M. VASSAR, 2d.
Leather-Gage.

No. 212,288. Patented Feb. 11, 1879.

Fig. 1.

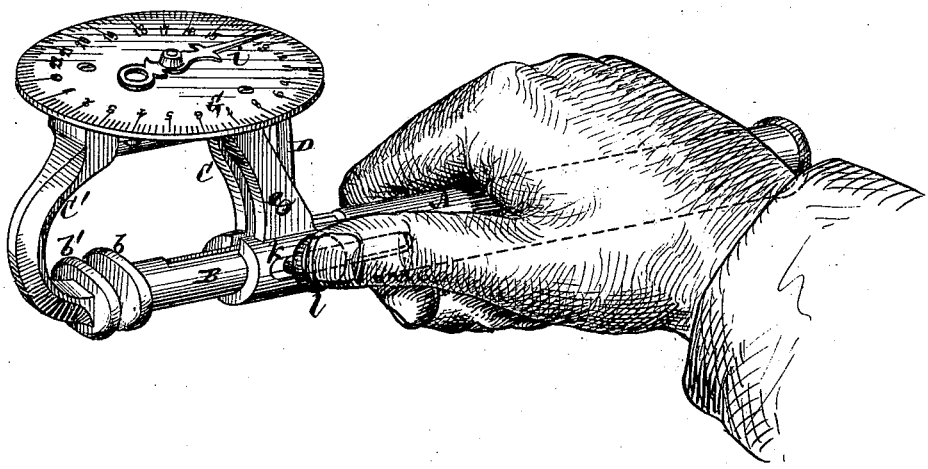
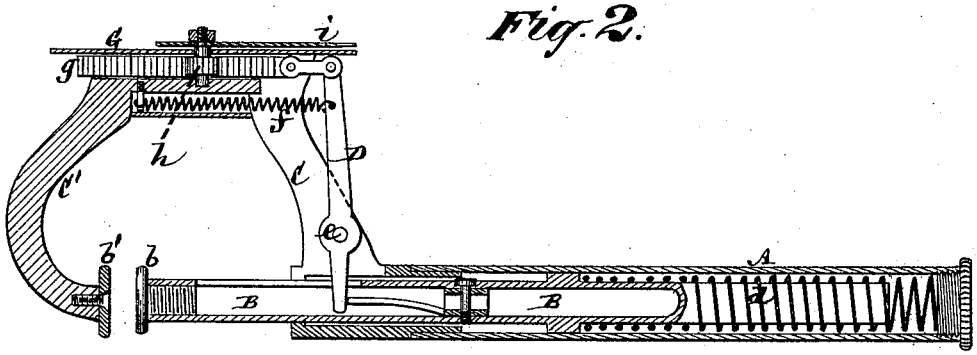


Fig. 2.



Witnesses
John Becker
Fred. Haynes

Inventor
Matthew Vassar 2nd
by his Attorneys
Brown & Brown

UNITED STATES PATENT OFFICE.

MATTHEW VASSAR, 2D, OF BALLSTON SPA, NEW YORK.

IMPROVEMENT IN LEATHER-GAGES.

Specification forming part of Letters Patent No. **212,288**, dated February 11, 1879; application filed December 28, 1878.

To all whom it may concern:

Be it known that I, MATTHEW VASSAR, 2d, of Ballston Spa, in the county of Saratoga and State of New York, have invented certain new and useful Improvements in Gages for Measuring the Thicknesses of Leather and other Substances, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention is more particularly intended for gaging the thickness of leather—as, for instance, leather in the piece or side used in making the uppers and soles of boots and shoes.

The invention consists in a combination, with movable and fixed gaging-jaws, of a mainspring and a secondary spring, of different relative tensions, applied to control in opposite directions the movable jaw, and an index actuated by or in concert with the latter; also, in certain combinations of parts, whereby the handling, working, and registering of the gage are provided for in a very simple and perfect manner.

