(No Model.) 2 Sheets—Sheet 1.

F. L. FULLER.

INDICATING OR LIKE MECHANISM FOR PRICE SCALES OR OTHER MACHINES.

No. 603,503. Patented May 3, 1898.

Fig. 2.

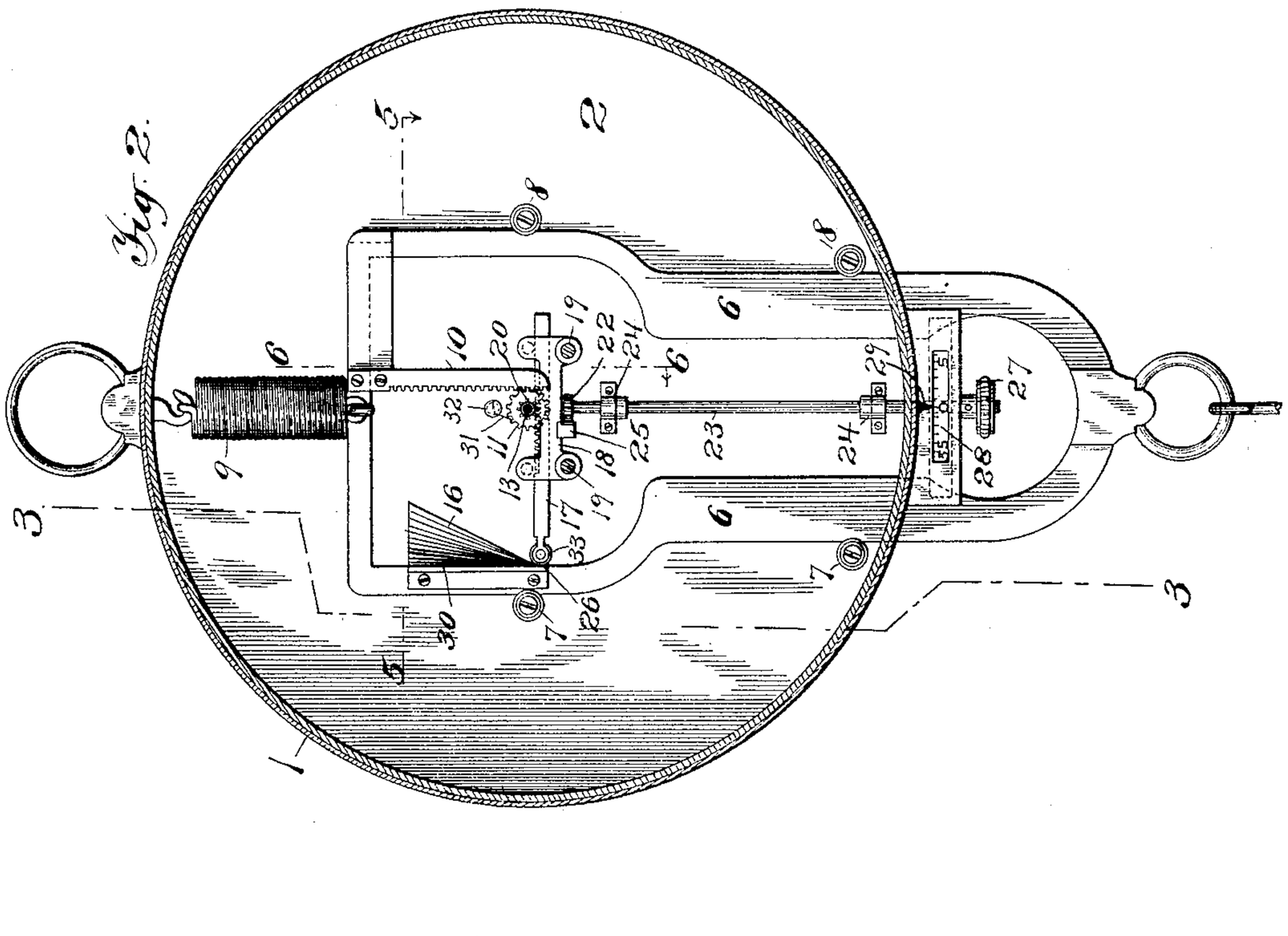
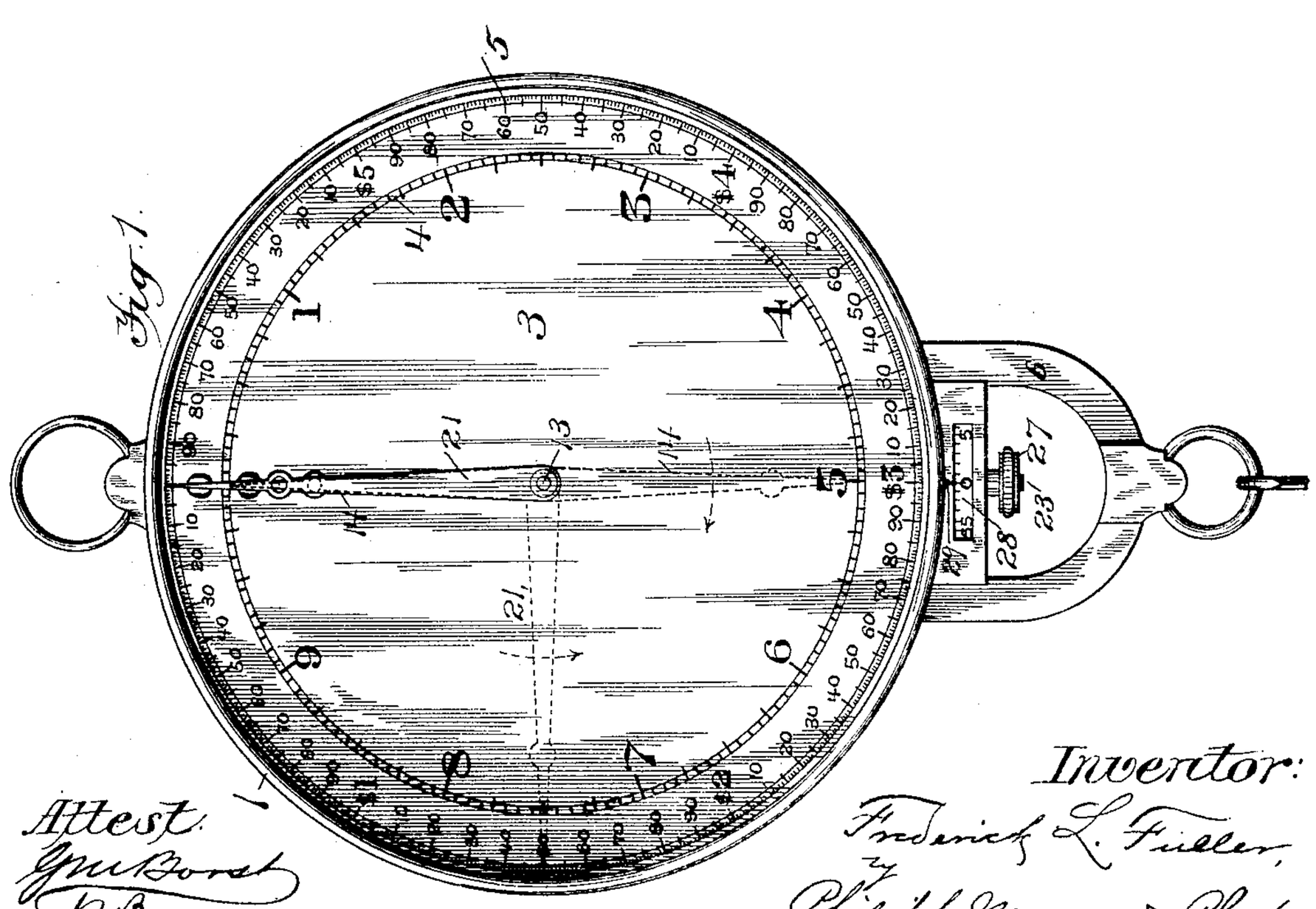


Fig. 1.



