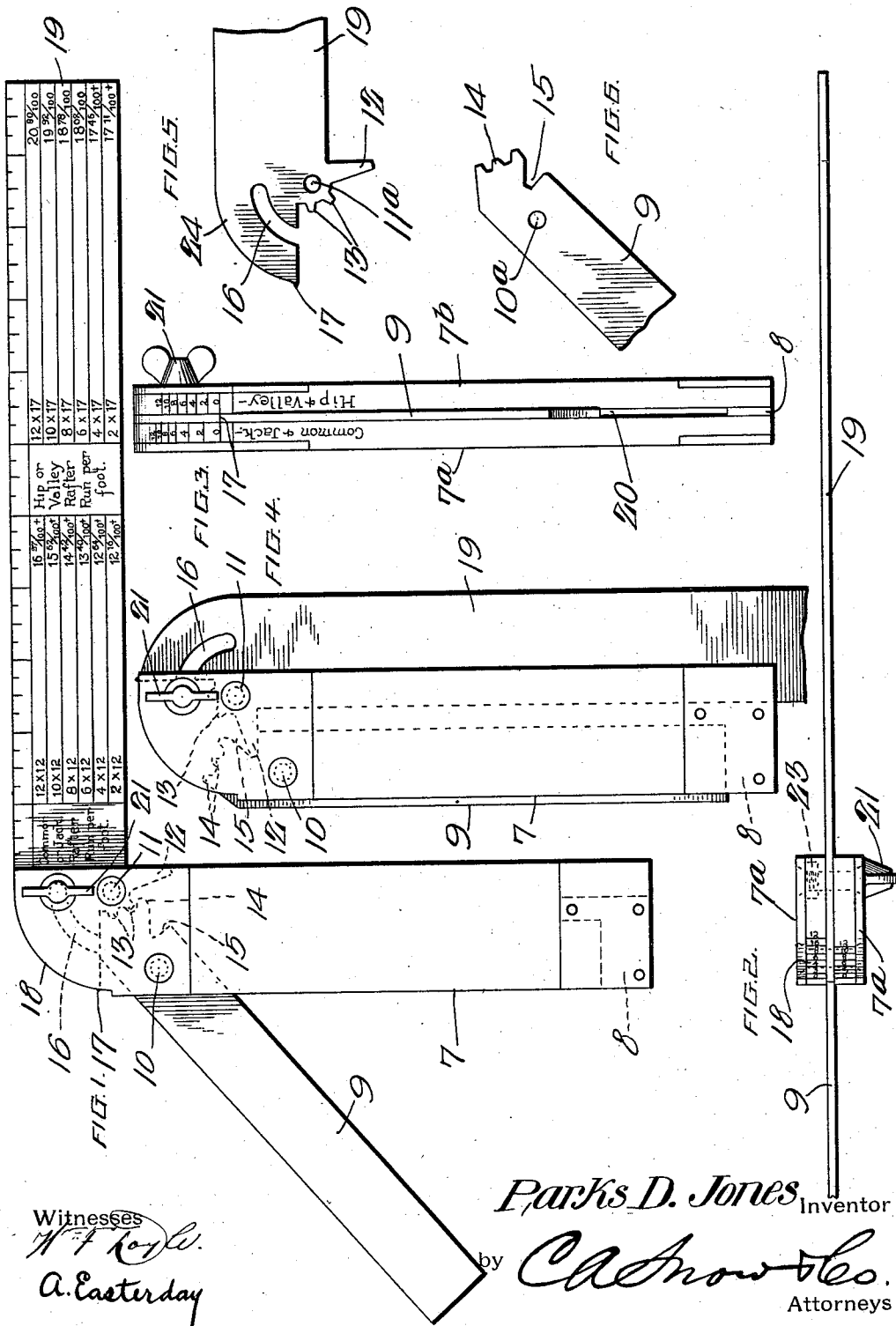


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1,015,736.



UNITED STATES PATENT OFFICE.

PARKS D. JONES, OF BRAZIL, INDIANA.

SQUARE.

1,015,736.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PARKS D. JONES, a citizen of the United States, residing at Brazil, in the county of Clay and State of Indiana, have invented a new and useful Square, of which the following is a specification.

This invention relates to squares and is particularly adapted for use in carpentry to lay off hip and valley rafters, jack rafters and also common rafters, as are now used in roof constructions of houses and other buildings.

The object of this invention is to provide an improved square for the above purposes.

This invention comprises the novel arrangement, construction, and combination of parts shown in the accompanying drawings and hereinafter described.

The invention is illustrated in the accompanying drawings, in which similar reference characters indicate similar parts, and in which:

Figure 1 is a plan view of the invention; Fig. 2 is an elevation thereof; Fig. 3 is another elevation thereof; Fig. 4 is a plan view of the relative parts in folded position, partly broken away; Fig. 5 is a plan view of the main blade, partly broken away; and Fig. 6 is a plan view of the miter or bevel blade, partly broken away.

