(No Model.)

R. T. WADDLE.

WEIGHING SCALE.

No. 549,980. Patented Nov. 19, 1895.

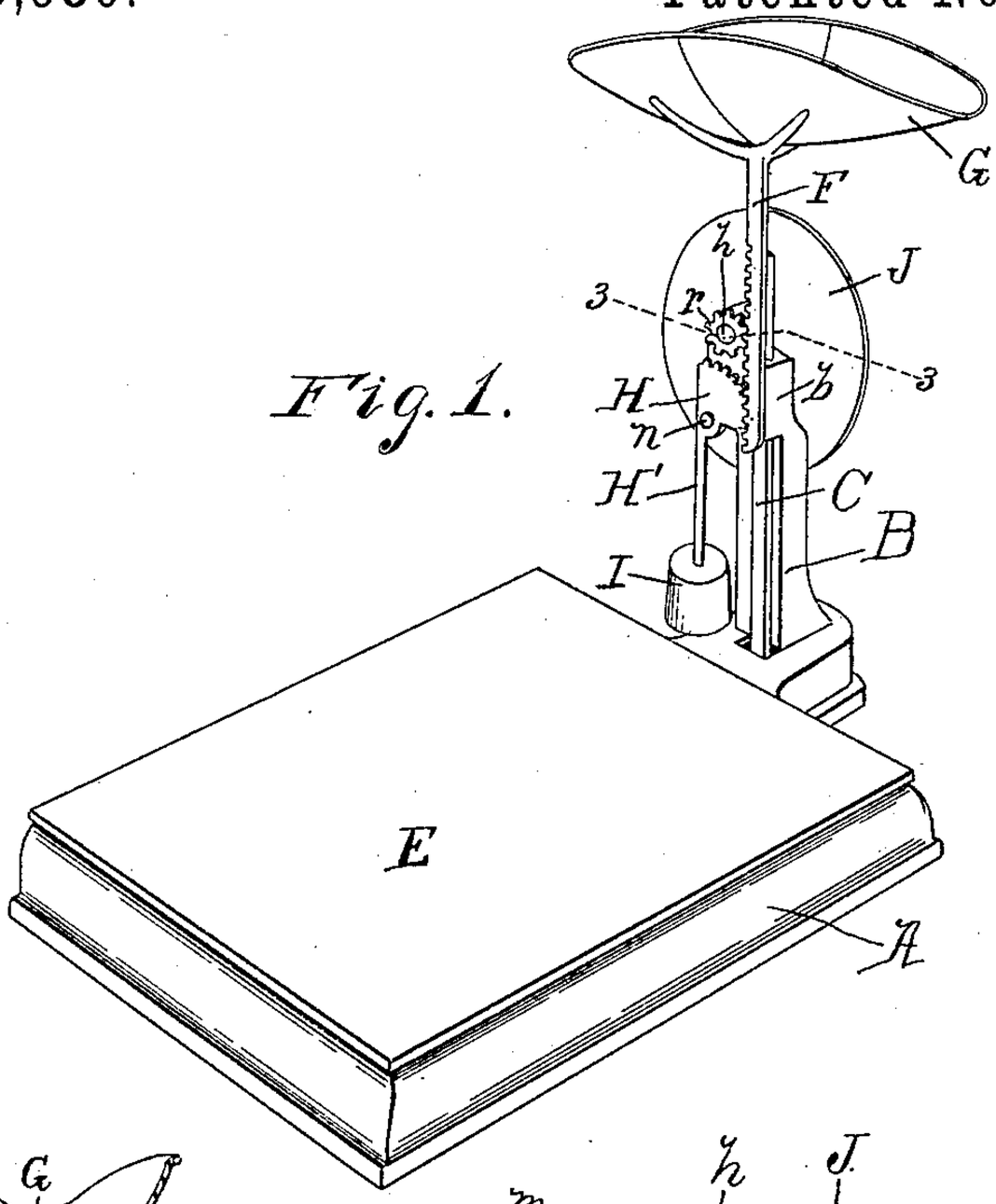

Fig. 1.

