

March 8, 1938.

E. A. SHARP

2,110,636

FRAMING TOOL

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Fig. 1.

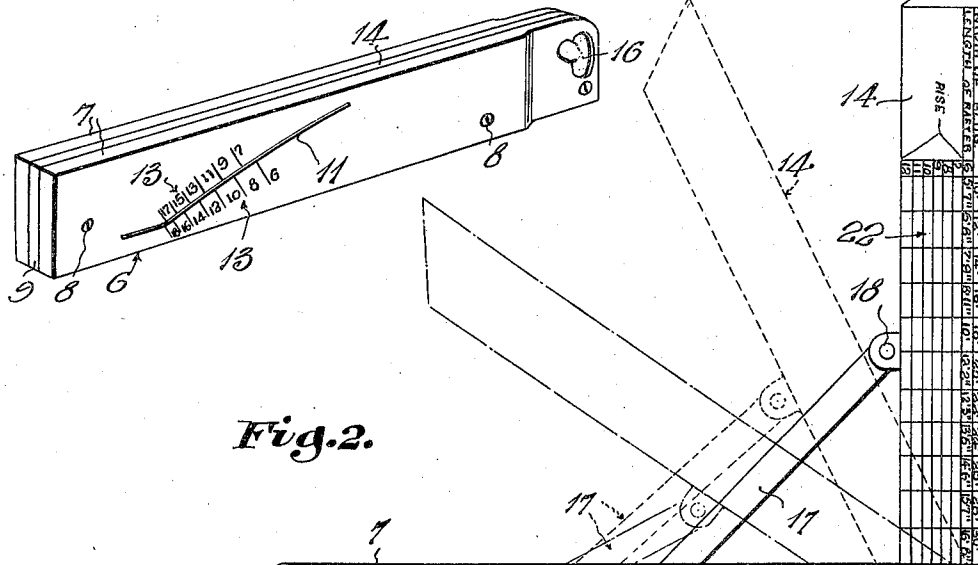


Fig. 2.

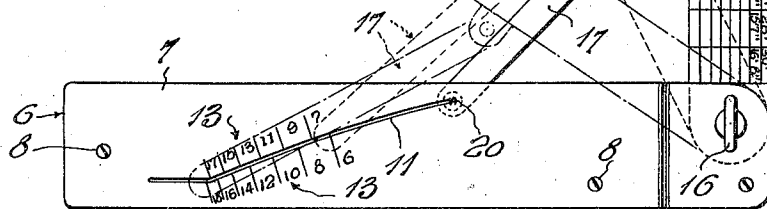


Fig. 3.

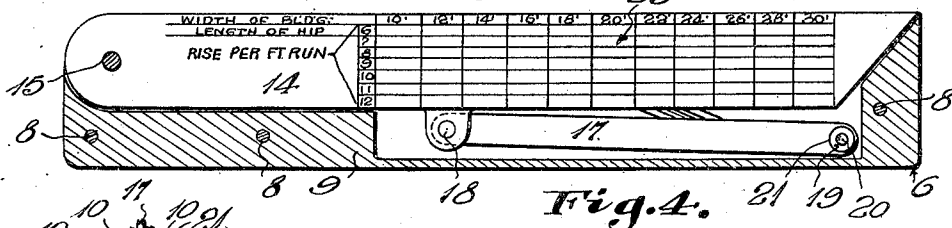
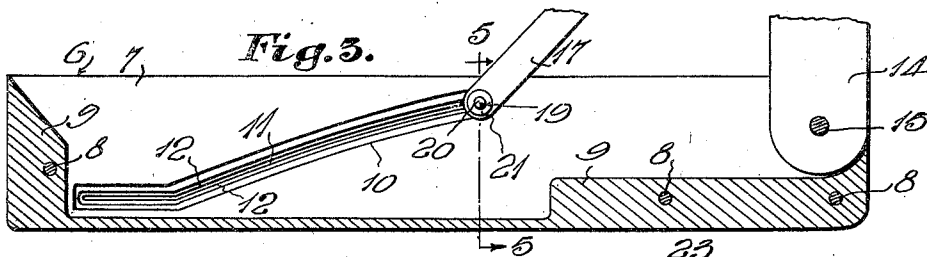


Fig. 4.