Attest.
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F. D. Bourke

Inventor:
Frederick L. Fuller,
by Philipp Munson & Sheps,
Attys

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

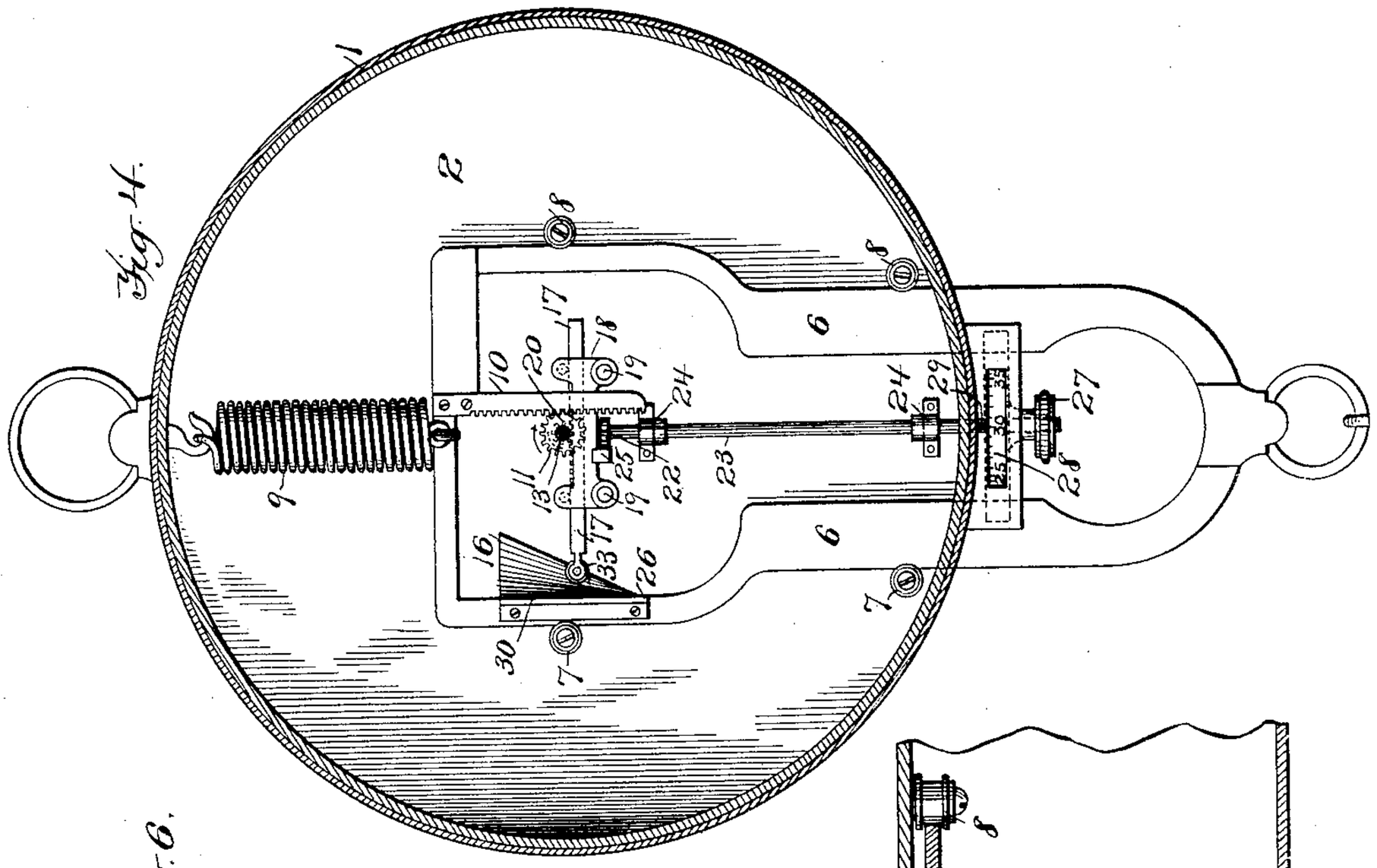


Fig. 6.

