

G. WALKER.
SPRING SCALE.
APPLICATION FILED MAR. 4, 1912.

3 SHEETS--SHEET 1.



S. H. Clarke
Roger Edwards.

Inventor

George Walker
By Louis W. Schmidt
Atty.

1,041,208.

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3 SHEETS-SHEET 2.

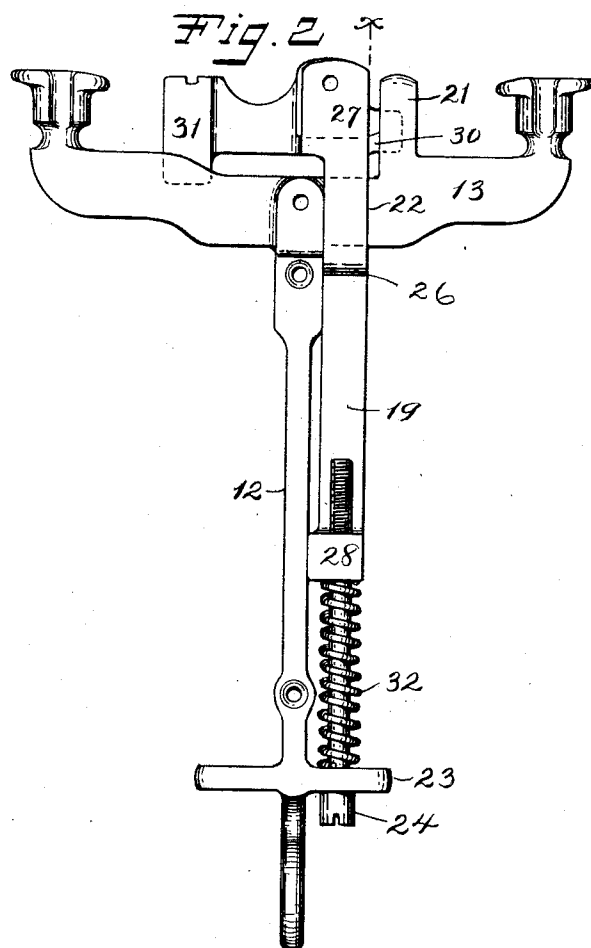


Fig. 3

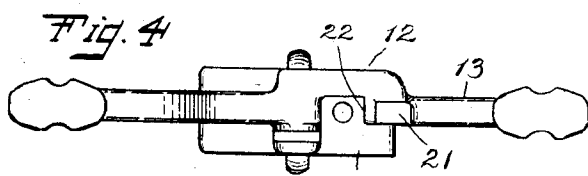
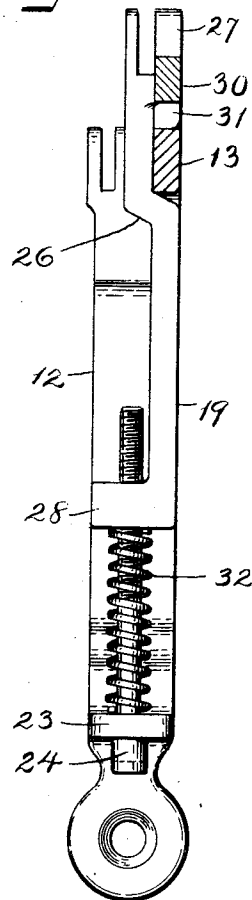
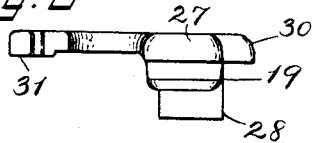


