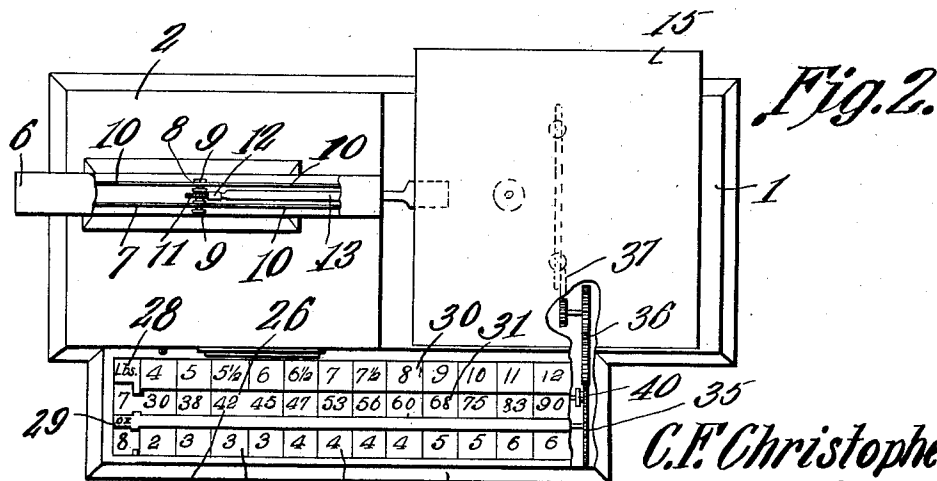
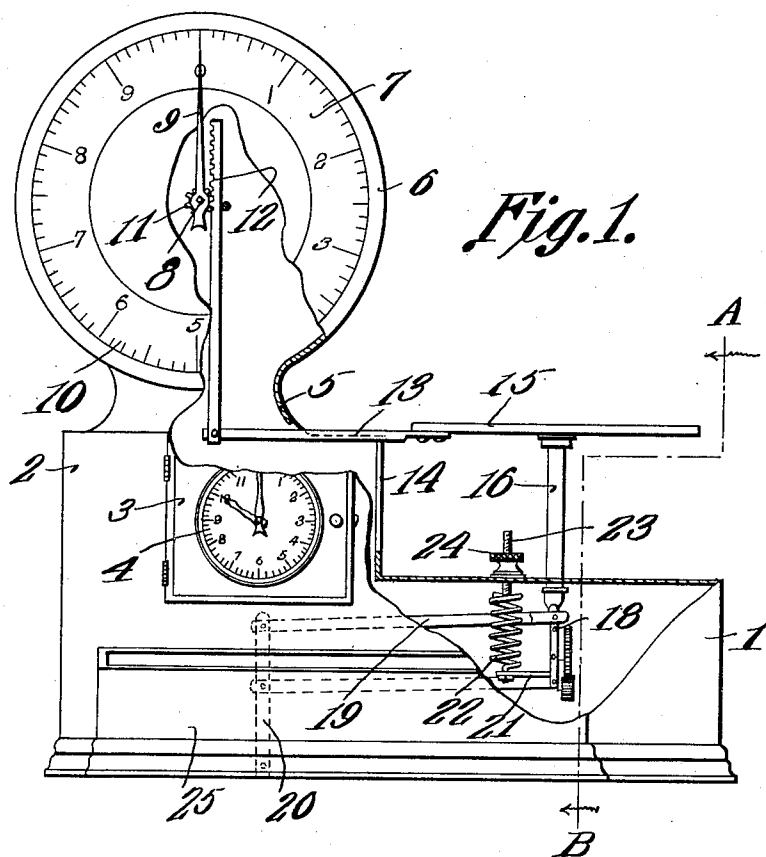


1,006,062.

