

**No. 638,337.**

**Patented Dec. 5, 1899.**

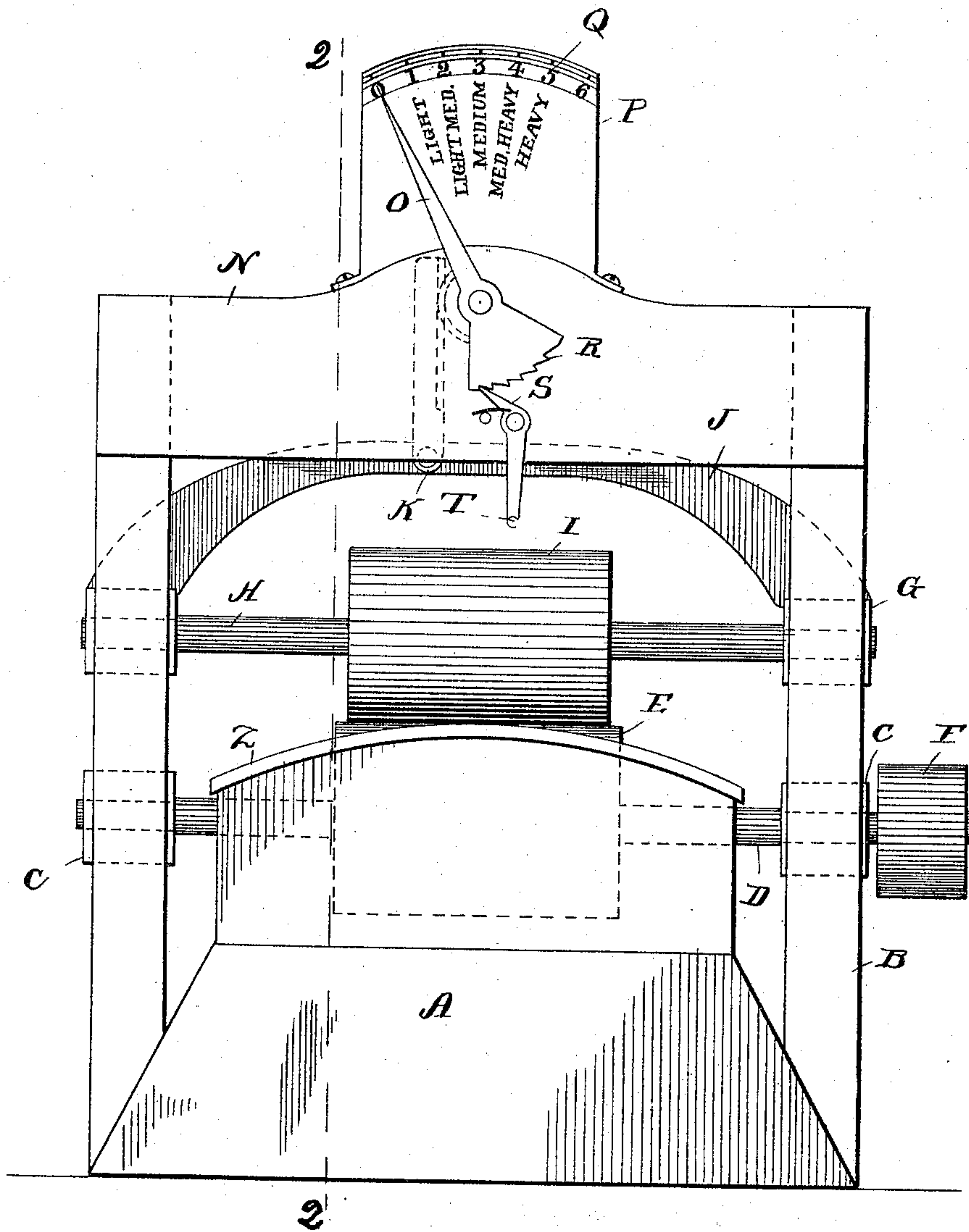
**J. C. JADICKE & J. WIENER.**  
**LEATHER GRADING MACHINE.**

(Application filed Feb. 8, 1899.)

