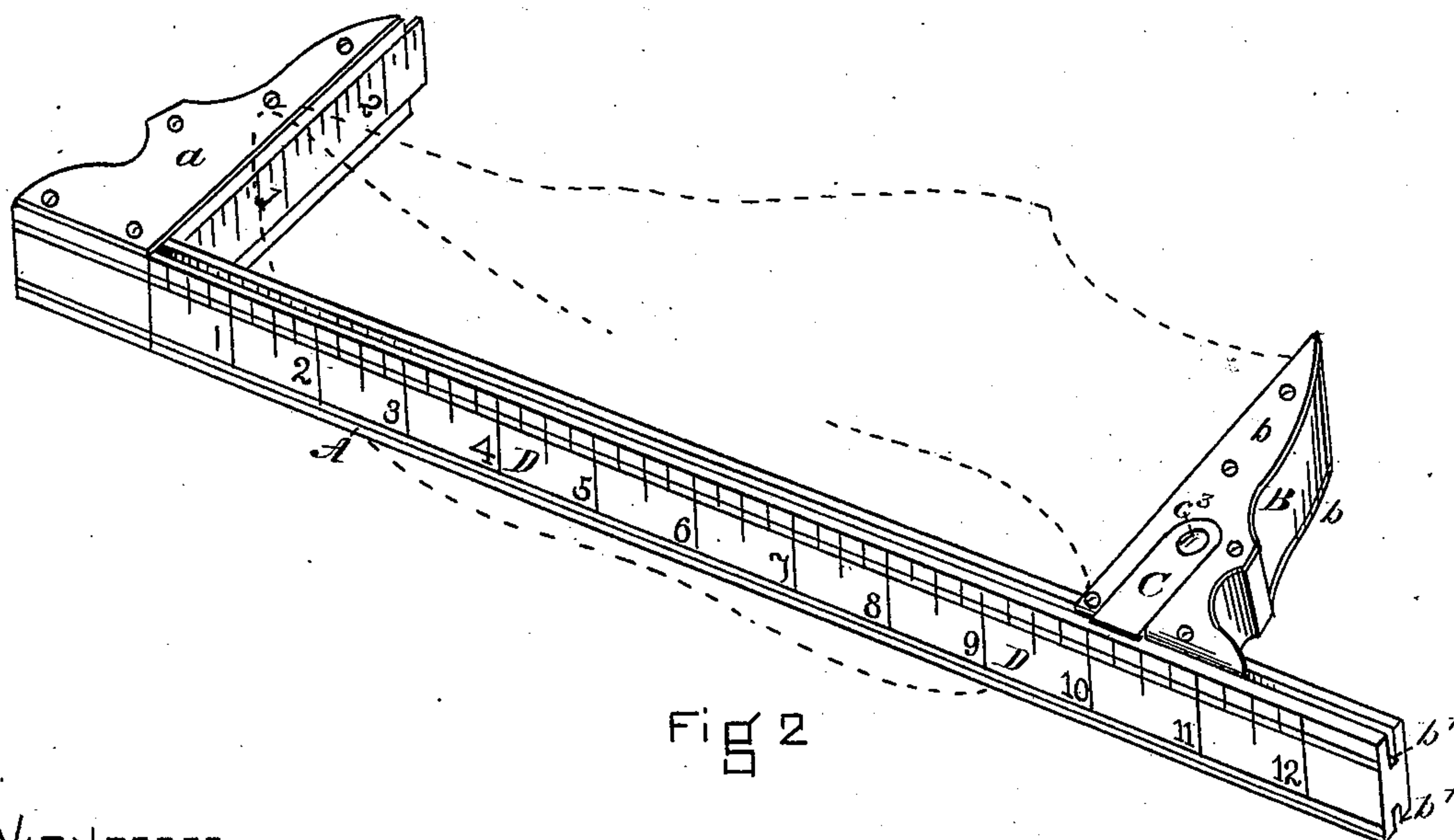
