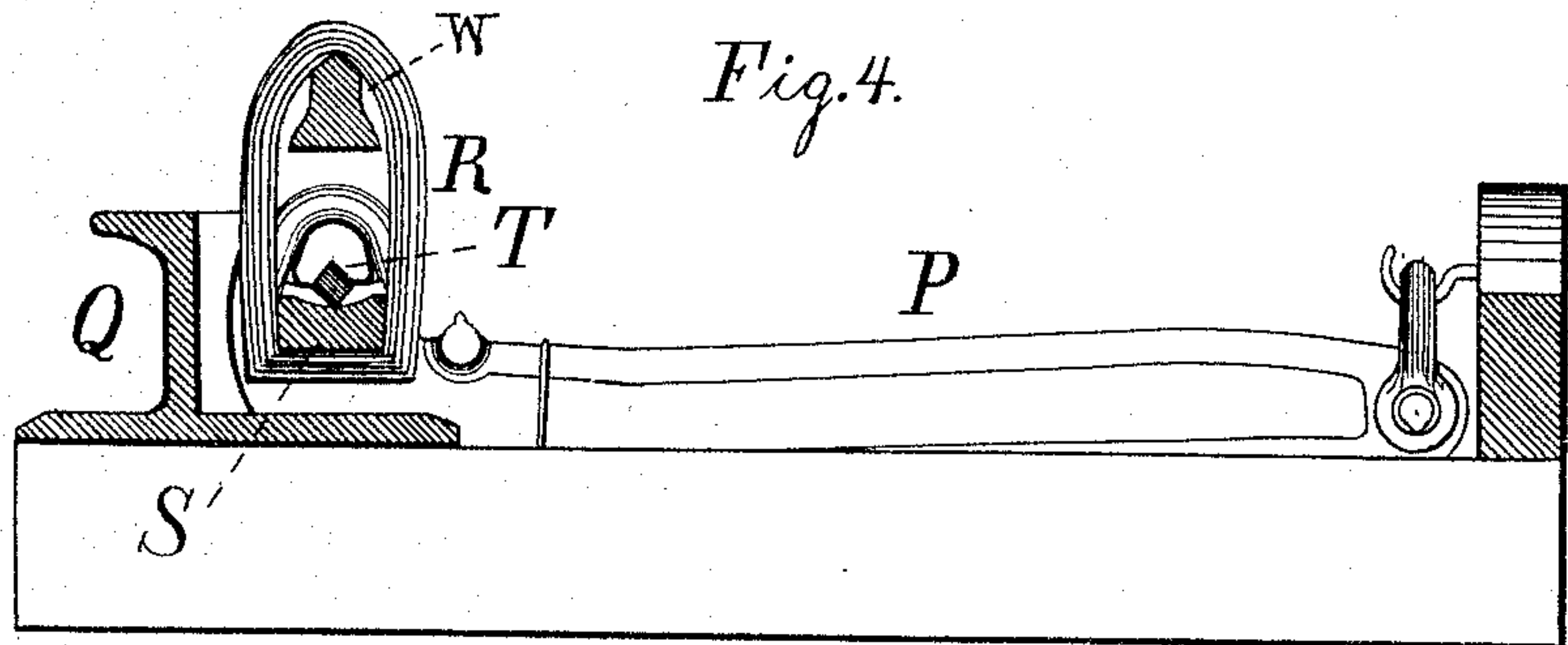
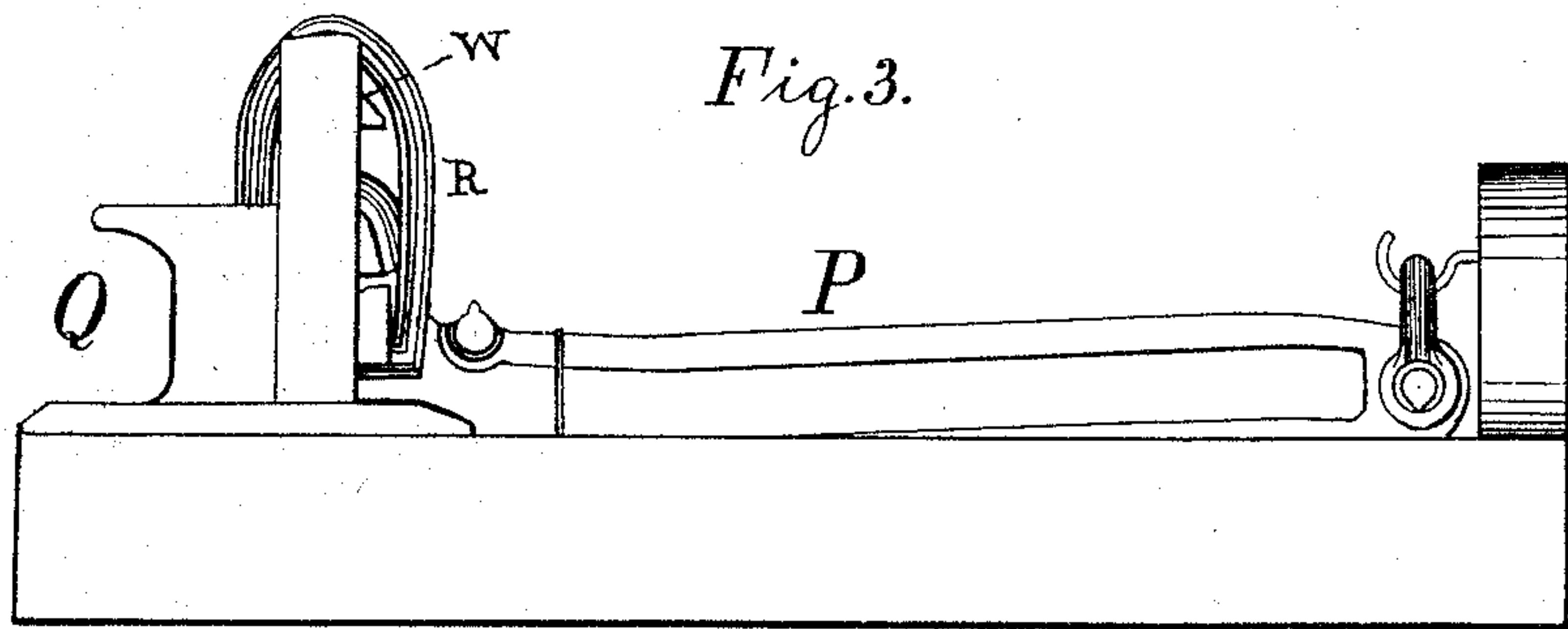
