

E. M. HAMILTON.
Perspective T-Square.

No. 222,271.

Patented Dec. 2, 1879.

Fig. 1

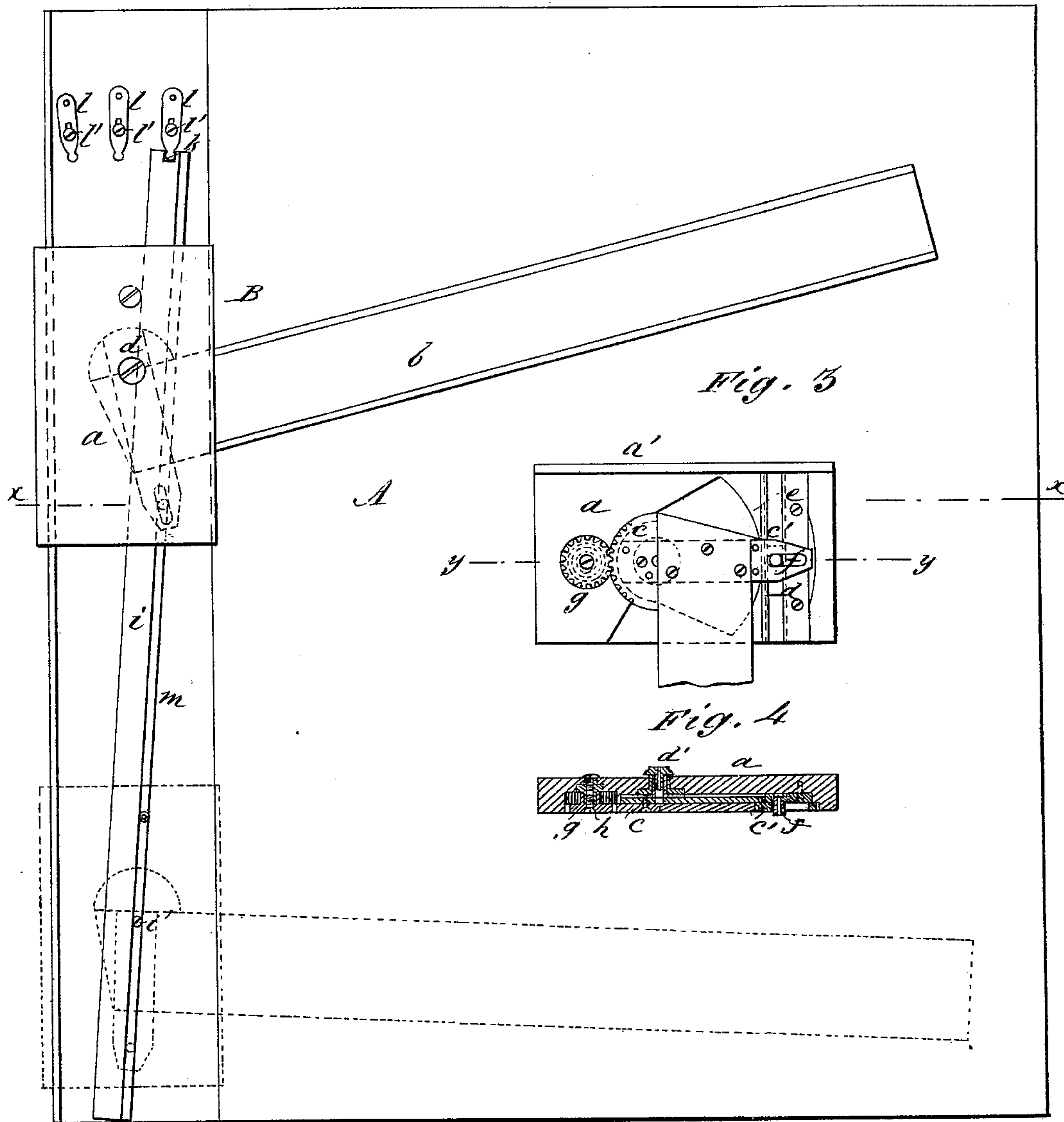


Fig. 3

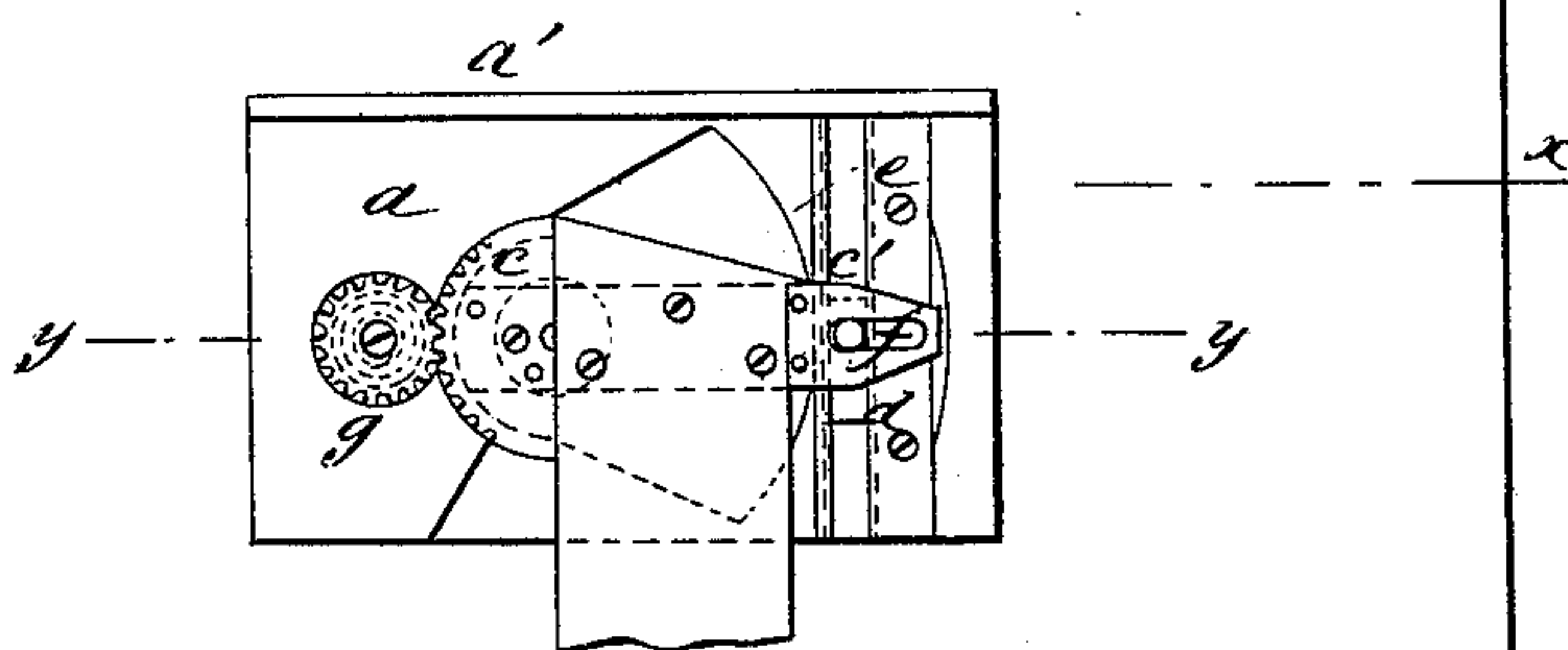


Fig. 4

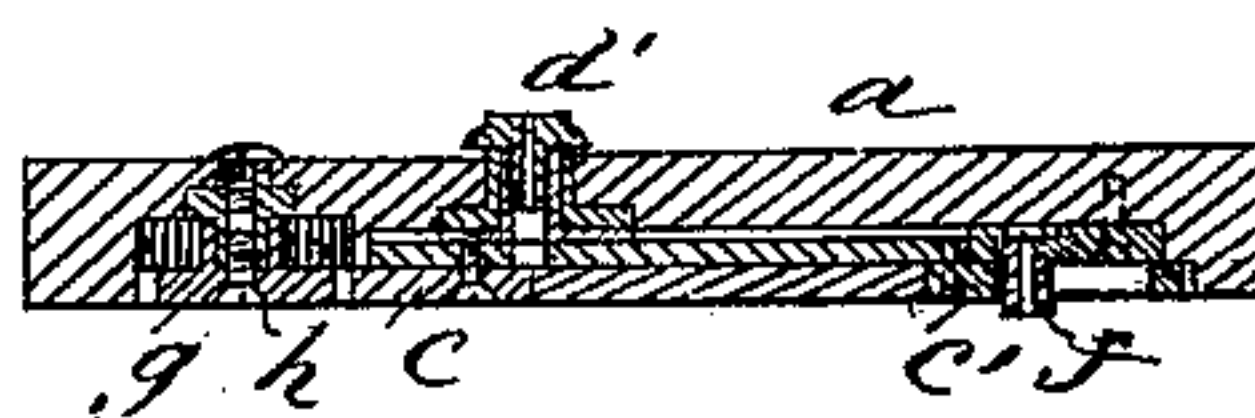
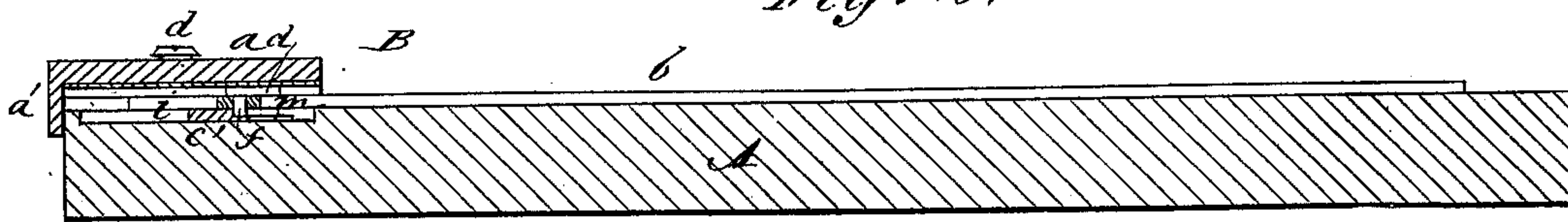


Fig. 2.



WITNESSES:

C. Niven
C. Sedgwick

INVENTOR:

E. M. Hamilton

BY

Mum & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

EMERY M. HAMILTON, OF NEW YORK, N. Y., ASSIGNOR TO C. T. RAYNOLDS & CO., OF SAME PLACE.

IMPROVEMENT IN PERSPECTIVE T-SQUARES.

Specification forming part of Letters Patent No. 222,271, dated December 2, 1879; application filed September 20, 1879.

To all whom it may concern:

