April 19, 1927. 1,624,995

W. F. STIMPSON

SCALE

Filed Dec. 11, 1922 3 Sheets-Sheet 1

Fig. 1.

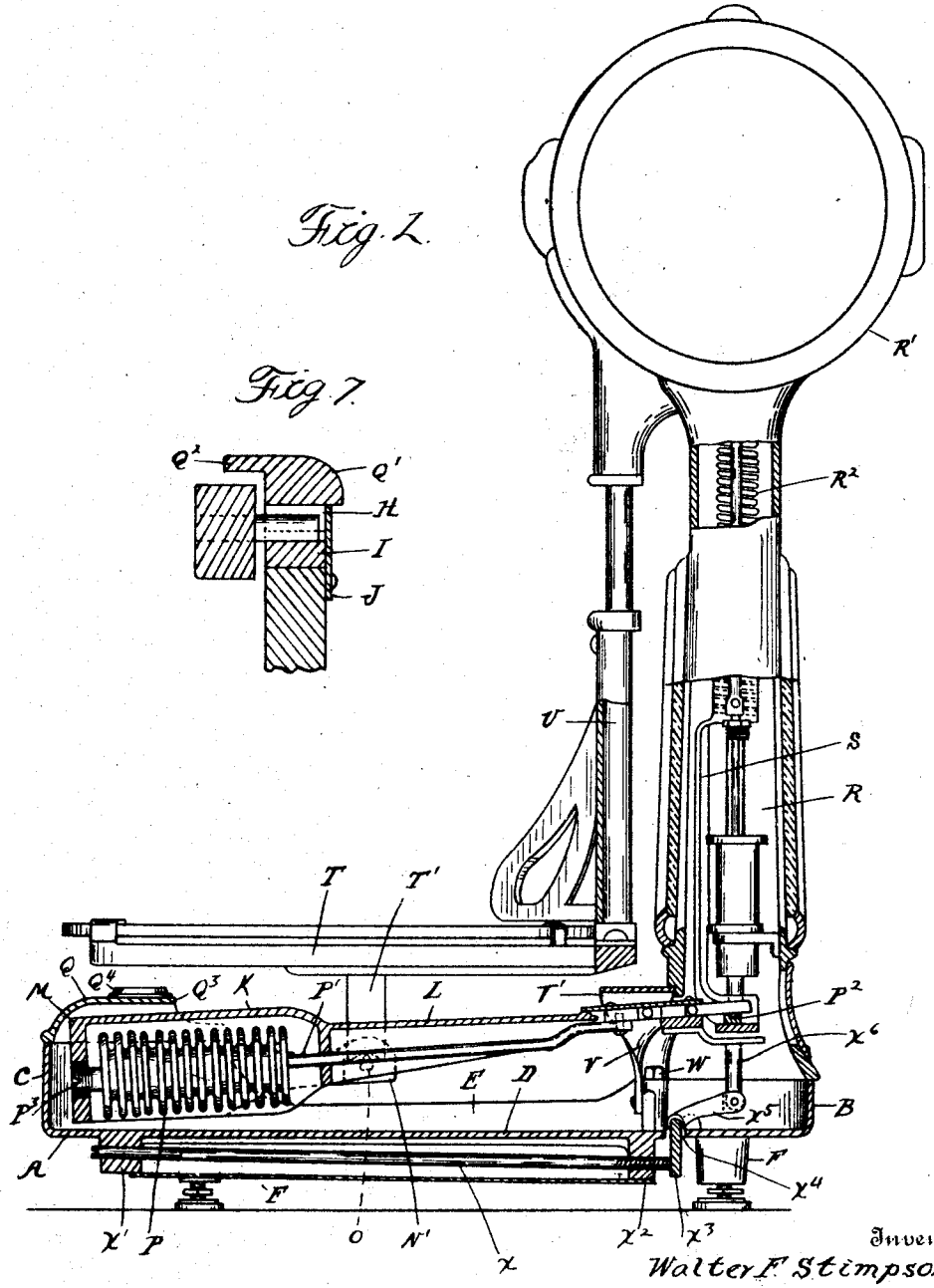


Fig. 7.

