

(No Model.)

C. H. FITCH.
PRESCRIPTION WEIGHING SCALE.

No. 533,166.

Patented Jan. 29, 1895.

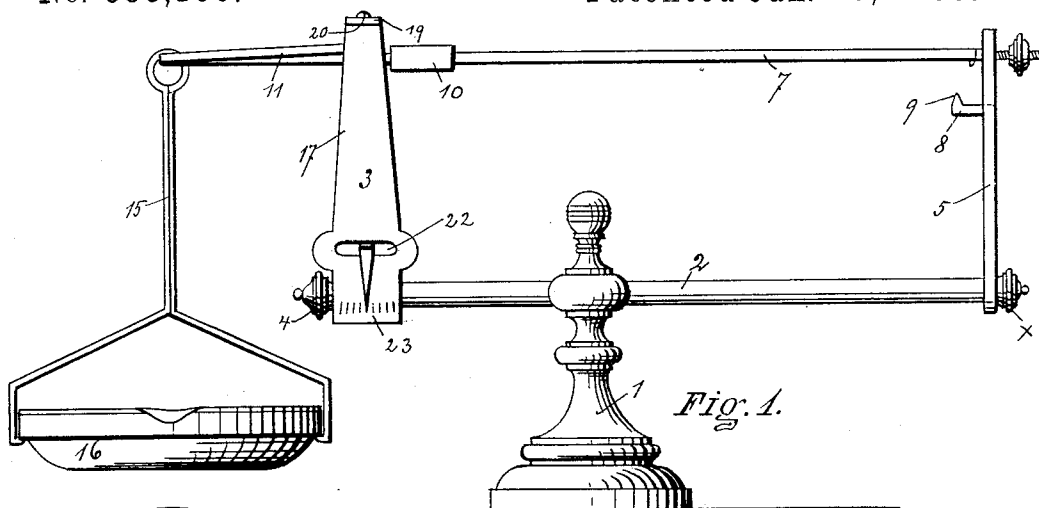


Fig. 1.

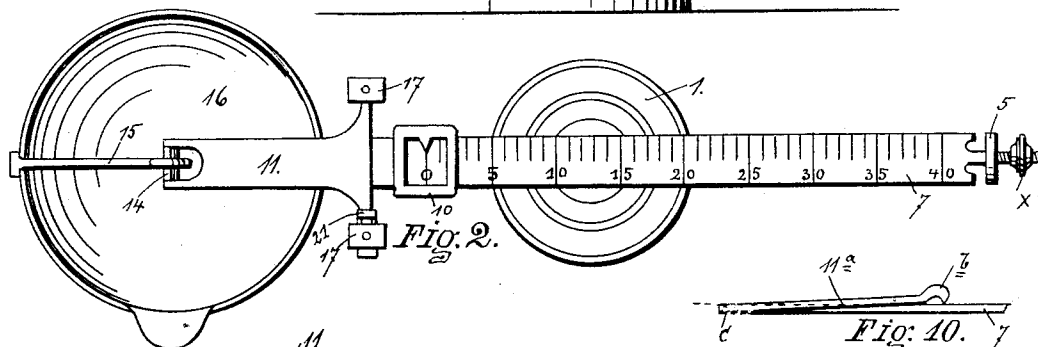


Fig. 2.

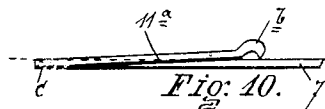


Fig. 10.

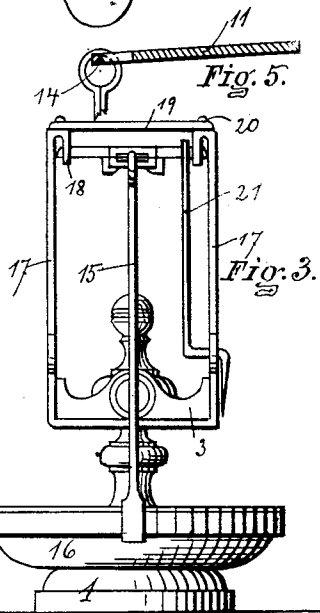


Fig. 3.

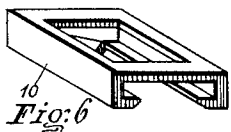


Fig. 6.

