

No. 665,762.

Patented Jan. 8, 1901.

J. C. TARVIN.
WEIGHING SCALE ATTACHMENT.

(Application filed Apr. 20, 1900.)

(No Model.)

Fig. 1.

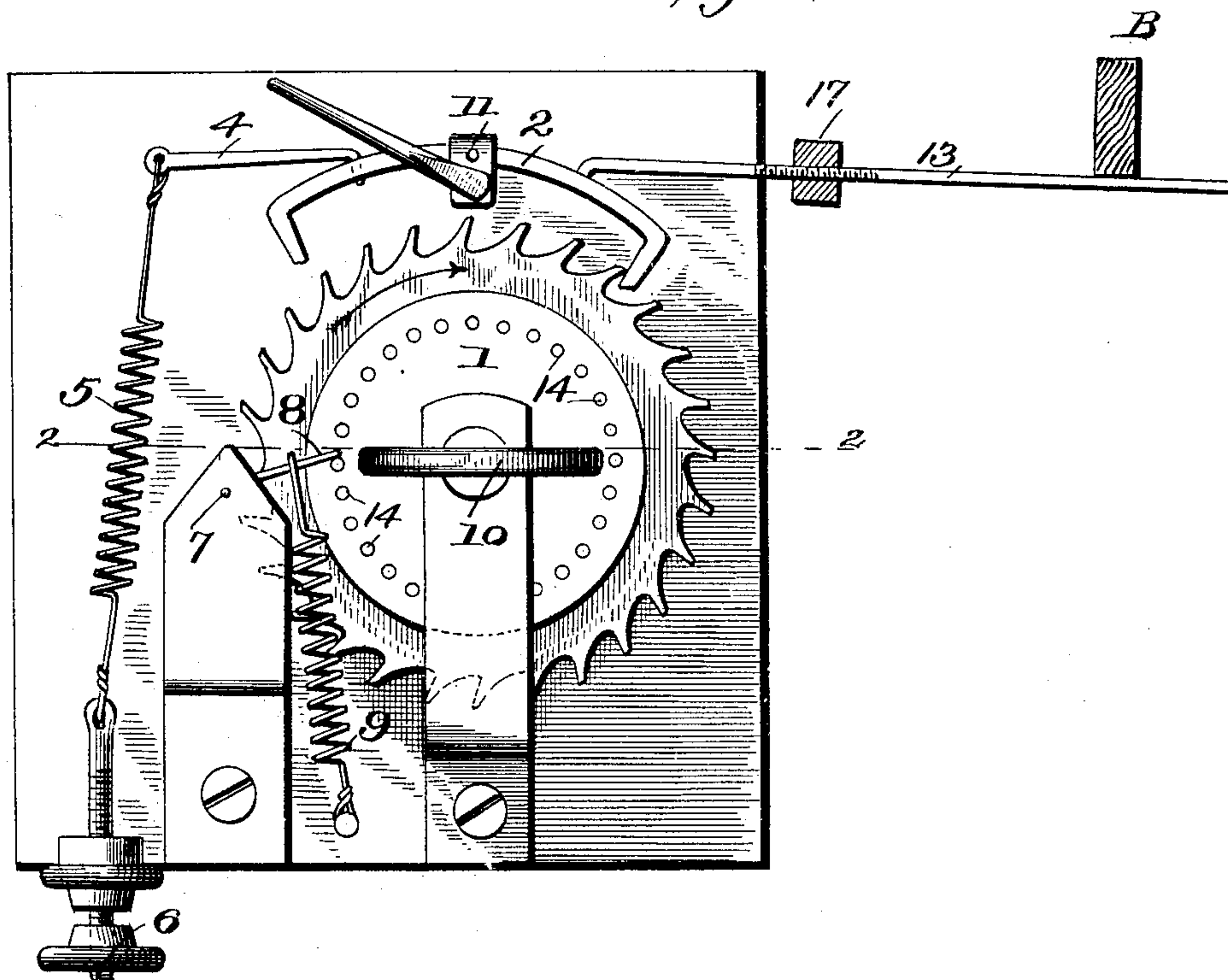
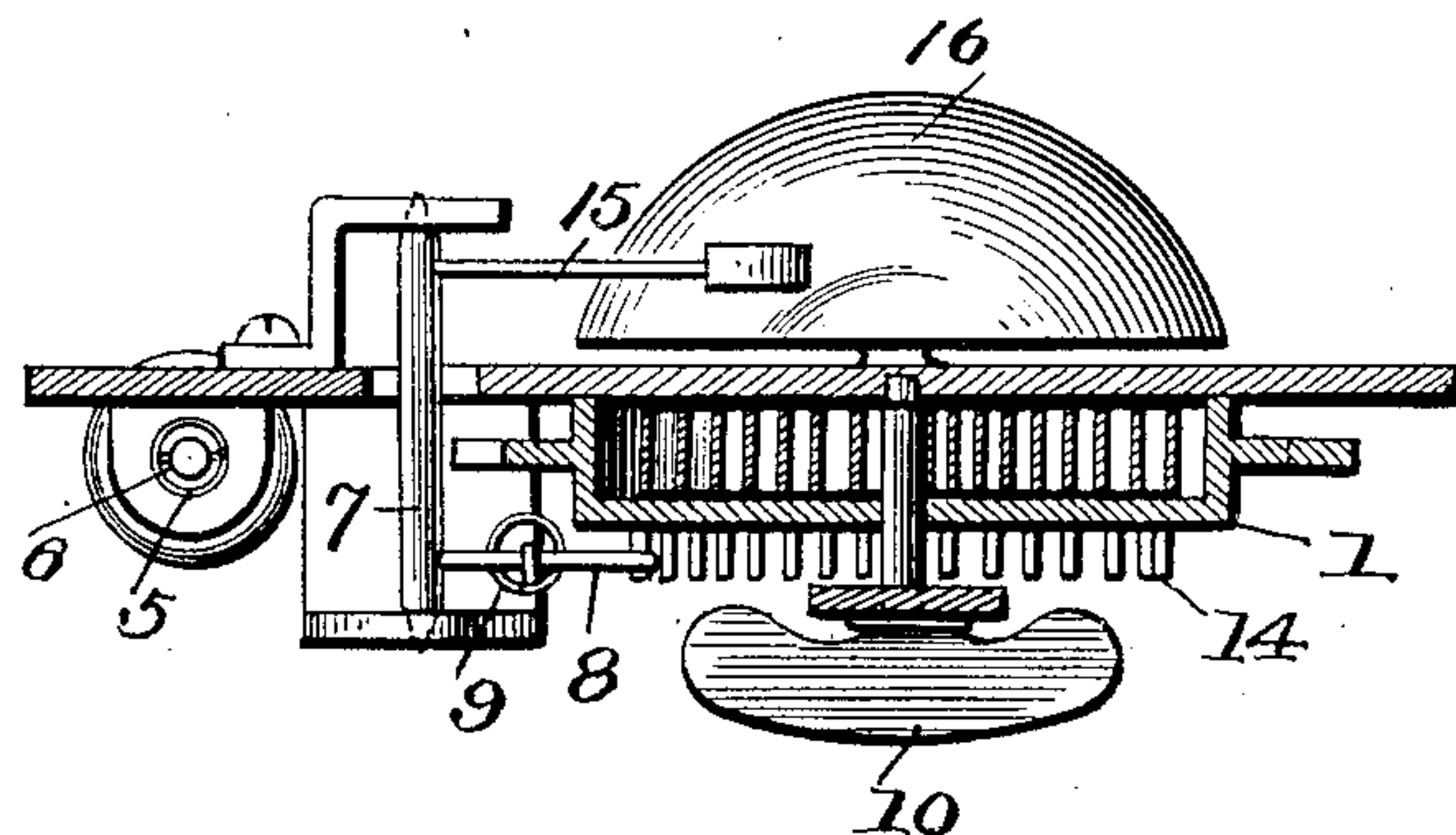


Fig. 2.