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Fig. 2.

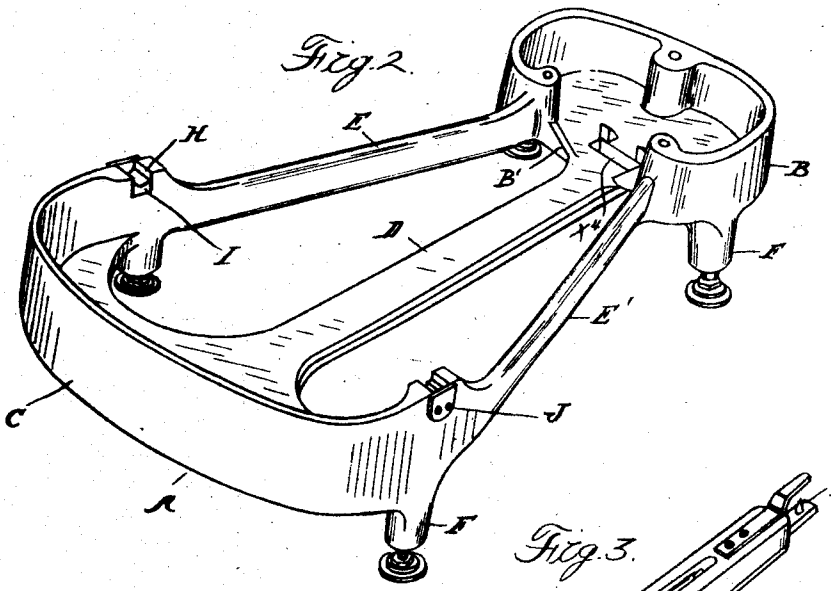


Fig. 3.

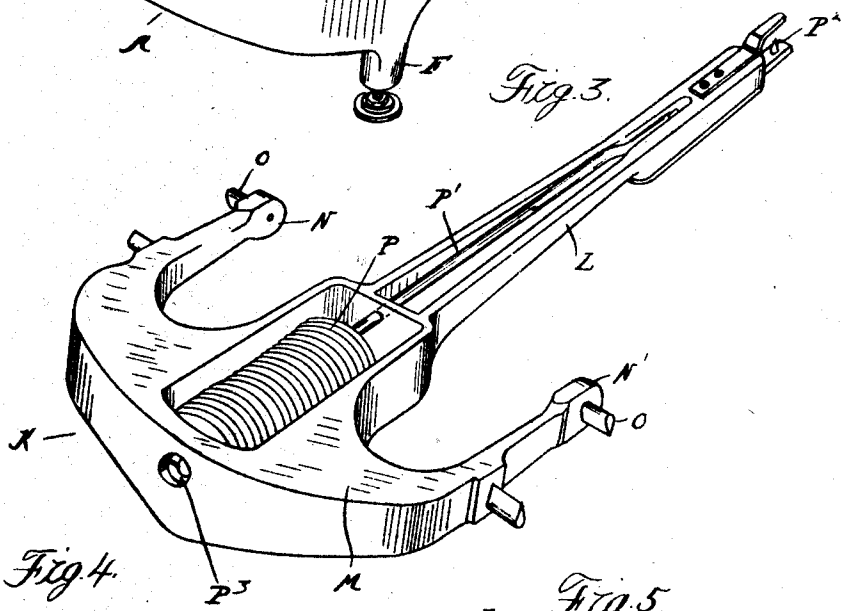


Fig. 4.

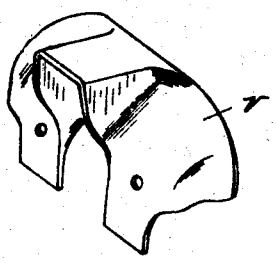
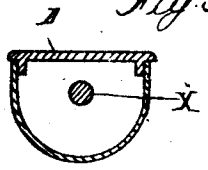


Fig. 5.



