

**No. 698,509.**

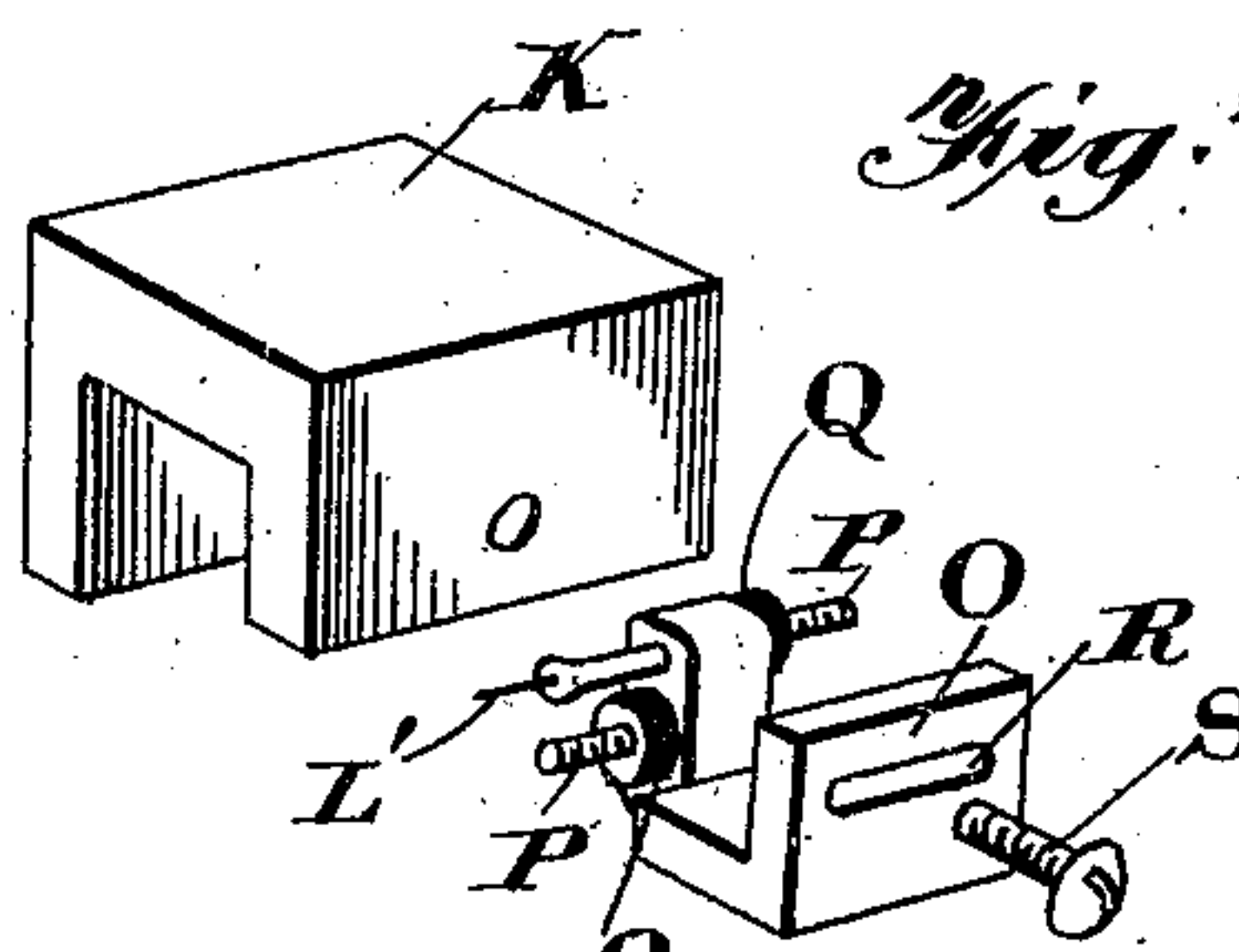
