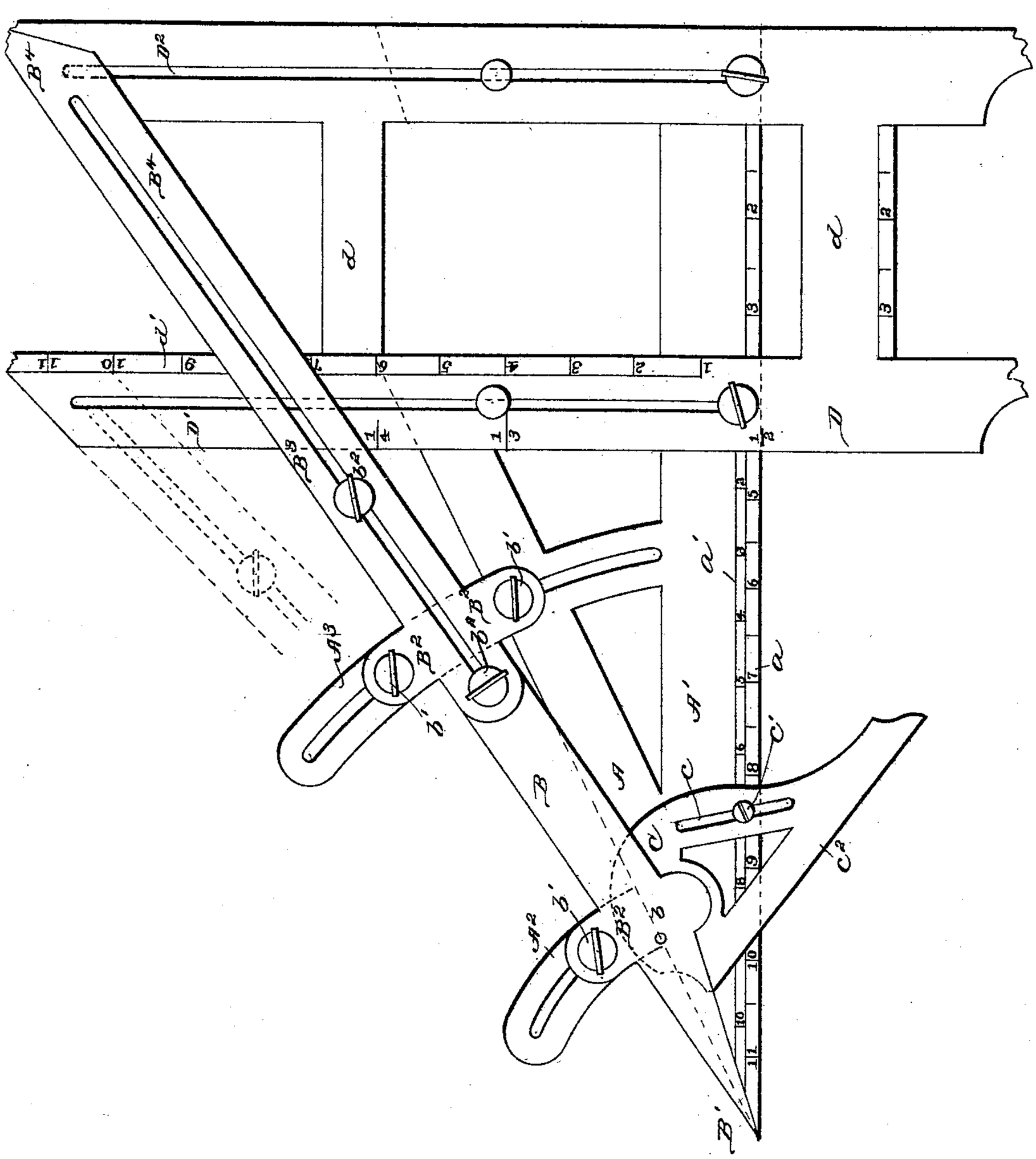
(No Model.)

H. W. NICHOLS.

ROOF TEMPLET.

No. 495,828. Patented Apr. 18, 1893.



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UNITED STATES PATENT OFFICE.

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ROOF-TEMPLET.

SPECIFICATION forming part of Letters Patent No. 495,828, dated April 18, 1893.

Application filed October 12, 1891. Serial No. 408,539. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. NICHOLS, a citizen of the United States, and a resident of the city and county of Salt Lake, in the Territory of Utah, have invented certain Improvements in Roof-Templets, of which the following is a specification.