Fig. 5



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Fig. 6

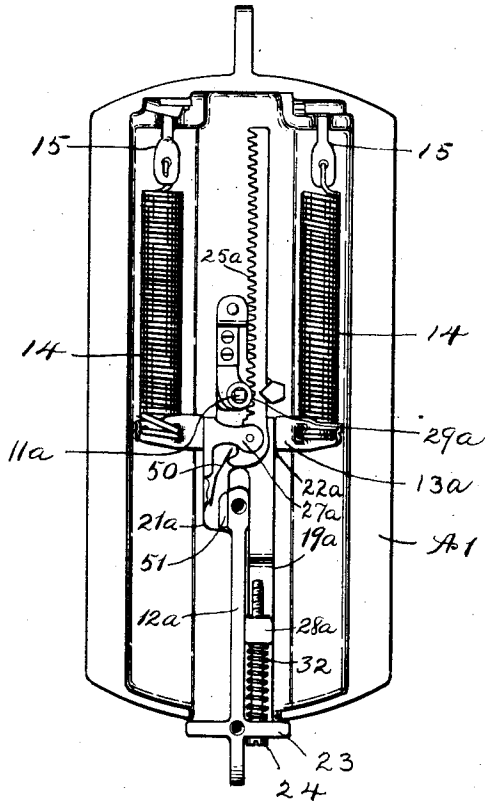


Fig. 7

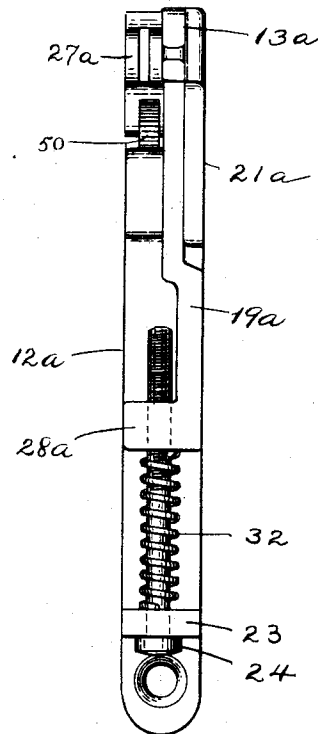
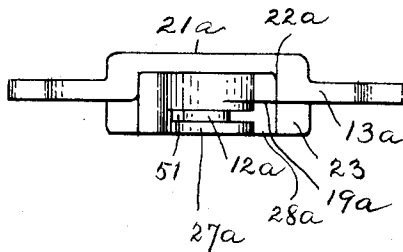


Fig. 8



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UNITED STATES PATENT OFFICE.

GEORGE WALKER, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO LANDERS, FRARY & CLARK, OF NEW BRITAIN, CONNECTICUT, A CORPORATION.

SPRING-SCALE.

1,041,208.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed March 4, 1912. Serial No. 681,492.

To all whom it may concern:

Be it known that I, GEORGE WALKER, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Spring-Scales, of which the following is a specification.

My invention relates to improvements in spring scales, and the main objects of my improvement are simplicity and economy in construction with convenience and efficiency in use.

In the accompanying drawing:—Figure 1 is a rear elevation of my scale with the dial and pointer removed. Fig. 2 is an enlarged front elevation of the draw-bar and tare adjusting slide screw and spring, as detached from the other parts of the scale. Fig. 3 is a sectional elevation of the parts shown in Fig. 2 the section being made on the line *x* of said Fig. 2. Fig. 4 is a plan view of the draw-bar. Fig. 5 is a plan view of the tare slide. Fig. 6 is a front elevation of a modification of my invention as applied to a different style of spring scale, and on the same scale for size as in Fig. 1. Fig. 7 is an enlarged side elevation or edge view of the draw-bar, tare slide and screw belonging to the scale shown in Fig. 6. Fig. 8 is a plan view of the said draw bar and slide.

A designates the frame of the case having the partial front 9 upon which to place the different parts, including the bracket 10 for supporting the ordinary pinion shaft 11, to the opposite ends of which shaft ordinary pointers may be mounted in connection with front and rear dials not shown. The draw bar 12 is provided at its upper end with a cross head 13 to the outer ends of which ordinary counter balancing springs 14 are connected, the upper ends of the said springs being connected by means of adjusting studs 15 to the frame A. The lower end of the draw-bar is provided with ordinary means for supporting a load as for example the hook 16. If desired a pneumatic cylinder 20 may be fixed on the frame for use in connection with a piston, not shown, placed on the upper end of the piston rod 17, the lower end of which piston rod is pivotally secured to the draw bar by a pin 18. The parts so far described are made in accordance with my Patent No. 979,611

Dec. 27, 1910, for spring scales and in connection therewith I employ a tare adjusting slide 19 similar to that disclosed in the said patent, but of an improved form and construction, while retaining the same type of adjusting screw, located to one side of the draw bar with its small head accessible from the outside of the case near the lower end of the draw-bar.