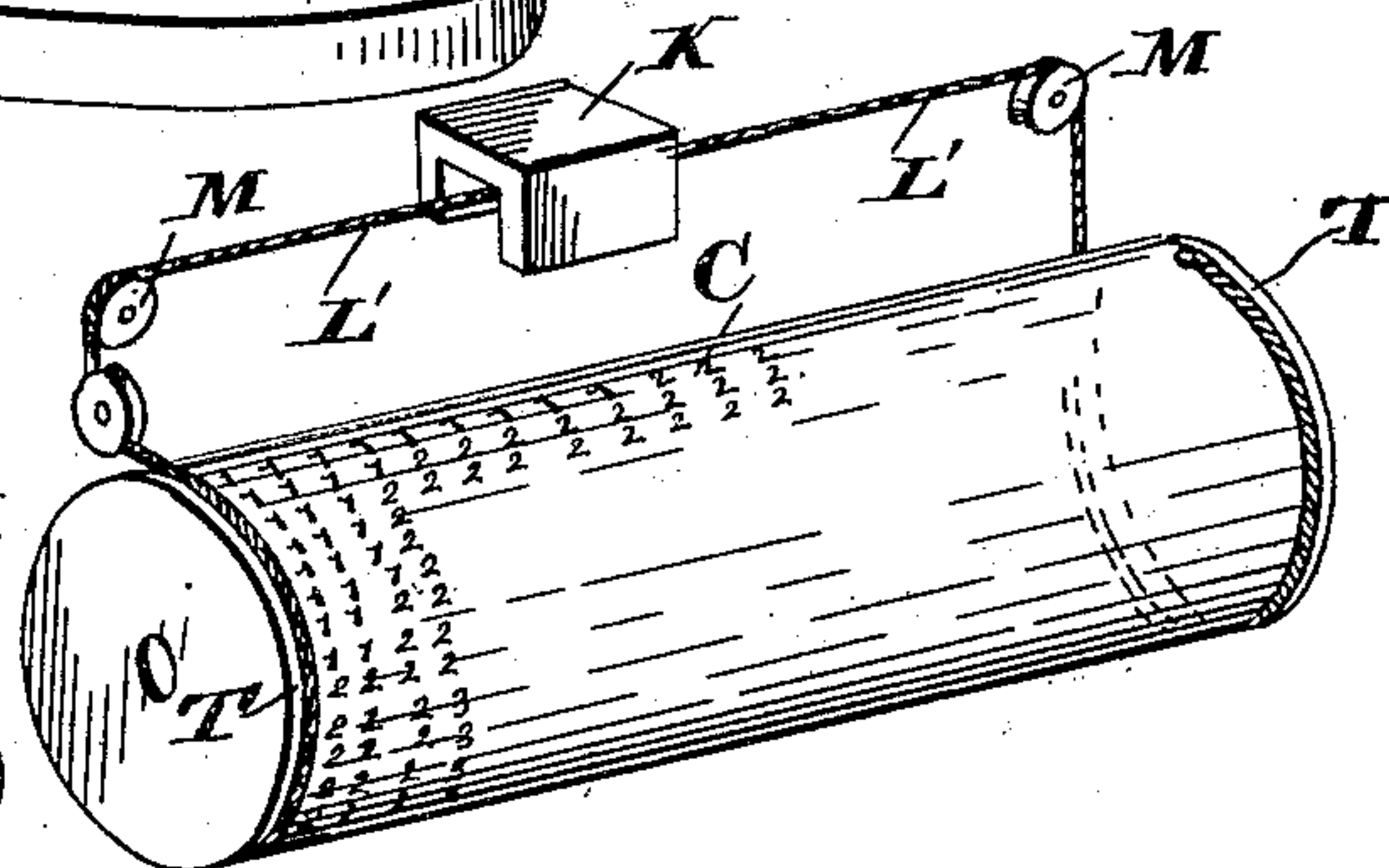
