A. F. NAGLE.

Draftsman's Ruling-Gages.

No. 139,601. Patented June 3, 1873.

Fig. 1.

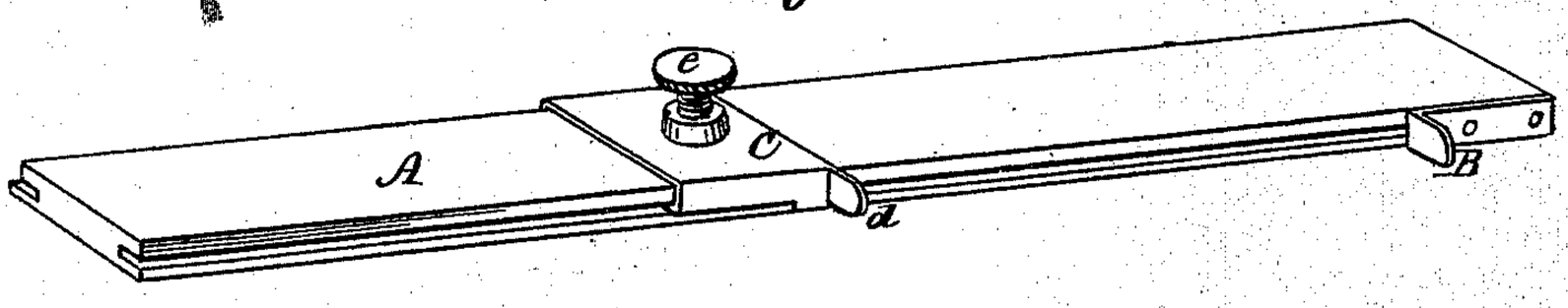


Fig. 2.

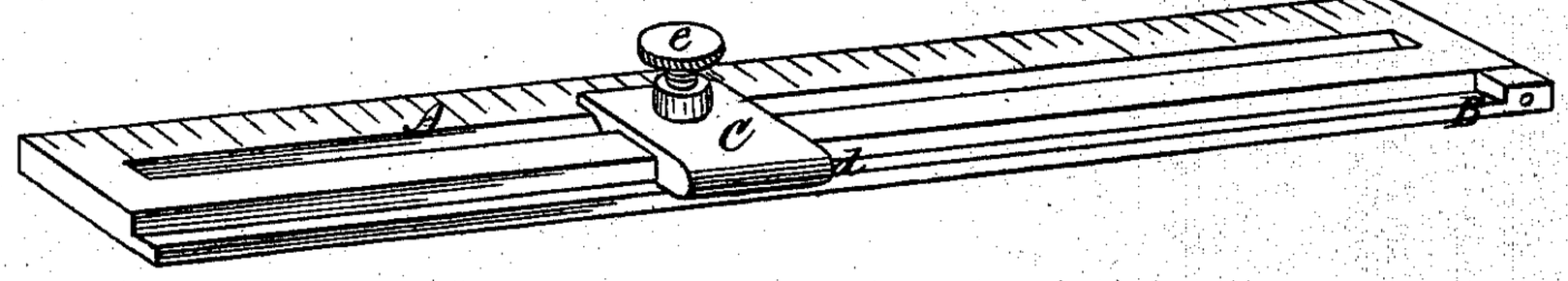


Fig. 3.

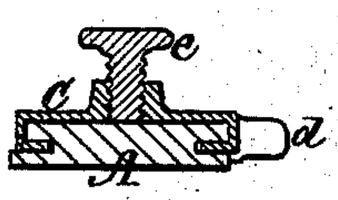


Fig. 4.