My invention relates to that class of devices known as "roof" or "beam" templets, which are employed by carpenters for marking or laying out the proper angle which is to be given to the ends and edges of rafters and other beams employed therein, and the object of my invention is to provide a simple and inexpensive device for laying out and marking such angles, whereby calculation of the angles may be dispensed with and the tool, when set or adjusted to the proper pitch, may be used for laying out all the angles necessary in fitting the beams of the roof.

My invention will be hereinafter fully described and its novel features carefully defined in the claims.

My invention is illustrated in the accompanying drawing which shows a plan view of my device.

A is the body or main frame of the templet, which as shown herein is formed at an angle of about twenty-two and one-half degrees, or one-quarter pitch, and is provided with a double scale along its lower side A′, which will be hereinafter referred to.

B is the "fence" or movable arm of the templet, pivoted at *b*, to the plate C, which is, in turn, provided with a guide slot *c*, through which passes a guide pin or screw *c′*. Thus it will be seen that the arm or "fence" B finds a center at a constantly varying point between pivot *b* and guide pin *c′*, which varying point corresponds to and moves in an arc concentric with, the lower angular end or tip B′, of said arm B. The frame A is also provided with curved and slotted guides A^2, A^3, the curve of which is concentric with the angular tip B′, in which guide slots play guide screws *b′*, on correspondingly curved arms B^2 on the arm B.

Set in the body of arm B, near its upper end, are two set screws b^2, b^2, which serve as guides, playing in a guide slot formed along the middle of an extension plate or arm B^3, which is thereby adapted to be slid along arm B and set fast by set screws b^2, in order to bring said arm B to the desired length.

D is a slide piece, forming the upright of the templet, which is composed of two parallel tongues D′, D^2, braced and connected by tie pieces *d*, *d*, at bottom and top. Along the rear edge of the first of these tongues, D′, is marked a scale, *d′*, which I will call the vertical scale of the templet.

Along the lower edge of the main frame A, of the templet, is marked a double scale, the lower *a*, of which is divided into twelve divisions, which correspond to twelve inches or one foot on the angle of the roof, or along the rafter, and which I will call the diagonal scale, and the upper of which is likewise divided into twelve equal divisions, of one inch each, which represents one foot on the horizontal, or along the tie beam. The objects of these scales I will describe hereinafter.

The plate C, as before stated, is guided on a pin or screw *c′*, and is provided on its lower face where it crosses the lower plate A′ of the main frame, with a straight marking edge, c^2. It will be seen that by the peculiar mounting of this plate C, it being pivoted to arm B, at *b*, and guided in its movement by guide pin *c′*, the angle formed by it with the said plate A′ will vary with the variation of the angle formed by arm B with said plate. The object of this variation I will explain hereinafter.

I will now describe the manner of using the templet, premising that the roof to be built is sixteen feet in width and pitched at an angle of forty-five degrees to the horizontal, to which angle the templet is adjusted as represented in the accompanying drawings.

For the common rafters, the arm or fence B is set so that its upper angle or end B^4, corresponds with the angle of the top of the first of the two tongues on the slide plate D, and the set screws b^2, b^2, are fastened, holding the said arm securely in position. The templet is then placed over the side of the timber from which the rafter is to be cut, at the end of the same, the upper edge of the "fence" corresponding with the upper edge of the timber, and the angle B′, coming just at or above the end of the same. The cut or angle is now marked for the lower bevel of the rafter, along the base plate A′, of the frame A, and the templet is run eight times along the length

of the timber, using the diagonal scale, *a*, on the templet.

For the angle at the upper end of the rafter, along the ridge of the roof, lay the templet along the side of the timber so that the upper angle B^4, of the extension plate, coincides with the upper corner of the upper end of the timber, and mark the cut or angle along the vertical scale *d'*, which gives the said bevel. This operation is repeated as often as necessary, once for each rafter in the roof.

For the jack rafters, if placed twenty-four inches from centers, there will be three of them between the ridge and the wall piece. Take the templet adjusted for the common rafter, mark off the upper and lower bevels in the same manner as for the latter, measuring the length of the jack by means of either the vertical or horizontal scales on the templet.

For the side cut or miter to fit the hip, apply the angle of the plate C with plate A', without adjustment, said plate working automatically in connection with bar B.