(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



*Witnesses*

Samuel Stuart  
L. H. Garrison

## *Inventors*

Julius C. Jadicke  
Julius Wiener

By

By Wm. H. H. H. H. Atty.

No. 638,337.

Patented Dec. 5, 1899.

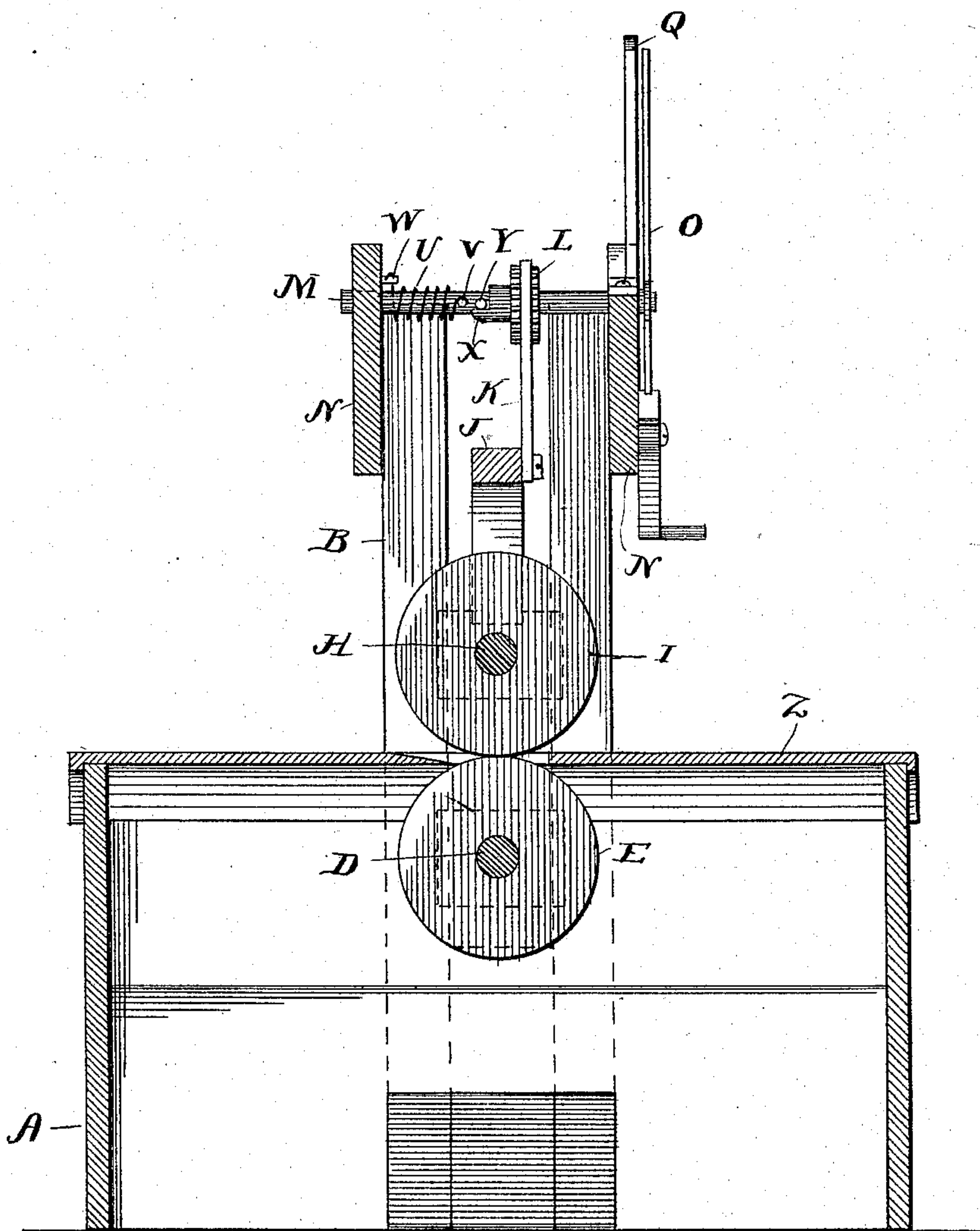
J. C. JADICKE & J. WIENER.  
LEATHER GRADING MACHINE.