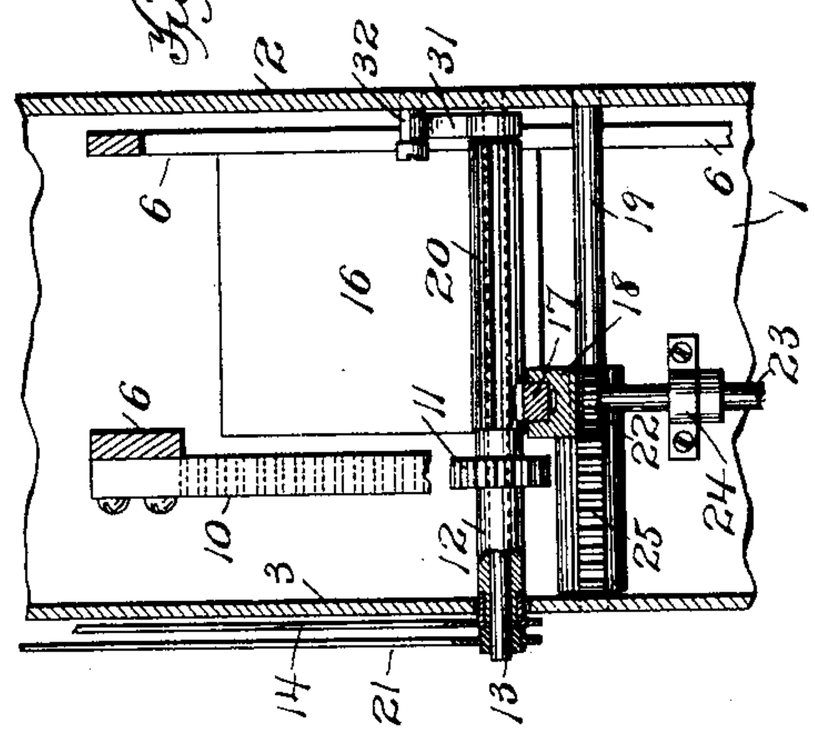


Fig. 5.

