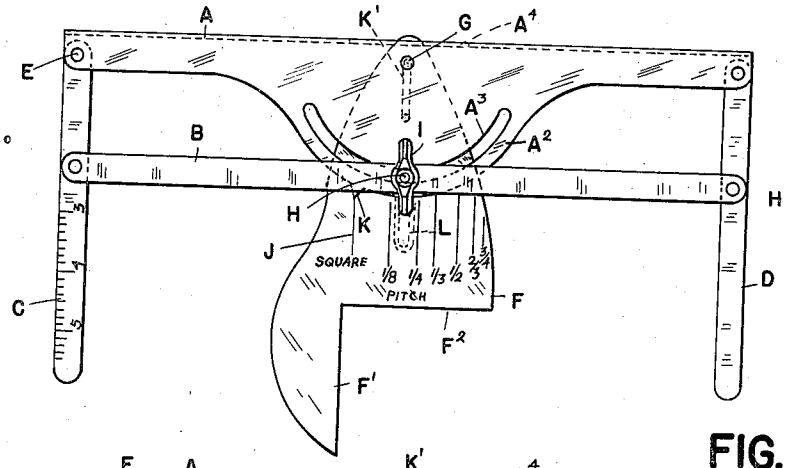
Aug. 24, 1937. G. A. GARDHAM 2,090,835

CARPENTER'S TOOL

Filed May 25, 1936

FIG.1.



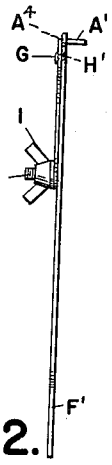


FIG.2.

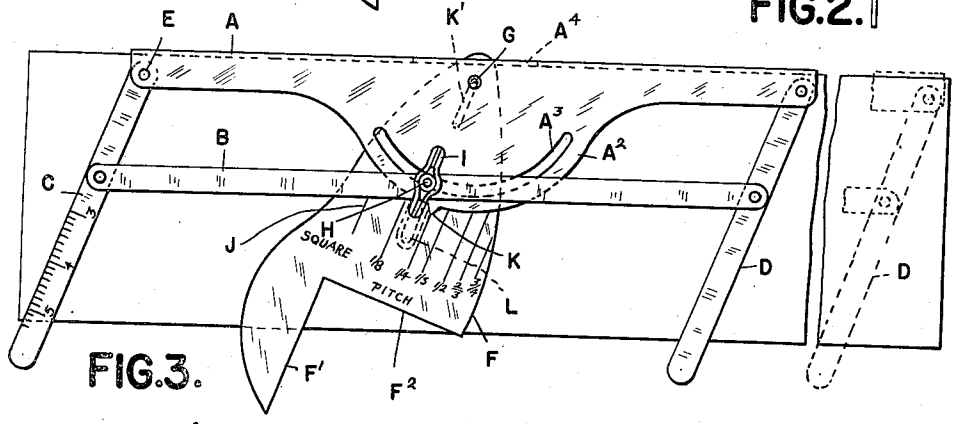


FIG.3.

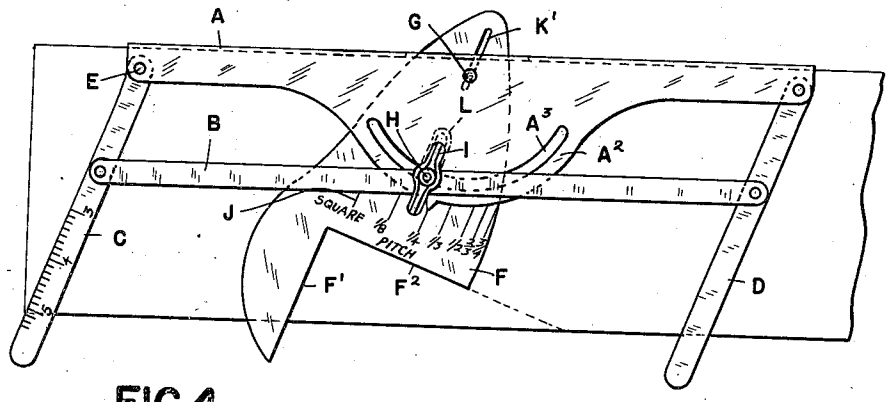


FIG.4.

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Patented Aug. 24, 1937 2,090,835

UNITED STATES PATENT OFFICE

2,090,835

CARPENTER'S TOOL

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Application May 25, 1936, Serial No. 81,757

5 Claims. (Cl. 33—91)

The invention relates to carpenters' tools and has more particular reference to an instrument designed for use in the laying out of roofing rafters and other angling members. It is the object of the invention to obtain a construction which can be used by any workman without requiring mathematical knowledge and which will enable him to accurately lay out angling members, as for instance, rafters, for a given pitch of roof. To this end, the invention consists in the construction as hereinafter set forth.

In the drawing:

Figure 1 is a side elevation of a tool;

Figure 2 is an end elevation thereof;

Figure 3 is a view similar to Figure 1 showing the tool as set for marking a particular angle;

Figure 4 is a view similar to a portion of Figure 3 showing the adjustment for different depths of plate engaging notches.

