(No Model.)

A. G. BURTON.

LEATHER GAGE.

No. 473,892. Patented Apr. 26, 1892.

Fig 2.

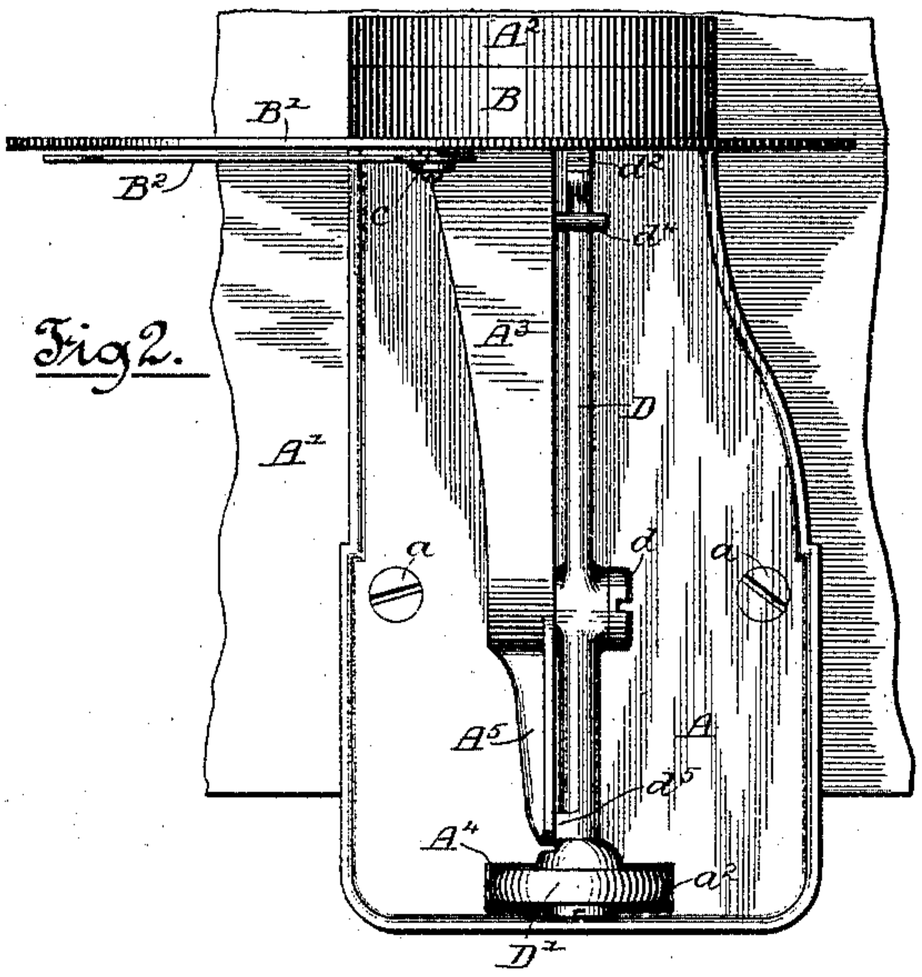


Fig 1.