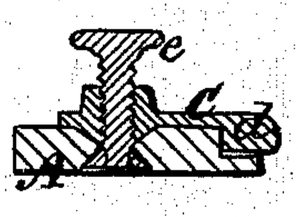
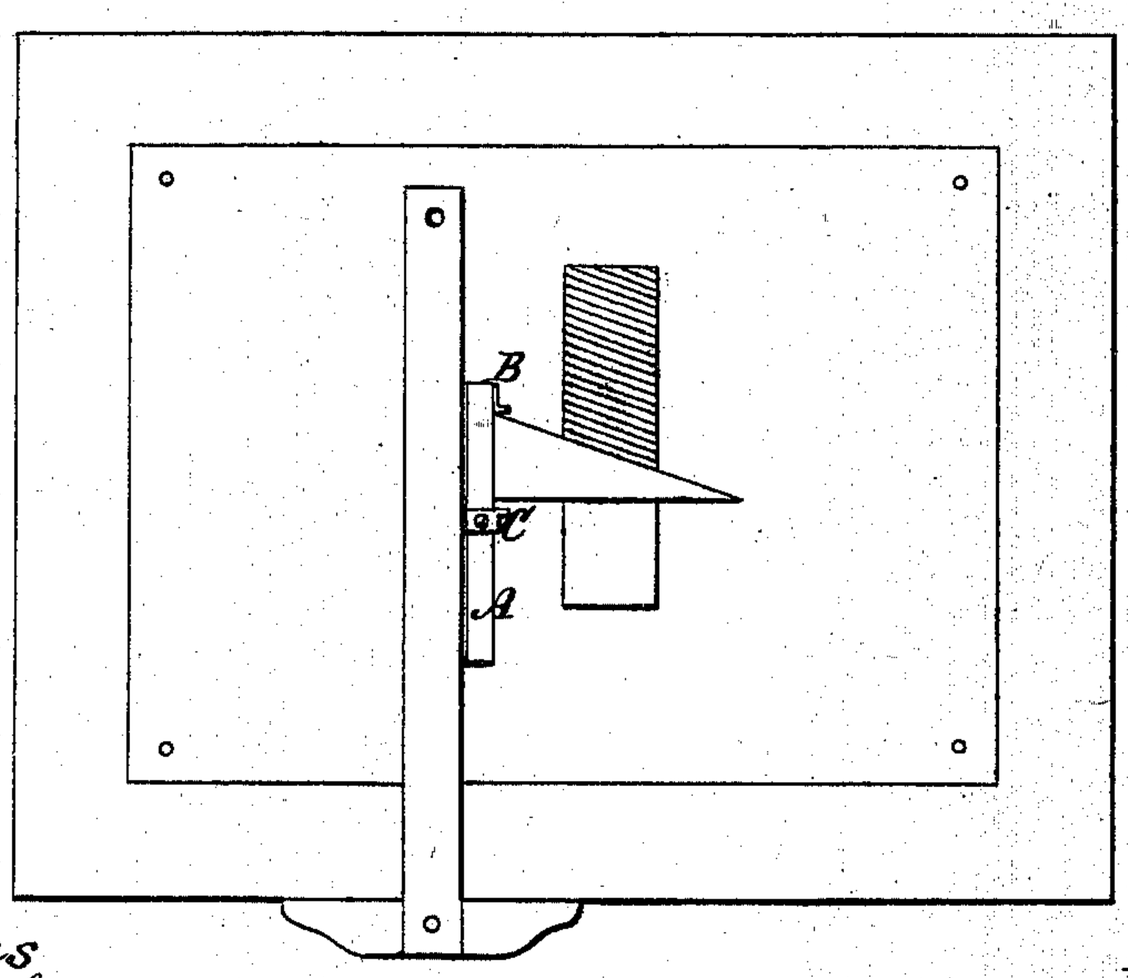


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

AUGUSTUS F. NAGLE, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN DRAFTSMAN'S RULING-GAGES.

Specification forming part of Letters Patent No. **139,601**, dated June 3, 1873; application filed March 27, 1873.

To all whom it may concern:

Be it known that I, AUGUSTUS F. NAGLE, of the city and county of Providence, in the State of Rhode Island, have invented a certain new and useful Hatching-Gage for draftsmen's use.

