(No Model.)

A. S. VOSE.

TRY AND BEVEL SQUARE.

No. 345,196. Patented July 6, 1886.

Fig. 1.

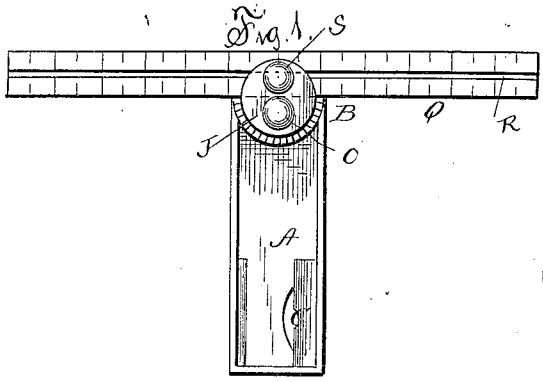


Fig. 2.

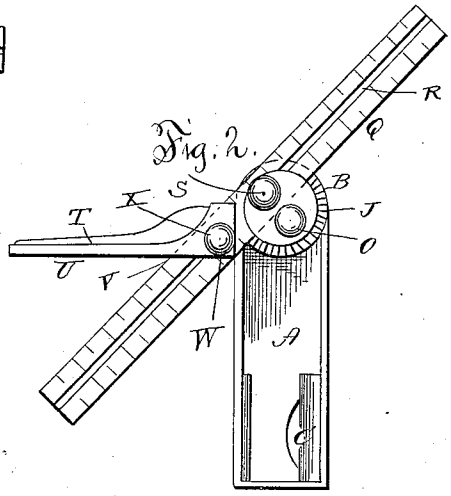


Fig. 3.

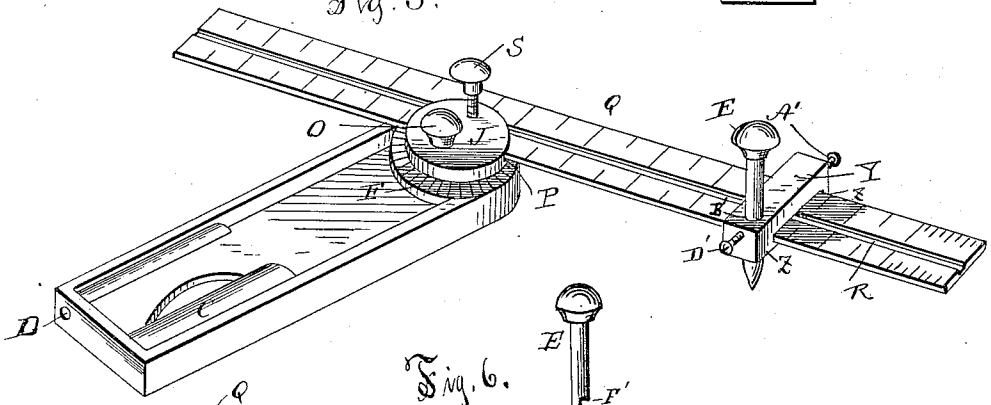


Fig. 6.

Fig. 4.

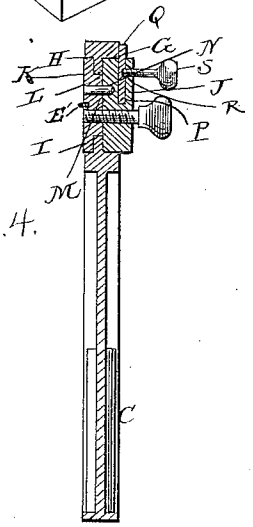
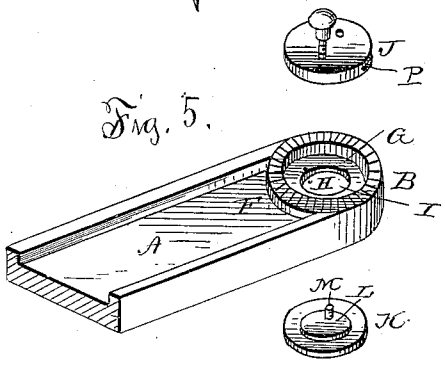


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

AMBROSE S. VOSE, OF WINDSOR, VERMONT.