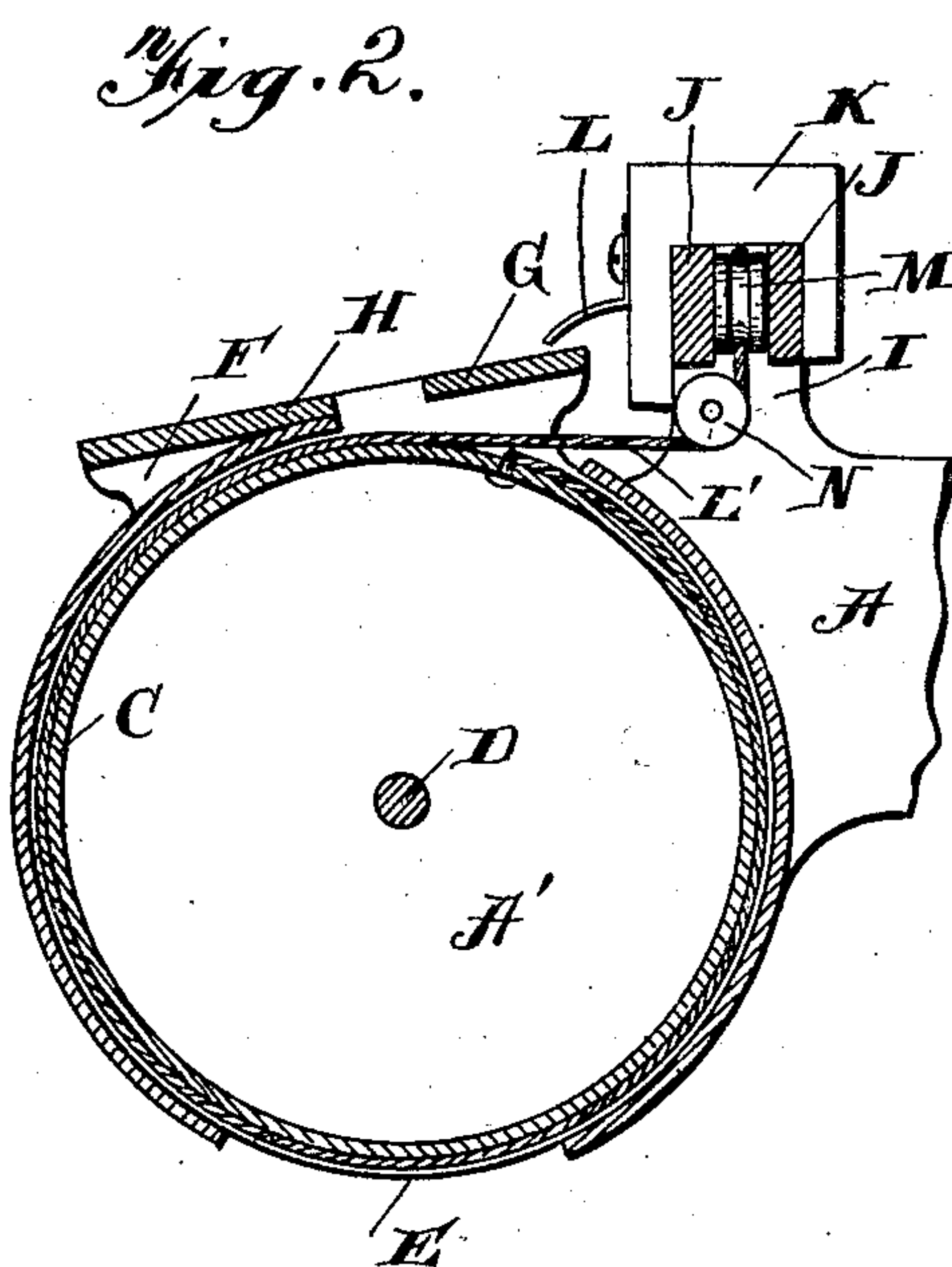