My invention consists in combining with a rule which has two straight and parallel edges a stationary laterally-projecting finger or shoulder, located on one edge of the rule adjacent to one end, and a longitudinally-adjustable slide, which is provided with a corresponding projecting finger or shoulder, and so mounted upon the rule that it does not interfere with the straight line on one edge, whereby that edge of the gage may be placed in contact with the edge of the arm of a T-square, or other similar implement, and the opposite edge of the gage properly made to engage with a triangle, and thereby facilitate the operation of "hatching," or drawing accurately spaced and truly parallel lines at any desired angle; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear and true description of my invention.

Referring to the drawings, Figures 1 and 2 represent, in perspective, hatching-gages embodying my invention. Figs 3 and 4 represent the same respectively in cross-section at line *a b*. Fig. 5 represents one of my hatching-gages arranged in proper relation with a T-square, drawing-board, triangle, and a drawing in which hatching is embodied.

A denotes in each instance the hatching-rule. It is essential that the two edges be straight and truly parallel. As represented in Figs. 1 and 3, both edges are longitudinally grooved. On one edge, the portion on one side of the groove is recessed or set back from the other, while on the opposite edge the two sides of the groove are flush. In Figs. 2 and 4 the edges are not grooved at all, but in lieu thereof a longitudinal open slot extends nearly from end to end. On the face of the rule a measuring-scale may or may not be provided. As illustrated in Figs 2 and 4, one edge of the rule may be rabbeted. B, in each instance, denotes a stationary lateral projection or shoulder on one edge of the rule, near its end. In the rule shown in Fig. 3 the projection is wholly beyond the edge of the rule. In Fig. 4 the recessed shoulder is arranged to perform the same function. C denotes a longitudinally-adjustable slide. In Figs. 1 and 3 it is made to embrace one side of the rule, laps over the edges, and engages with the grooves in both edges. On one side it is provided with a laterally-projecting finger, *d*, which corresponds in general character with the finger B. On the back edge of the rule it is so cut away above the groove that the edge surface of the metal of which the slide is made is brought wholly within the line of the edge. A set-screw, *e*, is fitted to engage with the rule and firmly set the slide at any desired position. In Figs. 2 and 4 the slide is fitted to the longitudinal slot in the rule, and is adjustable therein by means of a set-screw, in a manner well known. Numerous methods can be adopted for attaching the slide to the rule. It is only essential that one straight edge shall remain unaffected by the presence of the slide, and that it be capable of fixed adjustment longitudinally on the slide, and have a lateral projection or shoulder. When the recessed shoulder and the rabbeted edges are employed the triangle may be rabbeted to correspond, so that either the rule or triangle can be moved without interfering with each other.

The method of using my hatching-gage will be readily comprehended on examining the sketch, Fig. 5. The drawing is represented as if on the board; the T-square is in position; the hatching-gage and triangle are properly adjusted. It will be seen that the base, or one side of the triangle, is embraced between the projecting fingers B and *d*, and that a space between the lower edge of the triangle and the finger on the slide corresponds with the width of the threads of the screw which is being drawn on the paper. It is to be understood that a hatching-line has already been drawn by the upper inclined edge of the triangle, and that another is to be drawn. The gage is held firmly on the paper, and the triangle is then moved down until in contact with the finger on the slide, after which the next line is drawn then the gage is moved down until the finger B is

in contact with the upper edge of the triangle, which is then again moved down, as before, when the next line can be drawn, and so on, with accurate rapidity as long as the parallel lines are required. It will be seen that the spaces between the lines are determined by the space between the lower or upper edge of the triangle and the fingers.

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

The combination of the rule with a longitudinally-adjustable slide fitted thereto, so as not to obstruct or affect the straight line on one edge, and the lateral projections or shoulders, substantially as and for the purposes specified.

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