W. B. DANIELS.
Platform Scales.

No. 199,356. Patented Jan. 22, 1878.

Fig. 1.

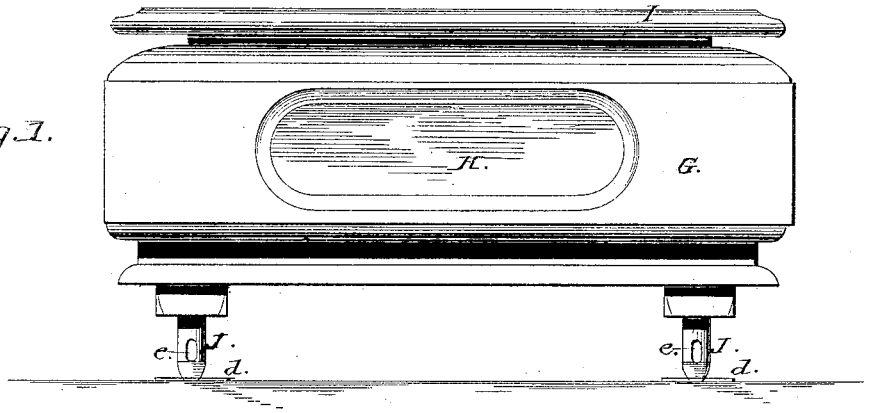


Fig. 2.

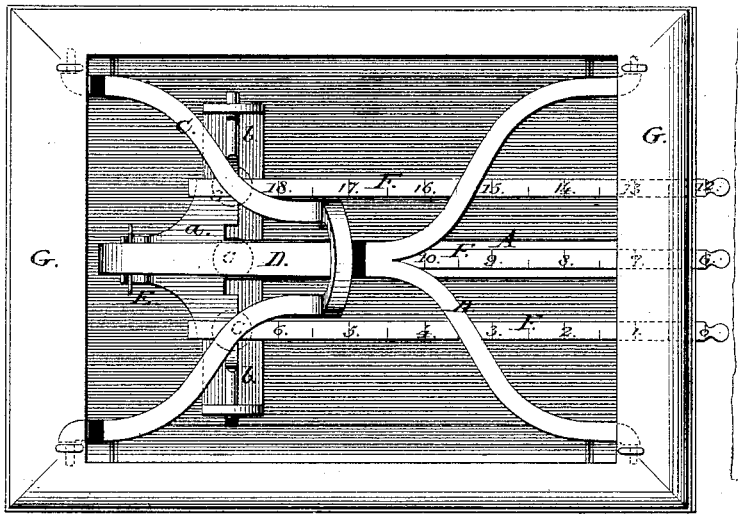


Fig. 4.

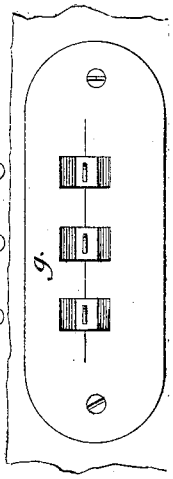
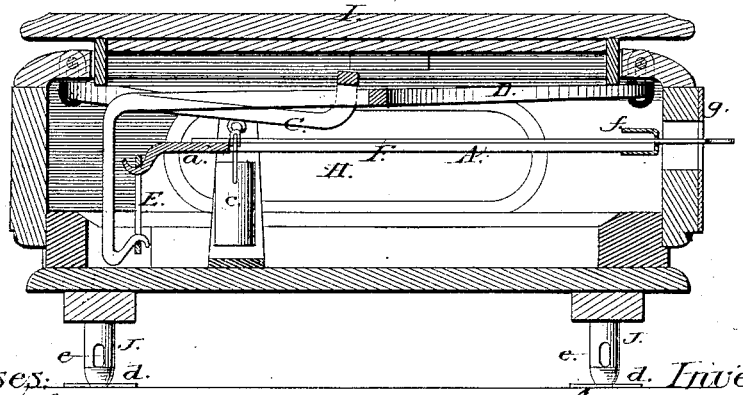


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM B. DANIELS, OF HARLAN, INDIANA.

IMPROVEMENT IN PLATFORM-SCALES.

Specification forming part of Letters Patent No. **199,356**, dated January 22, 1878; application filed November 14, 1877.

To all whom it may concern:

Be it known that I, WILLIAM B. DANIELS, of Harlan, in the county of Allen and State of Indiana, have invented a new and useful Improvement in Platform-Scales, which improvement is fully set forth in the following specification and accompanying drawings.

My invention is an improvement in platform-scales to be manufactured for counter and other uses.