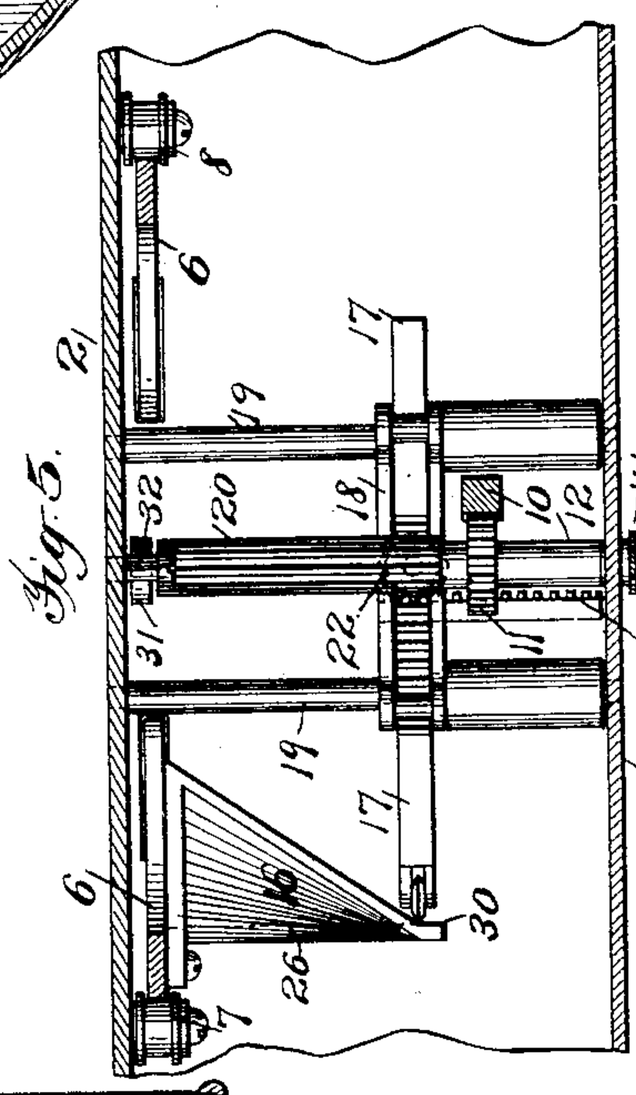
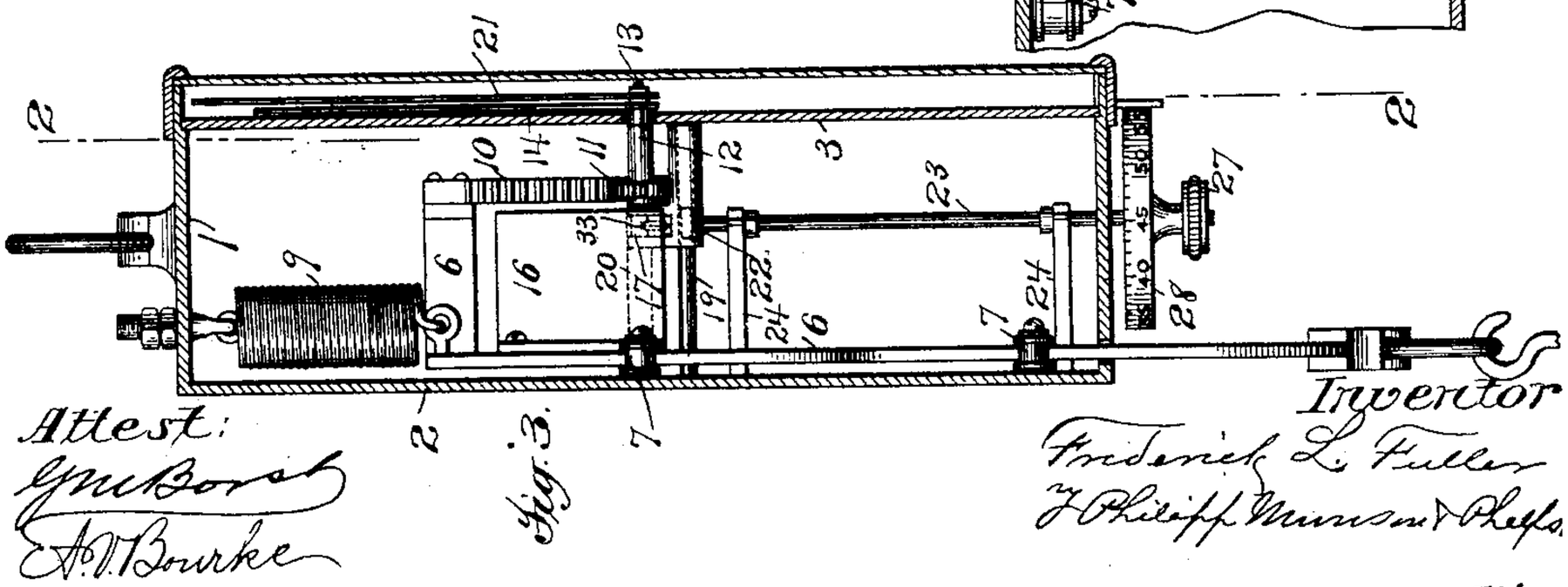


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK L. FULLER, OF TRENTON, NEW JERSEY.

INDICATING OR LIKE MECHANISM FOR PRICE-SCALES OR OTHER MACHINES.

SPECIFICATION forming part of Letters Patent No. 603,503, dated May 3, 1898.

Application filed January 5, 1897. Renewed August 9, 1897. Serial No. 647,647. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK L. FULLER, a citizen of the United States, residing at Trenton, county of Mercer, and State of New Jersey, have invented certain new and useful Improvements in Indicating or Like Mechanism for Price-Scales or other Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to improvements in indicating mechanism designed particularly for application to weighing-scales for the purpose of indicating the prices of articles weighed, it being the object of the present invention to provide mechanism of this character which shall be of simple and durable construction, having few parts, and which shall be reliable and accurate both in adjustment and operation.

