(No Model.)

W. H. DAVIDSON.

HAND SCOOP WEIGHING SCALE.

No. 590,035. Patented Sept. 14, 1897.

Fig 1.

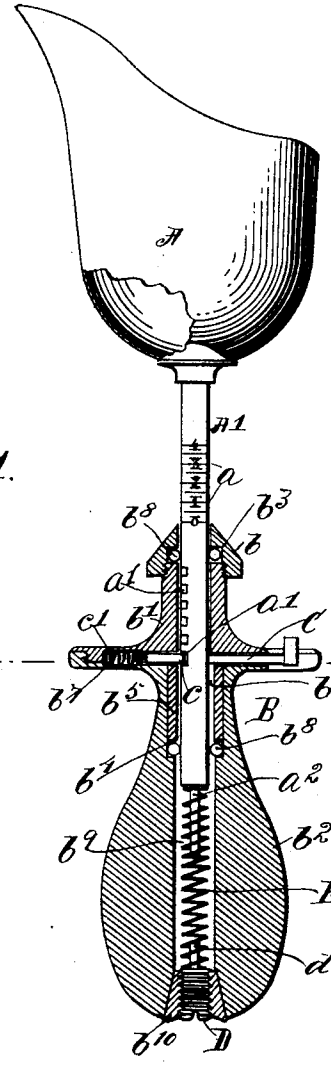
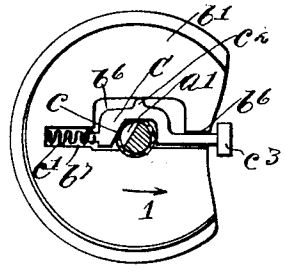


Fig. 2.



Witnesses
Sidney E. Whitney
John W. Moir.

Inventor
William H. Davidson.

By
Thomas W. Hobday
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM H. DAVIDSON, OF BOSTON, MASSACHUSETTS.

HAND-SCOOP WEIGHING-SCALE.

SPECIFICATION forming part of Letters Patent No. 590,035, dated September 14, 1897.

Application filed May 22, 1897. Serial No. 637,783. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DAVIDSON, of Boston, county of Suffolk, State of Massachusetts, have invented a Hand-Scoop Weighing-Scale, of which the following is a specification.

The object of this invention is to provide salesmen with a weighing-scoop, one that can be used as an ordinary scoop and yet be so constructed as to readily weigh the contents of the scoop, so as to dispense with having to wait until the ordinary weighing-scales are not in use by another person. This I attain in the manner following.

Figure 1 is a sectional view illustrating my invention. Fig. 2 is an inverted plan section of Fig. 1, looking in the direction denoted by the arrow, the lower part of the handle being removed and the scale-shaft shown in section.

A represents the scoop, A′ the scale-shaft, to which the scoop is rigidly fixed, and *a* marks made on the scale-shaft that represent different measurements of weight.

a′ denotes a notch or recess in the weighing-scale shaft to receive a locking device, and a^2 is a reduced portion of the scale-shaft.

B denotes the handle, which in construction is as follows: *b*, *b′*, and b^2 are three portions, each in threaded engagement with each other, as shown by the view Fig. 1. *b* and *b′* are so designed as to form the ball-pocket b^3. b^4 is the lower ball-pocket in the handle portion b^2. b^5 represents a filling ring or tube which is driven in the handle portion b^2 to effect efficiently the lower ball-pocket. The bottom surface of the handle portion *b′* has the recess cut therein in shape as clearly shown by the view Fig. 2 and represented by the letter b^6. b^7 represents a spring-pocket—a part of the recess b^6. This recess is for the purpose of controlling the movement of the locking device C, which is so constructed as to permit an efficient engagement with the portions *b′* and b^2 in the recess b^6 and on the surface of the handle portion b^2 in manner as shown by the drawings.

b^8 denotes the balls in their respective pockets and further represents the ball-bearings.

b^9 represents the weighing-scale-shaft pocket in the handle, the diameter of which is greater than the weighing-scale shaft, the purpose of which is to prevent the shaft contacting the surface of the handle, so as to dispense with friction as much as possible.

The shaft is supported by the ball-bearings, the balls of which consist of hardened-steel balls and are so positioned or associated with the handle and scale-shaft as to establish a very easy and free movement of the shaft in its bearings.

The lower end of the handle portion b^2 has the set-screw plug b^{10} driven in the scale-shaft pocket, the purpose of which is to provide a device on the handle to regulate the weighing power of the spring, which I attain by the adjustable set-screw D in threaded engagement with the plug b^{10} and the weighing-spring E. The set-screw is provided with a reduced portion *d* to enter the inner space of the spring to control its position.

The weighing-spring E is designed to fit over the reduced portions of the scale-shaft and the set-screw and to contact the respective upper and lower surfaces of the shaft and set-screw, as shown by the drawings. The strength of the spring is determined according to the required weighing capacity of my invention.

The locking device C is designed to partially surround the weighing-scale shaft, the purpose of which is to cause the inclined portion *c* to enter the recess *a′* on the scale-shaft, whereby the weighing-shaft is locked so as to permit my invention to be employed in the same capacity as an ordinary scoop.

c′ represents a spring which is inserted in the pocket b^7 and contacts the locking-pin so as to thrust the pin at all times in the direction denoted by the arrow 1. The projection c^2 on the locking device is merely for dispensing with having an unnecessary amount of the locking-device surface contacting the handle-surface, so as to effect as easy a movement of the locking-plate as possible.

Fig. 1 shows the weighing-shaft locked, and Fig. 2 the shaft released. To release the shaft, it is necessary to press in the releasing-button c^3 of the device. When the button while forced in is released, the spring then drives the pin back, and the inclined portion *c* of the locking-plate snaps into the recess on the shaft. This so happens when the weighing-shaft has been forced within the handle and the finger removed from off the locking-but-

ton before and after the shaft has arrived at its normal position.

To use my invention, the manipulator grasps the handle of my weighing-scoop scale as he would the ordinary handle of an ordinary scoop and lifts within the scoop that which he desires, and having done so he simply raises the weighing-scoop to a position vertical and then presses in the button, which releases the weighing-shaft, that immediately travels within the handle against the resisting force of the spring, which retards the movement of the weighing-shaft and finally stays its movement when the resisting force of the spring is equal to the weight on the weighing-shaft—that is, within the scoop. The manipulator should keep the button pressed in until he has weighed the contents of the scoop, then he in the usual way disposes of the contents of the scoop, and in the meantime the weighing-spring forces the shaft back to its normal position, which immediately becomes locked by the locking device when released.

The construction of the handle as heretofore described and illustrated in the accompanying drawings is not the only way it can be made, but may be made in any satisfactory manner or design and attain the same result.

Having described my invention, I claim—

A hand weighing-scoop consisting of a scoop rigidly fixed to a rod, the rod, weight-indicating marks on the rod, a notch or recess a' in the rod, a handle, suitable weight-shaft bearings in the handle, and a pocket to receive the weighing-shaft and in diameter greater than the weighing-shaft, a spring located within the handle, and contacting the weighing-shaft and an adjustable set-screw, the set-screw, in threaded engagement with the lower end of the handle, a spring-controlled locking device in efficient engagement with the interior surfaces of the handle and the weighing-shaft notch a', whereby by pressing the manipulating portion of the locking device the weighing-shaft is released, and locked, when the locking device is released, as and for the purpose described.

In testimony whereof I have hereunto set my hand to this specification, this 20th day of May, A. D. 1897, in the presence of two subscribing witnesses.

WM. H. DAVIDSON.

Witnesses:
THOMAS W. HOBDAY.
FRANK T. LEUT.