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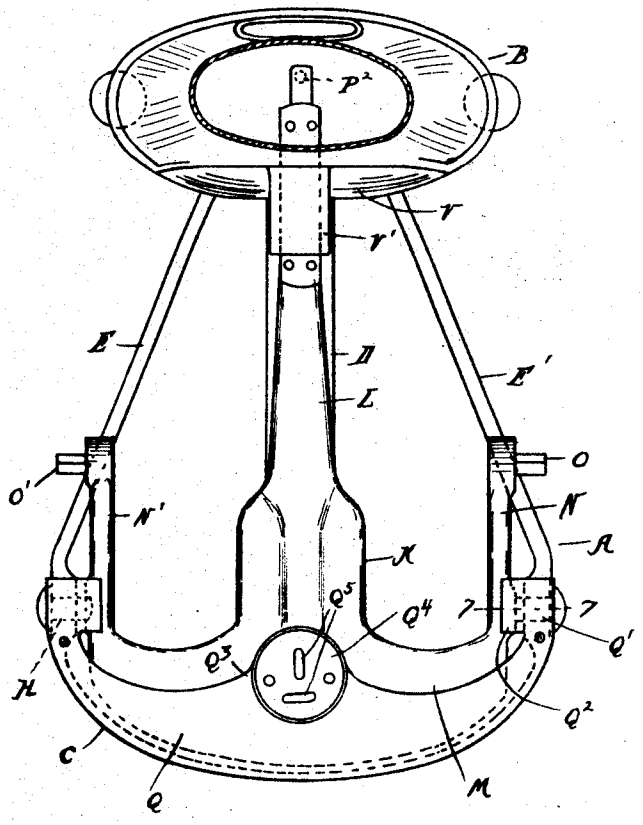
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Fig. 6.



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Patented Apr. 19, 1927. 1,624,995

UNITED STATES PATENT OFFICE.

WALTER F. STIMPSON, OF LOUISVILLE, KENTUCKY.

SCALE.

Application filed December 11, 1922. Serial No. 606,189.

The invention relates to scales and more particularly to the type known as automatic counter scales. It is the primary object of the invention to simplify and cheapen the construction and at the same time to obtain various other advantages, as reducing the space occupied and provision for cleaning the counter beneath the scale base. The invention therefore consists in various features of construction as hereinafter set forth.

In the drawings:

Figure 1 is a vertical longitudinal section through the scale, being partly in elevation.

Figure 2 is a perspective view of the base detached;

Figure 3 is a perspective view of the platform lever viewed in reverse position;

Figure 4 is a perspective view of the cap or cover plate for the base of the hollow column;

Figure 5 is a cross-section through the central bar of the base and housing for the adjustment rod;

Figure 6 is a plan view;

Figure 7 is a section on line 7—7 of Fig. 6.

The type of scale to which my improvements are applied is usually constructed with a base section for enclosing the platform lever, a hollow column rising from one end of the base and housing the steelyard rod and the weighing springs or weights, and an indicator at the top of the column actuated by the mechanism therein. To simplify the construction I have substituted for the usual form of hollow base a skeleton frame which rigidly connects the fulcrum bearings for the weighing lever with the base of the hollow column, but which is cut away so as to permit of cleaning the counter beneath the base and also exposing the platform supporting lever. This not only simplifies the construction of the base itself, but also facilitates assembly, reduces the space occupied and produces a novel and pleasing appearance.

In detail, A is the base, which is composed of a portion B, constituting the base of the hollow column and a portion C of greater width connected to said portion B by the longitudinally extending central bar D and a pair of angling brace bars E and E′. These parts are preferably formed integral by casting and the portions B and C are further provided with depending lugs F for the attachment of adjustable supporting feet G.