Broadly the invention consists in an indicating or like mechanism for application to price-scales and other machines, comprising an inclined member for controlling the extent of its operation and a member coacting therewith, one adjustable transversely to the other, the inclination of the inclined member varying progressively in the direction of such adjustment to suit, in the case of price-scales, variations in the unit price of the articles weighed, so as to secure actuation of the indicating mechanism in accordance with such unit prices. The inclined member of the indicating mechanism is preferably, as will hereinafter appear, the actuator thereof, and the member also which is adjustable in the transverse direction is preferably the member coacting therewith.

As the improvements constituting the invention have been designed particularly for application to price-scales, in combination with which they have peculiar advantages, they have for convenience been illustrated herein and will be hereinafter described in detail in such connection, although it is to be understood that they are of general application.

In the accompanying drawings, Figure 1 is a front view of a price-scale provided with the improvements of the present invention. Fig. 2 is a sectional elevation taken on the line 2 2 of Fig. 3. Fig. 3 is a section taken on the line 3 3 of Fig. 2. Fig. 4 is a view similar to Fig. 2, showing the parts in the positions they occupy after the operation of the scale in weighing and indicating the price of the article weighed. Fig. 5 is a section on the line 5 5 of Fig. 2, and Fig. 6 is a section on the line 6 6 of the same figure.

Referring to said drawings, 1 represents the hood or frame of the scale, the rear plate 2 of which has connected to it the working parts of the weighing and price-indicating mechanism and the front plate 3 of which is provided with a plate bearing two dials 4 5, representing, respectively, pounds and fractions thereof and dollars and cents.

The weighing mechanism consists of a weighing-rod 6, vertically movable through the hood or casing between two pairs of friction-rollers 7 8, its movement in both directions being limited by stops. (Not shown.) The weighing-rod is suspended from the hood by a spring 9, secured to the rim of the hood at one end and connected to the weighing-rod at the other end, which spring holds the weighing-rod in its normal or elevated position, as shown in Fig. 2, in the usual manner. The weighing-rod is provided with a rack 10, which engages a pinion 11 upon the inner end of a sleeve 12, loosely mounted upon a shaft 13, the outer end of the sleeve being provided with a pointer 14, coacting with dial 4, to indicate the weight. The lower end of the weighing-rod is provided with the usual ring or hook, from which the article to be weighed or the pan for containing it is suspended. When the weighing-rod descends under the weight of the article being weighed, the rack 10, engaging the pinion 11, will rotate the latter, and through it the weight-pointer 14, which when the weighing-rod comes to rest will indicate upon the dial 4, in pounds and fractions thereof, the weight of the article.

The indicating mechanism consists of an inclined member 16 and a rack-bar 17, the extent of movement whereof is controlled thereby, and which in turn actuates indicating devices, which will now be referred to. The inclined member 16 in the case shown is the actuating member of the indicating mechanism, and for that reason is secured to the weighing-rod 6, and when moved thereby engages and moves the rack-bar 17, which is

mounted to slide longitudinally in a carriage 18, supported on bars 19, secured to the front and rear plates 2 3. The rack-bar 17 engages a broad pinion 20, the shaft 13 of which is provided with a pointer 21, coacting with dial 5, to indicate the price of the article weighed. The inclined member 16 is inclined longitudinally—that is, in the direction of its movement, as shown in Figs. 2 and 4—so as to move the rack-bar 17 a distance corresponding to the extent of its own movement, which depends, of course, upon the weight of the article weighed, and is also inclined transversely to such movement, as shown in Fig. 5, the inclination of the inclined member 16 thus varying progressively to suit variations in the unit prices of the articles weighed. The carriage 18 is adjustable transversely to the inclined member or actuator to position the rack-bar 17 relatively thereto in accordance with the unit price. Manually-operated means for so adjusting the carriage are provided, consisting of a pinion 22 on the upper end of a vertical rod 23, mounted to turn in brackets 24, projecting from the rear plate 2, which pinion engages a rack 25 on the sliding carriage 18, and when turned slides the latter back or forth on the rods 19, the rack-bar 17 moving with it across the horizontal plane portion 26 of the inclined member or actuator to the desired position. The lower end of the rod 23 is provided with a knob 27, extending outside the hood or casing, for turning the rod and through it the pinion 22, and also with a dial 28, representing rates per pound or ounce, or unit prices, which dial coacts with a fixed pointer 29, by which the extent of rotation of the rod 23 is regulated.