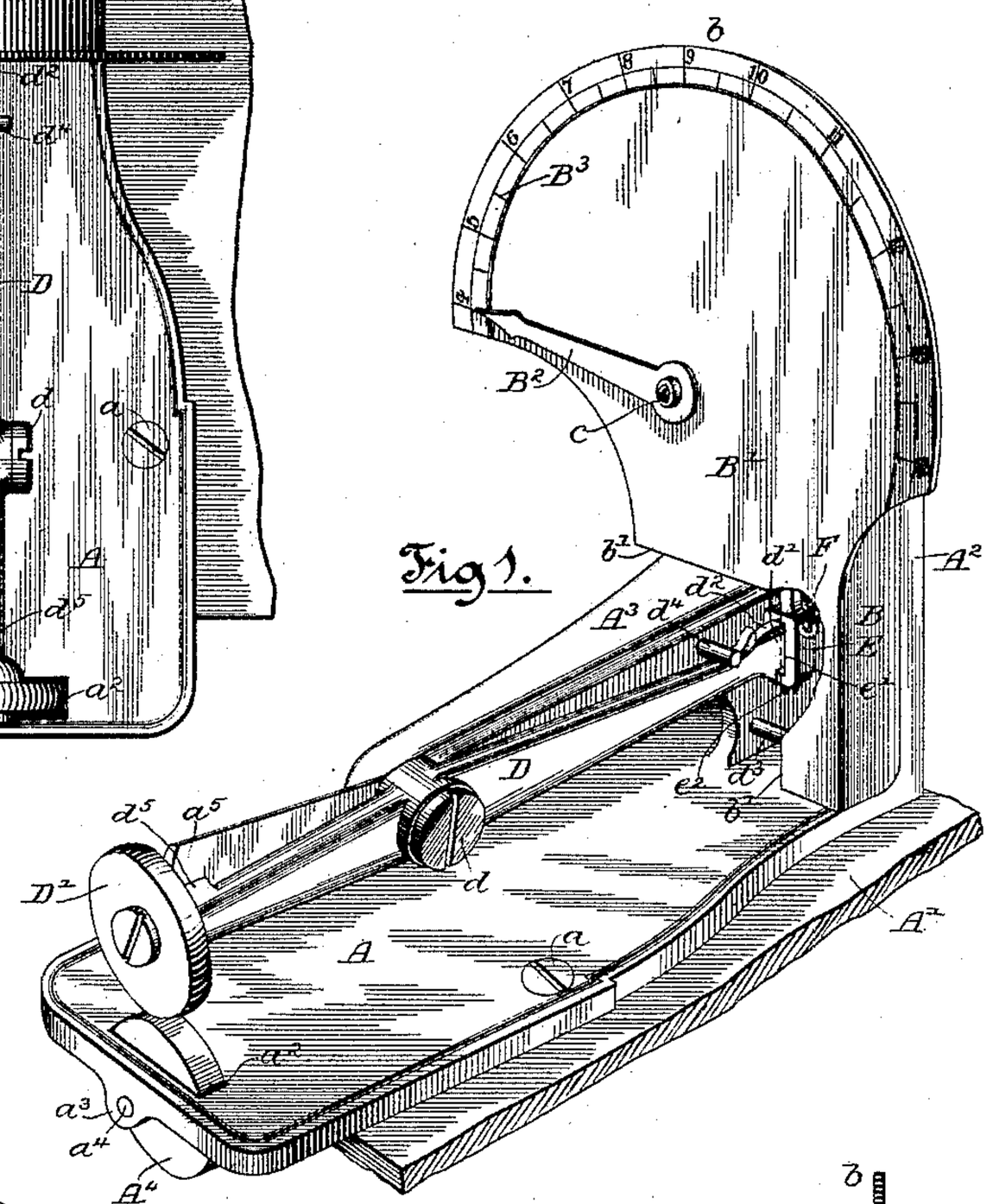


Fig 3.

