

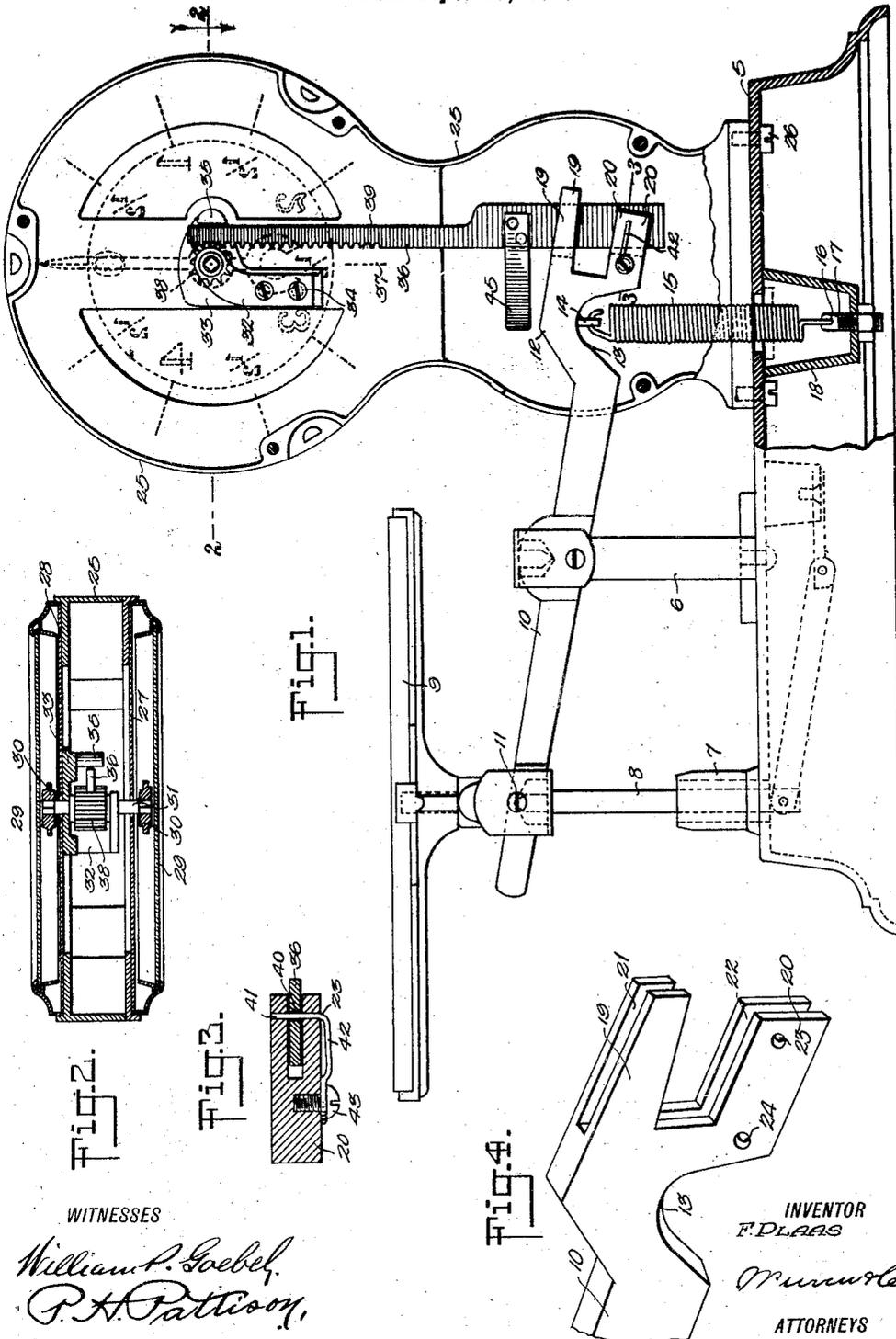
Nov. 18, 1924.

1,516,405

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SCALE CONSTRUCTION

Filed Sept. 24, 1923



WITNESSES

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SCALE CONSTRUCTION.

Application filed September 24, 1923. Serial No. 664,542.

To all whom it may concern:

Be it known that I, FRED PLAAS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Scale Construction, of which the following is a full, clear, and exact description.

The present invention relates to new and useful improvements in scales, and it pertains more particularly to scales of the spring type.

It is one of the objects of the present invention to provide a new and improved beam and operating member for scales of the dial-and-pointer type.

It is a further object of the invention to provide a new and improved means for connecting the operating member to the scales beam.

It is a still further object of the invention to construct a scales beam in such a manner that the operating member is positively guided in its movement, such operating member having free movement about its pivotal point.

