

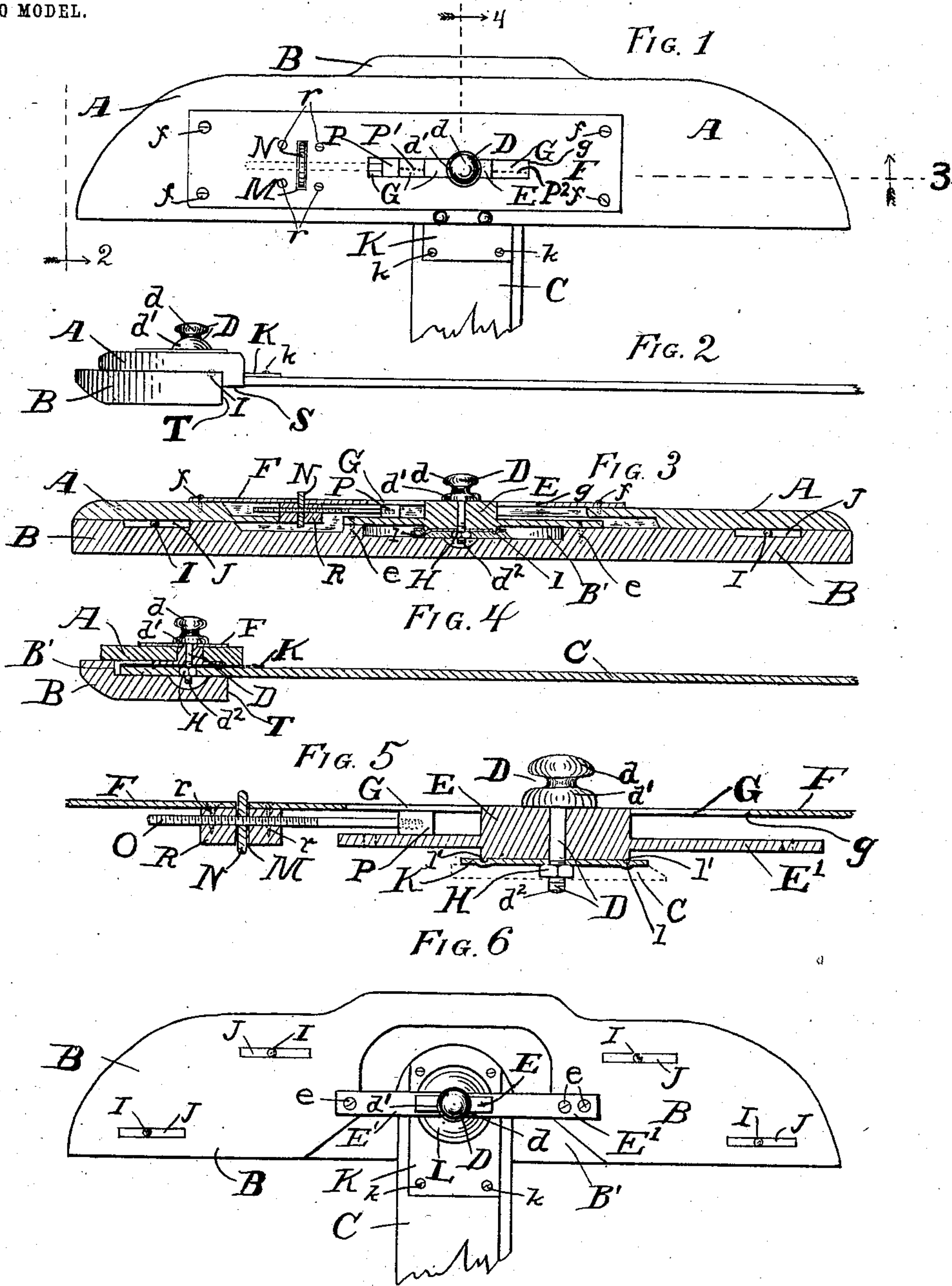
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H. A. ROUNDS.  
T-SQUARE HEAD.

APPLICATION FILED AUG. 6, 1902.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## T-SQUARE HEAD.