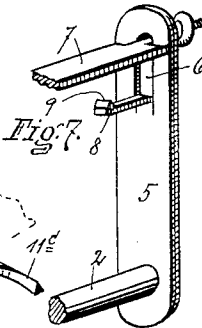


Fig. 7.

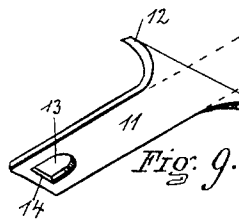


Fig. 9.

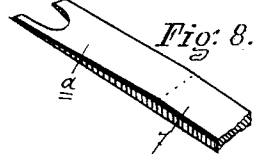


Fig. 8.

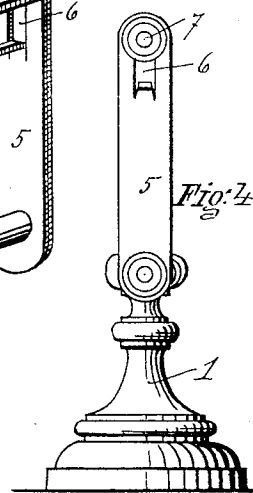


Fig. 4.

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PRESCRIPTION WEIGHING-SCALE.

SPECIFICATION forming part of Letters Patent No. 533,166, dated January 29, 1895.

Application filed August 13, 1892. Renewed July 2, 1894. Serial No. 516,312. (No model.)

To all whom it may concern:

Be it known that I, CALVIN H. FITCH, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Prescription Weighing-Scales; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

My present invention relates to an improvement in prescription scales, more particularly adapted for apothecaries' and physicians' use.

In the drawings which accompany and form a part of this specification, and in which similar letters and figures of reference refer to corresponding parts in the several views, Figure 1 shows in side elevation my improved scale. Fig. 2 shows a top view of the same with a small connecting bar removed to better illustrate the construction. Fig. 3 shows an end view of the device as seen from the left of the Figs. 1 and 2. Fig. 4 shows the right hand end of the device as seen in Figs. 1 and 2. Fig. 5 shows the fulcrum piece which is applied to the end of the beam, in section, also showing a portion of the upper end of the pan hanger. Fig. 6 shows the weight or counterpoise. Fig. 7 shows in perspective a portion of the right hand end of the scales as shown in Fig. 1. Fig. 8 shows the fulcrum end of the beam. Fig. 9 shows the fulcrum piece as seen from the under side and which is secured to the end of the beam shown in Fig. 8. Fig. 10 shows a modified form of construction of the fulcrum piece in connection with a portion of the beam.

Referring more particularly to the reference numerals and letters in a more specific description of the device, 1 indicates the base in which is secured supporting rod 2, which projects on either side of the base and has secured at one end the head 3 by nut 4 on the end of the supporting rod 2. On the opposite end of the rod 2 is provided a check arm 5 provided with an opening 6 in which the projecting end of the beam 7 plays. At the lower end of the opening 6 is provided a projecting arm or post 8 formed from the metal punched out of the

hole and which is provided with a sharp point or edge 9 on which the end of the beam rests when in its lower position and which acts as the lower check or stop therefor. On the beam 7 is provided a movable poise 10 adapted to be moved along the beam 7. The beam is divided or marked off with marks and figures in the usual manner of a scale beam. The pan end of the beam 7 is tapered, as shown at *a* in Fig. 8; the taper making an incline downward from the point of the beam adjacent to the fulcrum toward the pan end of the beam. Secured on this tapering end *a* of the beam by soldering or in any other suitable manner, is provided the fulcrum piece 11, which is formed as shown, with L shaped projections on either side of the body of the piece which form fulcrums 11^o and 12. In the opposite end of the fulcrum piece 11 is provided an opening 13 and the portion of the piece between the opening 13 and the end is sharpened on the upper side to furnish pan supporting knife edge pivot 14.

It will be observed that the taper or incline *a* formed on the end of the beam 7 is such as to bring the fulcrums 11^o and 12 on line with the top surface of the beam and the pivotal edge of the pan hanging pivot 14 in the same line with the fulcrums 11 and 12 and with the upper surface of the beam. By means of the hanger 15 a pan 16 is supported from the pivot 14. The head 3 is provided with a pair of upwardly extending arms 17, which at their upper ends are turned inwardly and downwardly forming suspended ears 18. These ears are provided with openings in which the fulcrums 11^o and 12 have bearing. The beam may be put in place by slightly springing the arm 17 apart to allow the fulcrums to be put in their places.

