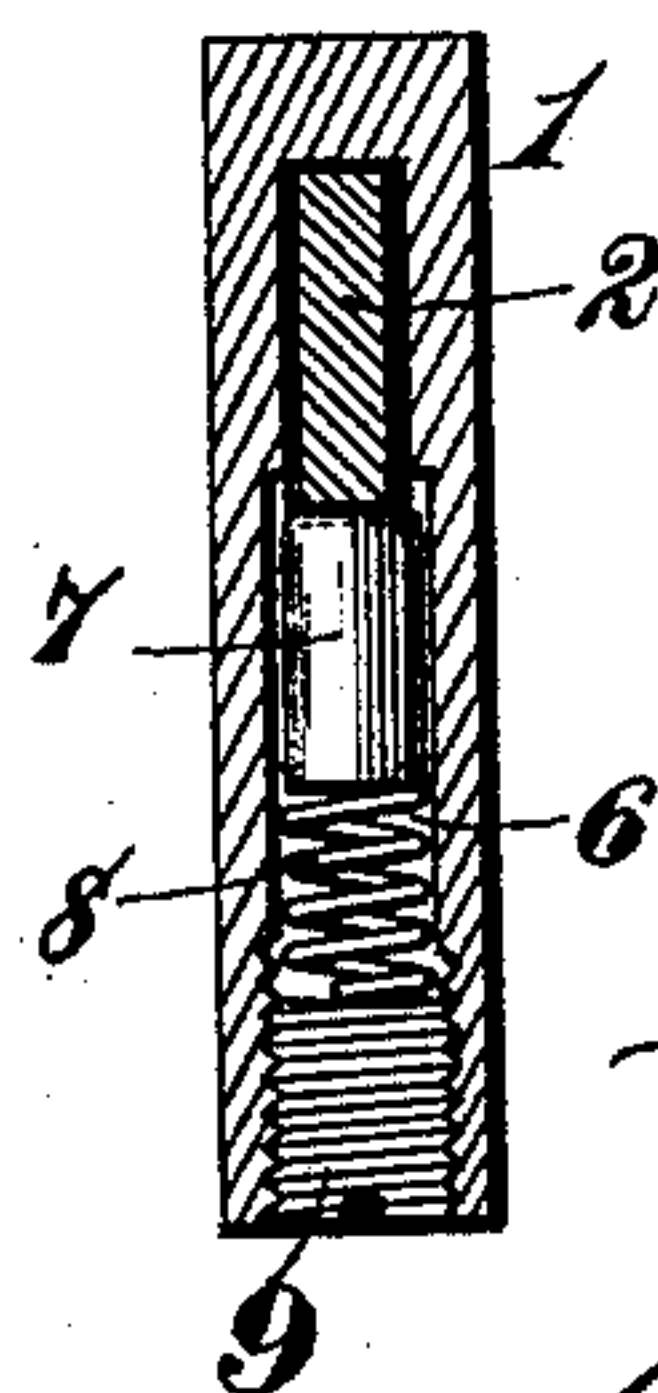
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*

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*By*

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# UNITED STATES PATENT OFFICE.

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## CALIPER-RULE.

SPECIFICATION forming part of Letters Patent No. 297,056, dated April 15, 1884.

Application filed February 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN H. BELLOWS, a citizen of the United States, residing at Athol, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Caliper-Rules, of which the following is a specification.

This invention relates to that class of caliper-rules in which a graduated slide, carrying at its outer end the caliper-head, is arranged to move longitudinally in a passage or groove in the graduated rule; and the invention has for its object to provide a novel construction of the rule, whereby the graduations on the slide can be more conveniently and accurately read than heretofore, while the construction provides simple means for conveniently starting the slide outward, especially where the length of the caliper-head is the same as the width of the rule, and to provide novel means whereby the slide is held, when adjusted, and prevented from accidental withdrawal entirely from the rule.

