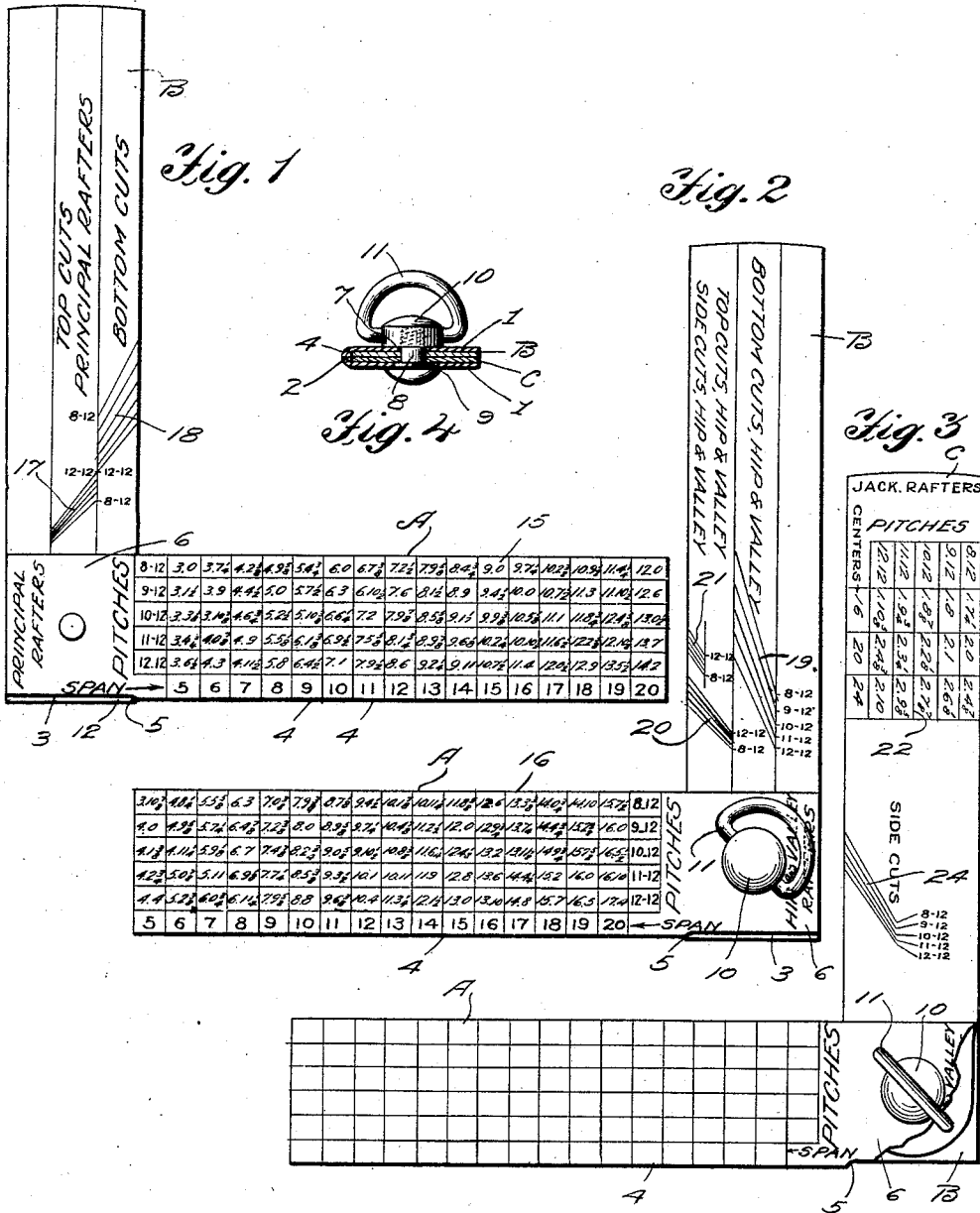


A. E. SOLLERS.
SQUARE.

APPLICATION FILED MAR. 5, 1907.



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SQUARE.

No. 866,531.

Specification of Letters Patent.

Patented Sept. 17, 1907.

Application filed March 5, 1907. Serial No. 360,673.

To all whom it may concern:

Be it known that I, ALBERT E. SOLLERS, a citizen of the United States, residing at Mount Union, in the county of Huntingdon and State of Pennsylvania, have
5 invented new and useful Improvements in Squares, of which the following is a specification.

This invention relates to a square so designed that the lengths, cuts and pitches of main, jack, and hip and valley rafters may be easily and accurately determined
10 and laid out, and it relates more particularly to a folding square of this type that can be conveniently folded into a small compass for carrying in the pocket.

The invention has for one of its objects to improve and simplify the construction and operation of devices
15 of this character so as to be comparatively easy and inexpensive to manufacture, composed of few parts, easy to manipulate, and adapted to enable a large variety of angles or bevels to be obtained.

A further object of the invention is to provide a square
20 having a plurality of pivotally mounted blades arranged on the stock or body which are independently adjustable for enabling different angles or pitches to be obtained.

Another object of the invention is to provide a simple
25 form of stock or body into which the blade or blades are adapted to fold when the square is not in use.

A still further object is to mount the blades in such a manner that one can be adjusted to any position between zero and ninety degrees and the other between
30 zero and two hundred and seventy degrees.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter
35 and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a plan view of the square showing one of the blades open.
40 Fig. 2 is a bottom plan view thereof. Fig. 3 is a similar view showing the second blade open. Fig. 4 is a section of the square with blades in folded position.

