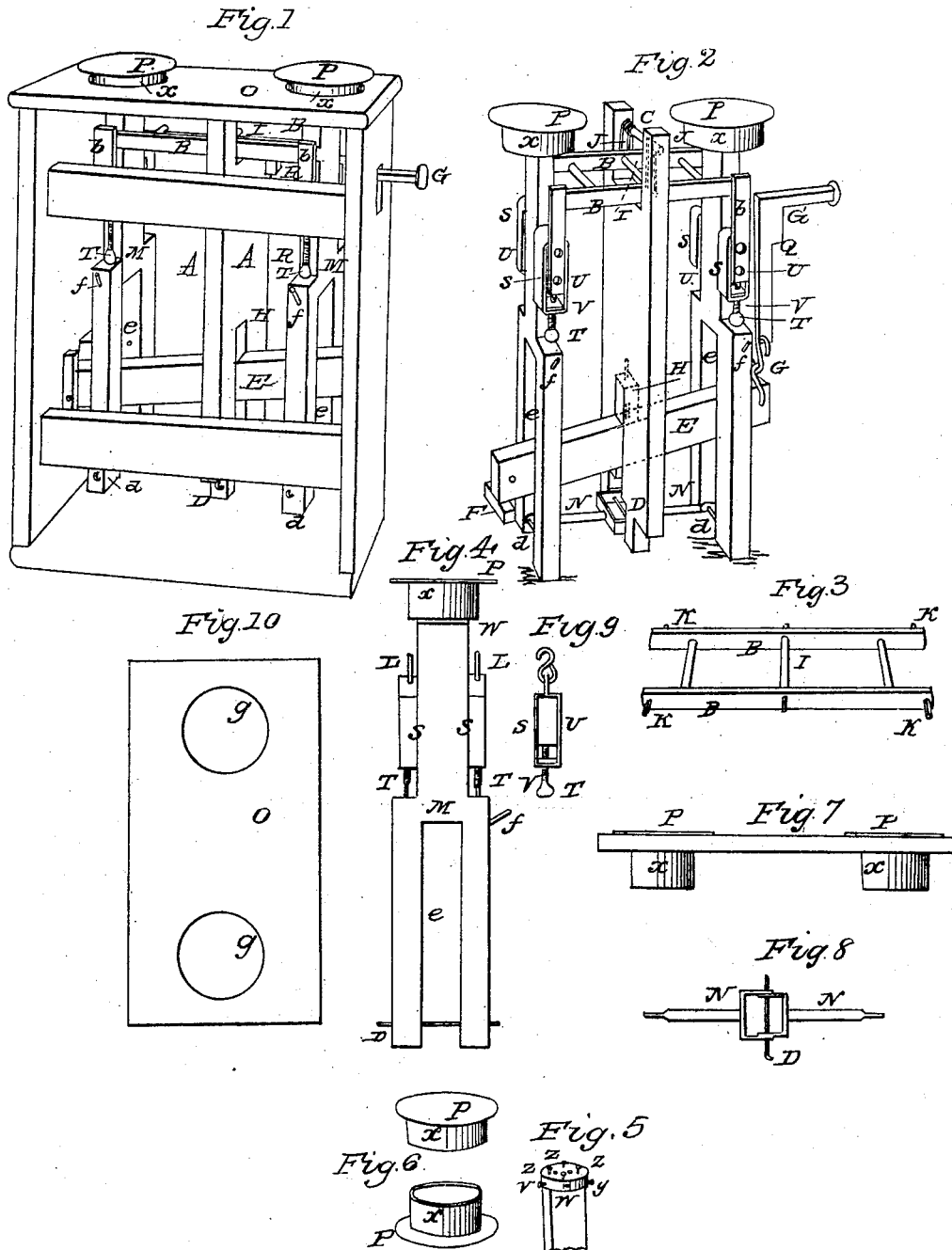


G. WHITE.
Balance Scales.

No. 1,410.

Patented Nov. 16, 1839.



UNITED STATES PATENT OFFICE.

GEO. WHITE, OF LOUISVILLE, KENTUCKY.

COUNTER SCALE OR BALANCES FOR WEIGHING.

Specification of Letters Patent No. 1,410, dated November 16, 1839.

To all whom it may concern:

Be it known that I, GEORGE WHITE, of Fourth street, Louisville, Jefferson county, State of Kentucky, have invented a new and useful Improvement in Counter-Scales for Weighing, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the scales and counter combined the view being taken from the rear side of the counter. Fig. 2 is a perspective view of the scales detached from the counter; Fig. 3, the double beam; Fig. 4, one of the vertical end supporters resting on the beam for sustaining the scale; Fig. 5, view of the upper end of one of the supporters showing the vertical and horizontal screws inserted in a round block on the head of the same for adjusting the scale; Fig. 6, view of the upper and under sides of one of the dishes; Fig. 7, view of the top of the counter, Fig. 8, view of the rods for keeping the supporting beams in a vertical position; Fig. 9, one of the loops, links, and nuts for suspending the supporting beam.

Similar letters refer to similar parts in the several figures.

The nature of my invention consists in connecting and combining certain peculiarly constructed platform or dishes and beams, supporters, &c., adjustable at pleasure by screws with a portable counter for weighing substances the scales being raised or lowered at pleasure by a lever.

