No. 652,723. Patented June 26, 1900.

F. B. MUNROE.

MACHINE FOR INDICATING THICKNESS OF STOCK FOR BOOTS OR SHOES.

(Application filed July 24, 1896.)

(No Model.)

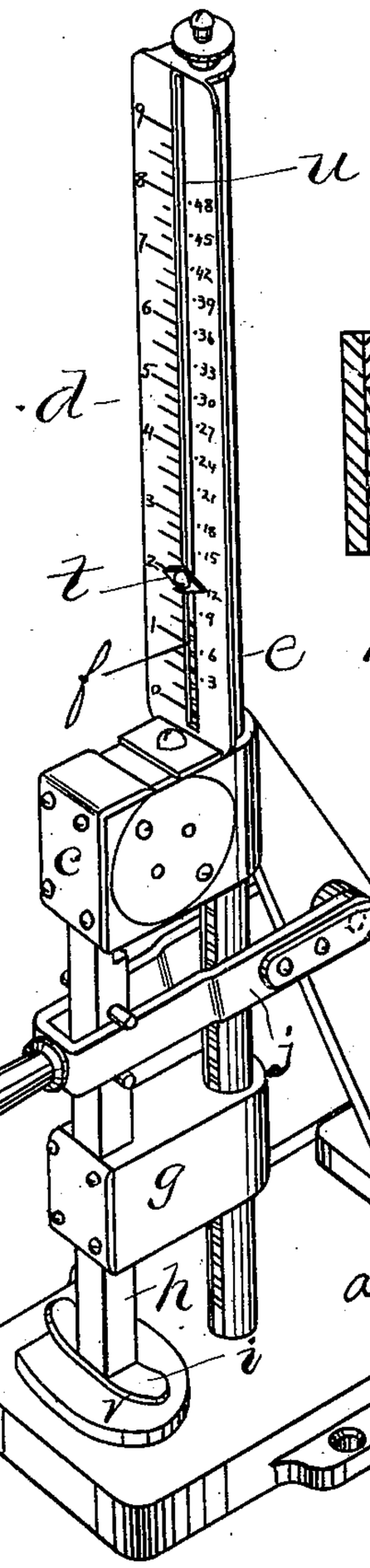

Fig. 1.

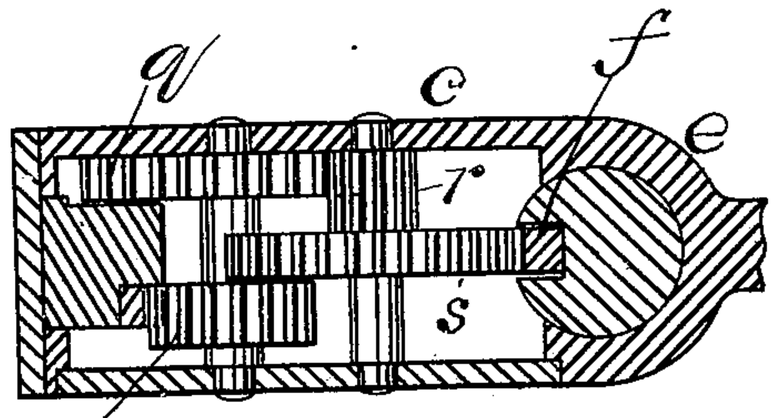

Fig. 3.