SPECIFICATION forming part of Letters Patent No. 720,179, dated February 10, 1903.

Application filed August 6, 1902. Serial No. 118,568. (No model.)

*To all whom it may concern:*

Be it known that I, HOWARD A. ROUNDS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in T-Square Heads, of which the following, when taken in connection with the drawings accompanying and forming a part hereof, is a full and complete specification, sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to T-square heads, being applicable as well to T-square heads which are adjustable relative to the blades thereof as to T-square heads which are not so adjustable; and the purpose of this invention is to obtain a T-square head at small cost and of simple construction by means of which a series of lines may be drawn which shall be parallel and equally distant from each other, such T-square head being adjustable to obtain within the limits of the apparatus a determined distance between the lines.

A further purpose is to obtain a T-square head of the kind named which will be easily operated without shock or jar thereto.

In the drawings referred to, Figure 1 is a top plan view of a T-square embodying this invention with a portion of the blade thereof removed. Fig. 2 is an end elevation of the head of the T-square, showing the blade thereof in side elevation as, say, on line 2 of Fig. 1 viewed in the direction indicated by the arrow. Fig. 3 is a sectional view on line 3 of Fig. 1 viewed in the direction indicated by the arrow. Fig. 4 is a section view on line 4 of Fig. 1 viewed in the direction indicated by the arrow. Fig. 5 is a vertical sectional view of some of the operative parts illustrated in Fig. 3 on an enlarged scale, and Fig. 6 is a top plan view of the under part of the T-square head.

A reference-letter applied to designate a given part is used to indicate such part throughout the several figures of the drawings wherever the same appears.

A B constitute the head of the T-square, and C the blade thereof. Blade C is preferably made to turn on screw or bolt D as on

a pivot and to be held rigidly in an adjusted position, so that lines may be drawn which are not parallel with the sides of the drawing-board.

B' is a slot or recess in part B, permitting longitudinal and angular adjustment of blade C.

d is the part of the head of the bolt D by means of which such bolt is turned, and d' is the part or portion of the head of bolt D which is designed to come in contact with the abutment E on strap E' and near to contact with plate F. Abutment E is preferably integral with strap E'. Plate F is secured to part A of the head of the T-square, as by the screws f f, and abutment E is rigidly secured to part B of the head of the T-square, as by the screws e e in strap E'. G is a slot in plate F, through which slot the abutment E extends to a slight distance above the upper face of such plate F. g is one end of slot G. It thus occurs that when the part d' of bolt D is turned firmly down upon the abutment E, as by turning the screw-threads d<sup>2</sup> into the nut H, the parts A and B of the head of the T-square will be held together, but not closely, so that such parts may be moved relative to each other. To do away with friction between such parts A B, I prefer to place the balls I I between the parts A B in grooves J J, respectively.

To hold the blade C firmly in an adjusted position in part B of the head, I attach plate K to the blade C, as by screws k k, and embed the nut H in blade C underneath the plate K, so that such nut will not turn in such blade. The nut H is drawn upward on the bolt D as such bolt is turned to bring the part d' of the head of the bolt into close contact to abutment E, as hereinbefore described, and the plate K is thus drawn upward and forced against the underside of the abutment E. The under side of the abutment E is preferably made circular in horizontal section, as is illustrated at L in Fig. 6, with annular ribs and grooves l l' between the meeting faces of such part L and the plate K. (See Figs. 3 and 5.) The annular groove and rib l l' also serve to guide the plate K when the blade C is turned for adjustment on bolt D, as hereinbefore described.

M, Fig. 1, is a transverse slot in plate F.



N is a thumb-wheel in the slot M, rotatably mounted on screw O. The screw O is attached at one of its ends to movable abutment P. When parts A B of the head of the T-square are moved relative to each other, the movement is limited by the adjustment of the head P, such adjustment being obtained by turning the thumb-nut N on screw O. As such movable abutment P is adjusted in Fig. 1, the movement of parts A B of the head relative to each other is measured by the dotted lines P' P<sup>2</sup>.

R, Figs. 3 and 6, is an abutment rigidly secured to the plate F, as by the screws r r, Fig. 5, such screws being also shown in Fig. 1. Abutment R may, if preferred, be integral with the plate F.

