C. F. CHRISTOPHER.

COMPUTING SCALE.

APPLICATION FILED JAN. 16, 1912.

1,042,321.

Patented Oct. 22, 1912.

2 SHEETS—SHEET 1.

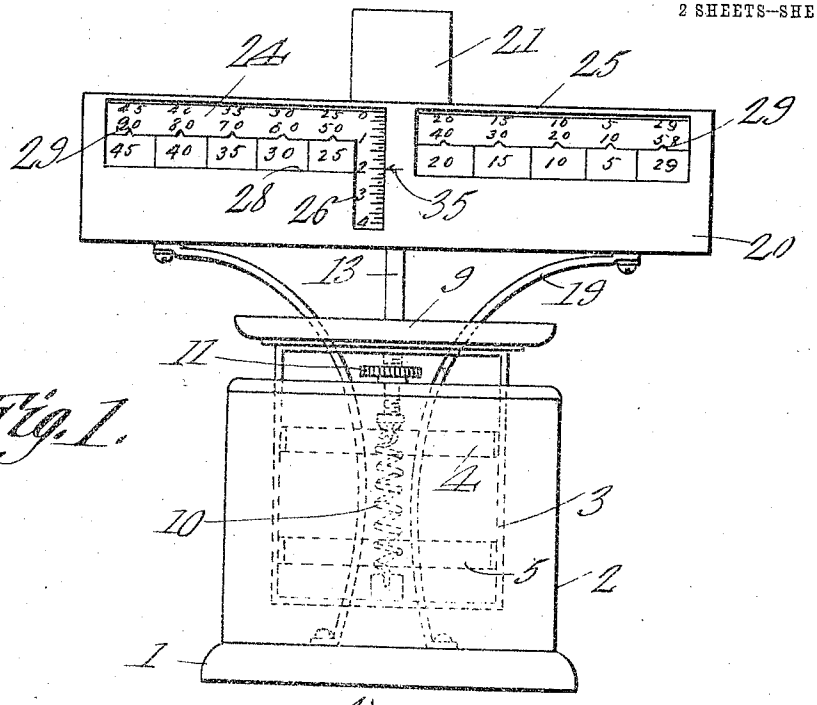

Fig. 1.

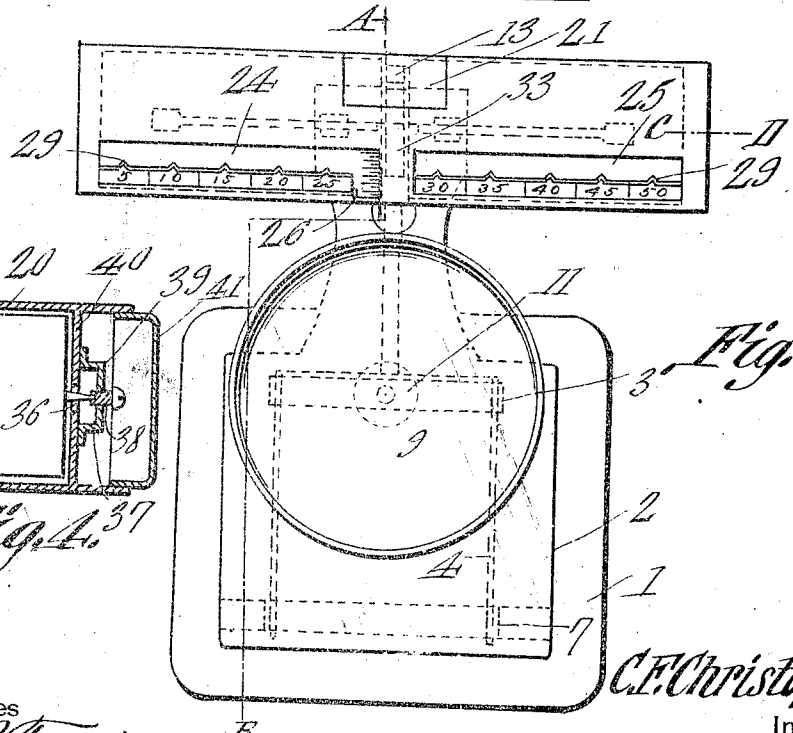

Fig. 2.

Fig. 4.

Witnesses

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2 SHEETS—SHEET 2.