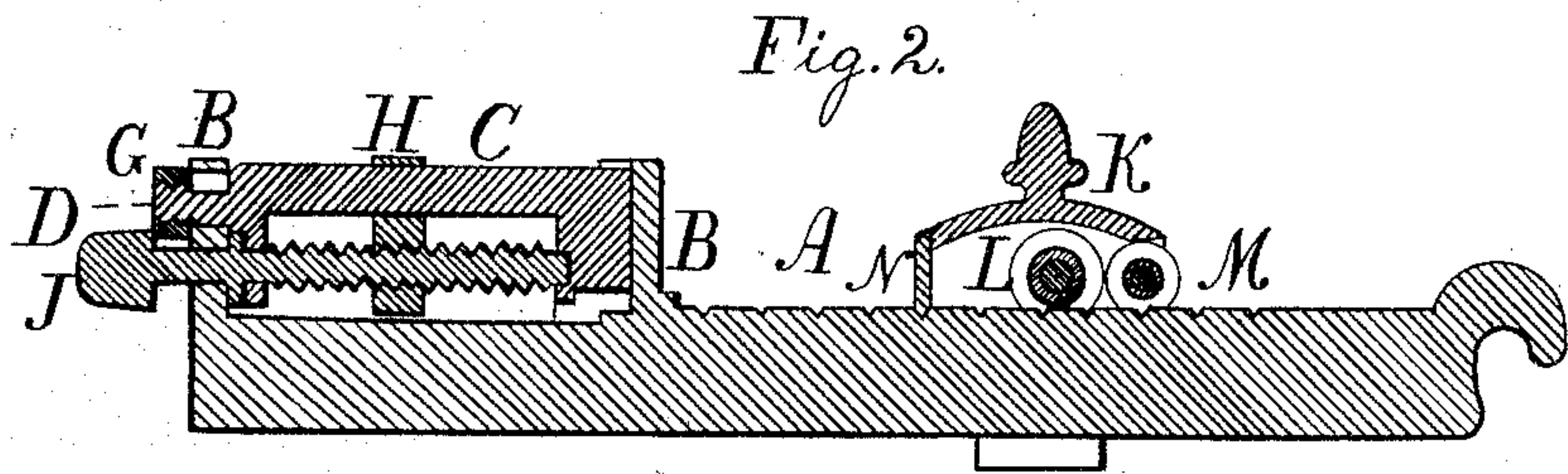
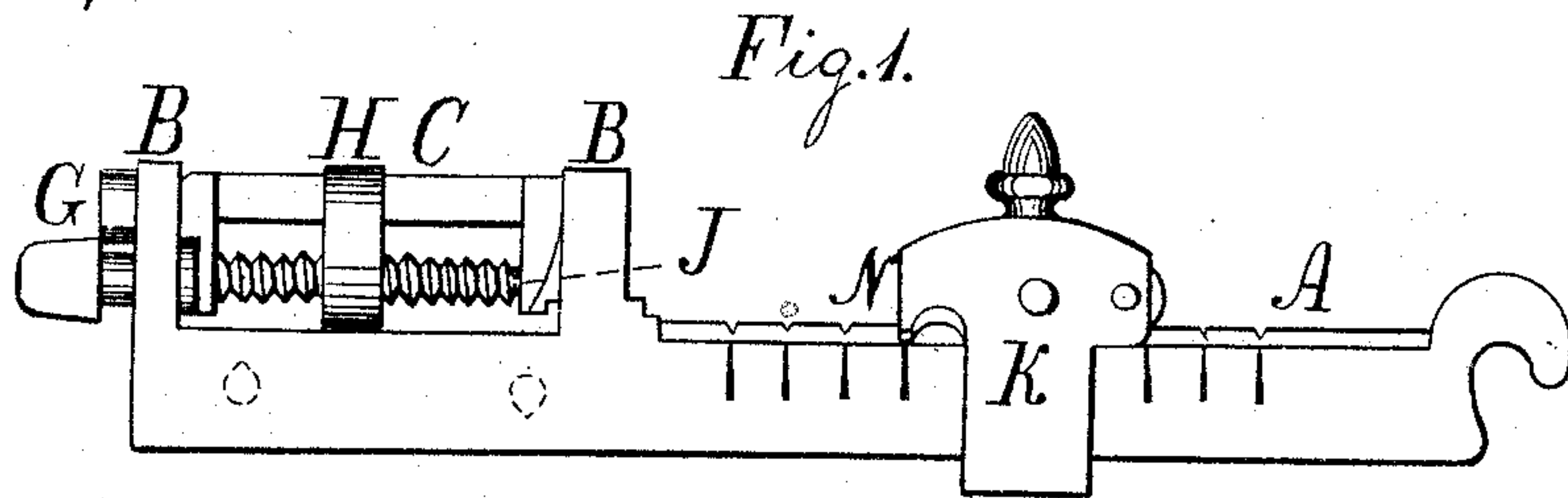