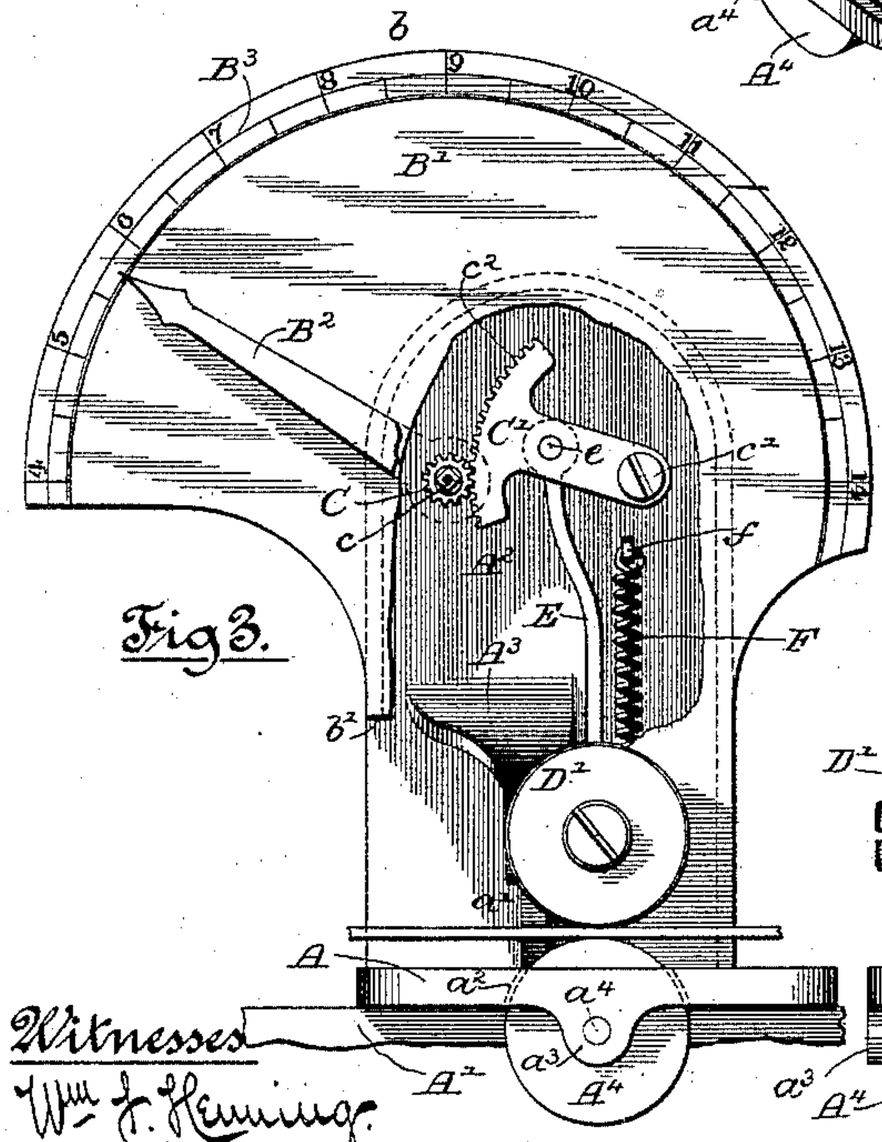


Fig 5.

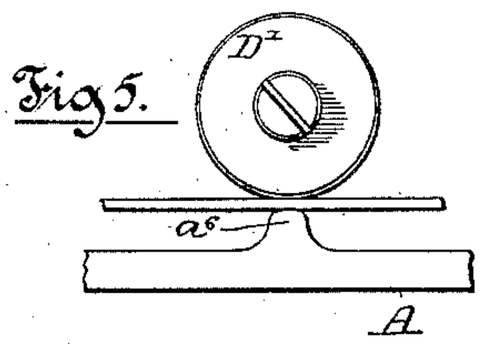
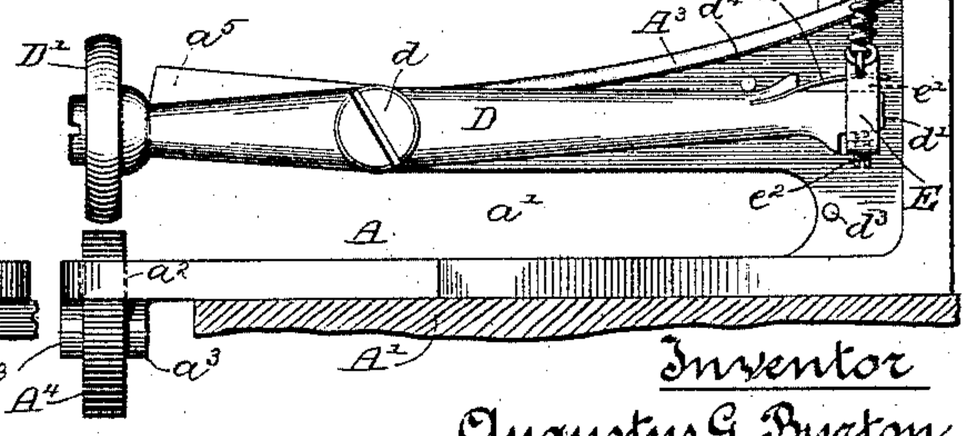


Fig 4.



Witnesses

Wm. F. Fleming.

Louis M. F. Whitehead.

Inventor

Augustus G. Burton

by Drayton, Cook & Brown Attorneys.

UNITED STATES PATENT OFFICE.

AUGUSTUS G. BURTON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO GEORGE A. MARSHALL AND FRANK H. LEWIS, OF SAME PLACE.

LEATHER-GAGE.

SPECIFICATION forming part of Letters Patent No. 473,892, dated April 26, 1892.

Application filed April 3, 1890. Serial No. 346,373. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS G. BURTON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machines for Measuring the Thickness of Leather; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improved devices for measuring the thickness of soles, insoles, taps, and general stock for boots and shoes.

