

D. C. STAUFFER.

SCALE.

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Patented Dec. 14, 1909.

942,945.

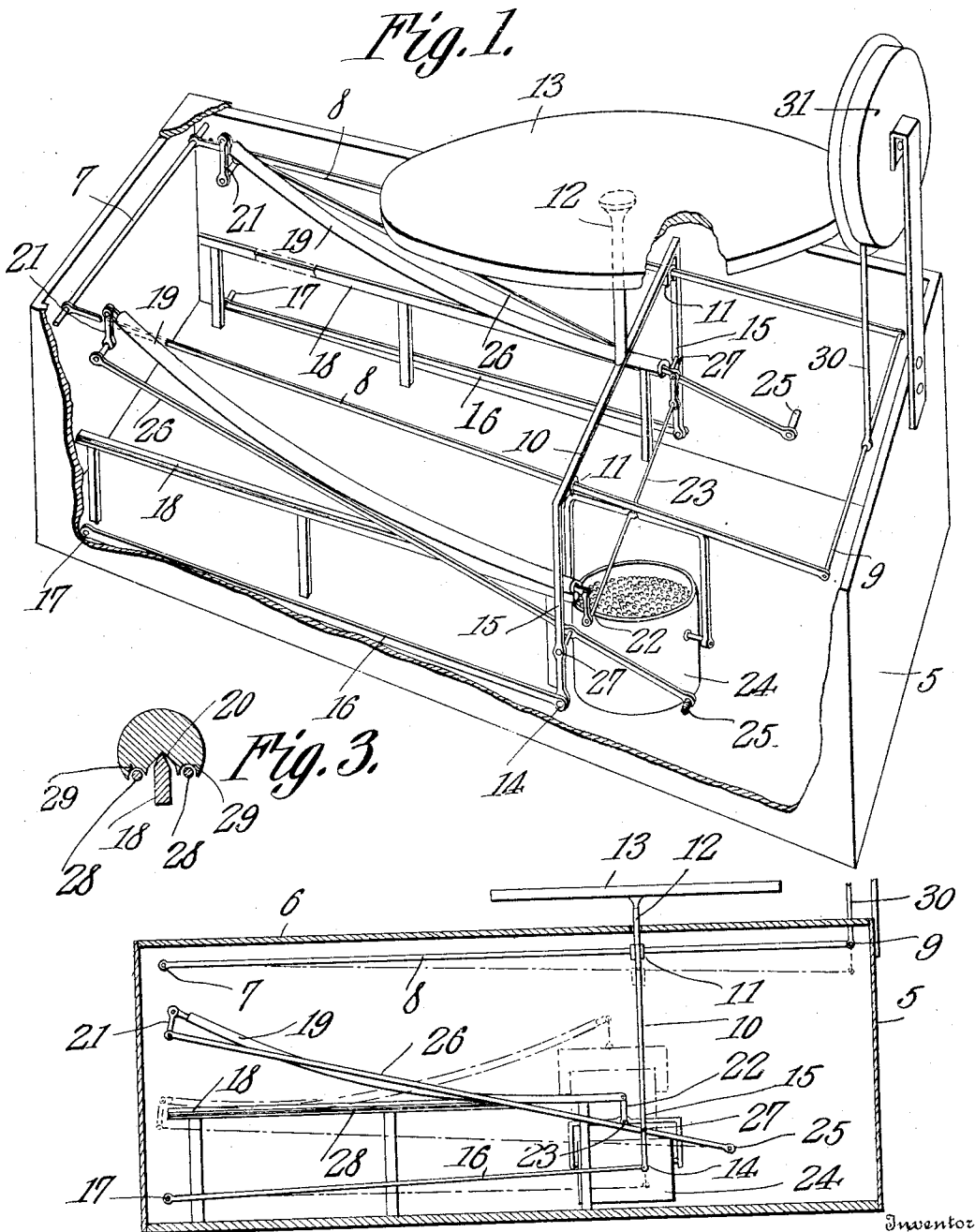


Fig. 2.

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Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL C. STAUFFER, OF CANTON, OHIO.

SCALE.

942,945.

Specification of Letters Patent.

Patented Dec. 14, 1909.

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To all whom it may concern:

Be it known that I, DANIEL C. STAUFFER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Scale, of which the following is a specification.

This invention relates to weighing scales and has for its object to provide a scale, the several parts of which are nicely balanced, thereby to insure the accurate weight of a commodity.

A further object of the invention is to provide a balance scale employing a pair of rocking bars having their outer ends connected with the load supporting bars, and their inner ends provided with a balance weight so that when a load is placed on the platform of the scales a rocking movement will be imparted to said rock bars, and thereby elevate the weight.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification:—Figure 1 is a perspective view of a balance scale constructed in accordance with my invention, part of the casing or housing being broken away to more clearly show the operating mechanism. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail sectional view showing the manner of supporting the rocking bars on the track.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The operating mechanism of the scale is housed within a suitable receptacle or casing 5 of any desired shape or contour, the latter being provided with a removable cover 6 so that access may be readily had to the interior of the casing when it is desired to repair or replace any of the parts of the operating mechanism. Extending transversely across the casing at one end thereof is a stationary shaft 7 on which are pivotally mounted for rocking movement the longitudinal arms 8 of a tilting frame 9.

Disposed in spaced relation to the for-

ward end of the casing 5 is a yoke 10 which spans the pivoted frame 9 and is provided with depending curved bearings or clips 11 adapted to rest on the adjacent longitudinal bars 8, as shown. Extending vertically from the yoke 10 is a stem 12 which projects through an opening in the cover 6 and to the upper end of which is secured a platform 13. Pivotally connected at 14 to the opposite legs 15 of the yoke are longitudinal bars 16, the opposite ends of which are pivotally connected at 17 to the adjacent side walls of the casing 5, which bars serve to assist in steadying the platform 13.

