

UNITED STATES PATENT OFFICE.

STEPHEN JONES HESTER, OF FULTON, KENTUCKY.

SCALE-MEASURE.

SPECIFICATION forming part of Letters Patent No. 397,128, dated February 5, 1889.

Application filed May 19, 1888. Serial No. 274,367. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN JONES HESTER, a citizen of the United States, residing at Fulton, in the county of Fulton and State of Kentucky, have invented a new and useful Improvement in Measuring-Instruments, of which the following is a specification.

The invention relates to improvements in scale-measures.

10 The object of the invention is the production of an instrument capable of indicating with accuracy the angles at which the ends of those rafters must be cut that are employed in the construction of gable-roofed houses.

15 The invention consists in the novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a plan view of the square, showing the legs swiveled together, and one of the legs provided with a notched sector-plate, and the other leg having a spring-actuated pawl. Fig. 2 is a detail plan
25 view illustrating the legs turned at an angle different from that shown in Fig. 1, and the spring-actuated pawl engaging one of the notches of the sector-plate to keep the legs in their relative position. Fig. 3 is a plan view
30 on the opposite side to that shown in Fig. 1. Fig. 4 is a detail sectional view illustrating the construction of the spring-actuated pawl.

Referring to the drawings, A designates a square constructed of suitable material and
35 having the legs A' and A^2 pivoted together, whereby they are rendered capable of being moved laterally to form angles other than a right angle. The legs are reduced in thickness at the pivotal point, in order that the
40 square A may be of uniform thickness throughout its length. The leg A' is provided at the end at which it is pivoted to the leg A^2 with a sector-plate, B, which is constructed of suitable sheet metal, secured to the end of the
45 leg A' by the pivot C and also by pins, screws, or the like; and the end of the said leg A' conforms to the configuration of the sector-plate B. This sector-plate B has upon its curved edge, which is adjacent to the other
50 leg, A^2 , a recess, a , that is engaged by a spring-

actuated pawl, D, secured to the leg A^2 , by which construction the legs A' and A^2 are held perpendicular to each other to form a square. The sector-plate is also provided with a graduated scale of degrees, b' , on its face, 55 and has a notch, b^2 , to each degree, which notches b^2 are adapted to be engaged by the spring-actuated pawl D to hold the arm A' at any desired angle to the arm A^2 . The sector-plate B also serves to protect the legs on 60 one side at the pivotal point, and the other side is provided with the re-enforcing plate E, which is secured in place by the pivot C and by pins, screws, or the like. The leg A^2 has the spring-actuated pawl, which works in a 65 slot, b , that terminates in a cylindrical hole, a' , into which slides an extension, d , of the pawl D when said pawl D is brought out of engagement with the notched sector-plate B. To 70 keep the pawl D normally in engagement with the notched sector-plate B, a spiral spring, F, is coiled around the extension d of the pawl, and bears against the bottom of the opening a' and the pawl D to cause the same to en- 75 gage the notched sector-plate. I may desire to employ a different form of spring, and I desire it to be understood that I do not limit myself to the precise details of construction herein shown and described, as I may, with- 80 out departing from the spirit of the invention, make any minor changes therein. The spring-actuated pawl has, upon its face, a finger-groove, d' , which facilitates the withdrawal of it from the notched sector-plate B.

The faces of the legs A' and A^2 are divided 85 off into inches and feet, and are designed to be provided, when in use, with a series of scales which indicates the hypotenuse or the length of rafters employed in the construc- 90 tion of gabled roofs for a given basis, and also the angles at which the ends of the rafters must be cut to fit them in position. The first column should indicate the length of the rafters, the second one indicates the angle of 95 the top of the rafters, and the third column gives the angle at the foot of said rafter.

When it is desired to prepare a rafter, I refer to the scale computed on the required base; and then on a line with the number in- 100 dicating the length of the rafter will be found

the angle at which to cut the upper end of the rafter, and also the angle at which to cut the lower end of it. The arms of the square are then turned successively to the angles which
5 are marked on the rafter, that is then cut accordingly.

The foregoing description and accompanying drawings, the construction, operation, and advantages of the invention will be readily
10 understood.

Having described my invention, I claim—

1. A measuring-instrument for marking off the angles at which to cut rafters, consisting of two legs, pivoted together and designed to
15 be provided with suitable scales, one of the legs having a spring-actuated pawl and the other provided with a sector-plate having a recess adapted to be engaged by the pawl to hold the legs perpendicular to each other, and
20 a series of notches to be engaged by said pawl, substantially as described.

2. A measuring-instrument for marking off the angles at which to cut rafters, consisting of two legs pivoted together, one of said legs having a slot terminating in a cylindrical
25 hole and provided with a pawl sliding within the slot and having an extension and a spring coiled around the extensions to hold the pawl in an extended position, and the other one of said legs having a sector-plate provided with
30 a recess and a series of notches, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

STEPHEN JONES HESTER.

Witnesses:

J. M. WRIGHT,
J. T. HAWKINS.