C. H. EARLE.

PLATFORM SCALE.

No. 19,985. Patented Apr. 20, 1858.

Fig. 2.

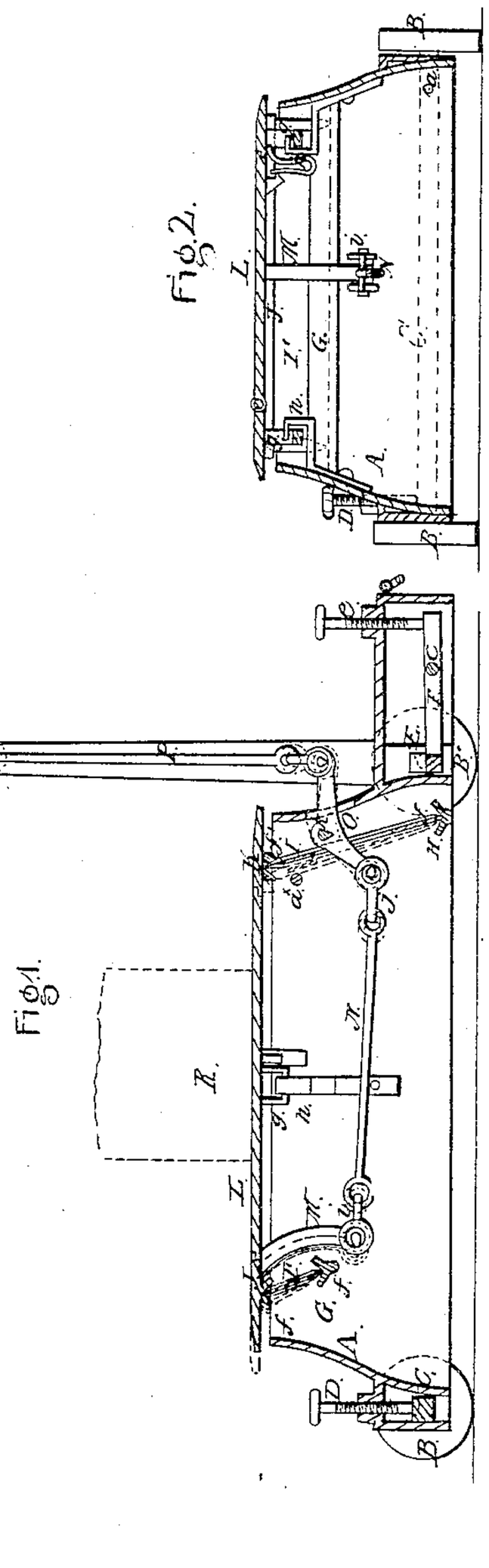
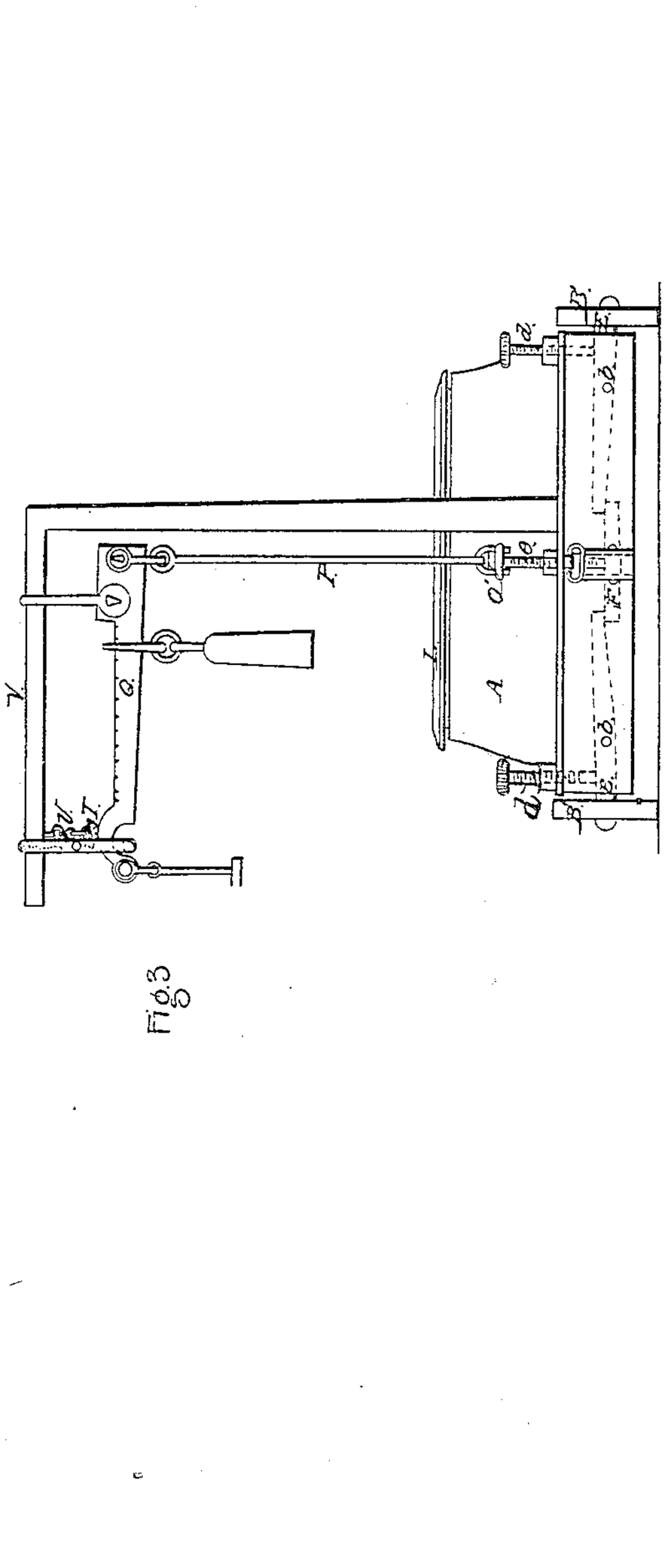


Fig. 1.

