

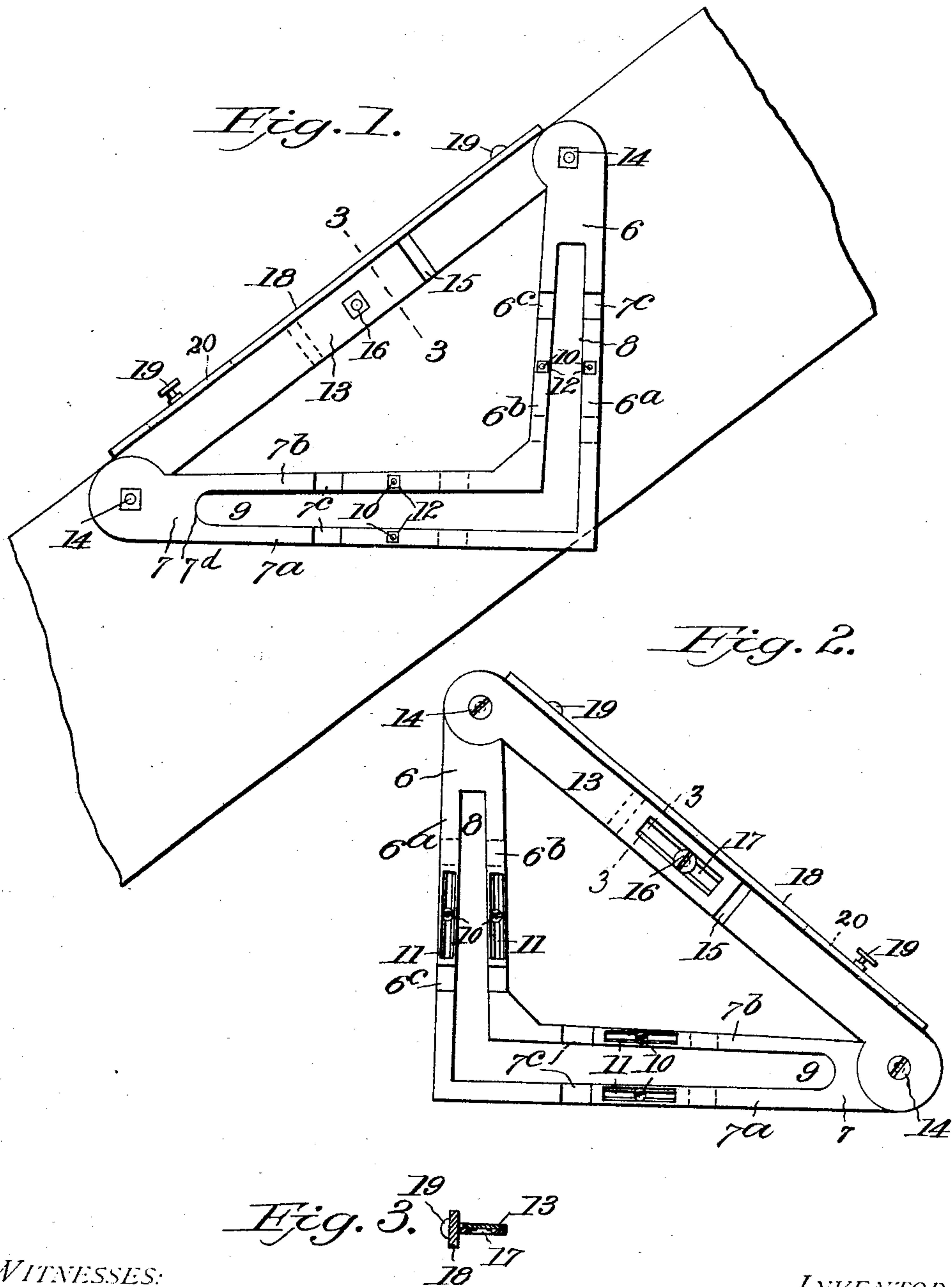
No. 771,225.

PATENTED OCT. 4, 1904.

H. H. BELLVILLE.
ADJUSTABLE STAIR SQUARE.

APPLICATION FILED MAR. 4, 1904.

NO MODEL.



WITNESSES:
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UNITED STATES PATENT OFFICE.

HENRY H. BELLVILLE, OF DETROIT, MICHIGAN.