In the construction of roofs, it is usual to designate them as one-quarter pitch, one-third pitch, one-half pitch, etc. This requires of the workman laying out the rafters some knowledge of geometry in order to obtain the desired result with accuracy. However, after the members are properly marked any carpenter would be able to cut them and perform the other necessary operations for building the roof. My improved instrument can be easily set by any workman and with its aid he will be enabled to accurately mark the members for cutting.

In general construction, the instrument comprises a parallelogram frame having longitudinally extending members A and B and transversely extending end members C and D. These are connected to each other by pivots E which are accurately positioned to form a true parallelogram. The member A is provided with an angle flange A′ at its outer edge, by means of which it may be set parallel with the edge of the member to be marked. In its central portion the member A has a segmental enlargement A^2 which overlaps the member B and is provided with a segmental slot A^3. F is a plate member which is pivotally connected at G to the member A and is also connected to the member B by a pivot pin H which passes through the slot A^3 and has a threaded portion for engaging a clamping winged nut I. The pivots G and H are in alignment with the pivots E in the members A and B and are also parallel to these pivots in the members C and D. There are also a series of lined markings J on the plate F which are adapted to register with an index point K on the segmental enlargement A^2. Thus this plate forms in effect a protractor by means of which the members C and D may be set at different angles to the members A and B, these being designated by suitable markings, such as square one-eighth, one-fourth, one-third, one-half, two-thirds, three-fourths pitch. The plate F is also fashioned to form a square having one side F′ parallel to the members C and D, and the other side F^2 parallel to the members A and B. There is further provision for longitudinal adjustment of the plate F with respect to the pivots G and H, this comprising slots K′ and L in said plate. The pivots G and H have countersunk heads, such as H′, for engaging beveled edges of the slots and avoiding any projection which would interfere with the laying of the instrument flat upon the timber to be marked. The flange A′ is slotted at A^4 to permit of adjusting the plate F therethrough.

In use, if the workman desires to lay out roof rafters for a given pitch, such for instance as one-third, he loosens the clamping nut I and adjusts the parallelogram frame until the index point K lies upon the line J designated as one-third. The nut is then tightened to hold the parts from further movement. The instrument is then placed upon the wide side of the rafter with the flange A′ engaging the narrow side thereof. The transverse side C then forms a rule for marking the angle to which the ends of the rafters must be cut, while the side D may be used for marking the angle at the ridge end of the rafter. It is also customary to form a notch in the underside of the rafter for engagement of the same with the plate at the top of the side wall of the building. This notch may be laid out by the square formed on the plate F and any desired depth of notch may be obtained by adjustment of the plate F with respect to the pivots G and H. Thus the workman may successively mark the rafters without change of adjustment of the tool.

Where timber is to be cut to form the hip of the roof, it may be first marked on the side, as previously described, and then marked on the edge to obtain the desired bevel. It is obvious that there will be many other uses for which this tool is adapted.

What I claim as my invention is:

1. A carpenter's tool comprising a parallelogram frame with pivotally connected sides and having one of the longitudinally extending sides thereof flanged for engagement with the edge of the timber to be marked, the transversely ex-

tending sides constituting rules for marking opposite ends of said timber, and a protractor for setting said frame with the rules thereof at the desired angle.

2. A carpenter's tool comprising a parallelogram frame with pivotally connected sides and having one of the longitudinally extending sides thereof flanged for engagement with the edge of the timber to be marked, the transversely extending sides constituting rules for marking opposite ends of said timber and a centrally arranged protractor for setting said frame with the rules thereof at the desired angle.

3. A carpenter's tool comprising a parallelogram frame having one of the longitudinally extending sides thereof flanged for engagement with the edge of the timber to be marked, the transversely extending sides constituting rules for marking opposite ends of said timber, a projection from the central portion of one of the longitudinal sides overlapping the other longitudinal side and provided with a segmental slot, a plate pivotally connected to said first mentioned side, a pin pivotally connecting said plate to said second side and passing through said segmental slot to permit of anguiar adjustment, said plate being provided with protractor markings for cooperation with an index point on said segmental projection, and a clamping nut engaging a threaded portion of said pin to secure said parallelogram frame in any position of adjustment.

4. A carpenter's tool comprising a parallelogram frame having one of the longitudinally extending sides thereof flanged for engagement with the edge of the timber to be marked, the transversely extending sides constituting rules for marking opposite ends of the timber, a protractor arranged centrally of said parallelogram frame including a plate having markings thereon, said plate also having a portion forming a square for the marking of a notch parallel to the sides of said parallelogram frame.

5. A carpenter's tool comprising a parallelogram frame having one of the longitudinally extending sides thereof flanged for engagement with the edge of the timber to be marked, the transversely extending sides constituting rules for marking opposite ends of the timber, a protractor plate arranged centrally of said parallelogram frame and pivotally attached to the longitudinal sides thereof, one of said longitudinal sides having a projection overlapping the other longitudinal side and provided with a segmental slot for the passage of the pivot connecting said plate with the latter side, said plate having a portion thereof forming a square with its sides parallel to the sides of the parallelogram frame, and means permitting adjustment of said plate with respect to said longitudinal sides parallel to said transverse sides.

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