2 SHEETS-SHEET 1.



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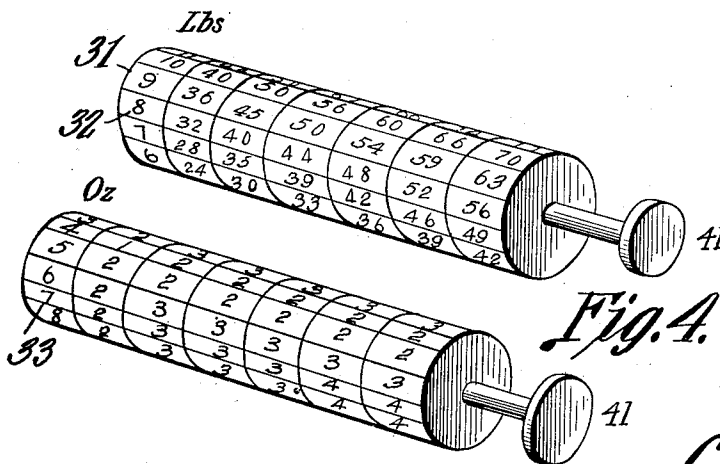
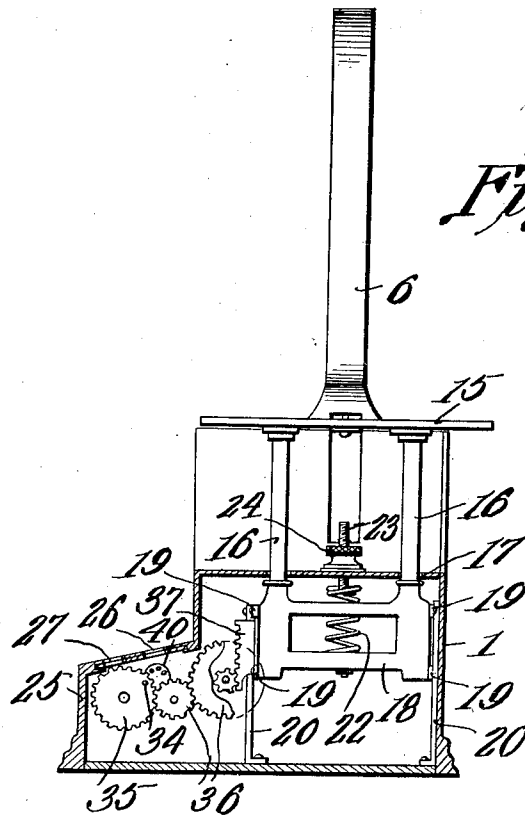
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C. F. CHRISTOPHER.
COMPUTING SCALE.
APPLICATION FILED FEB. 25, 1911.

1,006,062.

Patented Oct. 17, 1911.
2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

CALVIN F. CHRISTOPHER, OF ASHEVILLE, NORTH CAROLINA.

COMPUTING-SCALE.

1,006,062.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed February 25, 1911. Serial No. 610,676.

To all whom it may concern:

Be it known that I, CALVIN F. CHRISTOPHER, a citizen of the United States, residing at Asheville, in the county of Buncombe and State of North Carolina, have invented a new and useful Computing-Scale, of which the following is a specification.

This invention relates to computing scales of that type particularly designed for use upon counters, one of the objects of the invention being to provide simple and compact mechanism under the control of the balance mechanism whereby the price of the weighed material can be quickly ascertained. Another object is to provide a novel form of spring balance having means whereby it can be readily adjusted.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings, the preferred forms of the invention have been shown.

In said drawings:—

Figure 1 is a view partly in elevation and partly in section of the complete scale. Fig. 2 is a view partly in plan and partly in section thereof. Fig. 3 is a transverse section on the line A—B Fig. 1. Fig. 4 is a perspective view of the rolls of the computing mechanism and showing modified means for actuating them.

Referring to the figures by characters of reference 1 designates a casing constituting the base of the scale, said casing having an upstanding portion 2 at one end to which a door 3 may be hinged, this door carrying a clock 4. By mounting the clock in this manner, the dial thereof can be held flush with the door, the clock mechanism projecting into the extension 2 and only being accessible after the door 3 has been opened.

A hollow standard 5 is mounted on the extension 2 and supports a dial case 6. This case has two oppositely disposed dials 7 arranged therein and an arbor 8 is journaled within the dials and has an index finger 9 at each end thereof. These fingers are designed to cooperate with the respective dials

for the purpose of indicating the weight. The dials can of course be protected by plates 10 of glass or other transparent material secured in the case 6. A gear 11 is secured to the arbor at a point between the dials and is constantly engaged by a rack bar 12 extending downwardly through the hollow standard 5. This rack bar is pivotally connected to an arm 13 mounted to work upwardly and downwardly within a slot 14 formed in the extension 2. Said arm is fixedly connected to the platform 15 of the scales, said platform being secured upon the upper ends of parallel supporting arms 16. These arms project through openings 17 in the top of casing 1 and are connected to a cross head 18 slidably mounted within the casing 1. Parallel links 19 are pivotally connected to each side of the cross head and also to upstanding posts 20 secured within the casing 1, the cross head, posts and links thus forming parallelograms whereby the cross head is maintained constantly vertical during its up and down movements within the casing. A finger 21 projects from the cross head and has a spring 22 connected to it, one end of this spring being attached to an adjusting screw 23 slidably mounted within the top of casing 1 and engaged by an adjusting nut 24 which bears downwardly on said casing. It will be apparent that by means of this adjusting nut, the mechanism of the scales can be shifted so as to bring the index fingers into position at the zero points on the dials.

Casing 1 has a box-like extension 25 provided, in upper face, with parallel slots 26 and 27. These slots may be enlarged at one end, as indicated at 28 and 29 respectively. A row of numerals is located on the top of the extension 25 and adjacent the slot 26, these numerals indicating the price per pound of the material to be weighed. These numerals have been indicated at 30 in Fig. 2 and are separated by parallel lines.