It consists, first, of a pronged beam mounted or hung in its axial line with suitable journals, mounted in bearings, connected to forked beams by a stirrup, the whole forming a compound lever to be borne upon by a platform which is to receive the incumbent weight; secondly, in a series of strips, with weights attached, sliding on the fingers of the pronged beam, and having graduated scales to indicate the number of pounds and fractions thereof contained in the articles being weighed; third, in a case, rectangular in form and completely closed, having glazed openings in its sides, to enable one to observe the condition of the parts within without having to unclose the inclosed parts.

Figure 1 is a side elevation of my scales, showing principally the case. Fig. 2 is a plan view with platform removed. Fig. 3 is a longitudinal section. Fig. 4, is a detail showing the plate on the end through which the graduated slips are drawn.

Similar reference-letters denote like parts in all of the figures.

A is the pronged beam, having two or more tines extending from a head, *a*, provided with journals *b b*, which rest in a plate secured to the bottom of the case, and extending upward on either side to form journal-bearings.

C and D are forked beams, pivoted at the four angles of the case. The beam D has extending from its end downward a hooked arm, and it is connected to the main beam A by a stirrup, E. The forked beam C has its arms connected over the beam D, on which it bears, by the U-shaped continuation.

On the top of each of the prongs of the main beam A is a graduated strip of metal, F, marked to indicate pounds and fractions of the same, provided at their inner ends with loops fixed firmly to them, which clasp loosely their respective prongs. Weights G depend from these loops, and slide over the prongs of the main beam as the graduated strips F are pushed out or in in the act of weighing.

The case G, which is rectangular in form, is of a size and shape to receive and inclose the works of the scale. The cover has a rabbeted edge, which fits into the top of the case loosely, without contact, and forms the platform upon which the articles may be placed to be weighed.

From the sides of the forked beams C and D are projected knife-edged bearings for the platform to rest upon. The platform may be weighted, in the usual way, by attaching to its under side heavy pieces of metal.

On opposite sides of the case G are recessed panels of glass, H, through which the interior mechanism may be seen and observed.

In the bottom of the case are four screws, J, which pass through it, and project from the under side, resting upon metal plates *d*. These plates, which are placed on the floor or ground, serve the purpose of hand-bearings to reduce the friction when the screws are being turned, to lift the scales when heavy bodies, such as wagons, loads of hay, &c., are to be weighed.

The screws J have slots for the accommodation of a bar to be used in turning them.

On one end of the case is a slot, through which the graduated strips project, which is surrounded with a metal plate, *g*. A horizontal line is drawn through the center of the slot in the plate opposite to which the graduated strips rest when the scales are in equipoise.

The prongs of the main beam A have a metal clasp, *f*, which is attached firmly to them, through which the strips F pass freely when moved in and out in setting for the load.

Having thus described my improved scales, their operation may be explained as follows: When used as counter-scales, the graduated strips are all pushed in until the outer marks come in line with the face of the metal plate *g*, when, if the weights C are properly placed, the scale-strips F will approach and rest at the horizontal line on said plate *g*, and the scale will be balanced. The load now being placed on the platform, the graduated strips

will be borne up by the action on the opposite end of the lever. The strips must now be drawn out until the scales again balance, when the pounds and fractions of a pound may be read on the upper face of the graduated strips.

It will be observed that I number the graduations from zero inward, as 1, 2, 3, 4, 5, 6. The first mark on the second strip I number 6 to correspond with the 6 on the first strip. The next I number 7, and then 8, 9, 10, 11, 12. In the third strip I begin with 12 and follow with 13, and so on, &c. The strips may be more or less than three, and the subdivisions may be made after the usual method.

In weighing heavy bodies, two or more of the strips must necessarily be drawn out. The weights *c c c*, which are fixed to the graduated strips, and are drawn out with them, must be proportioned in heaviness to the graduations on said strips, as in ordinary steelyards.

It is my intention to manufacture scales of a large size, to be mounted upon wheels; and when loads or wagons are to be weighed, I purpose to make use of the screw J and meta plates *d*. In weighing wagons and their loads I run my scales under them, and place beams of wood on the platform of the scales of sufficient length to reach from the front to the hind axles. I now use a crow-bar in the slots *e* of the screws J, to raise the scales until the wagon and contents swing free from their support. I now adjust the graduated strips until a balance is obtained, as before.

I am aware that scales are in use with some points in common with mine, viz., compound levers, beams, and weights. I therefore do not claim, broadly, on these elements; but

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

In combination with the graduated strips F and attached weights, the pronged beam A, forked beams C and D, and platform I, all arranged as described, for the purpose set forth.

WILLIAM B. DANIELS.

Witnesses:

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