Disposed within the casing 5 are spaced longitudinally disposed tracks 18 on which are mounted for tilting movement longitudinally curved rock bars 19 having their lower faces provided with substantially V shaped sockets 20 adapted to receive the correspondingly spaced upper longitudinal edge of the adjacent tracks 18. Pivotally connected to the outer end of each rock bar 19 is a crank arm 21, while the inner end of the rock bar is connected through the medium of a link 22 with a transverse bar 23 from which is suspended a counter-balance or weight 24.

Pivotally mounted at 25 on the side walls of the casing 5 are load carrying bars 26 having their opposite ends pivotally connected with the crank arms 21 and their intermediate portions pivotally connected at 27 to the yoke 10 so that the weight of a load on the platform 13 will depress the yoke 10 and through the medium of the connections 27 move the rock bars 19 and crank arms 21 to the dotted line position shown in Fig. 2 of the drawings and in doing so elevate the counter balance or weight 24.

In order to prevent longitudinal movement of the rock bars 19, suitable tension rods or wires 28 are provided, a pair of tension wires being preferably employed for each rocking bar. One of the tension rods of each pair is secured at one end to the outer end of the adjacent track, while the other end of said tension rod or wire is secured to the inner end of the rocking bar, the other tension rod or bar of said pair being arranged in reverse order, that is to say, with its inner end secured to the inner end of the track and with its outer end secured to the outer end of the rock bar. Thus it will be seen that the rock bars 19 are locked against longitudinal displacement,

while at the same time permitted to rock freely on the track 18, there being a longitudinal groove 29 formed in the lower longitudinal edge of each rocking bar on opposite sides of the V shaped groove 20 for the reception of the tension rods or wires, as best shown in Fig. 3 of the drawings.

Extending vertically from the free end of the tilting frame 9 is a rod or stem 30, the upper end of which is connected with an indicator 31 of any approved construction so that when the frame 9 is tilted by the weight of a load on the platform 13, said weight will be registered on the dial or indicator 31. Thus it will be seen that on the downward movement of the platform 13, the weight of the load will be exerted on the pivots 27, and the load carrying bars 26 being pivoted at 25 to the casing, the rear ends of said bars together with the rock bars 19 will be moved downwardly to the dotted line position shown in Fig. 2 of the drawings, while the forward ends of the rock bars will be tilted upwardly on the tracks 18 so as to elevate the counter weight 24 and thus effectually balance the scales. When the load is removed from the platform the counter-balance or weight 24 will automatically return the several parts to the full line position shown in Fig. 2 of the drawings.

From the foregoing description it is thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:—

1. A scale including a pivoted frame, a platform resting on the pivoted frame, load supporting bars operatively connected with the platform, rocking bars each having one end thereof connected with the load supporting bars, a transverse bar connecting the opposite ends of the rocking bars, a counter-balance suspended from the transverse bar, an indicator, and means carried by the pivoted frame for operating the indicator.

2. A scale including a pivoted frame, a yoke supported on said frame, a platform carried by the yoke, load supporting bars pivotally connected with the yoke, rocking bars operatively connected with the load supporting bars, a counter-balance carried by the rocking bars, an indicator, and means carried by the pivoted frame for operating the indicator.

3. A scale including a platform, a track having a knife edge, a longitudinally grooved rocking bar mounted for tilting movement on the track and having a V shaped socket formed therein for the reception of the knife edge of said track, a weight supporting bar operatively connected with the platform and rocking bar, and tension

wires seated in the longitudinal grooves and connecting the opposite ends of the rocking bar with said track for preventing accidental displacement of the rocking bar.

4. A scale including a platform, a track, a rocking bar mounted for tilting movement on the track and provided with spaced longitudinally disposed grooves, a load supporting bar operatively connected with the platform, and rocking bar, respectively, and tension wires extending between the opposite ends of the track and the rock bar and seated in the longitudinal grooves of the latter.

5. A scale including a platform, a pivoted frame, a yoke extending transversely across the frame and provided with bearings for the reception of the pivoted frame, spaced tracks, rocking bars mounted for tilting movement on said tracks, a transverse bar connecting the forward ends of the rocking bars, weight supporting bars pivotally connected with the rear ends of the rock bars and having their forward ends pivotally mounted on a support and their intermediate portions connected with the yoke, a weight suspended from the transverse bar, and an indicator operable from the pivoted frame.

6. A scale including a casing, load supporting bars pivotally mounted on the casing and having their free ends provided with crank arms, spaced tracks, rocking bars mounted for tilting movement on the tracks and operatively connected with the crank arms, a counter-balance carried by the rocking bars, a yoke pivotally connected with the load supporting bars, and a platform carried by the yoke.

7. A scale including a casing, a pivoted frame arranged within the casing, a yoke provided with clips adapted to embrace the pivoted frame, a platform carried by the yoke, spaced tracks, rocking bars pivotally mounted for tilting movement on the tracks, a transverse bar connecting the free ends of the rocking bars, crank arms secured to the outer ends of the rocking bars, a weight supported by the transverse bar, load supporting levers having their forward ends pivotally connected with the casing and their outer ends connected with the crank arms, there being a pivotal connection between each load supporting arm and the yoke, longitudinal bars pivotally connected with the casing and with the adjacent ends of the yoke, an indicator, and a rod carried by the pivoted frame for operating the indicator.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DANIEL C. STAUFFER.

Witnesses:

J. M. BERGOLL,
GEO. B. MILLER.