To such ends the invention consists, first, in a caliper-rule composed of a graduated rule and a graduated slide carrying the caliper-head, having the end of the rule directly opposite the slide beveled off and brought to a practically sharp or thin edge, thereby providing a recess for the finger-nail to engage the inner edge of the caliper-head to move the slide outward, while the sharp or thin edge enables the graduations on the slide to be more conveniently and accurately read or observed than in similar devices as heretofore constructed; and, second, in the combination, with a caliper-rule composed of a rule and a slide therein carrying the caliper-head, of a gib or shoe, arranged in the rule to bear against one edge of the slide, and a spring held in the rule under tension, to press the gib or shoe against the slide for holding the latter within the case, and in the position to which it may be adjusted, and for preventing the accidental complete withdrawal of the slide.

The invention consists of other features, which will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is

a perspective view of a caliper-rule embodying my invention; Fig. 2, a longitudinal sectional view taken on a plane at one side of the rule; and Fig. 3, a transverse sectional view on the line *xx* of Fig. 2.

Referring to the drawings, the number 1 indicates the rule; 2, the slide, arranged to move longitudinally within a passage or groove in the rule; and 3, the caliper-head, carried by the slide, and which, as herein shown, is of a length the same as the width of the rule, so that when in contact with the end of the rule no projections exist, and the instrument presents the appearance of being a solid structure. The opposite faces of the rule, slide, and caliper-head are subdivided by graduations, as usual, into fractions of inches, and otherwise, as is usual in this class of devices. The end of the rule adjacent to the caliper-rule, or, as I will term it, the "inner end," is beveled off, as at 4, directly opposite the slide, so as to bring that portion of the end of the rule to a sharp or thin edge, 5, for the purpose of enabling a workman to more conveniently and accurately read or observe the graduations on the slide than where the entire end of the rule is of the same thickness, as usual, while at the same time the beveled portion constitutes a recess for the insertion of the finger-nail to engage the inner edge of the caliper-head to start the slide outward, which is a considerable advantage in this class of instruments. The finger-nail recess and sharp edge being directly opposite the face of the slide, the force applied to start the slide is directly in line with the latter, whereby its withdrawal is greatly facilitated. The beveled recess and sharp edge will be provided at opposite sides of the rule, inasmuch as the slide and rule are graduated on their opposite surfaces; but I do not confine myself thereto, as this construction can be used at one side only with advantage. The rule adjacent to its inner end is provided with a transverse orifice, 6, which is screw-threaded at its outer portion, and extends to the passage or groove in the rule, and within said orifice, at its inner end, is arranged a gib or shoe, 7, in the form of a cylindrical pin, which bears against the edge of the slide,



such gib or shoe being pressed against the slide by a spring, 8, preferably a spiral spring, which is held under tension and confined in the orifice by a set-screw, 9, or other device 5 in the outer end of the orifice. This gib or shoe, by frictional contact with the slide and the pressure of the spring, serves to retain or hold the slide when moved entirely into the rule, or at any point to which it may be ad- 10 justed when in use, and hence the slide need not be tightly fitted into the passage or groove. This provision renders the instrument very desirable and convenient, and facilitates its use, and besides, the gib or shoe, being pressed 15 by a spring, also serves to prevent the accidental complete withdrawal of the slide from the rule by providing the inner end portion of the slide with a recess or notch, 10, into which the gib or shoe springs and acts as a stop to 20 the outward movement of the slide when the recess or notch is brought into coincidence with the gib or shoe.

Having thus described my invention, what I claim is—

- 25 1. A caliper-rule composed of the rule and the slide carrying the caliper-head, the rule having its inner end at a point directly oppo-

site the face of the slide beveled or recessed and brought to a practically sharp or thin edge for reading the graduations on the slide, and 30 starting the latter outward by the finger-nail, substantially as described.

2. The combination, with the caliper-rule composed of the rule having a transverse orifice and the slide carrying the caliper-head and 35 provided at its inner end portion with a recess or notch, of a gib or shoe bearing against the slide and a spring held in the orifice under tension to press the gib or shoe on the slide, substantially as described. 40

3. The combination, with the caliper-rule composed of a rule having a transverse orifice and the slide carrying the caliper-head, of a gib or shoe in the orifice, a spring pressing the gib or shoe on the slide, and the set-screw in 45 the outer end of the orifice holding the spring under tension, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

STEPHEN H. BELLOWS.

Witnesses:

CHAS. O. STONE,

ANDREW J. HAMILTON.