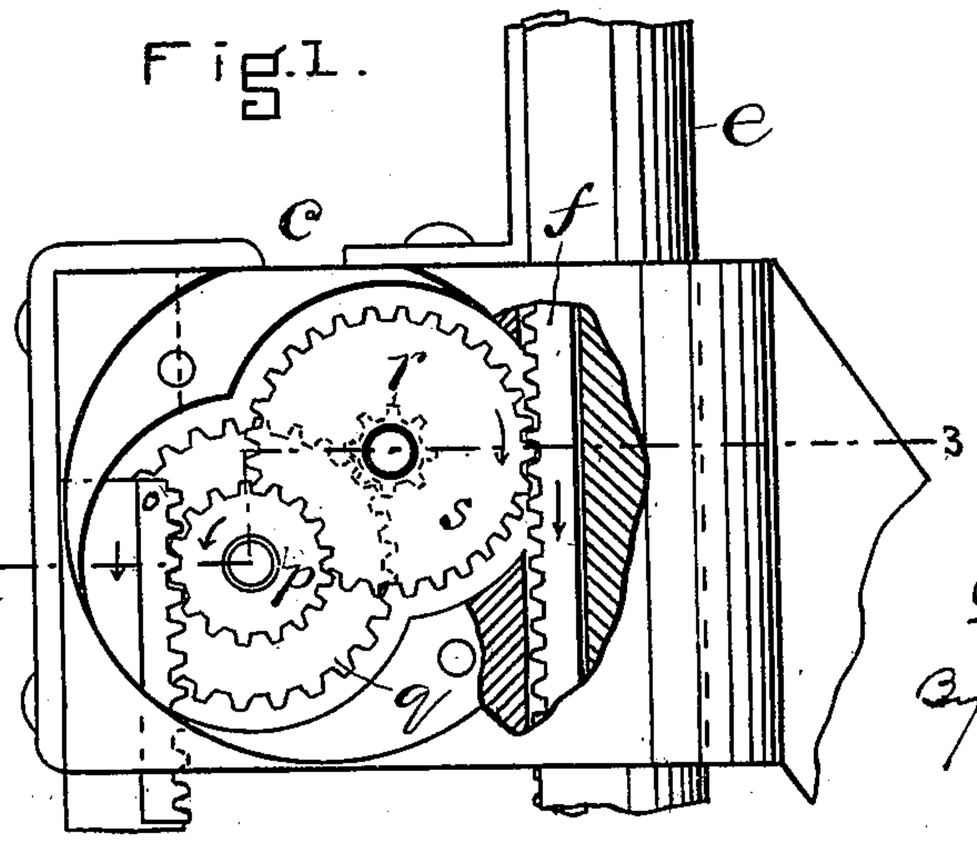

Fig. 2.

WITNESSES.

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UNITED STATES PATENT OFFICE.

FRANK B. MUNROE, OF STONEHAM, MASSACHUSETTS, ASSIGNOR TO LEVERETT D. HOLDEN, OF MALDEN, MASSACHUSETTS.

MACHINE FOR INDICATING THICKNESS OF STOCK FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 652,723, dated June 26, 1900.

Application filed July 24, 1896. Serial No. 600,393. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. MUNROE, of Stoneham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Measuring Stock for the Manufacture of Boots or Shoes in the Process of Assorting the Same, of which the following is a description sufficiently full, clear, and exact to enable those skilled in the art to which it appertains or with which it is most nearly connected to make and use the same.

My invention has relation to that kind of machines that are employed in the assorting, measuring, or grading of boot and shoe soles, heel taps or lifts, "pancake," and other stock entering into the manufacture of boots and shoes and cognate articles or uses.

It is the present practice where there is perfect system in the manufacture of boots and shoes or in the cutting out and supplying of material for the same to not only provide machines such as trimmers and other finishing devices for use upon different sizes or grades of stock, so as to operate upon or finish the same in the most perfect manner, but also to assort and grade the stock with exactness as to size or weight and quality before making it up into the before-mentioned articles of wear.

It is the object of this invention to provide a machine which shall be adapted to the perfect measurement as to thickness and incidentally as to weight of boot and shoe making stock and similar material, be simple in and economic of construction, and be adapted to perform its functions with the greatest speed and readiness, all as I will now proceed to describe in detail and subsequently set forth with particularity in the appended claim.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

In the drawings, Figure 1 is a perspective view of one form of machine which may be made to embody my invention. Fig. 2 is a view, drawn to an enlarged scale, a part being represented as removed, of a portion of the machine. Fig. 3 is a horizontal sectional view taken on the line 3-3 of Fig. 2 and hereinafter more fully described and explained.