Normally the several parts occupy the positions in which they are shown in Figs. 1 to 3, 5, and 6—that is, with the rack-bar 17 in line with the plane horizontal and vertical portions 26 30 of the inclined member or actuator. With the parts in such position the scale may, if desired, be used simply for the purpose of weighing, the downward movement of the weighing-rod producing no effect upon the rack-bar 17, because the latter is in line with the plane vertical portion 30 of the inclined member 16 and out of the path of movement of the inclined portions thereof. If it be desired to indicate the cost of the article weighed, the pinion 22 will be rotated through rod 23, so as to slide the carriage 18 inwardly toward the back plate 2 until the unit price on the dial 28 of the article to be weighed registers with pointer 29. As the carriage 18 is thus slid backward, carrying with it the rack-bar 17, the latter is brought into line with gradually-increasing inclined portions of the inclined member 16. After the adjustment of the rack-bar to the proper position the article to be weighed is placed upon the hook and the rod 6 moved downwardly thereby and with it the inclined member. As the latter passes the rack-bar 17 it will move it toward the right a distance corresponding to the extent of movement of the rod 6 and to the position of the rack-bar 17 transversely to the inclined member. As the rack-bar is moved it will rotate the pinion 20 and pointer 21 in the direction indicated by the arrow in Fig. 1 to the graduation upon dial 5 representing the multiple of the weight by the unit price, or, in other words, the cost of the article weighed. If the unit price be five cents, but a slight rearward adjustment of the carriage 18 and the rack-bar 17 will be necessary. If the unit price be thirty cents, the carriage 18 will be adjusted to a transverse position, substantially as shown in Fig. 2, and if the weight be five pounds upon the downward movement of the weighing-rod 6 the pointer 14 will indicate "5" pounds and the pointer 21 "$1.50," as shown by dotted lines in Fig. 1. If the unit price be greater, the sliding carriage 18 will be adjusted still farther toward the rear, and if the unit price be less it will be adjusted toward the front plate 3. Upon the removal of the article weighed from the weighing-rod 6 the latter will be returned to normal position by the spring 9. As it is thus returned and the rack-bar 17 relieved of the pressure of the inclined member or actuator 16 said rack-bar and the cost-pointer 21 will be returned to normal or zero position by a light spring 31, wound upon the shaft 13 and secured to a stud 32 in the rear plate 2. The end of the rack-bar 17 which contacts with the inclined member or actuator 16 is preferably provided with a roller 33 to reduce friction.

The construction shown and described illustrates but one of many applications which may be made of the present invention and one of the preferred embodiments of the invention when applied to a price-scale.

It is to be understood that the invention may be applied to other uses and that changes and modifications may be made in the particular construction shown and described without departing from the invention.

What is claimed is—

1. An indicating or like mechanism comprising an inclined member and a member coacting therewith, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment, substantially as described.

2. An indicating or like mechanism comprising an inclined member and a member coacting therewith, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment, and manually-operated means for effecting such adjustment, substantially as described.

3. An indicating or like mechanism comprising an inclined member and a member coacting therewith and adjustable trans-

versely to the incline, said incline varying progressively in the direction of adjustment, substantially as described.

4. An indicating or like mechanism comprising an inclined member and a member coacting therewith and adjustable transversely to the incline, said incline varying progressively in the direction of adjustment, and manually-operated means for effecting such adjustment, substantially as described.