For the hip rafters, adjust the fence to the position seen in the drawings, until the upper angle B^4 of said fence coincides with the upper angle of the second tongue D^2, and set fast in this position. Now run the templet eight times along the length of the beam, having previously marked off the lower bevel or cut in the same manner as for the common rafter. Then mark off the upper angle in the same manner.

For the bevel or miter to fit the ridge, apply the angle indicated by the plate C, as for the jack rafters.

For the backing of the hip, take the angle formed by the plate C with the plate A', half on either side, which will answer for all practical purposes. Of course for accurate work, it will be necessary to allow for the thickness of the ridge board, one half the thickness thereof being taken from the rafters on either side of the roof.

I do not wish to be understood as limiting myself to the particular form and arrangement of the parts as herein shown, as it is very evident that considerable change may be made in both without departing materially from the principles of my invention.

Having thus described my invention, I claim—

1. In a roof templet the combination of a main frame, side pieces adjustably connected therewith, a movable arm, and guides on the main frame to which the said arm is connected; substantially as described.

2. In a roof templet the combination of a main frame, side pieces adjustably connected therewith, curved guides on the main frame, and a movable arm adjustably connected with the said guides and coacting with the side pieces; substantially as described.

3. In a roof templet the combination of a main frame, side pieces adjustably connected therewith, guides carried by the frame having a curvature concentric with the free end of the frame, a movable arm, and mechanism for adjustably connecting the said arm with the guides; substantially as described.

4. In a roof templet the combination of a main frame, side pieces adjustably connected therewith and arranged at right angles thereto, curved guides carried by the frame, a movable arm adapted to be clamped into engagement with the guides, and a plate pivoted to the arm near its outer end and having an adjustable connection with the frame; substantially as described.

5. In a roof templet, the combination with the main frame, provided with the marking edge A', of the arm B and tongue D', for laying out the common rafters, the tongue D^2, for laying out the hip rafters and the plate C, for laying out the side bevels or miters, all arranged to operate substantially as set forth.

6. In a roof templet, the combination with the main frame, provided with the marking edge A', of the arm B and tongue D', for laying out the common rafters, and means substantially as specified for adjusting same to different pitches and when adjusted for setting fast in position, all arranged to operate substantially as set forth.

7. In a roof templet, the combination with the main frame, provided with the marking edge A', of the arm B and tongue D', for laying out the common rafters, the tongue D^2, for laying out the valley rafters, and the plate C for laying out the side cuts or miters, means substantially as described for adjusting same for roofs of different pitch and when adjusted for holding same in position, all arranged to operate substantially as set forth.

8. In a roof templet, the combination with the main frame, provided with the marking edge A', of the arm B, tongue D', for laying out the common rafters, the diagonal scale *a*, for measuring the length of the same, and the horizontal scale *a'*, for ordinary measurements, all arranged to operate substantially as specified.

9. In a roof templet, the combination with the main frame, provided with the marking edge A', of the plate C, mounted to play at an angle with said edge A', and the arm B, pivoted to said plate C, the tongue D', means for adjusting said arm B and tongue D' to different angles, whereby the angle formed by plate C with edge A', is likewise varied, as set forth.

10. In a roof templet, the combination with the main frame, A, provided with the marking edge A', of the slide piece D, provided with tongues D', D^2, means for adjusting said slide piece along said main frame, the arm B, secured at one end to said main frame, and having its other end adapted to be adjusted and set to either of said tongues on the slide piece, as and for the purposes set forth.

11. In a roof templet, the combination with the angular main frame A, provided with the marking edge A', and slotted guide plates A^2, A^3, of the slide piece D, provided with tongues D', D^2, means for adjusting said slide piece

along said main frame, the arm B, secured at one end to said main frame and guided by said slotted guides thereon, said arm having its other end adapted to be adjusted and set to either of said tongues on the slide piece, as and for the purposes set forth.

12. In a roof templet, the combination with the angular main frame A, provided with the marking edge A′, and slotted guides A^2, A^3, of the slide piece D, provided with tongues D′, D^2, means for adjusting said slide piece along said main frame, the arm B, secured at one end to said main frame and guided by said slotted guides thereon, the extension arm guided on and forming a part of arm B, and means for adjusting said arm to either of said tongues D′, D^2, and when adjusted, for setting same fast in position, as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY W. NICHOLS.

Witnesses:

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