The portion C comprises the segmental vertically extending flange, which encloses and conforms substantially to the shape of the platform supporting lever. This flange extends around the sides of the lever and at points directly above the lugs F is increased in thickness and provided with recesses H for receiving the fulcrum bearing blocks for the lever. These bearing blocks I may be formed of agate, or other suitable material, and may be set by cement in the recesses, being properly aligned by the use of a suitable jig. End plates J are secured to the outer face of the flange covering the recesses and serve to hold the platform pivots from displacement.

K is the platform supporting lever, which is preferably of a substantially anchor-shaped form having the central stem portion L which extends into the base of the hollow column, the end portion M extending laterally from the stem L and the parallelly arranged arms N and N′ projecting from the opposite sides of the member and carrying the knife-edge pivots O and O′. The portion M, which is forward of the fulcrum pivots O, is of sufficient mass to form a counter-weight for the arm L and steelyard rod supported thereon. Centrally of this portion M there is formed a recess or pocket on the under side of the lever, which is adapted to receive the thermostat P, this being of the collapsible bellows type and being connected to a rod P′ extending through a channel in the arm L. The forward end of the rod P′ is connected to a slidable member carrying the point pivot P^2 which forms the connection with the steelyard rod, and therefore, the movement imparted to the rod P′ by operation of the thermostat will compensate for any expansion or contraction in the length of the lever arm. The thermostat P may be adjusted by means of a screw P^3 located in a counter-sunk recess at the front of the member M.

The lever K is of a width to fit within the base with the fulcrum pivots O engaging the bearings I and the arm L extending through an opening B′ into the space within the column base B. A cap member Q is then placed about the flange C covering the for-

ward end of the lever K and having portions Q′, which extend over and cap the recesses H for the bearing blocks I. The portions Q′ are also extended inwardly at Q^2 so as to overlap the portions of the arms N and N′ from which the fulcrum pivots O project. Thus dust and dirt is prevented from collecting upon the knife-edge pivots, or finding access to the bearings. The cap Q is further provided at the center thereof with a forwardly projecting flat portion Q^3. Upon this flat portion is mounted a detachable level unit comprising a circular housing Q^4 with a pair of transversely extending level tubes Q^5 set in cement therein.

My improved construction of base and platform lever may be used with any suitable construction of indicating and weighing mechanism, but as shown, R is a hollow column rising from the column base B and carrying at its upper end the cylindrical housing R′ containing the indicating mechanism (not shown). The weighing springs R^2 are arranged within the hollow column arm and are in operative engagement with the steelyard rod S, which latter engages the point pivot bearing P^2 on the arm L. The supporting frame T for the weighing platform is provided with depending lugs T′ which engage the knife edge pivots O′ projecting laterally from the arms N and N′. A check rod U connected to the rear end of the supporting frame T extends upward into the housing R′ and is provided with suitable means (not shown) for permitting the vertical oscillation of said frame while holding the same in stable condition.

To provide freedom for the oscillation of the arm L, the column R and supporting base B have secured thereto a vertically slotted cap V. This cap has the hood portion V′ projecting laterally therefrom and overlapping the lever to give a more finished appearance. The cap V also conceals the bolts W, which secure the column R to the base B.

In the sealing of the scale, it is necessary to vertically adjust the anchorage for the weighing springs R^2. I have provided a convenient means for accomplishing this from the front of the scale, comprising a rod having a screw-threaded engagement with the lug X′ depending from the central bar D of the base. This rod X passes beneath the bar D longitudinally thereof and at its rear end passes through a bearing X^2 into engagement with a depending arm of a bell crank lever X^3. The lever X^3 is fulcrumed within the base B, its depending arm passing through a slot X^4 in said base and being provided with one or more rearwardly extending arms X^5 which engage rods X^6 extending upward to the anchorage bearing for the springs R^2. The arrangement is such that a rotative adjustment of the rod will have the effect of raising or lowering the anchorage bearing for the springs, thereby changing the adjustment. This adjustment can be made by the use of a screw driver, or other suitable tool, engaging the forward end of the rod X.

What I claim as my invention is:

1. A scale base comprising a column base portion, a fulcrum portion of greater width arranged in alignment therewith, and a skeleton open frame connecting said portions.