Fig. 3.



UNITED STATES PATENT OFFICE.

CHAS. H. EARLE, OF GREEN BAY, WISCONSIN.

PLATFORM-SCALE.

Specification of Letters Patent No. 19,985, dated April 20, 1858.

To all whom it may concern:

Be it known that I, CHARLES H. EARLE, of Green Bay, in the county of Brown and State of Wisconsin, have invented a new and useful Improvement in Platform-Scales; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal central section of my improvement. Fig. 2, is a transverse vertical section of ditto. Fig. 3, is a front elevation of ditto.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a peculiar arrangement of means employed for connecting the scale beam with the platform, whereby the construction of platform scales is much simplified, the parts rendered less liable to get out of repair, and their operation more perfect than usual.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a box or case mounted on wheels B, B′, the axle C, of the back wheels B, is pivoted in the box or case A, at one side as shown at (*a*) Fig. 2. Said axle being allowed to turn or work freely on said pivot. In the box or case A, and at the side opposite to that where the axle C, is pivoted a vertical set screw D, is placed, see Figs. 1, and 2, the lower end of said screw bearing on the axle C.

The two front wheels B′, B′, are attached to separate axles E, E, which are pivoted in the box or case as shown at (*b*), (*b*), and the inner ends of the axles E, E, rest or bear on a lever F, which is pivoted in the box, or case, as shown at (*c*) Fig. 1. In the box or case A, set screws (*d*) (*d*) are placed one at each side, the lower ends of said screws bearing on the outer parts of the axles E, E, and a similar screw (*e*) bears on the outer end of the lever F. From the above description it will be seen that by regulating the set screws D, (*d*) (*d*), (*e*) the box or case A, may be adjusted perfectly horizontal.

Within the box or case A two transverse V-shaped bars G, H, are placed, one at the front and the other at the back part of the box or case see Fig. 1. In the bars G, H, plates I, I′, rest, said plates being each provided at their lower edges with a point (*f*) one at each end which form the bearings of the plates. The upper ends of the plates I, I′, are provided at each end with similar points (*f*′,) which fit in V-shaped bars J, K, attached to the under side of the platform. I prefer however to have the upper and lower edges of the plates I, I′, knife-edged and have said edges fit in the bars G, H, J, K, said plates preventing any lateral movement of the platform. The plates I, I′, may also be hollow so as to insure the requisite strength with a necessary degree of lightness.

The bars G, H, which are secured in the box or case A, and the bars J, K, which are attached to the under side of the platform L, are so placed relatively with each other that the plates I, I′, will be inclined, and the plate I′, at the back end of the platform rather less inclined than the one I, at the front end. This is for the purpose of equalizing the weight on the platform so that it may be placed on any part thereof without sensibly affecting the indication on the scale beam. In order therefore to avoid the inclined curved movement which the platform would necessarily have were the plates I, I′, of the same height, the back plate I′, is made considerably shorter than the front one I, and consequently the platform L, is always kept perfectly horizontal, at all points of its movement. A rod ($a^{\times}$) is placed transversely in the box or case A, near the upper part of plate I, and serves as a stop for the same.

To the under side of the platform L, and at each side a staple (*g*) is secured, and hooks (*h*) (*h*) which are attached to the inner side of the box or case A, are fitted in these staples and serve as guides to the platform.

To the back part of the platform L and to its under side a pendent arm M, is attached, to the lower end of which a link (*i*) is secured and one end of a rod N, is attached to this link, the opposite end of the rod being attached py a link (*j*) to the lower end of a bent lever O, which is secured in the front part of the box or case and has its fulcrum at (*k*). The upper end of this lever is connected by a rod P, with a scale beam Q, which is hung and graduated and constructed in the usual manner.

The operation is as folows: The article R to be weighed is placed on the platform L, the box or case A, being previously leveled

that is, if it was not in a horizontal position. The article R of course depresses the plates I, I′, and the weight S on the beam Q, counterpoises the article R, on the platform, said weight drawing forward through the medium of the lever, O, the platform L. It will be seen that as the platform L, is moved or drawn forward the leverage power increases owing to the varying posions of the plates I, I′. It is therefore essential that suitable provision be made to compensate for this increased leverage in order to have the scales correct. This object is acomplished by having a cup T, see Fig. 3, formed on the outer end of the beam Q, and the end of a chain U, which is attached to a bar V, resting thereon. By this arrangement as the outer end of the beam Q is depressed and the platform L moved forward the cup T is gradually relieved of the weight of chain V, and consequently as the leverage increases the weight S, is virtually diminished for the chain V, is in fact an auxiliary but inconstant weight.

By this improvement a strong, durable, accurate and quick acting or sensitive platform scale is obtained.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is,

1. Supporting the platform by plates I, I′, arranged as shown and connecting the platform with the beam Q, by means of the bent lever O, rod N, and arm M, or an equivalent device for the purpose specified.

2. The auxiliary weight formed of the chain U, in connection with the cup T, arranged as shown or in any equivalent way to operate as and for the purpose set forth.

CHARLES H. EARLE.

Witnesses:
A. F. Graves,
C. H. Kies.