(Application filed Feb. 8, 1899.)

(No Model.)

2 Sheets—Sheet 2.

*Fig. 2.*



Witnesses  
Samuel Stuart  
L. H. Morrison

Inventors  
Julius C. Jadicke  
Julius Wiener  
By *Geo. H. Haydon* Atty.



# UNITED STATES PATENT OFFICE.

JULIUS C. JADICKE AND JULIUS WIENER, OF WILMINGTON, DELAWARE.

## LEATHER-GRADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 638,337, dated December 5, 1899.

Application filed February 8, 1899. Serial No. 704,996. (No model.)

*To all whom it may concern:*

Be it known that we, JULIUS C. JADICKE and JULIUS WIENER, citizens of the United States, residing at Wilmington, in the county of New Castle and State of Delaware, have invented a certain new and useful Improvement in Leather-Grading Machines, of which the following is a specification.

Our invention relates to a new and useful improvement in machines for grading the thickness of morocco and other leathers or determining the weighing of such material by its thickness, and has for its object to provide an exceedingly simple and effective machine of this description by means of which leather when being passed between two rolls which are revolved will cause a pointer to indicate the thickness of the leather, said pointer being automatically held at the point of registry until released by the operator, thus avoiding any possibility of mistake upon the part of the operator reading the indication.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of a machine made in accordance with our improvement, and Fig. 2 a section at the line 2 2 thereof.

In carrying out our invention as here embodied, A represents the casing of the machine, serving as a base, and projecting upward from this casing are the standards B, arranged in pairs upon each side of the casing. Stationary journal-boxes C are fitted between these standards and have journaled therein the power-shaft D, on which is secured the feed-roll E. This shaft also has upon one end thereof a pulley F, by which it may be driven by a belt running to a suitable source of power. G are also journal-boxes fitted between the standards B, so as to have a vertical sliding movement, and within these boxes is journaled a shaft H, having secured thereon the gage-roll I. This roll when nothing in-

tervenes rests upon the roll E, and consequently receives its motion therefrom when the latter is being revolved, as before set forth. 55

A yoke J rests upon the boxes G, so as to move up and down therewith, and has attached thereto a rack-bar K; having teeth formed thereon, and these teeth are adapted to mesh with the segmental gear L. 60

A spindle M is journaled in the cross-pieces N, which connect the standards B, and has secured on its front end a pointer O, which latter is adapted to move in front of a segmental dial P, which has marked thereon the graduations Q, and may have the words "Light," "Light medium," "Medium," "Medium heavy," and "Heavy" inscribed in alignment with certain of these graduations, as clearly shown in Fig. 1. The lower portion of the pointer has formed therewith a segmental ratchet R, with which the spring-actuated pawl S is adapted to engage, the lower end of the latter projecting downward in easy reach of the operator and terminating in the handle or pin T. By this means it is obvious that when the pointer has been moved across the dial it will be retained in the position of its farthest movement by the engagement of the pawl with the teeth of the ratchet and will be there held until the pawl has been disengaged by the operator manipulating the handle T. A spring U is coiled about the spindle M and has one end attached thereto at V, while the other end is attached to a stationary pin W, the result of which is that the spindle will have a tendency to move in a direction reverse to the movement imparted thereto by the rack-bar and segmental gear L for the purpose next explained. 80

The segmental gear L is mounted so as to revolve loosely upon the spindle M and has a lug X formed with its hub, which by engagement with the pin Y, projecting from the spindle, enables the gear to turn the spindle in one direction, and thereby carry the pointer to the graduation indicating the movement of the gage-roll I; but when the pointer has reached this graduation it will be there locked by the pawl S, as before set forth. The gage-roll I in returning to its normal position after the leather has passed from between the rolls does not affect the pointer, since the yoke and rack-bar carried thereby in their down- 90 95 100



ward movement will remove the segmental gear L independent of the spindles, the lug X leaving the pin Y. By this arrangement the pointer is permitted to remain in registration with the graduations indicating the thickness of the leather previously passed between the rolls, and will there remain until the operator sees fit to release it by the actuation of the handle T to disengage the pawl from the teeth of the ratchet R. When the pointer has been thus released, the spring U will return it to its normal position in register with the zero-graduation, as shown in Fig. 1, which will again carry the pin Y into contact with the lug X, thereby restoring the mechanism to its normal position for a repetition of the movements.