2. A scale base comprising a column base portion, a fulcrum portion of greater width arranged in horizontal and transverse alignment and having a closed front, and an open skeleton frame connecting said portions.

3. A scale base comprising a column base portion, a portion of greater width provided with fulcrum bearings for the platform lever and also a closed front for concealing said lever, and an open skeleton frame connecting said portions.

4. A scale base comprising a column base portion having one or more depending supporting feet, a portion of greater width having depending feet, fulcrum bearings for the platform lever and a closed front partially concealing said lever, and an open skeleton frame connecting said portions.

5. A scale comprising a hollow column for supporting the weighing and indicating mechanism, a platform, a platform supporting lever and a base comprising a portion for supporting said hollow column provided with a slotted opening for the passage of a platform supporting lever, a portion of greater width forming fulcrum bearings for the platform supporting lever and provided with a closed front for partially concealing said lever, and an open skeleton frame connecting said portions.

6. A scale base comprising a hollow column supporting portion having an opening at its front, a portion of greater width provided with fulcrum bearings for the platform supporting lever and forming a closed front for partially concealing said lever, evelling means mounted on said closed front, a skeleton frame connecting said portions, and a cap for closing the open front of said column-supporting portion, said cap being centrally vertically slotted for the passage and oscillation of the platform-supporting lever.

7. A scale base comprising a front portion having a vertically extending flange around the front and the sides thereof, being recessed at its sides to receive fulcrum supporting bearings, a rear portion for supporting a column, a plurality of bars for connecting said front and rear portion and holding the same in rigid relation, a platform supporting lever engaging said fulcrum bearings and having an arm extend-

ing into said column supporting portion, and a cap or cover for said front portion partially concealing said platform supporting lever and covering said fulcrum bearings.

8. A scale base comprising feet-supported front and rear portions, respectively for the fulcrum supporting bearings and the column support, an open skeleton frame connecting said portions, a platform supporting lever fulcrumed in said front portion and extending into said rear portion, and a cap for covering said front portion partially concealing said lever and covering the fulcrum bearings therefor.

9. A scale base comprising a rear portion and a front portion of greater width having platform supporting bearings at its opposite sides, a central bar connecting said portions and obliquely extending brace bars also connecting said portions.

10. A scale base comprising a rear portion, a front portion of greater width having fulcrum supporting bearings at its opposite sides, converging brace bars extending from said front to said rear portion and a center bar also connecting said portions.

11. In a scale an anchor-shaped platform supporting lever having a central longitudinally extending arm, a curved head, and arms extending from opposite sides of said curved head parallel to each other and to said central arm and provided with laterally extending pivot bearings.

12. In a scale, an anchor-shaped platform supporting lever having a curved head portion, an arm extending centrally from said head having a hollow portion for receiving a thermostat, and a pair of arms extending from opposite sides of said curved head parallel to each other and to said central arm and being provided with laterally extending pivot bearings.

13. A scale base comprising a rear column-supporting portion provided with depending feet, a front portion of greater width also provided with depending feet and forming fulcrum bearings for the platform supporting lever, a bar extending centrally from said front to said rear portions, having depending lugs at opposite ends thereof, an adjustment rod engaging bearings in said depending lugs and extending beneath said bar, and a housing extending between said lugs and enclosing said bar.

14. A scale base comprising a rear portion for supporting a column, a front portion of greater width having a vertical flange extending across the same and partly around the sides, said side portions being slotted to receive fulcrum bearings, a platform supporting lever having fulcrum pivots for engaging said bearings, and a cap secured to the flange of said front portion covering said recesses for the fulcrum supporting bearings and extending laterally to cover the fulcrum pivots, said cap partially covering and concealing said platform supporting lever.

15. A scale base comprising a rear portion for supporting a column, a front portion of greater width provided with fulcrum bearings for the platform supporting lever, a cap for said front portion having a central rearward projection, and a level secured to said rearward projecting portion.

In testimony whereof I affix my signature.

WALTER F. STIMPSON.