Inventor

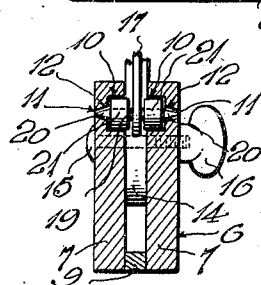


Fig. 5.

E. A. Sharp

A. B. Wilson & Co.
Attorneys

UNITED STATES PATENT OFFICE

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FRAMING TOOL

Emory A. Sharp, Salem, Oreg.

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4 Claims. (Cl. 33—98)

The invention relates to a tool in the nature of a tri-square for use by carpenters and the like in marking various cuts on framing material, particularly for jack rafters, hip rafters, valley rafters and the like, and it aims to provide a novel tool of this class having improved and protected means for accurately indicating the various positions at which the blade of the tool may be set.

A further object is to provide a tool which may be easily and inexpensively manufactured and therefore profitably sold at a fair price, and one which will be convenient, accurate and durable.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawing.

Fig. 1 is a perspective view of the tool in folded condition.

Fig. 2 is a side elevation looking toward the side of the blade which displays a table for use in cutting jack rafters and the like.

Fig. 3 is a fragmentary longitudinal sectional view.

Fig. 4 is a longitudinal section showing the tool in folded condition and looking toward the side of the blade which displays a second table for use when cutting hip rafters, valley rafters and the like.

Fig. 5 is a transverse sectional view on line 5—5 of Fig. 3.

A preferred construction has been shown and will be rather specifically described, with the understanding however, that variations may be made within the scope of the invention as claimed.

The tool includes an elongated body 6 having spaced parallel longitudinal plates or walls 7, said plates or walls being preferably in the form of metal strips secured by screws or other fasteners 8 against opposite sides of a longitudinal spacer 9, said spacer being also preferably formed from metal.

The side walls 7 are provided with longitudinal opposed grooves 10 in their inner sides, said grooves being preferably of the longitudinal shape shown in Fig. 3. The side walls 7 are also provided with longitudinal slots 11 unidirectional with and substantially co-extensive in length with the grooves 10, said slots 11 opening into the central longitudinal portions of said grooves and opening also through the outer sides of the walls 7. Each slot 11 is of such transverse shape that its side walls 12 diverge inwardly from each other, and the portions of the two slots opening through the outer sides of the walls 7, are very

narrow, hardly more than slits. Along these slots, the walls 7 are provided with scales 13 which are instrumental in setting the blade 14 at any desired angle to the body 6.

The blade 14 is adjustably pivoted in one end 5 of the body 6 to fold between the side walls 7 as seen in Figs. 1 and 4, said blade being preferably pivoted upon a bolt 15 having a wing-nut 16 so that tightening of said nut will cause the walls 7 to clamp the blade in any selected position.

A link 17 is pivoted at one of its ends to the blade 14, as indicated at 18, the other end of said link being disposed between the two side walls 7 of the body 6. A pin 19 passes transversely through this end of the link 17 and is provided with conical ends 20 received in the slots 11 in abutting relation with the inwardly diverging side walls 12 of said slots, whereby said pin 19 is held against endwise sliding even if it be not tightly held in the opening of the link through which it passes. The apices of the conical pin ends 20 constitute pointed indicators which extend to but not beyond the outer sides of the walls 7, for coaction with the scales 13 in setting the blade 14 at desired angles to the body 6. To provide for ease of operation and to prevent the indicators from becoming excessively worn by dragging upon the side walls 12 of the slots 11, I mount rollers 21 on the pin 19, said rollers being received in the grooves 10. By thus protecting the indicators against wear and by having them housed totally within the body 6, it is insured that said indicators shall not be so worn or injured as to become inaccurate.

When the tool is manufactured for use primarily in marking cuts for rafters, the scales 13 are preferably calibrated in inches (from 6 to 18) and they indicate rise per foot. One side of the blade 14 is preferably provided with a table 22 by means of which the lengths of rafters of various pitches may be determined for numerous widths of buildings, for instance, from ten feet to thirty feet. The opposite side of the blade 14 may well carry a similar table 23 for use in cutting hip rafters and valley rafters.