In the accompanying drawings, Figure 1 represents a view, in perspective, of a gage constructed in accordance with the invention, as ready for use in the hand of the operator; and Fig. 2, a longitudinal section of the same.

A is a tubular handle, closed at its rear end by a screw-cap, and having fitted for longitudinal movement within it, and out through its front end, a gage rod or slide, B, which is provided at its forward end with a gaging-button or face-piece, *b*. This gage-rod, with its attached gaging-button or face-piece, constitutes the sliding or movable jaw of the gage.

C is a bracket, mounted on the forward end of the tubular handle A, and constructed with a leg, C′, which is provided at its outer end with a gaging-button or face-piece, *b′*. This leg C′, with its attached gaging-button or face-piece *b′*, constitutes the stationary jaw of the gage. The gaging-buttons *b b′* face or are in line with each other, and the movable jaw B *b* is forced forward toward the stationary jaw C′ *b′* by a mainspring, *d*, arranged within the hollow handle A.

Connected with the sliding rod B of the movable jaw, which may be made hollow, is a lever, D, arranged to work on an intermediate fulcrum, *e*, in the bracket C, and controlled by a secondary spring, *f*, arranged to counteract, to a limited extent, the thrust of the mainspring *d*.

Attached to the outer end of the lever D is a rack, *g*, which gears with a pinion, *h*, that has secured to it a rotating index, *i*. This index is arranged to move over a graduated face-plate or dial, G, which is secured on the bracket C, and is divided to indicate the different measurements it is designed to make by the gage.

The springs *d f* are of such relative tensions—the mainspring *d* being the stronger, and the secondary spring *f* the weaker one—that, except when specially disturbed, they serve to hold the index *i* at a fixed or starting point on the dial, and the two gaging-buttons or face-pieces *b b′* at a fixed measuring distance apart.

Attached to the sliding rod B of the movable jaw, and arranged to project through a longitudinal slot, *k*, in the handle A, near its forward end, is a thumb button or piece, *l*, against which the thumb of the hand of the operator is pressed, as shown in Fig. 1, to adjust the button *b* of the movable jaw toward the button *b′* of the stationary jaw, and, by means of the lever D, rack *g*, and pinion *h*, to adjust the index *i* on the dial G to a position which will indicate the measurement made by the buttons *b b′* as they are thus brought closer together.

For measuring sole-leather, the latter is introduced edgewise and singly between the stationary and movable jaws, or rather their buttons *b b′*, and the gage run along the edge of the leather, with the thumb of the operator applied to the button *l*, to keep the button or face-piece *b* of the movable jaw up against the face or side of the leather. This will indicate on the dial the average thickness of the leather.

To measure leather for the uppers of boots and shoes, the same application of the gage is made; but said leather is doubled when introduced between the gaging-buttons *b b′*.

This gage will be found very efficient and convenient for the purpose for which it is more particularly designed, and the opposing ac-

tions of the springs *d f* on opposite sides of the fulcrum *e* of the lever D not only serve to hold the jaws apart ready for use within the range of the index, but have a poising action on and give a freedom and elasticity to the movable jaw, and also admit of the latter being drawn back beyond its normal position when necessary.

I claim—

1. The combination, with movable and fixed jaws of the gage, of a mainspring and a secondary spring of different relative tensions, applied to control in opposite directions the movable jaw, and an index actuated by or in concert with the movable jaw, substantially as specified.

2. The combination of the tubular handle A, the sliding jaw B *b*, the mainspring *d*, the thumb-button *l*, the stationary jaw C′ *b′*, the lever D, the secondary spring *f*, having a contrary action on the movable jaw to that of the mainspring, the rack *g*, the pinion *h*, the index *i*, and the dial G, essentially as shown and described.

MATTHEW VASSAR, 2D.

Witnesses:

L. W. BRISTOL,

L. B. PIKE.