WITNESSES :

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JOHN COGLE TARVIN, OF HOLLY SPRINGS, MISSISSIPPI, ASSIGNOR TO THE
NATIONAL COMPUTING SCALE COMPANY, OF CLEVELAND, OHIO.

WEIGHING-SCALE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 665,762, dated January 8, 1901.

Application filed April 20, 1900. Serial No. 13,628. (No model.)

To all whom it may concern:

Be it known that I, JOHN COGLE TARVIN, of Holly Springs, in the county of Marshall and State of Mississippi, have invented a new and useful Improvement in Weighing-Scale Attachments, of which the following is a specification.

My invention is in the nature of a device to be applied to weighing-scales for the purpose of sounding an audible signal a short time before the full amount of the material is deposited into the scales, so that the salesman may not put in too much and be obliged to take it out again, but is notified in time to slacken or reduce the rate of discharge from the scoop into the scale.

If a grocer is asked by his customer for five pounds of coffee, the grocer pours his goods into the scoop or paper bag until the scale balances, and it requires much time and patience in most cases to balance the scales, yet to justify both the seller and the buyer the scales must be balanced perfectly. The greatest obstacle in the way of obtaining this balance is in putting in too much goods and then having to take some of it out of the scales in order to make it balance. Taking the goods out requires time, and it impresses the customer as a bit of stingy exactness, since he does not always understand that the overweight comes entirely out of the merchant's profit, which is thus seriously impaired. The proper thing to do, therefore, is to guard against putting in too much in the first place, and then the time will be saved and the disagreeable impression on the customer is avoided. My invention is designed to provide an attachment which will notify the operator when he is within one ounce, two ounces, three ounces, or any amount the machine is set for of the required amount, the instrument being adjustable to any amount desired. The salesman ordinarily has not the least idea when his scale-beam is going to move up until it starts from the bottom. Then as he is pouring in goods there must necessarily be some goods in the air between the scoop and the scales when the beam starts, which material when it reaches the scales proves to be overweight. Then the salesman must take it out or lose a portion

of his profit on his transaction. My attachment warns the salesman when he is near the required amount, and the result is that he slackens up the discharge and does not put in too much. Again, if the store-room should be a little dark, as is frequently the case, the weigher could not see the beam, as it slips up gently, and again too much goods would be delivered, or the salesman may have his attention attracted from his scales and too much goes into the scales and must be taken out again.

My invention for overcoming these difficulties consists in a simple little attachment, which I will now proceed to describe with reference to the drawings, in which—

Figure 1 is a side view of the device, and Fig. 2 a cross-section on line 2 2.

In the drawings the numeral 1 is a barrel or cylindrical casing containing an ordinary clock-spring attached at one end to the winding-shaft bearing the key 10 and at the other end to the barrel or casing, so as to turn it in the direction of the arrow. This barrel or casing has a series of projecting pins 14 on its side and a ratchet-wheel on its periphery engaged with a vibrating pallet-escapement 2, mounted on pivots at 11 and having a rigidly-attached arm 13 on one side and a shorter one 4 on the other. The arm 4 is held down by a helical spring 5, adjusted as to tension by a subjacent screw 6. In suitable bearings in brackets there is pivoted an oscillating rock-shaft 7, which extends at right angles through the frame-plates. This rock-shaft has on one side of the said frame-plate a hammer-arm 15, adapted to strike against a bell 16, and on the other side of the frame-plate it has a rigid arm 8, that is drawn down by a helical spring 9 and is made to bear against the circular series of pins 14 on the side of the barrel or casing. When this barrel or casing revolves, its series of pins 14 acting upon the arm 8 lifts it against the tension of the spring 9 and causes the hammer-arm to be vibrated in contact with the bell. The starting of the alarm bell is effected by a relief from the pressure of the scale-beam B against the long arm 13, which is lifted by spring 5 at the initial movement of the scale-beam. This occurs a little before the full amount of goods is deposited,

and it releases the escapement 2 and allows the spring-barrel to rotate.