With the above and other objects in view, reference is had to the accompanying drawings, in which—

Figure 1 is a view partly in elevation and partly in section, of a scales constructed in accordance with the present invention;

Fig. 2 is a horizontal view taken on the line 2—2 of Fig. 1;

Figure 3 is a detail sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a detail perspective view of one end of the scales beam.

Referring more particularly to the drawings, the reference character 5 designates a base, and carried by the base there is a standard 6. The base is also formed with a guide 7, and movable in the guide 7 there is a standard 8, upon the upper end of which is mounted the scales pan 9. Pivotaly mounted on the standard 6, there is a beam 10 and such beam is connected, as at 11, to the standard 8 of the scales pan 9. This beam has an offset end portion 12, notched as at 13, and mounted in the notched portion 13 there is an eye or the like, 14, to which is secured a spring 15. The other end of the spring 15 is connected, as at 16, to a bolt 17, adjustably mounted in the housing 18 carried by the scales platform 5. The end of the scales beam 10 to which the spring 15 is attached, is forked providing

two members 19 and 20, and each of the members 19 and 20 is provided with a slot 21 and 22, respectively. The forked member 20 is provided with an opening 23 extending entirely therethrough, and a second opening 24, the latter being internally screw-threaded.

The reference character 25 designates a housing comprising two parts, and such housing is secured to the base 5 by bolts or the like, 26. The upper end of the housing is substantially circular in form, and mounted on the opposite sides thereof are two dials 27 and 28. These dials are covered by means of glass plates 29, and movable over the dials are indicating pointers 30. These pointers 30 are mounted upon a shaft 31, and such shaft is mounted in a bracket 32 secured to a frame 33 by means of screws or the like, 34. Spaced with respect to the bracket 32 and formed as an integral part of the frame 33, there is a lug 35, the purpose of which will be hereinafter described.

The reference character 36 designates a rack bar, and such rack bar has teeth 37 which are adapted to mesh with a gear 38 mounted upon the shaft 31. The rack bar has a smooth rear side 39 adapted to engage the lug 35, which lug forms a guide for the rack bar and serves to maintain the teeth of said rack bar in engagement with the gear 38. The rack bar 36 heretofore mentioned is pivotally mounted within the member 20 of the forked end of the scales B, and, as more clearly shown in Fig. 3, the rack bar has an opening 40, through which passes the right-angular end 41 of a pivot member 42, it being understood that this right-angular end 41 of the pivot member 42 passes through the openings 23 in the member 20 of the forked end 10 of the scales B. This pivot member 42 is secured to the scales B by means of a screw or the like, 43, which has threaded engagement with the interiorly screw-threaded opening 24. The rack bar projects upwardly and lies within the slot 21 of the member 19 of the forked end of the scales B, as more clearly shown in Fig. 1, and such member 19 forms a guide for the rack bar and aids the member 20 in maintaining the rack bar at all times in true vertical position.

Rigidly secured to the rack bar 36 there is an arm 45, which serves as a weight to steady the rack bar 36 in its movement.

As the scales operate and the scales beam 10 is rocked about its pivotal point on the

standard 6, the rack bar will be reciprocated vertically, and through the medium of its teeth, will drive the gear 38, and through the medium of the shaft 31, the pointers 30 will
 5 move relative to their respective dials to give a reading of the operation of the scales.

From the foregoing it is apparent that the present invention provides a new and improved form of scales in which the operating member which is in the form of a rack bar, is maintained at all times in true vertical position and in engagement with the several parts which are adapted to function by the action thereof.

15 What is claimed is:

1. In a scales, a scale beam having a vertically slotted and transversely bifurcated end, and a rack bar pivotally mounted in the vertical slots of the furcations of said
 20 bifurcated end.

2. In a scales, a scale beam having a forked end, each of the members of which forked end is slotted vertically, a rack bar pivotally mounted in the slot of one of the
 25 members of the forked end, and occupying a position in the slot of the other member of the forked end to guide the rack bar in

its pivotal movement relative to the scale beam.

3. In a scales, a scale beam, a rack bar 30 pivotally mounted in the scale beam, said rack-bar-mounting means comprising a screw carried by the scale beam, a slot formed in the end of the scale beam and in which the rack bar is mounted, alined per- 35 forations formed in the side walls of said slot, a perforation formed in the rack bar and adapted to aline with the aforementioned perforations, and a pivot member 40 carried by said screw and extending parallel with the scale beam and having a right-angular end projecting through the alined perforations in the scale beam and the rack bar.

4. In a scales, a scale beam having a 45 forked end, alining slots formed in each member of the forked end of the scale beam, and an indicator operating member pivotally mounted in the slot of one of the mem- 50 bers of said forked end and having sliding movement in the slot of the other member of the fork to provide a guide for the indicator operating member.

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