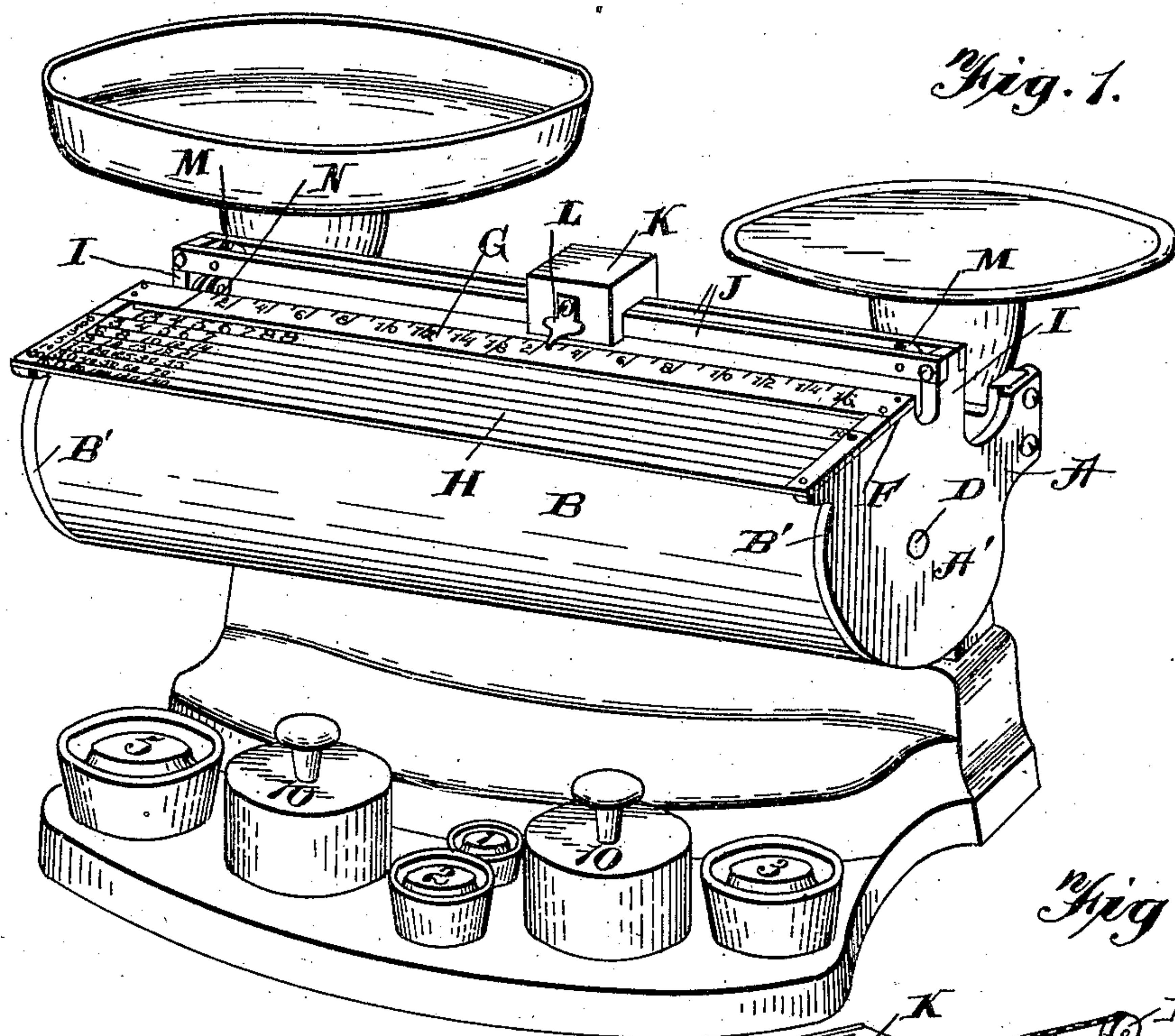
**Patented Apr. 29, 1902.**