TRY AND BEVEL SQUARE.

SPECIFICATION forming part of Letters Patent No. 345,196, dated July 6, 1886.

Application filed February 8, 1886. Serial No. 191,195. (No model.)

To all whom it may concern:

Be it known that I, AMBROSE S. VOSE, a citizen of the United States, and a resident of Windsor, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Try and Bevel Squares; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a view of my improved bevel and try square. Fig. 2 is a view of the square provided with the centering device. Fig. 3 is a view showing the square provided with the scratch-awl for striking circles. Fig. 4 is a longitudinal sectional view of the stock, disk, and rule of the square. Fig. 5 is a perspective view of the turning-disk, and Fig. 6 is a view of the scratch-awl.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to bevel and try squares; and it consists in the improved construction and combination of parts of such a square provided with means for finding the center of circles or cylinders and for describing circles of different radii, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the stock, one end, B, of which is rounded in the shape of a semi-circle, while the other end is provided at one edge with a spirit-level, C, and with a longitudinal perforation, D, opening at the end for the reception of a scratch-awl, E, when the latter is not in use. The rounded end or head of the stock is formed at one side with a circular or annular rim, F, which is graduated or divided into the degrees of the circle, and inside of this graduated rim the head is formed with a circular recess, G, which communicates with a similar recess, H, upon the other side of the stock by a circular perforation, I, of a smaller diameter than the recesses. Two disks, J and K, fit into the recesses, and the lower disk, K, is formed with a reduced portion, L, which fits and turns in the perforation, bearing against the under side of the upper disk, and the upper face of the reduced portion of the lower disk is provided with an upwardly-projecting pin, M, which fits into a registering-perforation, N, in the under side of the upper disk, while a thumb-screw, O, or a screw provided with a thumb-nut, passes through both disks, connecting them. The upper disk projects above the surface of the stock, while the lower disk is flush with the lower surface, and the projecting portion of the disk is provided with a slot or recess, P, entering from the edge of the disk and extending through one-half of the disk, the inner edge of the said slot being the diameter of the disk passing through its center. A blade or rule, Q, having its edges suitably subdivided or graduated, slides in this slot, and the upper side of the rule is provided with a V-shaped longitudinal groove, R, into which the conical inner end of a set-screw, S, may fit, the said set-screw passing through the outer side of the slot at the upper side of the disk. The rule may thus be adjusted by means of its set-screw in the slot, and the angles formed between the edges of the stock and the edges of the rule may be read upon the annular rim upon the stock, and the rule may be adjusted and secured to stand with its edges at any desired angle to the edges of the stock by tightening the screw connecting the turning disks, drawing them together, and thus clamping the annular lip separating the two recesses in the stock.

An arm, T, having one straight edge, U, has a slot, V, in its inner end, which slot has its inner end at an angle of one hundred and thirty-five degrees to the straight edge, and one side of the slot is formed with a perforation, W, through which passes a set-screw, X, having a conical point which fits in the groove of the rule.

By setting the rule to form an angle of forty-five degrees, with its inner edge to the edge of the stock, and securing the arm upon the rule with its inner end bearing against the stock the straight edge of this arm will stand at a right angle to the edge of the stock, and

when the edges of the stock and of the arm are brought to bear as tangents against the edges of a circle, or against the sides of a cylinder, the inner edge of the foot-rule will pass through the center or axis of the same, so that by describing two lines with the said rule, the arm and stock being tangential to the circle or cylinder, the center or axis of the circle or cylinder will be accurately located in the point where the lines intersect.

A clamp, Y, having downwardly-projecting lips Z-Z at its ends which bear against the edges of the rule, slides upon the same, and is provided with a set-screw, A′, passing through one lip and bearing against the edge of the rule for the purpose of adjusting it, while the other lip is formed with a vertical perforation, B′, through which passes the scratch-awl E, which may be secured by a set-screw, D′, passing through the lip.

