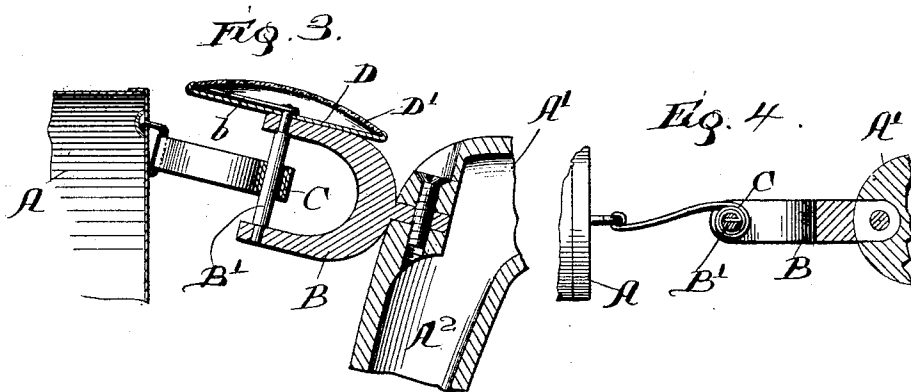
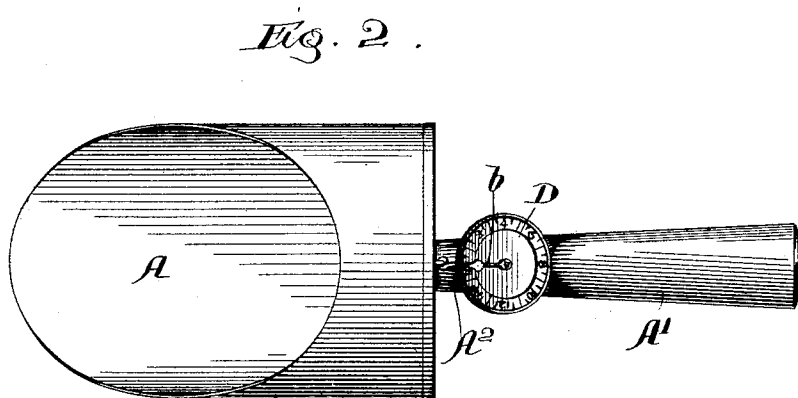
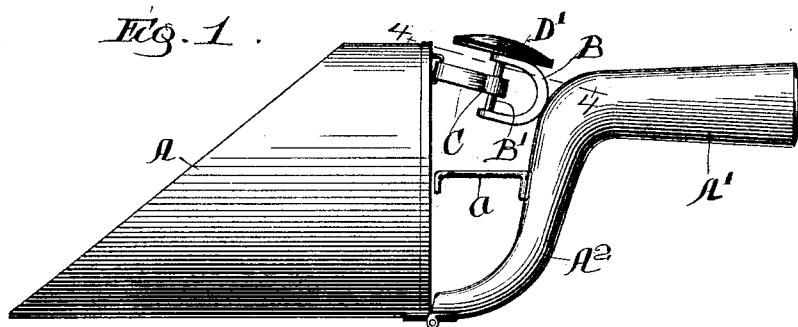


(No Model.)

C. A. JOHNSON.  
WEIGHING SCOOP.

No. 570,434.

Patented Oct. 27, 1896.



Witnesses:

Chas. O. Henry  
M. L. Sheehan

Inventor:

Charles A. Johnson  
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att'y

# UNITED STATES PATENT OFFICE.

CHARLES A. JOHNSON, OF CHICAGO, ILLINOIS.

## WEIGHING-SCOOP.

SPECIFICATION forming part of Letters Patent No. 570,434, dated October 27, 1896.

Application filed February 21, 1896. Serial No. 580,193. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. JOHNSON, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Weighing-Scoops, of which the following is a specification.

My invention relates to certain improvements in weighing-scoops—that is to say, scoops adapted for handling ground or powdered material and provided with means for indicating the weight of the material handled at each operation.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a side elevation of a scoop embodying my improvements, the parts being in their normal relation and the scoop being empty. Fig. 2 is a top plan of the parts in the relation shown in Fig. 1. Fig. 3 is an enlarged vertical section of the device; and Fig. 4 is a view partly in top plan and partly in approximately horizontal section, the plane of section being through line 4 4 of Fig. 1.

In the views, A is a scoop of ordinary form, and A' is a handle provided with a downward extension A<sup>2</sup>, the handle being approximately in the plane of the upper edge of the scoop and the end of the extension being hinged to the scoop at the lower angle thereof.

B is a clevis fastened to the handle A' at a point approximately level with the upper edge of the scoop.

B' is an approximately vertical spindle journaled in the end of the clevis.

A spring C, preferably of the volute form, has its inner end fastened to the spindle B' and its outer end connected with the scoop near its upper edge, the relation of the parts being such that the downward movement of the free edge of the scoop with relation to the handle unwinds the spring to a certain extent, thereby overcoming a certain resistance which tends constantly to hold the spring in its normal form. The tendency of the volute spring C is evidently to coil itself upon the spindle B', therefore when scoop is swung downward by the weight of the material placed therein it not only unwinds the spring, thus overcoming the tension which the spring

is given to remain in a coiled position upon the spindle, but also straightens out that portion of the spring which is unwound, the two forces of the spring thus assisting in balancing the scales. The free end of the spring may be connected directly with the scoop, thus doing away with any strap or secondary device for operating the spring, and therefore cheapening the device to a great extent. This unwinding of the spring rotates the spindle B', and with it a needle b, fastened to the upper end of the spindle in suitable relation to an indicating-disk D, fastened to the upper arm of the clevis, as clearly indicated in the drawings. The disk being suitably marked with characters indicating weights, the rotation of the needle indicates the weight of the material lifted by the scoop, and upon the discharge of the material from the scoop the needle returns to its normal position at zero on the disk. Between the downward extension of the handle and the closed end of the scoop is a stop a, attached either to the scoop or to the handle and adapted to limit the movement of the scoop toward the handle.

The device thus described is extremely simple and is consequently cheap and not liable to disrepair, and I have found in practice that it operates with perfect correctness within the limits of the uses for which it is designed.

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

1. The combination with the scoop A, of the handle A', having the downward extension A<sup>2</sup>, hinged to the bottom of the scoop, the clevis B, secured to the handle and lying in an approximately vertical plane, a spindle B', journaled in the arms of the clevis, the indicating-needle, b, secured upon said spindle, the disk, D, and the volute spring C, one end of which is secured upon the spindle the other end being secured to the scoop, the downward movement of said scoop being adapted to unwind said spring thereby rotating the indicating-needle substantially as described.

2. The combination with the scoop, A, of the handle A', having the downward extension A<sup>2</sup>, hinged to the bottom of the scoop, the stop a, limiting the upward movement of the scoop, the clevis, B, secured to the handle and lying in an approximately vertical plane, the spin-

dle B', journaled in said clevis, the indicating-needle, *b*, the disk, D, and the volute spring C, one end of which is secured upon the spindle the other end being attached to the scoop, 5 the downward movement of said scoop being adapted to uncoil said spring thereby overcoming a certain amount of the tension of said spring and rotating the indicating-needle; substantially as described.

CHARLES A. JOHNSON.

Witnesses:

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M. L. SHEAHAN.