Similar reference characters are employed to designate similar parts throughout the several views.

Referring to the drawing, A designates the stock of the square, and B and C, the two blades thereof that are pivotally connected with the stock in such a manner as to fold back against the same for convenience in carrying the square in a pocket when not in use. The stock
50 A is preferably constructed of a rectangular piece of sheet metal that is doubled on a longitudinal center line into a body of U-shaped cross-section, as shown in Fig. 4. The two plates 1 of the stock are suitably spaced apart to form a pocket 2 for receiving the blades. The
55 body of the stock A is cut away at 3 at one end at point in line with the crease or fold 4 and the inner end of this

cut-away portion forms a shoulder 5 against which the blade B bears when the latter is at ninety degrees to the stock. By cutting away the stock at 3, clamping jaws 6
60 are formed at the ends of the stock between which the blades of the square are clamped.

The jaws 6 have registering apertures 7 for receiving the screw pivot 8 which latter has a squared portion 9 fitting in one of the openings 7 which is correspondingly squared, and on the screw pivot is a cap nut 10 having
65 a bail handle 11 whereby the jaws 6 are clamped to the blades that are disposed between the jaws, the blades being apertured to receive the pivot 8.

The blade B is so pivoted that the corner 12 engages the shoulder 5 as shown in Fig. 1, thereby limiting the
70 movement of the blade to an arc of ninety degrees, and when the blade is in the position shown in Fig. 1, the square is adapted for use as an ordinary L or try-square, and when in any other intermediate position, it is adapted for use as a bevel square for acute angles.
75

The blade C as shown in Fig. 3, is rounded at its pivoted end so that it is capable of swinging through an arc of two hundred and seventy degrees, the shoulder 5 of the stock serving to limit the opening movement of the blade. Thus, it will be seen that the blade C is
80 adapted for use in laying out acute or obtuse angles of a wide range.

If desired, the blades can be both opened to their full extent so as to form a straight edge of almost twice the length of the blades, and if desired, these blades may
85 have a lineal scale for measuring purposes. When the blades are fully extended, both of them will engage the shoulder 5. In adjusting the blades, the clamping nut 10 is slightly loosened to permit freedom of movement and after the desired set of the blade or blades is obtained, the nut 10 is securely tightened to firmly clamp
90 the blades in position.

In order to adapt the square for use in laying out and determining lengths, cuts and pitches of rafters of various characters, the stock is provided on opposite sides
95 with tables designated generally by 15 and 16 each having columns of figures denoting the pitch angles and a bottom row of figures designating the spans corresponding to the figures in the columns. The table 15 is used for ascertaining the factors employed for principal
100 rafters, while those of the table 16 are employed for the measurements for hip and valley rafters.

On the top side of the blade B, as shown in Fig. 1, are pitch or bevel degree lines 17 and 18 that are read in connection with the table 15 employed for laying out or
105 determining the top and bottom cuts of the principal rafters. On the bottom side of the blade, as shown in Fig. 2, are pitch or bevel degree lines 19, 20 and 21 that are employed in connection with the table 16 for determining the proper set of the blade for bottom, top and
110 side cuts of hip and valley rafters. For jack rafters, a table 22 of figures denoting pitch angles and other des-

ignations is employed on the blade C and on the same side of the blade are pitch or bevel degree lines 24, whereby the blade can be set for determining the various cuts for jack rafters.

- 5 From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the
10 principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative and that such changes may be made when desired, as are within
15 the scope of the claims.

Having thus described the invention, what I claim is:—

1. A square comprising a stock composed of a single
20 piece of sheet metal doubled on itself on a central longitudinal line to form a pocket and cut away at the bend to form a pair of jaws and a shoulder at the inner end of the jaws, a pair of blades pivoted between the jaws and foldable into the pocket, one of the blades having rounded corners to swing free of the shoulder and the other blade
25 being adapted to engage the shoulder when open to its full extent, and means for clamping the blades and jaws together.
2. A square comprising a stock, a plurality of blades pivotally mounted thereon adapted to fold upon the stock,

and means for limiting the opening movement of one
30 blade to ninety degrees and the opening movement of the other blade to a greater angle.

3. A square comprising a stock composed of a single
35 piece of sheet metal bent longitudinally to form a pocket and cut away at one end in the bend or crease to present a pair of spaced jaws and a shoulder, tables of suitable characters on opposite sides of the stock, a pair of blades pivoted between the jaws to fold into the pocket and adapted to swing open to different angles, the said shoulder forming a stop for limiting the opening movement of
40 the blades, and means for clamping the blades in adjusted position, there being suitable pitch lines on the blades.

4. A square comprising a metal stock of U-shaped cross-section forming a single pocket, a plurality of blades
45 pivotally connected with the stock and foldable into the pocket, a clamping device common to the blades for holding the latter in fixed position, and means for limiting the opening movement of the blades.

5. A square comprising a sheet metal stock doubled
50 on a longitudinal center line and cut away at one end along the fold or crease of the stock to form a shoulder, a pair of blades pivoted between the table portions of the stock to fold and unfold between the said portions and adapted to abut the shoulder when in full open position,
55 and a clamping device for holding the blades in fixed position with respect to the stock.

In testimony whereof, I affix my signature in presence of two witnesses.

ALBERT E. SOLLERS.

Witnesses:

FRANK H. HARRISON,
HOWARD B. WOOLMAN.