Be it known that I, EMERY M. HAMILTON, of the city, county, and State of New York, have invented a new and Improved Perspective T-Square, of which the following is a specification.

The object of my invention is to furnish a T-square for use in making perspective drawings, whereby the mechanical difficulties connected with such work may be readily overcome. Heretofore in making such drawings, to avoid the tedious process of working by diagonals or by elaborate scales, whereby only an accurate perspective could be obtained, the draftsman has usually made the vanishing-point too close, so as to bring it within reach, or has selected a point of view with reference to the angle that will effect the same object, the result in either case being to cramp or distort the drawing.

My invention consists in an improved T-square, fitted with a swinging blade, adapted for giving perspective lines vanishing either to the right or left at any distance, which blade is moved by an adjustable slide-piece, that is attached upon the drawing-board, whereby a true and accurate perspective drawing may be made with facility.

The construction and operation will be explained with reference to the accompanying drawings, and the invention pointed out in the claims.

In the drawings, Figure 1 is a plan view of drawing-board with my improved T-square applied thereto. Fig. 2 is a cross-section of the same on line *xx* of Fig. 1. Fig. 3 is an inverted plan view of the T-square head. Fig. 4 is a section of the head on line *yy* of Fig. 3.

Similar letters of reference indicate corresponding parts.