In the operation of my signal the arm 13 will contact with the scale-beam at right angles to it and near the end and on the under side of the beam, so as not to interfere with the sliding poise or the placing of the weights on the same. When the poise is moved out on the scale-beam, the weight of the beam forces down the arm 13, and the bell does not then ring. When, however, the goods are being placed on the scale, the beam is being lightened. Just as soon as the beam is lightened sufficiently for the arm 13 (as adjusted) to lift the beam the least bit the escapement acts and gives the ring on the bell. The arm 8 is so arranged that it slips off of one of the little pins 14 at every second escapement, thus giving a ring only as the arm 13 goes up or when it is wanted, and not when the scale-poise is being placed in position for some certain amount.

The instrument is adjusted to give alarm at different quantities by regulating the tension of spring 5 through adjusting-screw 6.

The whole apparatus is to be inclosed in an aluminium case or a case of some neat suitable material, and only the point of arm 13 and adjusting-screw 6 will be exposed outside of the case.

To render the balance more sensitive, I propose to use as a substitute or in addition to the set-screw 6 and spring 5 an adjustable weight 17, which is fitted upon a screw-threaded portion of the arm 13 or 4 and is adjusted back or forth by being turned like a nut.

In rendering my invention more clear and distinctive I would state that the lifting influence of the arm 13 on the scale-beam B does not falsify the scales or interfere with the accuracy of the scales, as might appear at first glance, for the reason that the rise of the arm 13 is limited to about one-eighth of an inch only and it does not follow the beam up to its balanced or weighing position, as the end of the beam rises ordinarily about three-quarters of an inch or more. My alarm is set off by the initial movement of the scale-beam only, and then to secure the balance in correct weighing the scale-beam leaves the arm 13 and rises to its higher balanced position of accurate weighing. It is obvious that if this were not so the whole purpose of my invention would be defeated, which is to give the alarm in advance of correct weighing, so that the pouring in of the material may be checked

and graduated nicely up to the point of correct weighing. This distinguishes my invention from other devices in which a signal is sounded after a correct balance is attained or after an overweight has been placed on the scales. It is obvious that in such case the purposes and objects of my invention could not be attained and its advantages are entirely lost.

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

1. The combination with a movable scale-beam in a weighing-scale; of a bell, a hammer-vibrating mechanism, and an escapement having a releasing-arm extended to a position below the scale-beam when the latter is in its lowermost position, said arm being arranged to rise with the scale-beam through the initial portion of its upward movement only, substantially as described.

2. The combination with a movable portion of a weighing-scale; of a spring-motor, a bell-hammer-vibrating mechanism, and an escapement arranged to be released by the movable portion of the scales at its initial movement and before reaching its balanced position substantially as described.

3. The combination with a movable scale-beam in a weighing-scale; of a bell, a hammer-vibrating mechanism, and an escapement having a releasing-arm extended to a position below the scale-beam when the latter is in its lowest position, said arm being arranged to rise with the scale-beam through the initial portion of its upward movement only, and an adjusting device for regulating the sensitivity of the upward pressure of the releasing-arm on the scale-beam, substantially as and for the purpose described.

4. The combination with the movable portion of a pair of scales; of a barrel containing an actuating-spring with ratchet-wheel on its periphery and projecting pins on its side, a bell, and bell-hammer with spring for moving it in one direction and an arm engaging with the projecting pins, and a pallet-escapement with arms one of which is provided with a tension-spring and regulating-screw substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN COGLE TARVIN.

Witnesses:

GEO. C. MYERS,
CHAS. H. WRIGHT.