The special object of the invention is to produce a machine by which every portion of the leather or other material, instead only of its marginal edge, may be measured or sized.

To this end the invention consists in the construction herein illustrated and described, and more particularly pointed out in the appended claims.

I have shown in Figure 1 a perspective view of a machine embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a front elevation of the same, a portion of the front plate of the housing being broken away. Fig. 4 is a side view of the same with a portion of the housing broken away. Fig. 5 shows a slightly-modified form of a portion of the device.

In the said drawings, A represents the table or base-plate of the machine, which is firmly secured by screws *a* or other convenient means to a table or standard A′.

A^2 is a vertical standard or part, preferably cast integral with the base A at its rear portion. An arm or bracket A^3 is preferably cast integral with the standard or back A^2 and extends over and toward the front end of the base-plate A, so as to leave a space *a′* between the lower edge of said arm or bracket A^3 and said base-plate. The forward end of the base-plate projects beyond the table or support A′ and is provided with a slot or elongated opening therein a^2. Depending lugs a^3 extend downwardly from the forward end of the base-plate A on either side of the said slot or opening a^2, and in said lugs a^3 is suitably journaled a spindle or shaft a^4. A roller A^4 is mounted upon said spindle a^4, so as to extend through the opening a^2 and rise some little distance above the upper surface of the base-plate A. This is the preferable construction, although some of the advantages of my invention may be obtained by the modified form shown in Fig. 5.

The housing B is placed upon the frame A and adjacent to the vertical standard A^2, which latter forms the back of the housing. The face-plate B′ of said housing is provided with an upper portion *b*, which is relatively larger than the housing B, and which projects above it, preferably in semicircular form, as clearly shown in Figs. 1 and 3. This entire lower portion of the face-plate B′ of the housing does not extend to the base-plate A, but is cut away at *b′ b′*, so as to pass around and escape the bracket A^3, as more clearly shown in Fig. 1.

Within the housing and revolubly secured to the inner surface of the back plate or standard A^2 is a pinion C, the stem *c* of which projects through the face-plate B′ and is secured to the shank of an index-finger B^2, whereby said finger is moved by the rotation of said pinion C.

C′ is a segmental lever, pivoted at *c′* within the housing to the back plate A^2, so that its teeth c^2 will mesh with the cogs of the pinion C.

D is a lever pivoted at *d* to the bracket A^3. The forward end of this lever D is provided with a roller D′, revolubly secured thereto in position directly above the roller A^4. The long arm of the lever D projects into the housing B and there engages the lower and slotted portion of a link E, the upper end of which is pivoted at *e* to the segmental lever C′ at a convenient point between the teeth c^2 and the pivotal connection *c′*. The end *d′* of the lever D is smaller than the slot *e′* in the lower end of the link E. The free end of a leaf-spring d^2, secured near the end of the long arm of the lever D, is inserted in the upper portion of the slot *e′* and tends to throw the end *d′* of the lever into the lowermost portion of said slot. An adjusting-screw e^2 is passed through the lower portion of the link E and against the under surface of the end *d′*

of the lever D for the purpose herinafter mentioned.

d^3 d^4 are pins or stops standing at right angles from and secured to the bracket A^3 for the purpose of limiting the downward and upward movements, respectively, of the long arm of the lever D.

F is a spring, one end of which is suitably secured to the lower end of the link E and the upper end being suitably secured to a lug f on the standard A^2. Said spring F tends at all times to draw the said link E and the end d' of the lever D upward, and to cause the long arm of the lever D to normally stand against the stop d^4 and the index-finger B^2 to normally point to a given mark upon the extended portion b of the face-plate B'.

Upon the outer edge of the face-plate B' is a graduated scale B^3. Any scale of course may be adopted; but in the present instance I have illustrated a scale representing forty-eighths of an inch at each division-mark. For instance, the first mark will indicate four forty-eighths, the second five forty-eighths, the next six forty-eighths of an inch, and so on. When the arm D is in normal position—to wit, as shown in Figs. 1 and 4, with the spring F exerting its maximum strength—the index-finger B^2 in the present instance should point to the division-mark four forty-eighths on the scale B^3, this meaning that the distance between the peripheries of the rollers D' A^4 at their most adjacent points is four forty-eighths of an inch. It may sometimes happen, however, that the spring F will not be so located as to normally bring the index-finger B^2 to the desired position, and hence the adjusting-screw e^2 and spring d^2 are used, the latter to prevent any lost motion or slackness between the end of the arm D and the lower end of the link E and the former to correctly adjust the normal position of the index-finger B^2, so that the spaces between the rollers D' and A^4 shall exactly correspond with the distance indicated on the scale, as will be readily understood.

