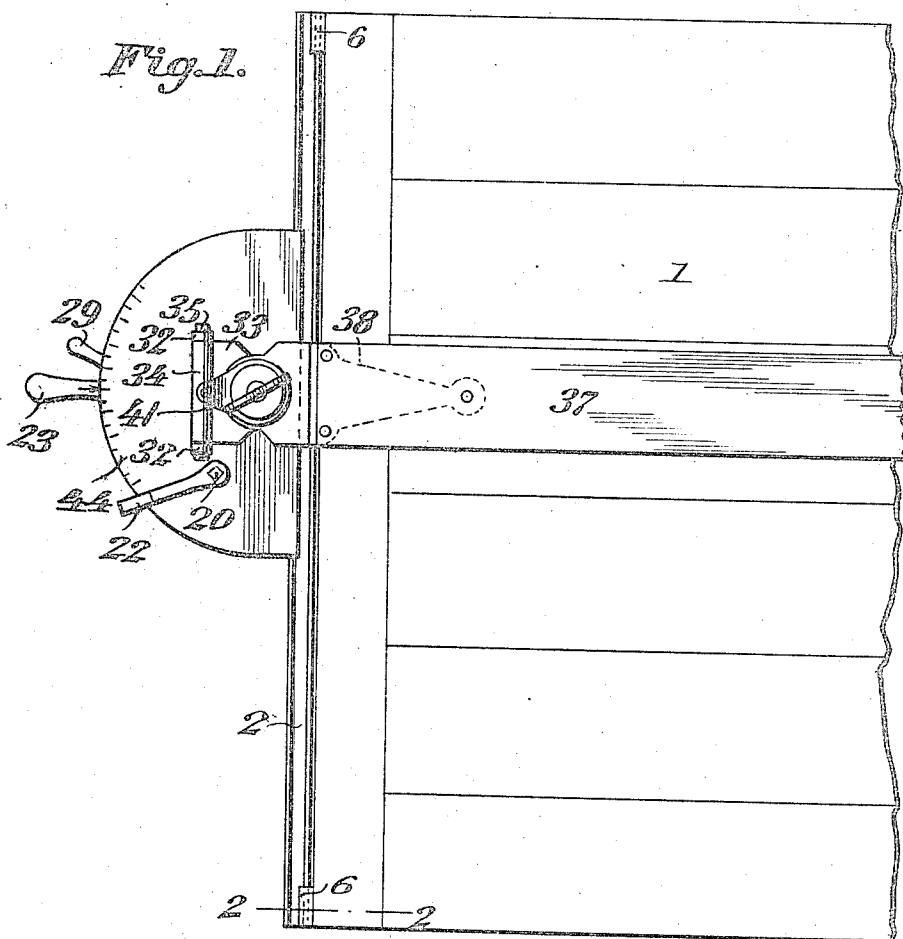
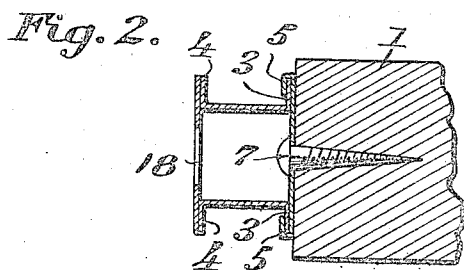
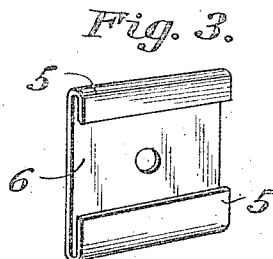


1,247,867.

G. E. OLTMAN.
DRAFTING INSTRUMENT.
APPLICATION FILED APR. 17, 1916.

Patented Nov. 27, 1917.
2 SHEETS—SHEET 1.