The cross head 13 is vertically recessed at its front side a little to the right of the body of the draw-bar and is also provided with an upright post or guide 21 which stands a little to the right of the said open vertical recess 22 in the front of the cross head 13. The cross bar 23 near the lower end of the draw bar has one of its ends or wings perforated for the reception of a slide adjusting screw 24. The slide for the adjustment of the rack 25 relatively to the draw bar may be called the tare adjusting slide 19. The upper end of this slide is provided with a slotted and perforated block 27, within which to pivot the lower end of an ordinary rack 25 for engaging the pinion 29 on the pinion shaft 11 in the ordinary manner. From the said block 27 a lug or wing 30 extends toward the right for engaging the rear side of the post or guide 21, while a laterally and downwardly extended arm 31 has its lower end arranged to bear against and slide vertically upon the rear side of the cross head as best shown in the rear elevation Fig. 1. That portion of the tare slide immediately below the block 27 is fitted to slide vertically in the open recess 22 at the front of the cross head. Below the cross head, the slide 19 is offset to form a shoulder 26 and to carry its body to the rear of the nut 28 at its lower end so that the adjusting screw 24 may pass upwardly from the said nut in front of the body of the slide. A spring 32 surrounds the body of the screw with one end pressing on the top of the cross bar 23 and its other end pressing upon the under side of the nut 28 with a constant tendency to force the slide upwardly as far as the head of the screw will permit.

After the parts are fitted the slide may be properly placed on the draw bar by taking hold of the nut 28, then place the upper portion of the body of the slide within the recess 22 while the slide slants obliquely downward toward the front. Then pull the slide downwardly until the parts come into

engagement with the cross head and then carry the nut and lower end of the slide rearwardly until the slide comes into its proper position parallel with the draw bar and the parts 30 and 31 bear on the rear of the cross head and its post 21. The spring 32 and screw 24 may then be put in place and the slide will be properly held and guided for its intended longitudinal movement on the draw bar.

In Figs. 6, 7 and 8 a different style of scale is shown with a somewhat modified form of tare slide. A¹ designates the case 14 the counter balancing springs and 15 the adjustable studs by which the upper ends of the said springs are secured to the said case. The lower ends of the springs are connected with the ends of the cross head 13^a of the draw bar 12^a. The lower end of the draw bar has the same cross bar or wing 23 as in the construction first described, the same being drilled for receiving the same adjusting screw 24 in the same relation to the other parts, particularly to the spring 32 and nut 28^a at the lower end of the modified tare slide 19^a. The cross head 13^a is provided with a middle vertical recess 22^a on its front side and the wall back of this recess is extended downwardly in the form of a plate 21^a. The nut 28^a and lower end of the slide 19^a are the same as before described. The upper end is wide enough to fit and fill the open recess 22^a in the cross head for sliding vertically therein and also bears a slotted and perforated block 27^a within which to pivot the rack 25^a for engagement with the pinion 29^a on the pinion shaft 11^a, the said rack being held in engagement therewith by a spring 50 fixed on the slide in connection with a lug 51 at that side of the body of the draw bar which is opposite the main portion of the slide and its nut, the upper end of the slide being vertically slotted for a short distance to admit the upper end of the central or middle portion of the draw bar. After the parts are thus constructed and fitted, the slide may be placed in position with its upper end in the open recess in the draw bar and then secured in place for moving vertically on the draw bar by the insertion of the screw 24.

After the parts are assembled the general

operation and use is the same as in my aforesaid patent, but the construction differs therefrom in its arrangement and combination with particular reference to constructing and mounting the tare slide in a less expensive manner, and mainly of parts that may be cast and require but little fitting. The lower end of the slide extends downwardly to a point below the middle of the length of the draw bar and is in part guided by bearing against the side of the draw bar at its lower end while the adjusting screw may pass wholly through the nut and extend upwardly in front of the body of the slide.

I claim as my invention:—

1. In spring scales, a draw bar having an upright middle portion, a cross head at the upper end of said draw bar, said cross head being provided with an open recess at one side face, and a cross bar at the lower end of said draw bar, in combination with a tare adjusting slide having a portion near its upper end fitted to and sliding within the said open recess of the cross head while its body extends downwardly along side of the middle upright portion of the draw bar and is provided with a nut at its lower end, and a screw extended upwardly through one wing of the said cross bar into the said nut at the lower end of the said slide.

2. In spring scales, a draw bar having a cross head at its upper end provided with an open recess in one side face and an upwardly extended guide post to one side of the said recess in combination with a tare slide and screw, the said slide having a portion near its upper end fitted to the said open recess for sliding therein, a rack receiving block above the said portion, a guide wing or lug bearing against one vertical face of the said upwardly extended guide, and having also a laterally and downwardly extended arm for engaging one side face of the said cross head, the said slide extending downwardly along one side of the draw bar and provided with a nut at its lower end.

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Witnesses:

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