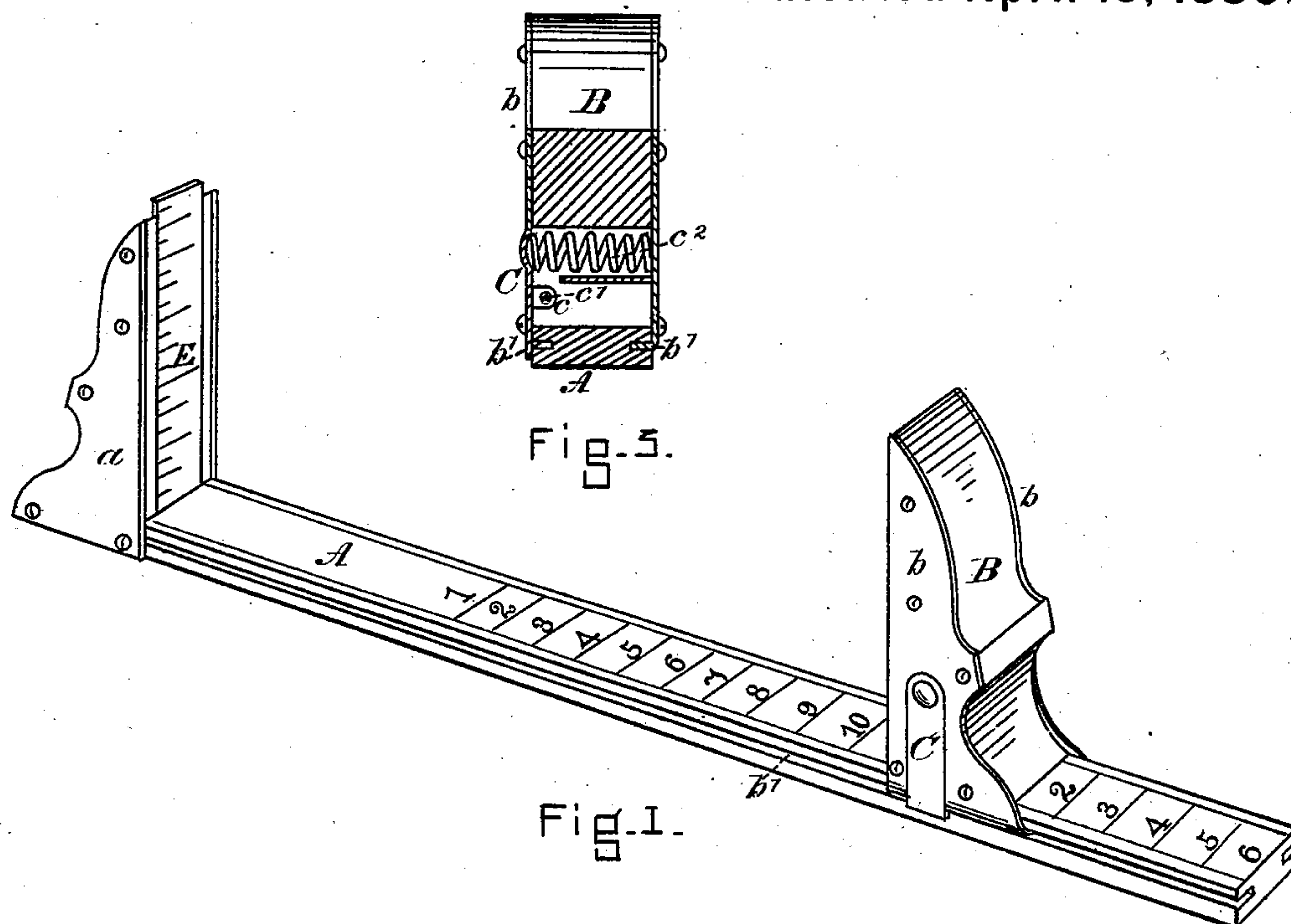