If a building thirty feet wide is to be provided with rafters having a pitch of six inches to the foot, for example, the nut 16 is loosened and the blade 14 is swung until one of the indicating stubs 20 is directly at 6 on one of the scales 13, as shown in Fig. 2, the nut 16 being then tightened. By adjusting the tool in this way, the body 6 and blade 14 are disposed at the proper angle for cutting the upper ends of the rafters and the cuts for the lower ends will, of

course, be at right angles to the upper ends, as usual. The length required for the rafters, may be determined from the table 22, showing said length to be sixteen feet, eight inches. The tool is similarly adjusted for cutting rafters of other pitches for buildings of different widths and in all instances, the required adjustment may be made quickly and easily, and the tool will save a great deal of time in marking the cuts.

As excellent results may be attained with the exact construction shown and described, it is preferably followed. However, attention is invited to the fact that variations may be made within the scope of the invention as claimed, and it will be obvious that I am not restricted to any particular size or materials.

I claim:

1. A framing tool comprising an elongated body having two parallel longitudinal side plates, said side plates being provided in their inner sides with opposed longitudinal grooves, said side plates being also provided with narrow slots opening into the central longitudinal portions of said grooves and opening also through the outer sides of said side plates, a blade adjustably pivoted to one end of said body and foldable between said side plates, a link pivoted at one end to said blade and at its other end extending between said side plates, a straight pin passing transversely through the other end of said link and projecting in opposite directions from said link, said pin having its ends received in said slots to constitute indicators, and rollers mounted on said pin at opposite sides of said link and received in said grooves, said body having scales co-operable with said indicators for setting said blade.

2. A framing tool comprising an elongated body having two parallel longitudinal side plates, said side plates being provided in their inner sides with opposed longitudinal grooves, said side plates being also provided with narrow slots opening into the central longitudinal portions of said grooves and opening also through the outer sides of said side plates, the side walls of each of said slots being disposed in inwardly diverging relation, a blade adjustably pivoted to one end of said body and foldable between said side plates, a link pivoted at one end to said blade and at its other end extending between said side plates, a straight pin passing through said other end of said link and projecting in opposite directions therefrom, said pin having conical ends disposed in said slots, said conical pin ends being in abutting relation with said inwardly diverging side walls of said slots, whereby said pin cannot slide endwise, the apices of said conical pin ends being visible at the outer sides of said side plates to form pointed indicators, and rollers mounted on said pin at opposite sides of said link and received in said grooves, said body having scales co-operable with said pointed indicators for setting said blade.

3. A framing tool comprising an elongated body having two parallel longitudinal side plates, the inner side of one of said plates being provided with a longitudinal groove, said one side plate being also provided with a narrow slot opening into the central longitudinal portion of said groove and opening also through the outer side of said one side plate, a blade adjustably pivoted to one end of said body and foldable between said side plates, a link pivoted at one end to said blade and at its other end extending between said side plates, a straight pin rigidly connected with said other end of said link and projecting laterally therefrom into said slot to constitute an indicator, and a roller mounted on said pin and received in said groove, said body having a scale cooperating with said indicator for setting said blade.

4. A framing tool comprising an elongated body having two parallel longitudinal side plates, the inner side of one of said plates being provided with a longitudinal groove, said one plate being also provided with a narrow slot opening into the central longitudinal portion of said groove and opening also through the outer side of said one plate, the side walls of said slot being disposed in inwardly diverging relation, a blade adjustably pivoted to one end of said body and foldable between said side plates, a link pivoted at one end to said blade and at its outer end extending between said side plates, a straight pin rigidly secured to said other end of said link and projecting laterally therefrom, said pin having a conical outer end disposed in said slot, said conical pin end being disposed in abutting relation with said inwardly diverging side walls of said slot and having its apex visible at the outer side of said one side plate to constitute a pointed indicator, and a roller mounted on said pin and received in said groove, said body having a scale co-operable with said pointed indicator for setting said blade.

EMORY A. SHARP.