5. An indicating or like mechanism comprising an inclined actuator and a member actuated thereby, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment, substantially as described.

6. An indicating or like mechanism comprising an inclined actuator and a member actuated thereby, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment, and manually-operated means for effecting such adjustment, substantially as described.

7. An indicating or like mechanism comprising an inclined actuator and a member actuated thereby and adjustable transversely to the incline, said incline varying progressively in the direction of adjustment, substantially as described.

8. An indicating or like mechanism comprising an inclined actuator and a member actuated thereby and adjustable transversely to the incline, said incline varying progressively in the direction of adjustment, and manually-operated means for effecting such adjustment, substantially as described.

9. The combination with weighing mechanism, of price-computing mechanism comprising an inclined member and a member coacting therewith, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment, one of said members being movable past the other to actuate said computing mechanism in accordance with the weight of the article, substantially as described.

10. The combination with weighing mechanism, of price-computing mechanism comprising an inclined member and a member coacting therewith, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment, and manually-operated means for effecting such adjustment, one of said members being movable past the other to actuate said computing mechanism in accordance with the weight of the article, substantially as described.

11. The combination with weighing mechanism, of price-computing mechanism comprising an inclined member and a member coacting therewith and adjustable transversely to the incline, said incline varying progressively in the direction of adjustment, one of said members being movable past the other to actuate the computing mechanism in accordance with the weight of the article, substantially as described.

12. The combination with weighing mechanism, of price-computing mechanism comprising an inclined member and a member coacting therewith and adjustable transversely to the incline, said incline varying progressively in the direction of adjustment and manually-operated means for effecting such adjustment, one of said members being movable past the other to actuate the computing mechanism in accordance with the weight of the article, substantially as described.

13. The combination with weighing mechanism, of price-computing mechanism comprising an inclined actuator and a member actuated thereby, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment, said actuator being movable past the other member to actuate the computing mechanism in accordance with the weight of the article, substantially as described.

14. The combination with weighing mechanism, of price-computing mechanism comprising an inclined actuator and a member actuated thereby, said members being adjustable one relatively to the other transversely to the incline and said incline varying progressively in the direction of adjustment and manually-operated means for effecting such adjustment, said actuator being movable past the other member to actuate the computing mechanism in accordance with the weight of the article, substantially as described.

15. The combination with weighing mechanism, of price-computing mechanism comprising an inclined actuator and a member actuated thereby and adjustable transversely to the incline, said incline varying progressively in the direction of such adjustment, said actuator being movable past the other member to actuate the computing mechanism in accordance with the weight of the article, substantially as described.

16. The combination with weighing mechanism, of price-computing mechanism comprising an inclined actuator and a member actuated thereby and adjustable transversely to the incline, said incline varying progressively in the direction of such adjustment and manually-operated means for effecting such adjustment, said actuator being movable past the other member to actuate the computing mechanism in accordance with the weight of the article, substantially as described.

17. The combination with weighing mechanism, of price-computing mechanism comprising an inclined member and a member coacting therewith, said members being adjustable one relatively to the other transversely

to the incline and said incline varying progressively in the direction of adjustment, one of said members being carried by a movable part of the weighing mechanism, substantially as described.

18. The combination with weighing mechanism, of price-computing mechanism comprising an inclined actuator carried by a movable part of the weighing mechanism, and a member actuated thereby and adjustable transversely to the incline, said incline varying progressively in the direction of adjustment, substantially as described.

19. The combination with weighing-rod 6, of the inclined actuator 16, the inclination whereof varies progressively in a transverse direction, rack-bar 17, adjustable carriage 18 in which said rack-bar is mounted, and means for adjusting said carriage, substantially as described.

20. The combination with weighing-rod 6, of the inclined actuator 16, the inclination whereof varies progressively in a transverse direction, rack-bar 17, adjustable carriage 18 in which said rack-bar is mounted, means consisting of rack and pinion 25, 22 and rod 23, for adjusting the carriage, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FREDERICK L. FULLER.

Witnesses:
T. F. KEHOE,
J. J. KENNER.