

United States Patent Office.

JOSEPH P. POPE AND JAMES T. WHIPPLE, OF CHICAGO, ILLINOIS.

Letters Patent No. 69,933, dated October 15, 1867.

WEIGHING-SCALES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JOSEPH P. POPE and JAMES T. WHIPPLE, of the city of Chicago, in the county of Cook, and State of Illinois, have made an Improvement in Weighing-Scales; and we do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of the specification, in which—

Figure 1 is a perspective view of the scale with its corresponding parts attached.

Figure 2 is a section of the counterpoise, stem, and lower balancing-beam, showing the manner of pivoting the same.

Similar letters of reference, where they occur in the separate figures, indicate like parts in each of the drawings.

Our invention relates to an improvement in that class of scales that are more generally used in warehouses; and the nature of our improvement consists, first, in suspending from the lower or bottom side of the platform of the scales, (placed upon a second floor,) by means of chains, rods, or otherwise, a second platform, so arranged that the weight of the article to be weighed may be indicated upon the first floor, by means of a second counterpoise and balancing-beam pivoted to a vertical rack suspended from the lower side of the ceiling-joint of the floor above, whereby the working edges of the scale are secured from dampness and rust, and their accuracy preserved for a much longer time; and furthermore, by this so arranged mechanism we practically have the benefit of a weighing device upon each floor, with a slight additional cost to that of procuring a single scale.

To enable others skilled in the art to construct and use our invention, we will proceed to describe the same with reference to the drawings.

M represents the second floor of the building, and A the scales thereon, which may be of any heretofore known form of construction. B, the platform of the scales. To the lower side of said platform are securely attached rods or chains C and D, the same passing downward from said platform through the framework of the scales and floor M, and are coupled to the centre of cross-bars *h h*. From the outer ends of said cross-bars is hinged and obliquely suspended a second system of rods, 1, 2, 3, and 4, which are hinged at their lower ends to the upper side of a second platform, C, upon which the article (on the first floor to be weighed) is placed. Bolted to the lower side of the ceiling-joint of floor M is a vertical rack, D, extending downward, and its lower end bent around horizontally in the form of the letter L, the bent part thereof extending forward, and is provided at the end with a loop or eye through which the counterpoise stem *e''* passes. Said rack D is provided, at or just above the bend therein, with a slot or mortise, through which passes balancing-beam *m''*. Said beam is provided with a pivot, *i*, which passes through a second mortise cut through said rack at right angles with the slot *l* forming the fulcrum upon which said beam moves, said beam extending forward, (to a distance equal in length to the horizontal position of rack D,) and passes through a vertical slot or mortise cut in said counterpoise stem *e''*, which is provided with a second mortise cut at right angles with said slot *l*, through which passes a second pivot, *i''*, that extends through the end of said beam, forming the operating or lifting fulcrum of said beam *m''*. Said counterpoise stem *e''* passes upward from the end of said beam through the floor M, and is connected to the bottom of counterpoise *e* by means of a hook and eye, said counterpoise being suspended from the outer end of the balancing-beam *m* of the scales above; thus the parts indicating the weight on both platforms are connected one to the other; the distance from the fulcrum of beam *m''* to pivot *i''*, where the same receives the operating power, being equal to the distance from the fulcrum of beam *m* of the scales above to the point where the same receives the counterpoise stem and weight. Hinged to the first floor, beneath platform C, is a system of rods, *o* and *o''*, jointed levers *s* and *s''*, so constructed as to be capable of vertical adjustment by means of an operating lever, W, holding and stop-rod, *t*. When said combination is properly adjusted the upper ends of levers *s s''* are raised vertically against said platform C; thus the same is raised upward when placing the article thereon to be weighed the weight is removed from the indicating parts of the scale.

The operation of our weighing device is as follows: The scales above being in balance by means of a balancing-ball (not shown in the drawings) within the scale-pillar at the rear end of beam *m*, the article to be

weighed is placed on platform C, which communicates with platform B of the scales above by means of rods 1, 2, 3, and 4, cross-bars *h h''*, and rods *d* and *e*, said platform B communicating (by means of a system of rods and levers not mentioned) with beam *m* of the scale above. To the outer end of said beam is connected the counterpoise stem *e*, to which is suspended counterpoise stem *e''*, extending downward, and communicating with the outer end of beam *m''* by means of pivot *i''*, said beam being in balance by means of balancing-ball T; thus the heft of the article tilts the outer end of beam *m* upward. The weight of every hundred pounds is indicated by means of weights placed on the counterpoise, and the fractional parts thereof are indicated in figures by the outward moving of the poise *f* on beam *m''*.

Having thus described the nature and object of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. Platform C, suspended from platform B of the scales above, substantially as and for the purpose set forth.
2. Rack D and balancing-beam *m''*, substantially as and for the purpose described.
3. The combination of rods *o o''*, jointed levers *s s''*, lever W, and holding or stop-rod *t*, substantially as described.

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Witnesses:

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