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G. W. & E. L. ROBERTS.

GAGE.

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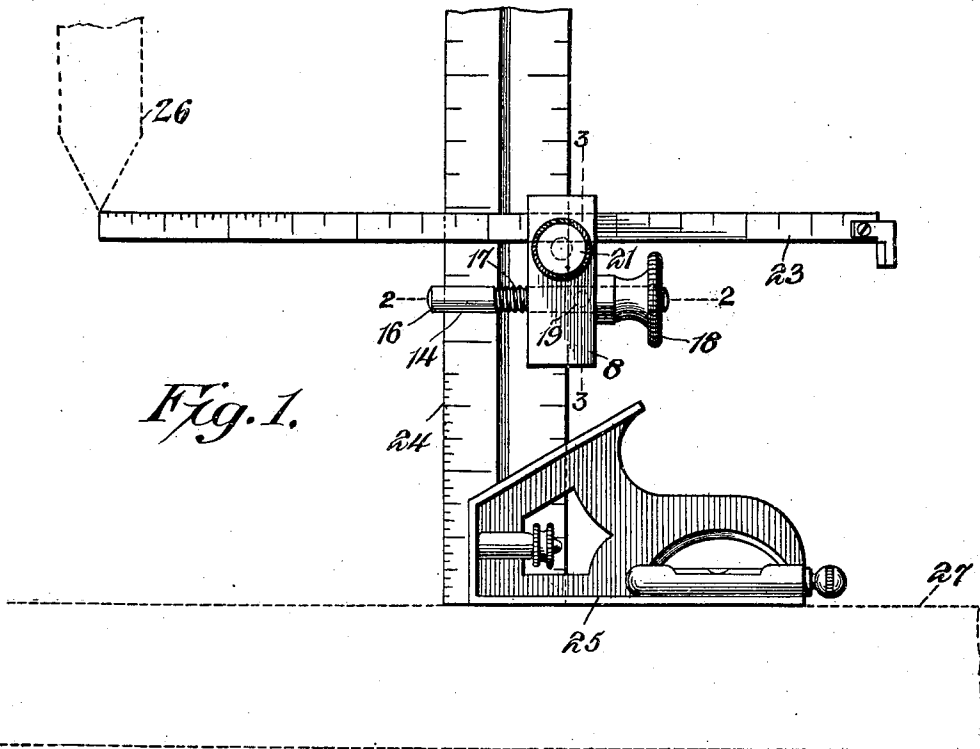
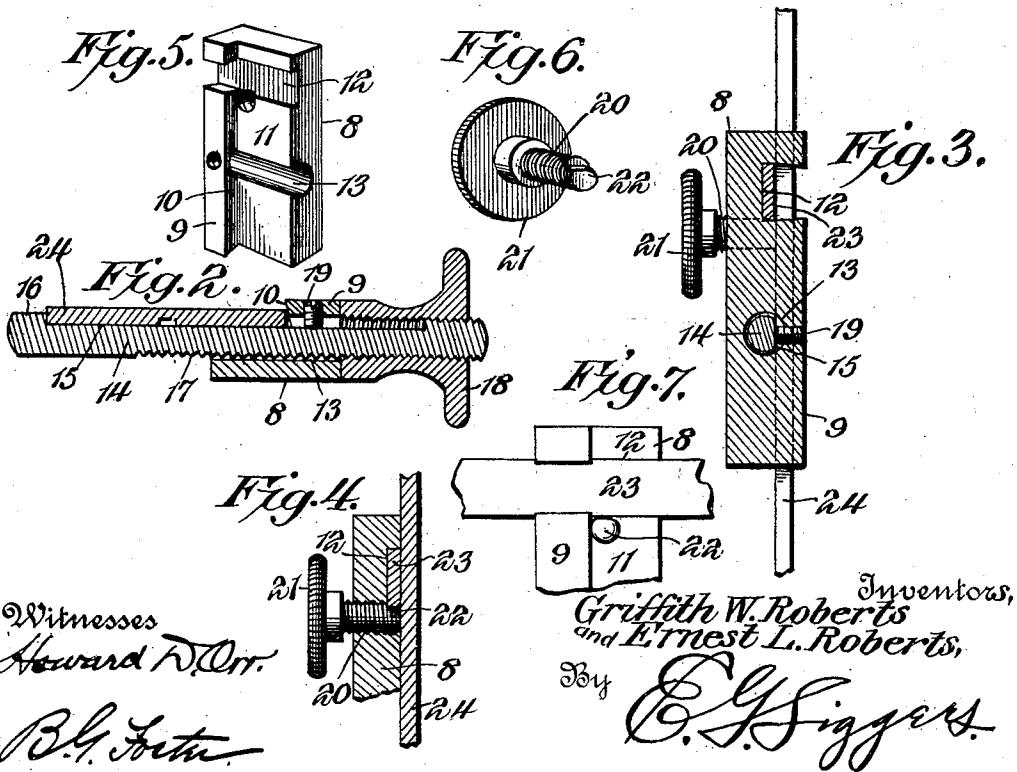


Fig. 1.



Witnesses
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UNITED STATES PATENT OFFICE.

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GAGE.

No. 824,821.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, GRIFFITH W. ROBERTS and ERNEST L. ROBERTS, citizens of the United States, residing at Poultney, in the county of Rutland and State of Vermont, have invented a new and useful Gage, of which the following is a specification.