T. OLSEN.

Scales.

No. 155,746.

Patented Oct. 6, 1874.



Witnesses

A. P. Grant.

L. F. Brown.

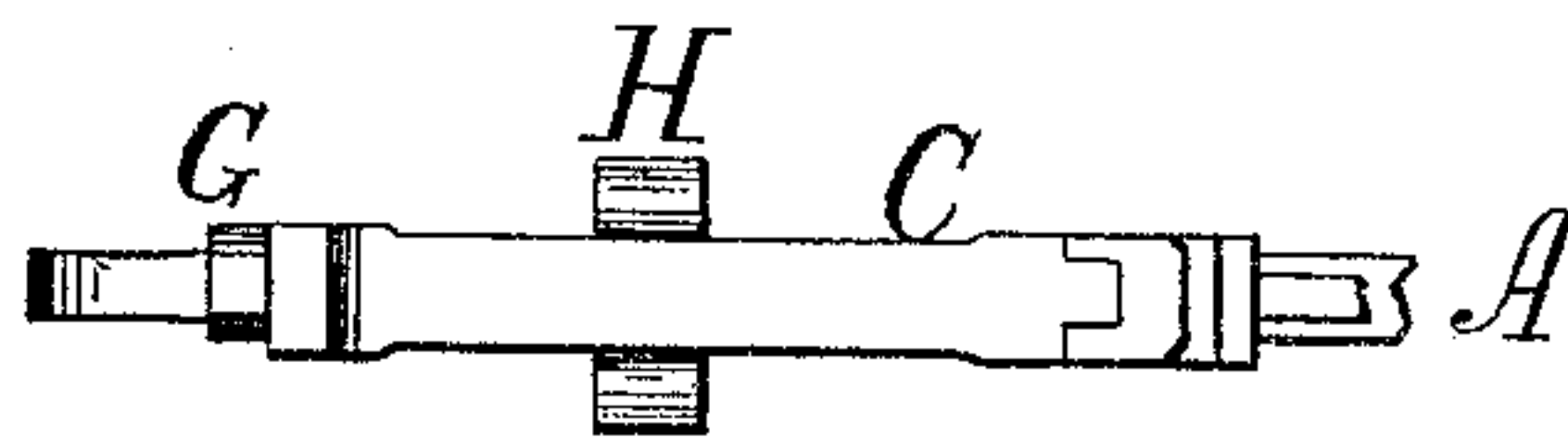


Fig. 5.