S, Fig. 2, is the part or portion of the part A of the head of the T-square embodying this invention which comes in contact with the drawing-board in the use of the T-square, such part S resting on the top of the drawing-board, and T is the face of part B of the head of the T-square which comes in contact with a drawing-board, such part T coming in contact with the edge of the drawing-board.

The operation of the T-square embodying this invention is as follows: Abutment E is brought into contact with abutment P and part B of the head is pressed against the edge of the drawing-board. A line is then drawn along the edge of the blade C. Part A is then moved on part B the adjusted distance (P' P<sup>2</sup>) until end g of slot G is in contact with abutment E, such movement being readily obtained by sliding such part A on part B or by such part A riding on balls I I. Part A of the head is then pressed firmly on the board, and part B, carrying therewith blade C, is moved until the movable abutment P and the abutment E are in contact, when such part B is again pressed firmly to the table and an additional line drawn along the edge of blade C, the movement of the blade C at all times corresponding with the movement of part B of the head. This operation is repeated as often as desired. When a series of lines parallel to the upper and lower edges of the drawing-board are to be drawn, the blade C is adjusted to right angles with part B of the head and secured in such adjusted position by turning the bolt D in nut H until plate K is brought firmly against part L of abutment E, and part d' is at the same time brought against the upper face of the abutment E. When lines other than parallel to the top and bottom edges of the drawing-board are to be drawn, the bolt D is loosened and blade C is turned into proper relative position with part B of the head and secured in such adjusted position by again tightening bolt D in nut H, as hereinbefore described.

Having thus described my invention and the construction and operation of a T-square head embodying the same, what I claim as

new, and desire to secure by Letters Patent, is—

1. In a two-part T-square head, the combination of a part provided with a slot therein, an additional part, an abutment on the additional part extending through the slot and to above the face of the first-named part, and a bolt extending through the abutment and into a screw-threaded hole provided therefor, such bolt provided with a head overlapping the sides of the abutment and extending over the slotted part to hold the parts together, a movable abutment on the first-named part and means to determine the position of such movable abutment; substantially as described.

2. In a two-part T-square head, the combination of a part provided with a slot therein, an additional part, an abutment on the additional part extending through the slot and to above the face of the first-named part, a blade to the additional part of the head, such blade adjustably mounted under the abutment, a bolt, screw-threaded at its lower end, extending through the abutment and into a screw-threaded hole provided therefor in the adjustable blade, such bolt provided with a head overlapping the sides of the abutment and extending over the slotted part of the head to hold the parts thereof together and also to hold the blade in an adjusted position, a movable abutment on the first-named part and means to determine the position of such movable abutment: substantially as described.

3. In a two-part T-square head, the combination of a part provided with a slot therein, an additional part, an abutment on the additional part extending through the slot and to above the face of the first-named part, a blade to the additional part of the head, such blade adjustably mounted under the abutment, a groove and corresponding rib between the meeting faces of the blade and the abutment thereover, a bolt, screw-threaded at its lower end, extending through the abutment and into a screw-threaded hole provided therefor in the adjustable blade, such bolt provided with a head overlapping the sides of the abutment and extending over the slotted part of the head to hold the parts thereof together and also to hold the blade in an adjusted position, a movable abutment on the first-named part and means to determine the position of such movable abutment: substantially as described.

4. In a two-part T-square head, the combination of a part provided with a slot therein, an additional part, an abutment on the additional part extending through the slot and to above the face of the first-named part, a blade to the additional part of the head, such blade adjustably mounted under the abutment, a bolt screw-threaded at its lower end, extending through the abutment and line to a screw-threaded hole provided therefor in

the adjustable blade, such bolt provided with a head overlapping the sides of the abutment and extending over the slotted part of the head to hold the parts thereof together and  
5 also to hold the blade in an adjusted position, a movable abutment on the first-named part, a screw non-rotatably mounted in the movable abutment and a thumb-wheel rotatably mounted on the screw, such thumb-wheel extending through a slot transverse to the first-named slot: substantially as described.

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In presence of—

CLARA W. ROUNDS,

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