Journaled within the extension 25 and below the slot 26 is a cylinder 31 having an annular series of numerals thereon, each series registering with one of the numerals 30. The numerals in each of these annular series indicate the total cost, at the price per pound indicated by the numeral in the series 30 registering therewith, of any number of pounds up to the limit of the capacity of the scales. The cylinder 31 has an annular series of numerals, indicated at 32, for indi-

cating the number of pounds, each of these numerals being in alinement with those numerals on the cylinder designating the total price, at a given price per pound, of the number of pounds designated by said numeral. For example, the numeral 8 indicates 8 pounds, the numeral 32 adjoining the same at the right indicates that 8 pounds at 4 cents a pound equals 32 cents, the price of 8 pounds at 5 cents per pound equals 40 cents, etc. Another cylinder 33 is journaled in the extension 25 and below the slot 26, this cylinder having an annular series of numerals at one end ranging from 1 to 15 successively and each of said numerals being located at the left of a longitudinal row of numerals, the numerals of the several rows being arranged in annular series. The first mentioned annular series of numerals on the cylinder 33 indicates ounces while the remaining numerals on said cylinder indicate the prices to be paid for the number of pounds indicated, at the price per pound designated by the numerals 30. For example, if the price per pound is 4 cents the price charged for 4 ounces will be 1 cent, as indicated by referring to the numeral opposite 4 ounces on cylinder 33 and alining with the numeral 4 in the series 30.

Cylinder 33 has a gear 34 revoluble therewith and this gear receives motion, through one or more gears 36, from a rack bar 37 secured to the cross head 18. The mechanism is so proportioned that when the platform 15 is depressed a sufficient distance to move the index fingers from the zero graduations to the one pound graduations, the cylinder 33 will be given one complete revolution thus bringing into view, successively the longitudinally extending series of numerals on said cylinder so that they will indicate the price of ounces from one to sixteen successively at the price per pound indicated by the numerals 30. Upon the completion of the first rotation of cylinder 33, a projection 34, which is carried by gear 35, moves into engagement with one of a series of projections 39 on a wheel 40 which rotates with cylinder 31, thus rotating said wheel one point so as to bring into view the longitudinally extending series of numerals designating the price to be charged for one pound at the different prices per pound indicated by the numerals 30. Should more than one pound be indicated by the scales, the two cylinders will be actuated in the manner hereinbefore set forth so as to accurately indicate, through the slots 26 and 27 the price to be charged for the number of pounds indicated and the price to be charged for the number of ounces in excess of the said pounds. For example, if the scales indicate seven pounds and eight ounces the numeral 7 will appear at the extreme left of the slot 26 and the numeral 8 will appear at the extreme of the

slot 27. If the material is to be sold at 4 cents a pound, the operator, by looking at the numerals appearing in slots 26 and 27 directly under the numeral 4 in the series 30, will find that the numerals 28 and 2 appear in said slots and by adding the two together the total price to be charged for the material weighed, can be readily obtained.

It is to be understood that, if preferred, the mechanism for transmitting motion from the scale platform to the cylinders can be dispensed with and each of said cylinders can be provided with a knob 41 whereby it can be rotated by hand.

What is claimed is:—

1. Scales including a casing constituting a base, a dial supported thereabove, an index finger coöperating with the dial, a rack bar, a gear revoluble with the finger and engaged by the rack bar, a spring supported platform, a connection between said platform and the rack bar, computing mechanism, and means for transmitting motion to said mechanism from the platform.

2. Scales including a base constituting a casing, oppositely disposed dials supported above the casing, an arbor journaled therein, index fingers connected with the end portions of the arbor and coöperating with the respective dials, a gear secured to the arbor and between the dials, a rack bar meshing with the gear, a platform, a connection between said platform and the rack bar, adjustable elastic means for normally holding the platform in a predetermined position, computing mechanism, and means operated by the platform for actuating said mechanism.

3. The combination with a base constituting a casing, a yieldingly supported platform, and weight indicating mechanism operated by the platform, of a cylinder mounted for rotation and having numerals thereon indicating ounces and the price for an indicated number of ounces at a given price per ounce, means operated by the platform for rotating said cylinder, a second cylinder having numerals thereon for indicating pounds and the total price of an indicated number of pounds at a given price per pound, and means operated by the first mentioned cylinder for actuating the pound indicating cylinder.

4. The combination with a platform, weight indicating mechanism actuated thereby, and adjustable elastic means for holding the platform normally in a predetermined position, of a rack movable with the platform, gearing actuated thereby, a cylinder movable with said gearing, said cylinder having annular series of numerals thereon indicating the total price at a given price per pound, of a predetermined number of ounces, a second cylinder having annular

series of numerals thereon for indicating the
total price, at a given price per pound, of
any number of pounds indicated by the
weight indicating mechanism, and means
5 for transmitting motion from the first men-
tioned cylinder to the other cylinder.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature
in the presence of two witnesses.

CALVIN F. CHRISTOPHER.

Witnesses:

DAVID KIMBERLY,
J. D. PENLAND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."