The fulcrum or point of support of the double beam or lever (on which the latter is balanced at the center and by which the weighing is effected) consists of a vertical prop A, Figs. 1 and 2, mortised at the upper end to receive the double beam B, Figs. 1, 2 and 3, which when placed in said mortise is suspended by loops J to a horizontal rod C, Fig. 2, passed through the sides of said prop near the upper end, which prop is also mortised at the lower end in order to form a space to admit the ends of forked rods N for keeping the supporters (hereafter described) in a vertical position, through which forked ends and the prop near its lower end is passed a horizontal bolt D, Figs. 1, 2, 4, 8. This prop or fulcrum A rests upon a lever E, Figs. 1, 2, moving on a pin at one end or on a rest F, Fig. 2, fastened to the inside of the end of the counter

O, Fig. 1, and suspended by jointed rods, chains, or hook and link G, Figs. 1, 2, at the other end passed through a mortise in the opposite end of the counters, upon the lower side of which the hook is placed by which the fulcrum or prop A with the beam B and scales P can be raised or lowered at pleasure. When the scales are required to be put in or out of use or raised or lowered to any degree above the counter the vertical parts of the hooks G being notched as at Q for that purpose.

When the scales are not required for weighing the hook G is disengaged from the counter and the lever, fulcrum beam and scales descend, the latter lying flat upon the counter, so as to be almost imperceptible, being made very thin for that purpose, and when made of brass or other metal of a circular form are rather ornamental to the counter and not at all in the way and when weighing is to be done they are raised and balanced in a moment. The said fulcrum or movable prop A slides vertically between cleats or blocks or guides R, secured to the inside of the front of the counter for the purpose of causing the fulcrum to rise or fall perpendicularly.

A movable block H is placed in the lower mortise of the fulcrum upon the lever and between it and the fulcrum having a loose dowel pin inserted loosely in either end of the block, one of which entering the lever and the other the fulcrum.

The double weighing beam B, Figs. 1, 2, 3, is composed of two bars B, B, placed parallel to each other and united together by cross bars near each end having a bar I passing through the center of the same at right angles and extending sufficiently far beyond the sides thereof to form two arms or ears, which are made sharp or knife-edged on the under side where they rest in the before-mentioned loops J J, which are suspended from the upper horizontal rod C of the fulcrum or prop A, on which the beam is balanced. At either end of the said beam on the outside, equidistant from the center,—are two other arms K K, K K, Made sharp or knife-edged on the upper side, over which are hung links L, Fig. 4, of certain loops S, by which the vertical supporting beams M, Figs. 1, 2, 4, carrying the scales, dishes, or platforms P, P, are suspended these supporting beams M (one of which is shown at M, (Fig. 4, detached)

are made in the following manner: A description of one will answer for the other, as they are both alike. The upper half (or nearly) of this supporting beam is made square, having two square shoulders U, Fig. 2, projecting therefrom, embraced by the before-described loops S, by which the supporting beam M is suspended to the balance beam B, having a thumb screw T passing through the lower side of said loop S and turning against the under side of said shoulder U, by which the supporting beam is raised or lowered on either or both sides for adjustment, the female screw in which the male or thumb screw turns being either in the loop or in a nut V, Fig. 2, placed in said loop, as represented in the drawings at V, Figs. 2, 9. By turning the screw to the right the supporting beam is raised. By reversing the movement of the screw it is lowered. On the head of the supporting beam is screwed a round block W, Figs. 4 and 5, corresponding in diameter with a round block placed inside the circular rim of the scale or platform P, which rim is in diameter a little less than the round aperture in the counter in which it is placed and moves vertically therein as the scale beam moves, the diameter of the circular block on the head of the supporting beam is less than the diameter of the rim of the scale having a sufficient space to admit four horizontal screws Y, Fig. 5, inserted in the periphery of the circular block W for adjusting the position of the scale P to the supporting beam. There are also four vertical screws Z, inserted in the top of said circular block for raising or lowering the platform or scale P at any point or altogether for a due adjustment of the same horizontally—the circular block in the rim of the scale resting upon the heads of said screws. A vertical guide plate b is screwed to each shoulder U.

Below the shoulders the vertical supporting scale beam is enlarged. In the center of this enlarged part is made a mortise e to admit the lever for raising or lowering the fulcrum and also to admit one end of a forked rod N for keeping the supporting beam in a vertical position. This rod is attached to the said supporting beam and

center prop by means of horizontal rods B d passing through them. The one end which is in the mortise of the center prop A is forked or has two prongs. The other rod, connected with the other supporting beam, is made in a similar manner and is likewise attached to the center prop by means of the horizontal rod D. This second vertical supporting beam referred to, which sustains the other or second scale, is made like the one just described in all its parts. Both contain hooks f, on which may be suspended weights for balancing the scales—or for increasing the weight of the supporting beams in order to cause them to hang vertically and of course keep the scales or platforms horizontal.

The center of the round apertures g g, Fig. 10, in the counters are to be the same distance from the center of the balance beam as the centers of the arms on which the vertical supporting beams are suspended.

Various kinds of receivers may be placed on one scale and balanced by weights placed on the other according to the kinds of substances or articles to be weighed in said receivers.

From the foregoing description it will be seen that the portable counter o is a necessary part of this weighing apparatus.

What I claim as my invention and improvement in the combined portable counter scales and which I desire to secure by Letters Patent consists in—

The method of adjusting the vertical supports for the scales by means of the before described arrangement of the screws, nuts and loops as herein set forth and the method of raising or lowering the fulcrum and beam so as to bring the scales close to the counter and out of the way of creating any obstruction in the use of the same by means of the before-described arrangement of the hook o, block H, lever E, all as herein combined and used, whether in the precise manner set forth or in any other substantially the same.

GEORGE WHITE.

Witnesses:

E. A. GARDNER,
W. F. PETTET.