A is a drawing-board of usual character, fitted with the adjustable slide, as hereinafter described; and B is the improved T-square, of which *a* is the head and *b* the blade. The head *a* of the square B is to be made of hard rubber or other suitable material, with a flange, *a'*, to take against the edge of board A, and is recessed on the under side to receive the end

of blade *b* and its operating mechanism, so that the head may lie flat upon the board A. Within this recess of the head *a* is a cogged segment, *c*, having a tubular hub, into which the screw *d'* enters from the upper side of the head, so that the segment *c* is securely held and may turn freely. Upon one side of segment *c* is an arm, *c'*, the outer end of which is slotted to sit over a pin, *f*, projecting from a slide-block, *d*, that is fitted in a dovetail groove in the metal piece *e*, which is attached to head *a*. To the arm *c'* the blade *b* is rigidly attached, with its upper edge in line with the axis of segment *c*, and preferably extending at a right angle with a line through the center of axis *d* and pin *f*. Upon a screw-stud at the under side of head *a* a small gear-wheel, *g*, is fitted, meshing with segment *c*, and fitted at its under side, as shown in Fig. 4, with a coiled spring, *h*, that is fastened to the stud and to the wheel *g*, so that the spring tends to throw the outer end of blade *b* downward.

It will be seen that by this construction the slide-block *d*, blade *b*, segment *c*, and wheel *g* all move together, and that the line described by the upper edge of blade *b* is always radial to the axis of segment *c*. The blade *b* lies flush with the under surface of head *a*, and its movement in either direction is limited by the sides of the recess in which it moves.

Upon the board A, near the edge, a strip, *i*, of metal is attached by a screw or pin, *i'*, that permits a swinging movement of the strip. In the upper end of the strip *i* is a slot or mortise, *k*, adapted for receiving the end of any one of the swinging stops *l*. These stops *l* are attached to board *a* by screws *l'*, passing through slots in the stops, and serve to hold the strip *i* in its position as adjusted more or less inclined to the edge of board A, either stop being used; and I have shown the stops *l* as provided with a small aperture, through which a thumb-tack may be inserted into board A to hold the parts more securely.

The strip *i* is formed with a shoulder or flange, *m*, extending lengthwise, against which the pin *f* of the slide-block *d* bears when the T-square is in place. A slat or other equiva-

lent device may be used in place of shoulder *m*; but I prefer the shoulder. The end of board *A* is recessed to receive the slide *i* and stops *l*, so that the head of the T-square may lie flat upon the board over the slide.

In use the angle of the blade *b* to the head *a* is regulated by the slide *i*, and the adjustment is made by moving the slide *i* to the right to give lines vanishing a greater or less distance to the left, and moving it to the left to give lines vanishing to the right. By these means the T-square permits perfect freedom in making a perspective drawing, as the vanishing-point may be more or less distant, as required, to obtain a true effect.

The T-square is also adapted for use as an ordinary square, the slide *i* in that case being set parallel with the edge of the board, and the head *a* will remain in place without being held by hand.

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

1. The improved perspective T-square, consisting of the swinging blade *b*, pivoted to the head *a*, and connected with the slide-block *d*,

in combination with the adjustable guide-piece *i* upon the drawing-board, substantially as described and shown.

2. In a perspective T-square, the segment *c*, pivot-screw *d'*, slotted arm *c'*, slide *d*, pin *f*, and blade *b*, combined together and with the head *a*, substantially as and for the purpose set forth.

3. In a perspective T-square, the combination, with the swinging segment *c*, carrying the blade *b*, of the wheel *g* and spring *h*, substantially as described and shown, and for the purposes set forth.

4. In combination with the T-square fitted with a swinging blade, substantially as described, the guide-strip *i*, formed with a shoulder, and fitted to swing upon its attachment to the drawing-board, substantially as and for the purposes specified.

5. In combination with the guide-strip *i*, the swinging stops *l*, substantially as and for the purposes set forth.

EMERY M. HAMILTON.

Witnesses:

GEO. D. WALKER,
C. SEDGWICK.