In the drawings, *a* designates what I may term the "bed-plate" or "base," extending up from the rear part of which is a bracket *b*, which at its upper end supports a headpiece or bearing-block *c*. Connected with and supported by the block *c* is a scale-plate *d*, extending vertically up therefrom, and a bearing-piece *e*, which may also extend below the said block and be attached at its lower end to the bed-plate, so as to support the rack-bar *f* in its vertical movements, as will be presently explained.

g is a bearing-block connected with and supported by the bearing-piece *e*, so as to provide for and support the shank or shaft *h* of the plunger *i* in its vertical movements, the said plunger having bearings in the headpiece *c* and bearing-block *g*. At its lower end the plunger *i* is made in the form of a flat foot or shoe, the lower surface of which is on a plane corresponding with the plane of the upper surface of the bed *a*, and the ends or edges of the said plunger may be curved upward, as shown, in order to facilitate the introduction of stock between the same and the bed-plate, as will be understood without further explanation.

The plunger may be raised and lowered by any suitable means. As herein shown, the said plunger is loosely engaged with a lever *j*, fulcrumed upon the bracket *b*, the free end of the arm of which lever may be provided with a handle *k*; or it may have attached thereto a cord or chain *l*, which may be connected with a tread adapted to be operated by the foot of the user of the machine. The other arm *m* of said lever may have connected with the end thereof a counterbalancing-spring *n*, or it may be a weight or other equivalent means, so that by depressing the arm of the lever to which the plunger is attached the plunger may be lowered, and the latter may be automatically raised by the action of the counterbalancing spring or weight acting upon the arm *m*. In the present instance the arm *m* is shown as a supporting-piece attached

to the lever *j*, though it is obvious that the lever and its arms may be made in a single piece.

The upper end of the plunger *h*, which reciprocates in the head-block *c*, is constructed as a rack *o*, as indicated in Fig. 2, which rack engages a pinion *p*, compounded with a toothed wheel *q*, which in turn engages a pinion *r*, compounded with a toothed wheel *s*, which engages the rack-bar *f*, having a pointer *t* connected therewith, which pointer operates in a slot *u*, formed in the scale-plate *d*, and points in opposite directions laterally from said slot to the scales inscribed thereon, so that as the rack-bar *f* is raised and lowered by the movement of the plunger *h* through the medium of the train of gears before referred to the pointer will be likewise raised and lowered. On one side of the slot *u* the inscribed scale may be in accordance with the number of sole trimming or finishing devices and on the opposite side in accordance with fractions in inches, or any other suitable scale-marks may be employed to suit circumstances or convenience.

It will be understood that the train of gearing between the plunger-shank *h* and rack-bar *f* is for the purpose of multiplying the extent of movement of the latter from the former, and this train of gearing may be therefore varied to suit circumstances or wishes.

In use the stock to be assorted, which may consist of heel-lifts *v* or other articles, may be placed on the bed-plate *a* and under the foot of the plunger and the latter depressed, when the pointer will be moved to and stopped at the position along the scale-plate *d*, so as to indicate with near approach to exactness the thickness of the material between the plunger-foot *i* and bed-plate *a*. It is obvious that the weight indicating the stock may be measured and the latter assorted with great rapidity and certainty. By curving the foot *i* upward at its edges it is made easy to assort the stock between the foot-plate and bed whether the former be raised or not, and, as has already been intimated, the lever *j* may be worked by hand or by foot power, as may be considered the most expedient.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, it is declared that what is claimed is—

In a machine of the character described, the combination of a base, a bracket erected on the rear portion thereof, a standard supported by the base and the bracket and constituting a slideway, a rack engaging the latter and carrying an index-finger, a scale-plate in front of the upper portion of the standard and over which said index-finger extends, guides supported by the bracket and standards, a presser-foot whose stem or bar works vertically through said guides and has a rack, gearing connecting the latter with the first-named rack, and means for manipulating the presser-foot, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 29th day of February, A. D. 1896.

FRANK B. MUNROE.

Witnesses:
EDITH W. NOBLE,
CHAS. E. TODD.