ADJUSTABLE STAIR-SQUARE.

SPECIFICATION forming part of Letters Patent No. 771,225, dated October 4, 1904.

Application filed March 4, 1904. Serial No. 196,545. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. BELLVILLE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Adjustable Stair-Squares, of which the following is a specification.

This invention relates particularly to adjustable squares used in building stairs for laying and marking out the places in the stringers into which the ends of the steps and risers fit.

The object of the invention is to produce an improved device of the kind characterized particularly by novel adjustment of the instrument and by construction whereby the pencil follows the inside of recesses formed in the arms of the square.

A further object is to provide an improved gage-strip which fits along the edge of the stringer in laying out the work.

In the accompanying drawings, Figure 1 is a plan view of one side of the instrument as applied to a stringer. Fig. 2 is a plan view of the other side. Fig. 3 is a section on the line 3 3 of the other figures.

Referring specifically to the drawings, the square comprises two arms, (indicated at 6 and 7,) of which the former is the riser-arm and the latter the step or tread arm. The outer edges of these arms form a right angle. Each arm is cut out or recessed lengthwise thereof, as indicated at 8 and 9, dividing each arm into two bars 6^a and 6^b and 7^a and 7^b, respectively. These bars connect at the corner to form a square and are also each halved and lapped, as shown at 6^c and 7^c, to permit a lengthwise adjustment or extension of the arms. The end of the tread or step recess is rounded, as at 7^d, according to the outline of the nose of the step. At the various lap-joints the bars are held as set by set-screws 10, which extend through slots 11 in one of the halves and engage nuts 12, let into the other halves. The heads of the screws are sunken in the slots to avoid projecting beyond the face of the arms, so that either side of the square may be laid flat against the stringer.

Pivoted at each end to the ends of the arms of the square is the hypotenuse or connecting-arm 13. The pivots are indicated at 14, and

the parts are halved and lapped at the joints to bring the faces flush on both sides. The arm 13 is made in two sections, which are halved and lapped, as at 15, and connected by set-screw 16 extending through a slot 17 in one of the halves, the head and nut of the screw being sunken for the same purpose and in a similar manner as described above with respect to the set-screws 10. Each of the three arms of the instrument is thus adjustable in length to accommodate and provide for steps and risers of different heights. At 18 a gage-strip is indicated fastened to the outer edge of the arm 13 by thumb-screws at 19, and one of these thumb-screws extends through a slot 20 to permit the lengthwise adjustment of the arm 13. This strip is wider than the arm 13 is thick, so that it projects beyond both faces of said strip, as indicated in Fig. 3, thereby giving a gage for both faces or sides of the square, and when the thumb-screws are tightened it assists in holding the parts rigidly in position.

In use the instrument is laid against the side of the stringer with the gage-strip 18 extending along the upper edge thereof, as indicated in Fig. 1. In this position, the square having previously been adjusted to the desired size, a pencil may be drawn along the edges of the recesses 8 and 9 to mark on the stringer the location of the step and riser mortises which are to be cut out. It will be noticed that the recesses are slightly wedge-shaped to accommodate steps and risers which are wedged in in a well-known manner.

The instrument will be preferably constructed of steel, in which event the threads to take the screws can be made in the body of the metal and the nuts 12 will be unnecessary. If wood is used, the nuts have to be inserted to take the screws.

What I claim as new, and desire to secure by Letters Patent, is—

1. An adjustable stair-square, comprising a square the arms of which are recessed lengthwise to correspond to the shape of the step and riser, said arms being adjustable to increase the length of said recesses, and an arm connecting the ends of said arms and having a gage-strip thereon.

2. An adjustable stair-square, comprising a square the arms of which are adjustable lengthwise and recessed to form marking-guides according to the shape of the step and riser, a
5 connecting-arm adjustable lengthwise, between the ends of said arms, and a gage-strip fastened to the outer edge of said connecting-arm and projecting beyond both faces thereof.

3. An adjustable stair-square, comprising a
10 square the arms of which are each divided into two bars the inner edges of which form step

and riser patterns, each of said bars being sectional and joined and having adjustment lengthwise, and a connecting-arm between the ends of said arms, having a gage-strip thereon. 15

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

HENRY H. BELLVILLE.

Witnesses:

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