Referring specifically to the drawings, there is shown at 7 the stock or beam of the square which comprises a pair of spaced sections 7^a and 7^b having secured between the butt ends thereof a block 8. Within the other end of the said stock are pivoted the blades 9 and 19 on the opposite sides thereof by means of bolts or rivets 10 and 11 respectively, and which are provided at their inner ends with the respective gear teeth 14 and 13 which mesh with each other. The pitch-diameter of the teeth 14 is greater than the pitch-diameter of the teeth 13, whereby the main blade 9 is made to swing at a slower rate in proportion with the swinging of the blade 19, when the said blade 19 is swung on its pivot 11. When the blade 19 is swung to a right angle with respect to the stock 7, the blade 9 is made to assume an acute angle with respect to the said stock, preferably an angle of 45 degrees, and when swung inward both blades are adapted to fold within the space 20 between the sections 7^a and 7^b of the

stock 7. Inasmuch as the blade 9 is made to swing slower than the blade 19, a tooth 12 is provided on the blade 19 of greater pitch-diameter than the teeth 13, which tooth 12 engages with a notch 15 in the blade 9 which is of less pitch-diameter than the teeth 14, upon the blade 19 being swung inward, to increase the movement of the blade 9 at the inner end of its stroke to bring it within the stock 7 simultaneously with the blade 19. On swinging the blade 19 outward the tooth 12 also hastens the outward swinging of the blade 9 until the teeth 13 and 14 are engaged or meshed with each other.

The end of the stock 7 to which the blades 9 and 19 are pivoted is curved about the pivot 11 of the main blade 19 as a center, and the inner end 24 of the blade 19 is similarly curved and carries a projecting pointer 17. On the said curved ends 18 and on each side thereof is a suitable scale or graduation for the common and jack rafters and for the hip and valley rafters respectively. Thus, when the main blade 19 is swung, the same may be brought to any desired position by means of the pointer 17, giving the indication on the various scales on the ends 18 and blade 9 will be moved or swung at a decreased ratio to set the blade 9 to correspond with the blade 19 with respect to the stock 7, to lay off a jack rafter or the like, as will be of convenience for carpenters and other tradesmen in the course of their work. The ratio between the pitch-diameters of the teeth 13 and 14 is determined by mathematical formulæ.

The blade 19 has a curved slot 16 in the end 24 which is concentric with the pivot 11. A thumb bolt 21 passes through the slot 16 and engages a nut 23, whereby upon the said bolt being tightened the blade 19 is clamped in any desired position to secure both blades in such position, and when loosened, allows the blades to be swung.

The blade 19 has on its outer edge suitable graduations and on its face a suitable table of runs per feet of various rafters, which can readily be referred to as the square is used.

In use, the blade 19 is set at any desired position or angle by means of the pointer 17 and graduations on the ends 18 of the stock and blade 9 is automatically set at the required angle therewith to lay off the various rafters. When not in use, blades 9

and 19 can be swung closed, as shown in Fig. 4, to make the same compact and easily handled or carried, the tooth 12 engaging the notch 15 expediting such action.

5 The main blade 19 in being swung to a right angle with the stock causes the short arm or pivoted end thereof to strike the flattened end of the miter blade (which has assumed an angle of 45° with the stock) and both blades are thus constrained against
10 excessive movement.

Having described my invention what I claim as new is:—

1. A square comprising a stock, a pair of
15 blades pivoted at one end to the stock and having intermeshing teeth of varied pitch-diameters, the blade which has the teeth of smaller pitch-diameter having a tooth of
20 larger pitch-diameter and the other blade having a notch of smaller pitch-diameter than the pitch-diameter of the teeth thereof, the pivoted end of the blade having the
25 teeth of smaller pitch-diameter being arranged to strike the end of the other blade to constrain the blades in position against excessive movement whereby the former
blade is at right angles with the stock and the latter is at an acute angle with the stock,
30 and upon the former blade being swung toward the stock the latter blade moves at a slower rate of speed, said tooth and notch being adapted to come into engagement
35 with each other as the blades are swung inward to cause the blades to fold simultaneously against the stock, as and for the purpose set forth.

2. A square comprising a stock, a pair of blades pivoted at one end to the stock and having intermeshing teeth of varied pitch-diameter, the blade which has the teeth of
40 smallest pitch-diameter having a tooth of larger pitch-diameter and the other blade having a notch of smaller pitch-diameter than the pitch-diameter of the teeth thereof, the pivoted end of the blade having the
45 teeth of smaller pitch-diameter being arranged to strike the end of the other blade to constrain the blades in position against excessive movement whereby the former
blade is at right angles with the stock and
50 the latter blade is at an acute angle to the stock, and upon the former blade being swung toward the stock the latter blade moves at a slower rate of speed, said tooth
55 and notch being adapted to come into engagement with each other as the blades are swung inward to cause the blades to fold simultaneously against the stock, the ends of the stock and the former blade being
60 curved about the pivotal point of the said blade as a center, graduations on the curved face of one of the said members, and a co-operating pointer upon the curved face of the other member, as and for the purpose
65 set forth.

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

PARKS D. JONES.

Witnesses:

WALTER S. STRONG,
PAUL JONES.