This invention relates to improvements in gages of that character particularly intended for use by machinists and other metal workers, though not necessarily limited in this respect.

The object is to provide simple means of a novel nature that may be employed in a variety of ways, will securely hold a scale in practically any adjusted position for computation and measuring purposes, and may be readily and adjustably attached to a square or other blade.

In the drawings, Figure 1 is a view in elevation of an embodiment of the invention applied to a square and indicating its use in determining the position of a cutting-tool on a planer. Fig. 2 is a cross-sectional view on the line 2 2 of Fig. 1. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a detail sectional view showing the clamping device for the scale. Fig. 5 is a detail perspective view of the body-block. Fig. 6 is a detail perspective view of the scale-holding clamp. Fig. 7 is a detail face view of a portion of the body-block and scale, more clearly illustrating the arrangement of the clamping-cam for the said scale.

Similar reference-numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a body-block 8 is employed, provided along one of its longitudinal side margins with an outstanding flange 9, the inner edge of which is inclined, as shown at 10 in Fig. 2. This flange forms with the adjacent side of the body-block a blade-receiving seat 11. Formed in one end of the body-block and in the side having the flange is a transversely-disposed dovetailed scale-receiving seat 12, located beneath the blade-receiving seat 11 and preferably at right angles thereto. Spaced from the scale-receiving seat 12 is a transverse guideway 13, which is located beneath the blade-receiving seat and extends under the flange 9.

Slidably mounted in the guideway 13 is a

blade-clamping device in the form of a stem 14, having an outer flat side 15, that is disposed in substantially the plane of the bottom of the blade-receiving seat, said stem having at one end an outstanding clamping-shoulder 16, opposed to the inner inclined edge of the flange 9. The stem 14 is threaded, as shown at 17, and screwed upon the end opposite the shoulder 16 is an adjusting-nut 18, bearing against the outer side of the flange 9. A guide element in the form of a screw-stud 19 is threaded upon the flange 9, its inner end being arranged in line with the flat side 15 of the stem. This stud prevents the revolving of the stem, and thus maintains the shoulder 16 in opposing relation to the flange 9. A scale-clamping device is employed in the form of a threaded shank 20, screwed into the body and having a knurled head 21 at its outer end. The inner end of this shank is in the form of a cam 22, disposed at one side of the scale-receiving seat 12 and being projected into said seat on the rotation of the device.

The structure can be employed in a variety of ways, one of which will serve as an example. A scale 23 is slidably mounted in the seat 12 and is adjusted to the desired position, after which it is clamped by merely turning the shank 20, whereupon the cam portion 22 thereof will engage and clamp against the scale, thereby holding said scale against movement. The body-block is then slidably mounted on the blade 24 of a square having a face portion 25, said blade fitting between the flange 9 and the shoulder 16. When properly adjusted upon said blade, the body-block, and consequently the scale, is securely held thereon against movement by turning the thumb-nut 18 in a direction to clamp the block upon the blade. For positioning the tool 26 of a planer with respect to the bed 27 the scale is properly adjusted and fixed to the blade of the square by the device. Said square is then placed upon the bed and the tool positioned with respect to the scale. The structure is of course not limited to this use, but may be employed as a gage for various purposes and upon different types of machines.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art with-

out further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing
 5 from the spirit or sacrificing any of the advantages of the invention.

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

- 10 1. In a gage, a body-block having a depressed open-sided scale-receiving seat therein, and a threaded opening located at one side of the seat and opening into said seat, of
 15 a scale-clamping device including a threaded shank screwed into the opening and having a part cut away, forming on one side a cam portion that is integral with the shank and is projected into the adjacent side of the seat on the rotation of the device, said cam portion
 20 engaging and clamping against a scale placed in the seat.
2. In a gage, the combination with a body-block having an outstanding flange forming a blade-receiving seat, and a guideway extending transversely of the seat beneath the
 25 flange, of a clamping-stem mounted in the guideway, said stem having a flat side and an outstanding shoulder opposed to the flange, a clamping-nut threaded on the stem, and a guide element extending through the
 30 flange and being located over and cooperating with the flat side of the stem.
3. In a gage, the combination with a body-block having an outstanding flange along one

side, forming a blade-receiving seat, a spaced
 35 transversely-disposed scale-receiving seat, a guideway located in the body-block alongside the blade-receiving seat, of a clamping-stem mounted in the guideway, said stem
 40 having a shoulder opposed to the flange of the body-block, a clamping-nut threaded on the stem, and a scale-clamping device rotatably mounted in the body-block at one side of the scale-receiving seat, said device having
 45 a cam portion that is projected into the adjacent side of the seat on the rotation of the device in order to engage and clamp against a scale placed in the seat.

4. In a gage, the combination with a body-block having open-ended seats disposed in
 50 angular relation and in different planes, of a single blade movably fitted in one seat and projecting beyond certain opposite sides of the block, a movable scale member fitted in the other seat, said scale member extending
 55 across the blade and projecting beyond the other opposite sides of the block, and devices carried by the block for securing the blade and scale member against movement in their
 60 respective seats.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

GRIFFITH W. ROBERTS.
 ERNEST L. ROBERTS.

Witnesses:

HOWELL R. ROBERTS,
 DANIEL J. MACDONALD.