**L. T. JOHNSON.**

### PRICE SCALE.

(Application filed Apr. 9, 1901.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

LEONARD T. JOHNSON, OF BROOKLYN, NEW YORK.

## PRICE-SCALE.

SPECIFICATION forming part of Letters Patent No. 698,509, dated April 29, 1902.

Application filed April 9, 1901. Serial No. 55,060. (No model.)

*To all whom it may concern:*

Be it known that I, LEONARD T. JOHNSON, a citizen of the United States, residing at New York, in the borough of Brooklyn and State of New York, have invented certain new and useful Improvements in Price-Scales; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in price-scales, and particularly to that class in which a rotary member is provided carrying the computations; and the primary object of the invention is to provide a simple and improved construction whereby the rotation of said member in reverse directions will be automatically effected by the movement of the sliding poise.

The secondary object of the invention is to provide simple and convenient adjusting means for the operative connection between the rotary member and the poise and an adjustable connection between the poise and said adjusting means.

With the above objects in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of a scale having my invention applied thereto; Fig. 2, an enlarged transverse sectional view through the attachment; Fig. 3, a view showing the rotary member and poise in perspective and illustrating the arrangement of the flexible connections between the two; and Fig. 4 a perspective view of the poise and the adjusting means for the flexible connections between the poise and rotary member.

I have shown my invention as applied to what is known as an "even-balance" scale, but do not limit the same to this class of scales, as it may be applied to other forms of scales in which a rotary member carrying the computations and a sliding poise are used.

Referring now more particularly to the accompanying drawings, A designates arms secured to the respective ends of the beam of the scales and extending forwardly therefrom

and formed with caps A' for the ends of a casing B, which is secured at its end edges to flanges B', formed on said caps. In this casing the rotary member, in the form of a cylinder C carrying the computations, is positioned, said cylinder being mounted to rotate on a rod D, extending centrally therethrough and secured at its ends in the caps of arms A. The casing is open from end to end at a point above and forward of its center to form a sight-opening, through which the computations on the rotary member may be conveniently read, and said casing is also formed below its center with an opening E to permit the escape therefrom of any dust or dirt which may fall thereinto. Said caps A' are formed at their upper ends with seats F, inclined downwardly and forwardly, being so disposed for the purpose of facilitating the reading of the graduations on the bars supported thereby. Secured upon the seats F are two bars G and H, separated at their meeting edges to form a slot or opening in line with the sight-opening of the casing, so that the view of the computations on the rotary member is unobstructed. Bar G has weight-graduations thereon, while upon bar H numerals are placed representing various prices per pound and the computed values of different quantities at said prices per pound and beyond the capacity of the rotary member and poise and requiring the use of the removable weights. The computations upon the rotary member represent the computed values for quantities within the capacity of the poise, said values being for the pounds and ounces indicated upon the bar G.

The caps A' are provided in rear of the seats F with upwardly-extending arms I, to which two parallel-disposed rails J are secured, the same being spaced from each other, as shown. Adapted to slide on said rails is a poise K, which is bifurcated to straddle the same, and secured to or formed integral with the poise is a pointer L to coact with the graduations of bar G.

Chains or cords L' are secured at one end to the rotary cylinder and passed once around the periphery thereof, said cords being wound in reverse directions and retained upon the cylinder by either providing retaining-flanges at the ends of the latter or forming grooves



therein to receive the same, flanges T being illustrated in the present instance. These cords pass over pulleys M, mounted between the rails J, at the respective ends thereof, and the cord at one end of the cylinder also passes under a pulley N, mounted on the arm I at that end of said cylinder. It is not necessary to provide a similar pulley N at the other end of the cylinder for the other cord, as the pull on the latter as the poise is moved is direct. Said cords at their opposite ends are attached to the poise through the medium of the following construction, by means of which they may be independently adjusted in assembling the invention and to remove any slack therein which may be caused by stretching or otherwise.

O designates a block, which is grooved to receive the rear bifurcation of the poise to which it is attached and one arm of which extends upwardly between the rails J and within the bifurcated portion of the poise. Extending longitudinally through the portion of the block positioned in the poise and adjustable therein are eyebolts P, having their eyes disposed at the opposite ends of the block and having their opposite ends screw-threaded and receiving nuts Q. The ends of the cords or chain are attached to the eyes of these bolts, and by adjusting the latter in the block said ends of the cords are drawn to or moved from each other to tighten or slacken the cords. Thus either of the cords may be adjusted independently of the other, as will be readily understood.