Inventor

Timus Olsen
by John A. Dieckmann
attys.

UNITED STATES PATENT OFFICE.

TINIUS OLSEN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO RIEHLÉ BROS., OF SAME PLACE.

IMPROVEMENT IN SCALES.

Specification forming part of Letters Patent No. **155,746**, dated October 6, 1874; application filed March 28, 1874.

To all whom it may concern:

Be it known that I, TINIUS OLSEN, of the city and county of Philadelphia, and the State of Pennsylvania, have invented a new and useful Improvement in Scales; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings making part of this specification, in which—

Figures 1 and 3 are side views of the device embodying my invention. Figs. 2 and 4 are central vertical longitudinal sections, respectively, of Figs. 1 and 3. Fig. 5 is a top view of a detached portion.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in combined means for adjusting the center of gravity and the balance of the graduated beam. It further consists in a poise, which is conveniently operated, and reliably engages with the notches of the graduated beam.

Referring to the drawings, A represents the graduated beam. From the fulcrum end of the beam there rise uprights B, between which is fitted a frame, C, having a vertical sliding motion on said uprights. A screw-pin, D, projects laterally from the frame C, and carries a nut or set-screw, G. H represents a piece sliding on the horizontal portion of the frame C, and in it is fitted a screw, J, whose ends are swiveled to the vertical portions of the frame C.

It will be seen that, by rotating the screw J, the slide H may be so moved horizontally as to readily adjust the balance of the beam A, and, by elevating or lowering the frame C, the center of gravity of said beam may be nicely adjusted, the frame being then held in its adjusted position by means of the screws G.

K represents a poise, consisting of two side pieces, which are adapted to straddle the beam A. Within the poise, at the upper end of the side pieces, there is journaled a roller, L, which is out of center in the direction toward the outer end of the beam A, and at the side of said

pieces, adjacent to the roller L, there is journaled a small roller, M. At the side of the poise, opposite to the roller M, there is arranged a tooth, N, which projects downwardly, and its lower end is adapted to enter the notches of the beam A.

It will be seen that, by raising the poise on the roller L as an axis, the tooth N is cleared of the beam, and the poise may be moved over the beam, the rollers M L running on the beam. When the tooth N reaches the desired notch of the beam, the hand is let go of the poise, and, owing to the eccentric arrangement of the roller L, the toothed end of the poise drops, and the tooth engages with the respective notch.

P represents the main lever, which is suspended on its fulcrum end from a chair, Q, by means of links R. This chair consists of a three-sided open frame, having on the inner faces of two opposite sides hooks or similar projections, W, on which the links or clevises R are hung, so that the fulcrum end of the main lever is located below the top, and moves in the inner space of the chair, the links R forming the means of suspension of the lever, as has been stated. The third side of the chair connects and braces the two sides from which the lever is suspended, and what would be the fourth side is open for the occupation of the main lever. Blocks S are interposed between the bottom of the links R and the fulcrum T of the lever P.

It will be seen that the blocks S are fitted loosely on the links, the fulcrum T rests freely on the blocks, and the links R hang freely on the bearing-points of the chair Q. Thus, during the vibrations of the lever P, the latter is caused to seek its center, swings freely, and is not checked short in its vibrations, whereby the lever operates reliably, and there is no strain on its parts.

I am aware that it is not new to adjust the balance and center of gravity of scales by means of a weight on a screw-rod and a number of vertical screws. I am further aware that poises have been constructed with rollers. I am also aware that chairs have been variously constructed, and links and bearing-blocks

have been used; but the several features stated are differently constructed, and do not possess the advantages herein set forth by me.

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

1. The combination, with the beam A, having uprights B B, of the frame C, constructed with the laterally-projecting pin D, the nut G, and the screw J, operating the slide H, substantially as and for the purpose set forth.

2. The combination, with the poise K, hav-

ing the tooth N and small roller M, of the eccentrically-arranged roller L, substantially as and for the purpose set forth.

3. The chair Q, constructed of an open frame, in combination with the main lever P, suspended by links or clevises R from said chair, substantially as and for the purpose set forth.

TINIUS OLSEN.

Witnesses:

JOHN A. WIEDERSHEIM,

G. S. HETHERINGTON.