No. 723,733. PATENTED MAR. 24, 1903.

J. ROLLER.

OVERWEIGHT REGISTER.

APPLICATION FILED OCT. 2, 1902.

NO MODEL.

Fig. 1.

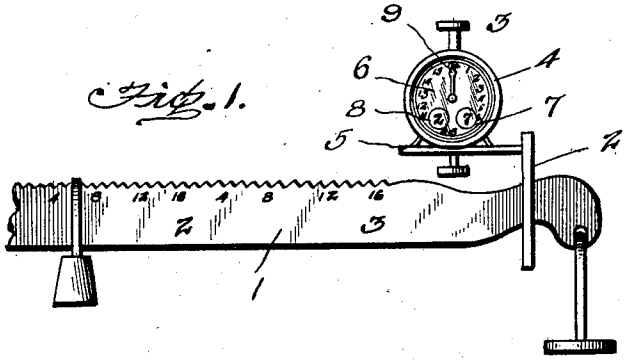


Fig. 2.

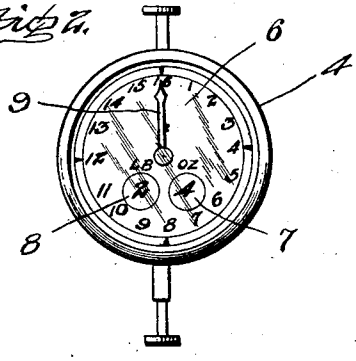


Fig. 4.

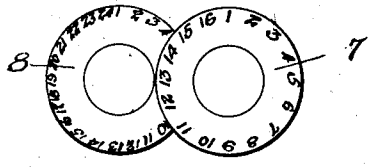
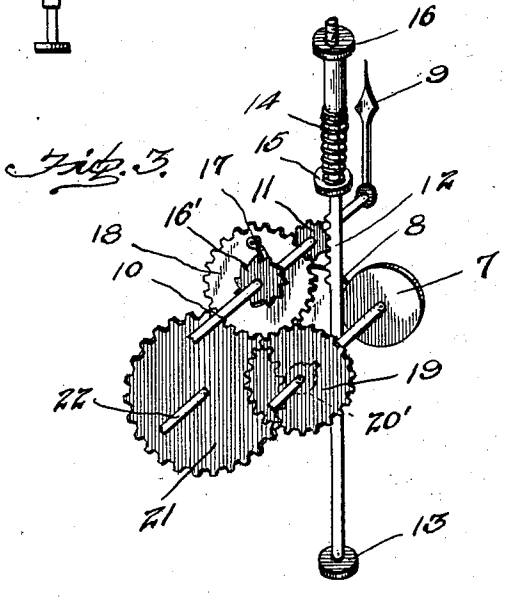


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN ROLLER, OF MANCHESTER, MICHIGAN.

OVERWEIGHT-REGISTER.

SPECIFICATION forming part of Letters Patent No. 723,733, dated March 24, 1903.

Application filed October 2, 1902. Serial No. 125,706. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROLLER, a citizen of the United States, residing at Manchester, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Overweight-Registers; and I do 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 an overweight-register attachment for scales—that is, a device for indicating in pounds and ounces the amount of goods lost in the course of a day by giving overweight from lack of care in weighing, &c.

The object of the invention is to provide a device of this character which may be applied for use in connection with any ordinary beam-scale and which is simple of construction, efficient in use, and adapted to be manufactured at a low cost.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a view showing the application of the invention for coöperation with the weight-beam of a scale. Fig. 2 is a face view of the device detached. Fig. 3 is a perspective view of the gearing. Fig. 4 is a face view of the rotating dials.

Referring now more particularly to the drawings, 1 represents the weight-beam of an ordinary pair of scales, and 2 the guide for the free end of said beam.