WITNESSES

M. D. Lammatt
Wm Zeaman

George E. Oltman

BY

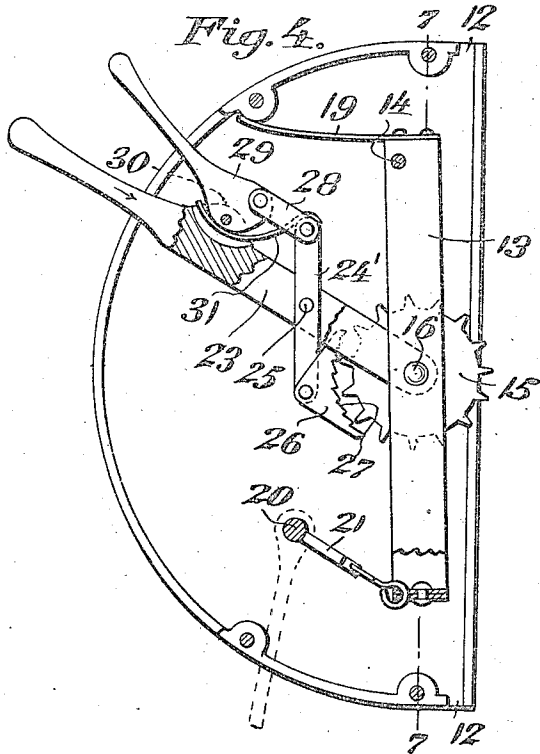
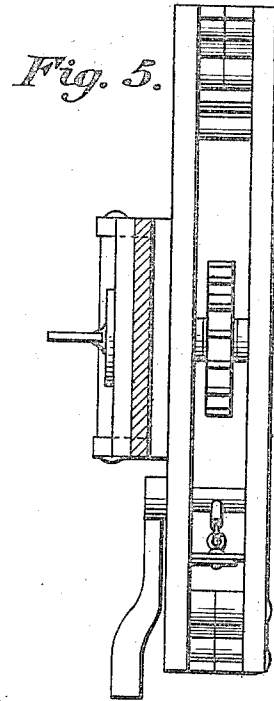
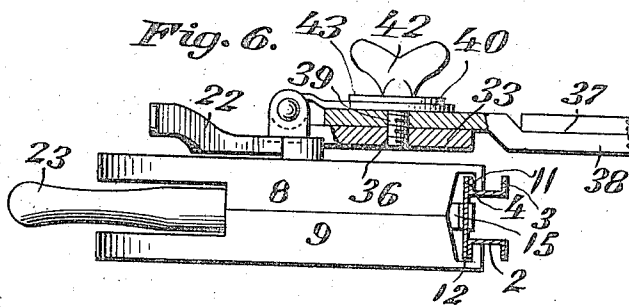
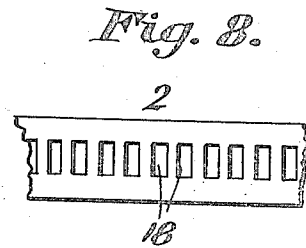
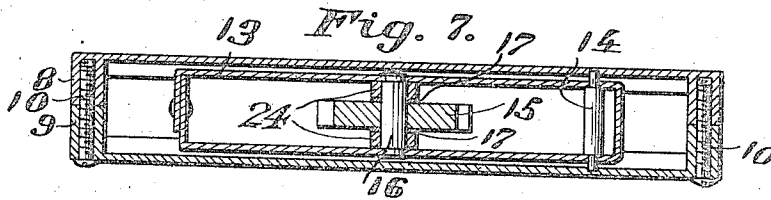
Richard E. Owen,

INVENTOR

ATTORNEY

1,247,867.

Patented Nov. 27, 1917.
2 SHEETS—SHEET 2.



WITNESSES

M. P. Garrett
Wm. F. Leaman

INVENTOR

George E. Oltman

BY

Richard E. Oltman

ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE E. OLTMAN, OF SHELBYVILLE, INDIANA.

DRAFTING INSTRUMENT.

1,247,867.

Specification of Letters Patent.

Patented Nov. 27, 1917.

Application filed April 17, 1916. Serial No. 91,653.

To all whom it may concern:

Be it known that I, GEORGE E. OLTMAN, a citizen of the United States, residing at Shelbyville, in the county of Shelby and State of Indiana, have invented certain new and useful Improvements in Drafting Instruments, of which the following is a specification.

This invention has relation to mechanical drafting instruments, and the nature and objects thereof will be readily apparent to those skilled in the art to which it appertains, in the light of the following explanation of the accompanying drawings, illustrating what I now believe to be the preferred embodiment or mechanical expression of my invention from among other forms and arrangements within the spirit thereof or the scope of the appended claims.

However, an object of the invention is to provide a drawing board and T-square to be associated therewith whereby the T-square may be moved along the board during the course of preparing a drawing, and whereby the T-square may be secured against displacement in any position.

Another object of the invention is to provide means in a T-square for moving the same along the edge of a drawing board intermittently, and for uniform distances for use in drawing a series of paralleled lines, an occasion frequently occurring during the preparation of a mechanical drawing.