Extending between the upper ends of the arms 17 may be provided a cross bar 19 secured on the upper end of the arm by screws as 20. By providing the ears 18 on the inside of the arm 17, a bearing is secured which is protected by the arm and the fulcrums extending through the ears will abut against the body of the arm 17 and prevent the beam from becoming displaced and still be substantially frictionless if the scales are used with the end of the fulcrum so abutting against the side of the arm. This construc-

tion also dispenses with a shoulder at the side of the fulcrum 12 to limit the amount of play which it would otherwise have if the bearings for the fulcrums were provided directly in the arms 17 on the head 3.

Secured on the fulcrum piece adjacent to the fulcrum is an indicator arm 21 which extends downward on the inner side of the arm 17 nearly to the bottom of the head 3 and thence turning at an angle passes through a slotted opening 22 provided in one side of the head and vibrates in unison with the beam opposite a scale 23 provided on the lower portion of the head 3.

The operation of a scale is too well known to require description.

I have provided a check having a sharp point or edge 9 on which the scale beam does not adhere to any appreciable extent, thus overcoming the adhesive and cohesive forces. I am, therefore, able to provide a scale which is very sensitive to variations in weight placed in the scale pan while the beam is in its lower position. The scales may be entirely dismantled by detaching the pan hanger and removing the strap or bar 19. The beam can then be removed by springing the arms 17 apart to disengage the fulcrums and withdrawing the indicator 21 from the slotted openings 22. The head 3 and the check arm 5 may also be removed by loosening the nuts 4 and x which secure them.

In the modified form of construction shown in Fig. 10, I provide in lieu of the piece 11 shown in the other figures, a piece 11^a which has the fulcrums formed and brought on to a level with the upper face of the beam by a turn or bend b provided therein. This fulcrum piece is stamped by a die from a sheet of metal and in turning the bend, the under side of the pin becomes one of the walls of the knife edge of the fulcrum and the fulcrum bearings are easily completed by simply filing off on a bevel the end of the fulcrum piece. The pan hanger pivot c provided in the end of the piece 11^a is also in line with the upper surface of the beam, as will be seen by the dotted lines in the figure. As the fulcrum piece contains both the fulcrums and the pan hanging pivot, these points are invariable with reference to each other and the fulcrums and pivot may on that account be more perfectly mounted on the beam than is otherwise practicable. The position of the pan hanger pivot c and the fact of its being brought into

line with the upper surface of the beam is determined by the inclined tapered end of the beam on which it is secured, as described with reference to the other figures.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a scale, the combination of a scale beam having a beveled end sloping from the pivotal point downward toward the pan hanging end, and a fulcrum piece having fulcrum projections extending to either side of the beam and a pan hanging pivot in the end of the piece the fulcrum piece being secured on the beveled end of the beam, substantially as set forth.

2. The combination of a scale beam and a check arm having an opening in which the end of the beam vibrates, an arm projecting from the lower edge of the opening below the beam and having a sharp edge on its end on which the beam rests in its lower position, substantially as set forth.

3. The combination in a scale, of a beam having fulcrum arms projecting from either side, a head having a pair of upwardly extending arms in which are provided bearings for the beam fulcrums, one of the arms having a slotted opening adjacent to its base, and a scale beside the opening and an indicator arm secured to the fulcrum arm between the bearings and extending to and bent to pass through the slotted opening, the indicator point vibrating in unison with the beam in front of the scale, substantially as set forth.

4. The combination of a beam having fulcrum arms extending from either side thereof, and a pair of beam supporting arms, each having an inwardly turned perforated ear in which the beam fulcrums have bearing, substantially as set forth.

5. The combination in a scales of a beam having a tapering end and a fulcrum piece formed out of a plate with sharp bend in one end of it whereby the fulcrums are brought into line with the upper surface of the beam and provided with a pan hanging pivot in the opposite end of the piece, also in line with the upper surface of the beam, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

CALVIN H. FITCH.

Witnesses:

WILLIAM FISHER,
G. W. ADAMS.