3 denotes the register attachment, which comprises a suitable casing 4, provided with a bracket 5 for fastening it to the guide 2 above the free end of the beam 1. The face of this casing is formed of a dial 6, provided with a circular row of numerals from "1" to "16," inclusive, designating the ounce-divisions of a pound and apertured to expose interior pound and ounce dials 7 and 8. Coöperating with the dial 6 is a hand or pointer 9, mounted rigidly upon the front end of a shaft 10, journaled in the front and rear walls of the casing. This shaft carries a fixed pinion 11, which meshes with the toothed portion of a vertically-movable rack-bar 12, provided at its lower end with a head 13, adapted to be engaged by the beam 1. The upward movement of this rack-bar imparts motion in a direction to move the hand 9 a greater or less distance around the dial 6 and is opposed by a coiled spring 14, surrounding the rack-bar between a collar 15 thereon and an adjusting-nut 16, mounted on the casing 4. When the beam 1 moves downward and out of contact with the head 13, the spring 14 restores the rack-bar to its normal position. By means of the nut 16 the spring may be adjusted to regulate the movement of the rack-bar, as occasion requires. The shaft 10 has also fixed thereto a ratchet-wheel 16′, engaged by a pawl 17 on a gear-wheel 18, loose on said shaft. The teeth of this ratchet-wheel engage the pawl and rotate the gear-wheel when the shaft is turned in one direction by the upward movement of the rack-bar, but ride over the pawl to prevent movement of said wheel when the shaft turns in the reverse direction upon the downward movement of the rack-bar to its normal position. Meshing with the gear-wheel 18 is a gear-wheel 19, fixed on a shaft 20, carrying the ounce-dial 7 and turned by the movement of said gear-wheel 18 to rotate said dial. This gear-wheel 19 is provided with a tooth or projection 20′ to operate a gear-wheel 21, fixed on a shaft 22, carrying the pound-dial 8. On each complete revolution of the gear 19 the tooth 20′ engages and turns the gear 21 a distance sufficient to bring one of the numerals on the dial 8 into view at the opening therefor in the dial 6.

Of course it will be understood that the dials 7 and 8 may be stationary and the shafts 20 and 22 be provided with hands to sweep around the same, if desired.

The operation is as follows: The free end of the beam 1 has a limited range of movement when an approximate weighing balance is made; but when the scale pan or plate is overweighted and overbalances the beam the latter swings up to a greater or less extent beyond this range and engages the head 13 and forces the rack-bar 12 to a corresponding extent up into the casing 4, whereby a

greater or less degree of rotation is imparted to shaft 10, which through the medium of the pawl and ratchet and gear 18 will transmit motion to the gear 19 and shaft 20, by means of which the dial 7 and hand 9 will be simultaneously actuated to indicate the overweight in ounces, the one for permanent or progressive indication and the other for temporary indication or inspection. Thus as the beam vibrates to a greater or less extent the amount of the overweight in ounces will be registered at the front of the casing 4. Upon the down movement of the beam and the release of the same from engagement with the head 13 the spring 14 will force the rack-bar 12 back to its normal position and reset the device for further operation. When the gear 19 has made almost a complete revolution indicating fifteen ounces overweight, a further upward movement of the rack-bar 12 will transmit motion thereto to bring the tooth 25 into engagement with one of the teeth of gear 21, thereby turning the dial to expose the numeral "1" thereon, indicating a total overweight register of one pound, and if during this movement the overweight of material in the scale-pan should be more than one ounce a further rotation of the gear 19 would be produced and cause the numeral "1" on the dial 7 to be exposed, thus indicating that during a prescribed time one pound and one ounce of material has been lost by overweight. It will therefore be seen that the device not only indicates the overweight at each weighing operation, but registers the total overweights, so that the total amount of goods or materials lost during the course of a day may be readily ascertained.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. An overweight-registering attachment for scales, comprising a casing, indicating means, a train of gearing for operating said indicating means, a rack-bar adapted to be operated by the scale-beam to transmit motion to said gearing, a spring for retracting the bar, and means for regulating the resistance of said spring, substantially as set forth.

2. An overweight-registering attachment for scales, comprising a casing, indicating means, a train of gearing for operating said indicating means, said gearing including an operating-shaft and an operating-gear loose thereon, a pawl and ratchet for turning the gear when the shaft turns in one direction, and a rack-bar engaging a pinion on the shaft to turn the same, substantially as shown and described.

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

JOHN ROLLER.

Witnesses:
F. M. FREEMAN,
ELIZABETH L. NESTELL.