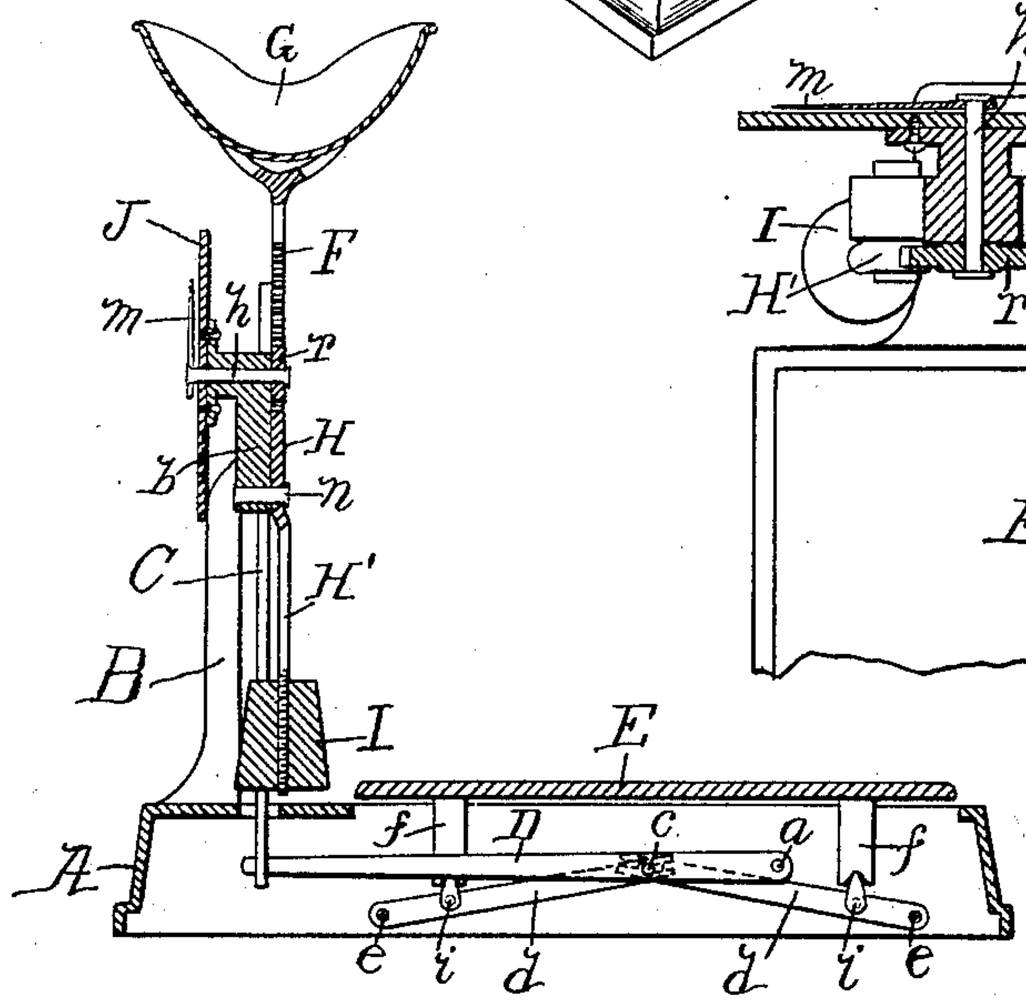

Fig. 2.

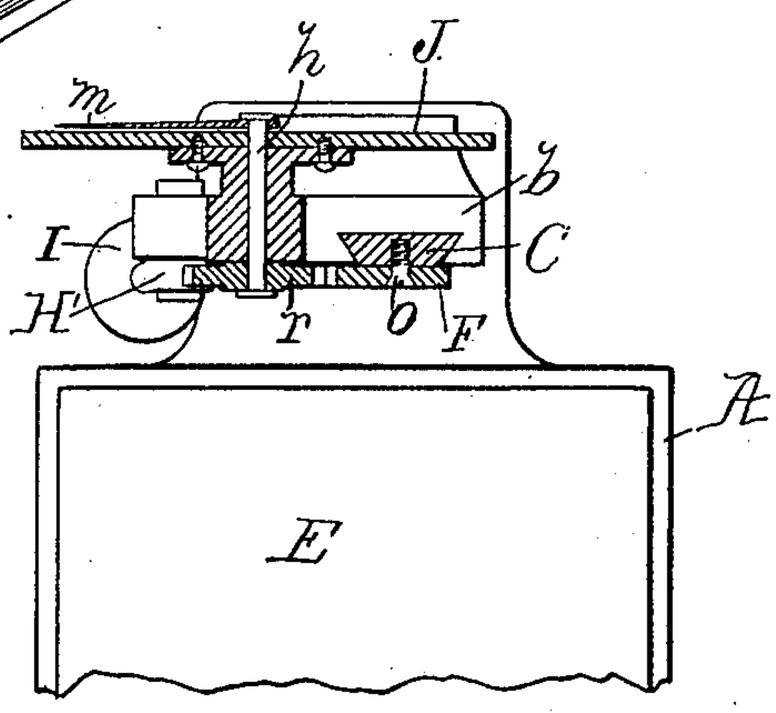

Fig. 3.

WITNESSES
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UNITED STATES PATENT OFFICE.

RICHARD T. WADDLE, OF DETROIT, MICHIGAN.

WEIGHING-SCALE.