From this description it will be obvious that when power is applied to the pulley F, so as to rotate the rolls in the proper direction, it is only necessary for the operator to place the leather to be graded upon the table Z and press its front edge to the rolls in such manner that the latter will take hold thereon, and thereafter this leather will be quickly fed between the rolls and in its passage will of course elevate the gage-roll I, which elevation, as before set forth, will register the thickness of the leather upon the dial, and as the dial thereafter remains stationary these graduations may be easily read and noted by the operator, after which the pointer is unlocked and returned to its normal position, when another piece of leather is similarly passed. So simple is the mechanism for accomplishing the result aimed at that the rolls may be run at a high rate of speed, thus rendering it possible to test a large amount of leather with but little exertion upon the part of the operator and without the possibility of error.

Heretofore much difficulty has been experienced in the grading of certain classes of leather, and especially morocco, it requiring expert operators, who, becoming accustomed to the different thicknesses of leather, determine the thickness by hand, the process being to fold the leather across the middle from side to side and then run the thumb and fingers along the crease or folds; but after a few hours of work the hand loses its sensitive touch, and therefore the grading is not accurate, thus occasioning much annoyance, inconvenience, and loss of time and material. The grading of morocco runs from one thirty-second to one fourth of an inch and is classed as "light," "light medium," "medium," "medium heavy," and "heavy," and of necessity requires great accuracy and skill to classify it by hand. All of these disadvantages are entirely overcome by our improvement, while at the same time the product is greatly increased, and an operator with little or no skill can as effectually manipulate the machine as those with long experience.

The table Z is preferably made removable,

so that access can be had to the roll I for repair, removal, or other purposes, and in practice we prefer that both of the rolls be made removable, so that others of greater or less length may be substituted. It is also preferable that the table Z shall be curved upon its upper surface, as indicated, so as to facilitate the handling of the leather.

If found desirable, the yoke J may have spring-pressure exerted thereon to hold it in firm contact with the boxes and the roll I in firm contact with the roll E.

Having thus fully described our invention, what we claim as new and useful is—

1. In a leather-grading machine, a casing, standards, a shaft journaled in bearings of the standards, a roll on the shaft projecting above the surface of the table, journal-boxes vertically movable between the standards, a yoke taking motion from the boxes, a shaft journaled in the boxes, a roll on the shaft, a rack-bar projecting upward from the yoke, a spindle carrying a pointer, a segmental dial over which the pointer is movable, a spring coiled about the spindle, a segmental gear meshing with the rack-bar, a lug projecting from the hub thereof which engages a pin of the spindle, and means manually released for retaining the pointer, substantially as described.

2. In a machine of the character described, a suitable casing, a curved table forming the top of said casing, two pairs of standards projecting upward from the casing, journal-boxes made stationary in the standards, a shaft journaled in said boxes, a pulley secured to one end of the shaft for revolving the same, a roll also secured upon the shaft, a second pair of journal-boxes fitted to slide vertically between the standards, a shaft journaled in these last-named boxes, a gage-roll secured upon the last-named shaft, a yoke resting upon the boxes, a rack-bar carried by the yoke, a segmental gear with which the rack-bar meshes, a spindle upon which the segmental gear is loosely mounted, means for causing the spindle to move in one direction with the gear and not be affected by the reverse movements thereof, a spring for revolving the spindle in the reversed direction, a pointer carried by the spindle, a graduated dial with which the pointer is adapted to register, a segmental ratchet formed with the pointer, and a spring-actuating pawl adapted to engage said ratchet to hold the pointer in its indicating position until released, as specified.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

JULIUS C. JADICKE.  
JULIUS WIENER.

Witnesses:

CHARLES F. WHITNEY,  
CHARLES GREEN.