It is essential to the proper working of the invention that at all times the length of the two cords from the poise to their point of attachment to the rotary cylinder should be the same—that is, the cords must be always of such relative length as to produce the same amount of rotation of the cylinder in one direction upon a certain movement of the poise as in the reverse direction upon the same movement in a reverse direction of said poise; otherwise the cylinder would not be rotated to display the proper computations. In order to provide for this and at the same time permit the cords to be independently adjusted, said block, with the cord-adjusting means, is slidably attached to the poise, so that when the cords have been adjusted the poise may be moved back and forth upon the block to the proper point and then secured in its adjustment. The block is therefore formed with a slot R in the outer wall of its grooved portion, through which a clamping-screw S passes and enters the rear bifurcation of the poise.

From the above description it will be seen that the movement of the poise upon the rails in reverse directions effects the rotation of the cylinder to bring the proper computations before the sight-opening, and that each of the flexible connections between the poise and the rotary member may be adjusted independently of the other, and also that the poise

may be adjusted to maintain the same and necessary length of flexible connection between it and each end of the rotary member.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a weighing-scale, the combination with a sliding poise, of a rotary cylinder carrying computations, flexible connections between the poise and opposite ends of the cylinder, said connections being reversely wound about the cylinder and retaining means at the ends of the cylinder for preventing the slipping of the flexible connections therefrom, substantially as described.

2. In a weighing-scale, the combination with the beam, of forwardly-extending arms carried by the ends thereof having caps formed on their outer ends and provided with inclined seats and upwardly-extending lugs, a casing mounted at its ends in said caps and formed with a longitudinally-extending sight-opening in its upper portion, a cylinder mounted to revolve in said casing and carrying computations, a graduated bar secured to said seats, a track comprising two spaced rails secured to the upwardly-extending lugs, a poise slidable on said track and provided with a pointer adapted to coact with the graduations of the bar, pulleys mounted between said rails at the ends of the track, a pulley mounted on one of said arms, and flexible connections between the poise and ends of the cylinder, said connections passing over the pulleys and wound about the cylinder reversely to each other, substantially as described.

3. In a weighing-scale, the combination with a sliding poise, of a rotary member carrying computations, a flexible connection between the poise and the member at points on opposite sides of the center of the latter, means for adjusting the length of the flexible connection between the poise and the respective points of attachment of said connection with the rotary member, and means whereby the same relative length of said connection between the poise and the points of attachment of said flexible connection with the rotary member may be preserved, substantially as described.

4. In a weighing-scale, the combination with a sliding poise, of a rotary member carrying computations, a flexible connection between the poise and points on opposite sides of the center of the rotary member, and means for adjusting said poise relatively to said flexible connection, substantially as described.

5. In a weighing-scale, the combination with a sliding poise, of a rotary member carrying computations, an adjustable member carried by the poise, and a flexible connection between said adjustable member and points on opposite sides of the center of the rotary member, substantially as described.

6. In a weighing-scale, the combination with a sliding poise, of a rotary member carrying



computations, a block having a slot-and-screw connection with the poise, and a flexible connection between said block and points on opposite sides of the center of the rotary member, substantially as described.

7. In a weighing-scale, the combination with a sliding poise, of a rotary member carrying computations, a block to which the poise is adjustably attached, a flexible connection between said block and points on opposite sides of the center of the rotary member, and means carried by the block for adjusting the cords, substantially as described.

8. In a weighing-scale, two parallel-disposed spaced rails, a poise slidable on said rails and bifurcated to straddle the same, a rotary mem-

ber carrying computations, a block carried by the poise and disposed between the rails, flexible connections between said block and points on opposite sides of the center of the rotary member, and adjusting means carried by said block for effecting the adjustment of said flexible connections, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEONARD T. JOHNSON.

Witnesses:

W. F. HUMMER,  
JAMES W. BEVANS.