W. H. VARNUM.
Shoe-Maker's Measuring-Stick.

No. 226,429.

Patented April 13, 1880.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM H. VARNUM, OF CAMBRIDGE, MASSACHUSETTS.

SHOE-MAKER'S MEASURING-STICK.

SPECIFICATION forming part of Letters Patent No. 226,429, dated April 13, 1880.

Application filed October 17, 1879.

To all whom it may concern:

Be it known that I, WILLIAM H. VARNUM, of Cambridge, in the county of Middlesex, in the Commonwealth of Massachusetts, have invented an Improvement in Measuring-Sticks for the use of shoe manufacturers and dealers and others, of which the following is a specification.

This invention relates to an improvement in measuring-sticks for the use of shoe manufacturers and dealers and others; and it consists in providing the movable toe-block or index with an improved automatic clamp or locking device, by which it may be firmly held in any desired position upon the measuring-stick, and in furnishing the stick, in addition to the shoe-manufacturer's scale of lengths upon its upper surface, with a foot-measure divided into inches and subdivisions, which shall extend from the line or point from which the shoe-maker's scale is estimated, which is the inner face of the heel-block upon the stick, and not from the end of the stick.

My invention further consists in supplying the heel or toe block with a measure upon its inner face of inches and fractions thereof, which may be used for determining the spring of the last, or the elevation or height of the sole of the last at the toe above a horizontal or base line continued toward the toe from the lowest portion of the sole of the last.

In the measuring-stick commonly in use the toe-block or index is unprovided with any clamp or locking device, and consequently must be held in place by the hand after the measurement is taken and until it is read, and there is therefore considerable liability of its slipping or being displaced in the interval.

In the drawings, Figure 1 is a perspective of the measuring-stick provided with the heel-block and movable toe-block. Fig. 2 is also a perspective, representing the foot-measure and the measure for ascertaining the spring of the last, and Fig. 3 is a cross-section of the toe-block clamping device and stick.

The measuring-stick A is provided at one end with the heel-block *a*, which is rigidly secured thereto, and from the inner face of which the scale of lengths is laid out.

The toe-block B is arranged to slide upon

the stick, and, in connection with the scale, acts as an index, as will be hereinafter explained.

The block may be of any suitable size and shape, and may be secured to the stick in any desirable way. I prefer, however, the mode illustrated, by which the metal side pieces, *b*, are extended downwardly below the upper level of the stick, and then bent inwardly to fit the recesses *b'* on the side of the stick.

The clamp or locking device shown consists in the thin metal plate C, pivoted by the ears *c* and pivot *c'* to the block B, and the spring *c²*, which is confined in the block and bears upon the inner face of the plate above the pivot, and maintains the inner lower face, which extends downwardly below the upper level of the stick, against its side. The plate is arranged so that its upper portion can be swung inwardly against the pressure of the spring when it is necessary to remove the lower portion from contact with the stick; and as it is desirable that this should be done in adjusting the block upon the stick, I provide the plate with a button or projection, *c³*, to enable the plate to be more easily depressed.

The stick may be further provided with the foot-measure D, subdivided into inches and fractions, commencing at that point on the stick on a line with the inner vertical face of the heel-block and continuing toward the toe-block, thereby coinciding with the scale upon the upper surface. By this arrangement of measures the boot-maker's size can readily be determined, the length in inches being known.

The toe or heel block may also have a measure, E, in inches and fractions, for determining the extent of the spring of the last, as above described.

In operation, in order to take the measure of a foot for the purpose of determining the boot-maker's size for length, the foot is placed upon the stick with the back of the heel in contact with the vertical face of the heel-block. The toe-block is then moved, (the clamping-piece being held back from contact with the stick, if desired,) and its vertical face brought in contact with the toe of the foot. The foot is then removed, and the size of the boot or shoe desired is that nearest the toe-block.

A measuring-stick provided with a movable index adapted to be automatically clamped upon the stick when the hand is removed or the measurement completed may be used in connection with a foot or any other measure, either with or without the heel-block, for a very great many purposes, and I therefore do not confine myself, in the use of the automatic clamping-indicator, to the specific measuring-stick described.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination, in a measure for the use of shoe-dealers and others, of the measuring-stick A, provided with the side grooves, *b'*, the heel-block *a*, rigidly secured thereto and projecting upwardly therefrom, and the toe-block B provided with the metallic side pieces, *b*,

which are bent to enter the groove upon either edge of the measuring-stick and to slide therein, and also provided with an automatic clamping device for locking said toe-block in any desired position in relation to the heel-block, all substantially as and for the purposes described.

2. In a measuring-stick for the use of shoe-makers, the combination of the stick provided with a shoe-maker's scale of length-measurements with the heel or toe block provided upon its vertical face with a measure in inches and fractions from the upper surface of the stick, substantially as and for the purpose described.

WILLIAM H. VARNUM.

Witnesses:

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