Another object of the invention is to provide a T-square and an associated guide which may be attached to the edge of an ordinary drawing board.

A still further object of the invention is to provide a T-square associated with a drawing board, and whereby the T-square may be thrown back so as to give uninterrupted view of the drawing board, and whereby the T-square when returned to its former position retains the same relative position to the drawing or delineations thereon.

In addition to the foregoing my invention comprehends improvements in the details of construction and arrangement of parts, to be hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings in which similar and corresponding parts are designated by the same characters of reference

throughout the several views in which they appear:

Figure 1 is a fragmentary plan view of a drawing board and a T-square applied thereto, constructed after the fashion of my invention.

Fig. 2 is a detail section taken on the line 2—2 of Fig. 1.

Fig. 3 is a detail view in perspective of a clip for attaching the guide to a board.

Fig. 4 is a plan view of the mechanism contained within the head of the T-square, with the cover plate removed.

Fig. 5 is an edge view of the T-square head.

Fig. 6 is an edge elevation thereof.

Fig. 7 is a section taken on the line 7—7 of Fig. 4, and

Fig. 8 is a fragmentary view of the guide.

With reference to the drawings, 1 indicates a drawing board, to one edge of which is secured a guide 2, which is in the form of a hollow rectangle in cross section and having two sets of flanges 3 and 4, a flange being formed at each corner of the rectangle, and the flanges of each set oppositely extended. The flanges 3, are engageable by the curved edges 5, of a clip 6 which is adapted to be secured to the edge of a drawing board by means of a lag screw or the like 7.

A T-square head is provided which is in the form of substantially semi-circular mating plates 8 and 9, having flanges to dispose them in spaced relation and removably secured together by threaded fastenings 10. The diametrical edges of the semi-circular plates are formed with inwardly extending flanges 11, which are adapted to engage the flanges 4 of the guide 2, so as to dispose the outer surface of the guide within the head of the T-square, the flanges 4 of the guide being movable in recesses 12, at opposite ends of the head.

A lever 13, in the form of spaced bars connected at either end, is pivoted at one of its ends to a pivot 14 within the head of the T-square, the lever being thereby disposed between the plates of the head. A toothed wheel 15 is mounted between the bars of the lever 13, and upon a rivet 16 connecting both bars, a washer 17 being disposed upon the rivet at each side of the toothed wheel to centralize the same. A plurality of open-

ings 18 are formed in the outer surface of the guide 2, in which openings the teeth of the wheel 15 are designed to engage. A leaf spring 19, is secured to the lever adjacent its
 5 pivoted end, with the other end of the spring engaging the wall of the head to urge the lever inward and consequently retain the toothed wheel in engagement with the guide. I further provide a stud 20 rotatably mounted
 10 in the head and extending transversely thereto, and having on the interior of the head an arm 21, flexibly connected to the free end of the lever 13, that portion of the stud extending outside of the head being
 15 provided with a finger piece 22, whereby the stud may be rotated, so as to oscillate its arm 21 and thereby rotate the lever about its fulcrum and thereby disengage the toothed wheel from the guide to permit quick adjustment of the head along the guide, or for purposes of assembling the device.

A lever 23 is provided, and having spaced terminals 24 which are provided with alined apertures for pivotal engagement upon the
 25 rivet 16, with one of the arms at either side of the wheel 15. A lever 24' is pivoted at 25 between the arms of the lever 23 and is provided at one end with a pivoted pawl 26, having a serrated concaved face 27 adapted
 30 to engage the teeth of the wheel 15. The other end of the lever 24 is pivotally connected by means of links 28, to a grip 29, pivoted between ears 30 formed on the side of the lever 23. A leaf spring 31 is further
 35 provided and extends from between the ears 30, to the end of the lever 24', against which it bears. Owing to this arrangement the pawl 26 is normally retained out of engagement with the wheel 15, and may be readily
 40 brought into such engagement by pressing the handle portion of the grip 29 toward the handle portion of the lever 23.