The bracket A^3 is provided at its outer end with an extended portion or arm A^5. (See Fig. 2.) The short arm of the lever D is provided with a lug d^5 on the side adjacent to the arm A^5, which lug bears against the face a^5 of the arm A^5. The goods to be measured are usually inserted between the rollers D' and A^4 from the side opposite to the arm A^5, and this arm therefore serves to take a part of the strain off the arm D, and thus prevent the latter from losing its adjustment.

In operation my device is very simple. The piece of leather to be measured or sized is passed between the rollers D' and A^4, as shown in Fig. 3, in such manner that the rollers may revolve. The upper roller D' of course will yield, the rear end of the lever D, to which the roller D' is attached, will be depressed, and the index-finger B^2 will be carried around the scale B^3 to such position as to indicate thereon the number of forty-eighths of an inch between the rollers D' and A^4. It will be observed that the space a' is relatively of such length as to permit pieces of leather of such size as are usually applied to the soles of shoes and boots to be passed freely therethrough and all portions thereof correctly sized or measured.

It is not necessary and may not always be desirable to have two movable surfaces for the leather to be passed between, as one of said surfaces may be movable and one stationary. Such a construction I have shown in Fig. 5, wherein the roller A^4, lugs a^3 a^3, and slot a^2 are removed and an uprising lug a^6, having a rounded upper edge, is placed upon the base-plate A under the roller D'.

What I claim is—

1. In a machine for measuring the thickness of leather, the combination, with a suitable frame having a scale marked thereon, of a support for the leather attached to said frame, a lever pivoted to the frame having a roller secured directly to one end thereof in position above the support, an index-finger for the scale pivoted to the frame, and a suitable connection between the end of the lever opposite the roller and the index-finger, substantially as described.

2. In a machine for measuring the thickness of leather, the combination, with a suitable frame having a scale marked thereon, of a support for the leather attached to said frame, an index-finger for the scale pivoted to the frame, a lever also pivoted to the frame, one arm being provided with a roller located in position over the support, a suitable connection between an arm of said lever and the index-finger, a spring normally holding the lever and index-finger in certain determined relation with respect to the scale, and an adjusting-screw bearing against the under side of said lever, whereby the same may be adjusted with respect to the index-finger, substantially as described.

3. In a machine for measuring the thickness of leather, the combination, with a suitable frame having a scale marked thereon, of a support for the leather attached to said frame, an index-finger for the scale pivoted to the frame, a lever also pivoted to the frame, its short arm being provided with a roller located in position over the support, suitable connections between the lever and the index-finger, and a brace-arm, as A^5, on the frame having a bearing-surface against one side of the short arm adjacent to the roller, substantially as described.

4. In a machine for measuring the thickness of leather, the combination, with a suitable frame having a scale thereon, of a support for the leather attached to said frame, an index-finger for the scale, a pinion pivoted on the frame to which said index-finger is secured, a toothed segment also pivoted to the frame and engaging said pinion, a lever also pivoted to the frame, the short arm thereof having a roller located in position over the support, a

link, as E, pivoted at one end to the toothed segment and having a slot at its opposite end in which the long arm of the lever is supported, substantially as described.

5. In a machine for measuring the thickness of leather, the combination, with a suitable frame having a scale thereon, of a support for the leather attached to said frame, an index-finger for the scale, a pinion pivoted on the frame to which said index-finger is secured, a toothed segment also pivoted to the frame and engaging said pinion, a lever also pivoted to the frame, the short arm thereof having a roller located in position over the support, a link, as E, pivoted at one end to the toothed segment and having a slot at its opposite end in which the long arm of the lever rests, a spring d^2, keeping the long arm of said lever normally against the bottom of said slot, an adjusting-screw bearing against the under side of the long arm of said lever, and a spring F, secured at one end to the frame and at the other end to the lower part of the link E, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

AUGUSTUS G. BURTON.

Witnesses:
C. CLARENCE POOLE,
TAYLOR E. BROWN.