SPECIFICATION forming part of Letters Patent No. 549,980, dated November 19, 1895.

Application filed February 15, 1895. Serial No. 538,491. (No model.)

To all whom it may concern:

Be it known that I, RICHARD T. WADDLE, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Weighing-Scales; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in weighing-scales; and it consists in the construction and arrangement of parts, as hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to produce a combined platform and scoop scales which shall be simple and inexpensive and in which the arrangement is such as to enable any article to be correctly weighed, either upon the platform or in the scoop, without the adjustment of weights or the employment of springs or the setting of the scales to indicate a predetermined weight to be balanced by the article weighed. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved scales. Fig. 2 is a central vertical section through the scoop, platform, and weighing mechanism. Fig. 3 is an enlarged transverse section, as taken on dotted line 3 3 of Fig. 1.

Referring to the letters of reference, A designates the base of the scales, upon which is mounted an upright standard B, having at its upper end an overhanging head *b*, provided with a vertical undercut way therein, which receives the beveled edges of the vertical rod C, that is adapted to reciprocate vertically therein. The lower end of said rod C extends into the base of the scales and is provided with a slotted eye therein, which freely receives the free end of the lever D, the opposite end of which is fulcrumed at *a* upon a rod crossing between the sides of the base. Fixed in said lever at a point remote from its point of fulcrum is a transverse pin *c*, the extended ends of which pass through slots in the converging ends of a series of short levers *d*, which are fulcrumed at *e* near the corners of the base and provided with knife-points *i*, upon which rest the depending studs *f* of the platform E, by which arrangement a weight placed at any point upon said platform will always be brought to bear upon a certain fixed point upon the lever D.

Attached to the upper end of the vertical rod C by means of screws *o* is a vertical rack-bar F, having diverging fingers at the top for the support of the scoop G and adapted to move vertically with said rod.

H designates a toothed segment which meshes with the teeth of the rack-bar and is pivoted at *n* to the head *b* of the upright B. Extending from said segment and fixed thereto is a depending arm H′, which is provided at its lower or free end with an adjustable weight I that is screwed thereon. With this arrangement, as above described, it will now be understood that the placing of a weight either upon the platform or within the scoop will depress the rack-bar F, which, engaging the segment H, will swing the weighted arm H′ outward in the arc of a circle concentric with the point of pivot *n* until the weight thereon exerts sufficient leverage force upon the rack-bar to balance the weight within the scoop or upon the platform of the scales, the leverage force of the weight increasing in regular ratio as the arm H′ swings from a vertical to a horizontal position.

For the purpose of indicating the weight in pounds and ounces of any article placed upon the scales there is employed a dial J, which is secured to the upright B, and upon the marginal face of which, arranged in a circle, are the graduations indicating the ounces and pounds from one ounce to the limit of pounds the scales will weigh. Passing centrally through the dial and the head *b* of the upright and journaled therein is a shaft *h*, carrying upon the end which projects through the dial an indicating-hand *m* and upon the other end, which projects through said head, a pinion *r*, which meshes with said rack F above the segment H and is rotated by the vertical movement of said rack, causing the hand or indicator *m* to sweep the face of the dial and indicate thereon the weight of the

article placed on the scales. The engaging face of the segment H is equal to the circumference of the pinion *r*, so that a vertical movement of the rack F sufficient to swing the weighted arm from a vertical to a horizontal position will cause the hand *m* to make one complete circuit of the face of said dial.

It will now be understood that in weighing articles on these improved scales, as in a grocery, for instance, no previous setting of the scales is necessary. All that is required is to place the articles in the scoop or upon the platform and add thereto until the hand *m* indicates the weight desired, the weight I swinging outward to balance the weight of the article on the scales, and again swinging downward to a vertical position when the article is removed therefrom, restoring the scales to the normal position.

By the arrangement of the platform E and the series of levers thereunder a greater weight may be weighed thereon than in the scoop, the graduations upon the dial being so arranged to indicate the correct weight of the article whether placed in said scoop or on said platform.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a scale, the combination of the scale base and standard, the vertically movable rod supported in said standard, the rack and scoop supported on said rod and movable therewith, the pivoted arm carrying a weight at its free end and having a toothed segment engaging said rack, the dial, the hand mounted on the shaft, passing through said dial, and journaled in said upright, said shaft carrying a pinion which meshes with said movable rack.

2. In a scale, the combination of the scale base and standard, the vertically movable rod in said standard, the rack bar and scoop supported on said movable rod, the dial, the shaft carrying the indicating hand and having a pinion thereon which meshes with said movable rack, the pivoted arm having a weight thereon and provided with a toothed segment engaging said rack, the lever in the base engaging the lower end of said vertically movable rod and the platform mounted on said lever.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD T. WADDLE.

Witnesses:
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