Apertured lugs are provided upon the upper surface of the T-square head for the
 45 pivotal support of a hinged member 33, having an apertured enlargement 34 disposed between the lugs 32, with a pintle 35 passing through said lugs and the enlargement. The hinged member 33 is provided
 50 with an aperture 36 which, when the hinged member is in operable position should be disposed at the center defined by the circular edge of the T-square head. A T-square blade 37 is secured at one end to an extension 38, which is provided with an aperture
 55 39, adapted to register with the aperture 36 of the member 33. A washer 40 is further provided with an aperture adapted to register with the apertures 39 and 36, and an extension 41 whereby said washer may be secured to the enlargement 34 and be disposed
 60 above the extension 38. The aperture of the hinged member 33, is preferably internally threaded, and a thumb nut 42 is
 65 provided having a threaded shank which

is adapted to be seated in the apertures of the washer 40 and members 33 and 38, a flange 43 being formed on said thumb nut whereby the member 38 may be clamped between the member 33 and the washer 40 to retain the T-square blade in any position to which it may be adjusted relative to the head. This arrangement provides in effect a T-square having a swiveled head.

In operation, should the draftsman desire to draw a series of parallel lines, the lever 23 is grasped, and the grip 29 moved so as to apply the pawl 26 to the edge of the wheel 15 whereupon oscillating said lever 23, and releasing the grip 29 at each backward oscillation, the head of the T-square is caused to travel along the guide 2 in an obvious manner. The uniformity of the spacing of the lines may be established by noting the movement of the lever 23 in connection with graduations 44 inscribed on the face of one of the plates forming the head, and at the circular edge thereof. The angle of the blade of the T-square may be varied by loosening the thumb nut 42, and rotating the blade about the pivot formed by the shank of said thumb nut which may be tightened subsequent to such adjustment to preclude displacement of the blade; while in the adjusted position, the blade may be thrown back upon its hinged connection with the head, thereby affording uninterrupted view of the drawing upon the board, and may be again returned to its original position without having lost in the slightest degree its original relation to any of the lines of the drawing. If the metallic parts of this device are to be composed of aluminum, the total weight thereof may be materially reduced.

Various ways of constructing my invention will occur to those skilled in the art to which it appertains, for the purpose of employing the principles involved therein, and I therefore reserve the right and privilege of changing the form of the details of construction, or otherwise altering the arrangement of the correlated parts without departing from the spirit of the invention or the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A drafting device comprising in combination a drawing board, a guide mounted upon one edge thereof and having a series of notches, a T-square head movably mounted upon the guide, a blade secured to the head and extending over the board, a lever fulcrumed upon the head, a wheel journaled upon the lever and having peripheral teeth for engaging the notches of the guide, resilient means engaging the lever to retain the wheel in engagement with the guide, means for oscillating the lever to move the

wheel out of such engagement, and means for rotating the wheel to move the head along the guide.

2. A drafting device comprising in combination a drawing board, a guide mounted upon one edge thereof and having a series of notches, a T-square head movably mounted upon the guide, a blade secured to the head and extending over the board, a wheel journaled upon the head and having peripheral teeth for engaging the notches of the guide, a lever pivotally mounted upon the guide, a pawl on the lever adapted to engage the wheel, resilient means for normally retaining the pawl out of such engagement, means on the lever for moving the pawl into engagement with the wheel whereby the wheel may be rotated by oscillating the lever, resilient means for retaining the wheel in engagement with the guide and means for moving the wheel out of such engagement.

3. A drafting device comprising in combination a drawing board, a guide mounted upon one edge thereof and having a series of notches, flanges formed on the outer surface of the guide, a T-square head substantially semi-circular in configuration and comprising spaced plates, inwardly directed flanges on the diametrical edges of the plates for engaging the flanges of the guide to afford movement of the head along the guide, a toothed wheel mounted between the plates for engaging the notches of the guide,

means for rotating the wheel, and a blade secured to the head and extending over the board.

4. A T-square including a head, upstanding lugs on the head, a member hingedly mounted between the lugs for rotation in one plane and a blade pivoted to the member for movement in a plane at right angles to the plane of movement of the member, and means for securing the blade against displacement subsequent to said movement.

5. A T-square including a head, upstanding lugs on the head, a member hingedly mounted between the lugs for rotation in one plane, a clamping member mounted upon the first mentioned member in spaced relation, aligned apertures provided in said members, a blade having an apertured extension at one end for engagement in the space between the members, and a thumb screw extending through the apertures and having a flange for engaging the clamping member to permit of adjustment of the blade in a plane at right angles to the plane of movement of the first mentioned member and for securing the blade against displacement subsequent to such adjustment.

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

GEORGE E. OLTMAN.

Witnesses:

HARRY C. RAY,
H. C. KINNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."