A small point, E′, may be inserted in the center of the lower disk for the purpose of retaining it in one place, when placed upon the same, and by adjusting the clamp with the scratch-awl at the desired radius the rule may be turned around the center formed by the small point, and the awl will describe a circle around the center of the desired radius. In this manner the device may be used as a common bevel and try square, the spirit-level assisting in finding the desired pitch for roofs, road-grades, or any other inclines where it is desirable to define an incline to the horizontal plane.

The arm with the inclined slot will serve to locate centers and axes of circles and cylinders, and the scratch-awl will adapt the device to be used as a pair of compasses for describing circles, the device being in this manner applicable to a great variety of uses.

The lower end of the scratch-awl is cut away at one side to form a shoulder, F′, which may bear against the upper side of the rule, the semi-cylindrical or semi-conical lower end of the awl bearing with its flat side against the edge of the rule, so that the point of the awl will be directly in a line with the edge of the rule.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a bevel and try square, the combination of a stock having two registering circular recesses in the sides of one end connected by a circular perforation of a smaller diameter, a disk fitting and turning in one recess, and having a reduced portion fitting in the aperture, a disk having its inner side bearing against the end of the reduced portion of the other disk and fitting in the other recess, and having the rule or blade secured to it, and a screw securing the disks together passing through both of them, as and for the purpose shown and set forth.

2. In a bevel and try square, the combination of a stock having two registering circular recesses in the sides of one end connected by a circular perforation of a smaller diameter, a disk fitting in one recess, and having a reduced portion fitting in the perforation, and a pin projecting from the inner side of the reduced portion, a disk fitting in the other recess and having a perforation in its inner face for the reception of the pin of the other disk, and having the rule or blade secured in it, and a screw passing through the disks securing them together, as and for the purpose shown and set forth.

3. In a bevel and try square, the combination of a stock, a disk revolving adjustably in the end of the stock, and having one end projecting above the face of the stock, and formed with a slot entering from the edge, and having its inner edge passing diametrically through the disk, a rule sliding in the said slot and having a longitudinal V-shaped groove in one side, and a set-screw passing through the disk into the slot, having its inner end conical and fitting in the groove of the rule, as and for the purpose shown and set forth.

4. In a bevel and try square, the combination of a stock, a rule sliding adjustably in a turning-disk in the stock and passing with its inner edge through the center of the disk, and an arm having one straight edge, and having a slot in its inner end, with the inner edge forming an angle of one hundred and thirty-five degrees to the straight edge, and sliding with the said slot upon the outer edge of the rule, as and for the purpose shown and set forth.

5. In a bevel and try square, the combination of a stock, a disk turning adjustably in the end of the stock, a rule sliding adjustably in the end of the disk, having its inner edge passing through the center of the disk, and an arm having a straight edge, and having a slot in its inner end, with its inner edge at an angle of one hundred and thirty-five degrees to the straight edge, and sliding with the said slot upon the outer edge of the rule, having a set-screw for adjusting it, as and for the purpose shown and set forth.

6. In a bevel and try square, the combination of a stock, a disk turning adjustably in the end of the stock, and having a small point in the center of its under side, a rule sliding adjustably in the disk, with its inner edge passing through the center of the disk, a clamp having downwardly-projecting lips bearing against the edges of the rule, and having a set-screw bearing against one edge of the rule passing through one lip, and a scratch-awl having one-half of its lower end cut away to form a shoulder bearing against the upper side of the edge of the rule, the awl passing through a vertical perforation in the lip of the clamp, and having a set-screw adjusting it in the same, as and for the purpose shown and set forth.

7. In a bevel and try square, the combination of a stock, a disk turning adjustably in the end of the stock, and having one end pro-

jecting above the face of the stock, and formed with a slot entering at the edge and passing with its inner edge through the center of the disk, and a rule sliding adjustably in the said slot, with its inner edge bearing against the inner edge of the slot, as and for the purpose shown and set forth.

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

AMBROSE S. VOSE.

Witnesses:

GILBERT A. DAVIS,

GEO. E. WILLIAMS.