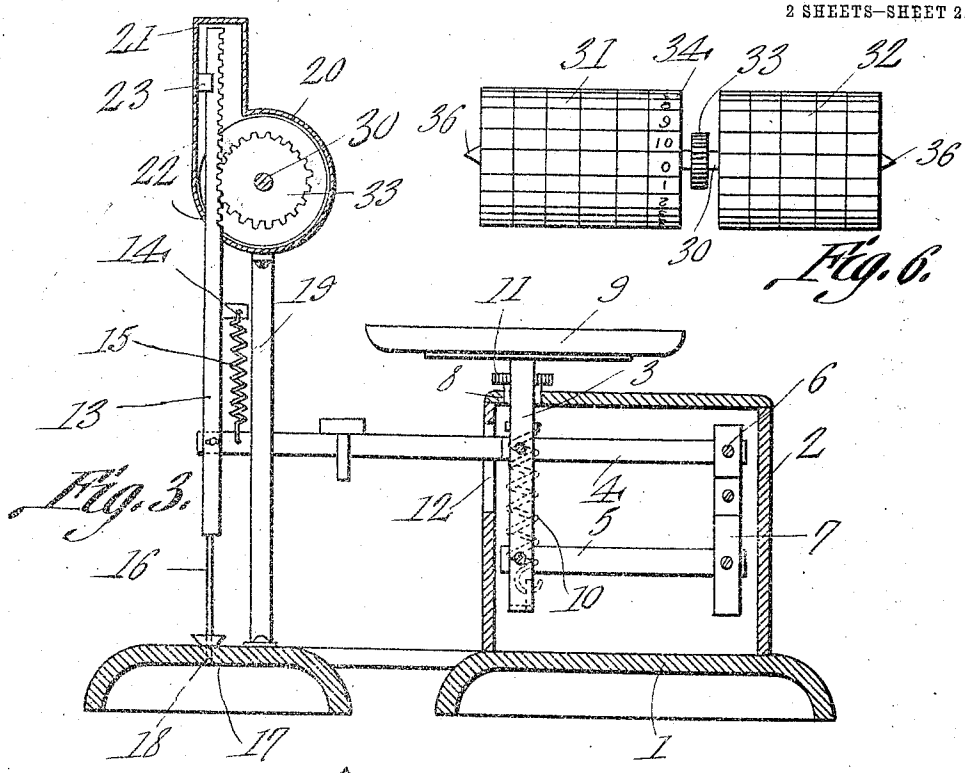

Fig. 3.

Fig. 6.

					6
0	0	0	0	0	01
45	40	35	30	25	0
90	80	70	60	50	1
1.35	1.20	1.05	90	75	2
1.80	1.60	1.40	1.20	1.00	3
2.25	2.00	1.75	1.50	1.25	4
2.70	2.40	2.10	1.80	1.50	5
3.15	2.80	2.45	2.10	1.75	6
3.60	3.20	2.80	2.40	2.00	7
4.05	3.60	3.15	2.70	2.25	8
4.50	4.00	3.50	3.00	2.50	9
					10
					0
					1
					2
					3
					4
					5
					6
					7
					8
					9

34

0	0	0	0	0
20	15	10	5	29
40	30	20	10	58
60	45	30	15	87
80	60	40	20	1.16
1.00	75	50	25	1.45
1.20	90	60	30	1.74
1.40	1.05	70	35	2.03
1.60	1.20	80	40	2.32
1.80	1.35	90	45	2.61
2.00	1.50	1.00	50	2.90

Fig. 7.

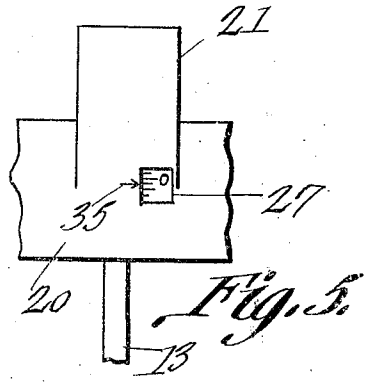

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

CALVIN F. CHRISTOPHER, OF ASHEVILLE, NORTH CAROLINA.

COMPUTING-SCALE.

1,042,321. Specification of Letters Patent. Patented Oct. 22, 1912.

Application filed January 15, 1912. Serial No. 671,232.

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, its object being to provide a simple and compact structure of this type which will indicate accurately the number of pounds, the prices per pound, and the price for the total number of pounds being weighed.

Another object is to provide improved means for transmitting motion from the pan to the computing mechanism.

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 form of the invention has been shown.

In said drawings:—Figure 1 is a front elevation of the scales. Fig. 2 is a plan view thereof. Fig. 3 is a section on line A—B Fig. 2. Fig. 4 is an enlarged section on line C—D Fig. 2. Fig. 5 is a rear elevation of a portion of the casing of the computing mechanism. Fig. 6 is an elevation of the revoluble cylinder. Fig. 7 is a view showing the arrangement of figures upon the periphery of the cylinder of a machine adapted to weigh up to ten pounds.

Referring to the figures by characters of reference 1 designates a base having a housing 2 in which is arranged a vertically movable frame 3 pivotally connected to upper and lower levers 4 and 5, said levers being parallel and both being pivotally connected, as at 6, to a fixed frame 7 supported within the housing 2. Frame 3 extends upwardly through an opening 8 in the top of the housing and has a pan 9 thereon, there being a spring 10 for holding the frame 3 normally elevated, this spring being secured at its lower end to the lower portion of the frame and at its upper end to an adjusting screw 11 mounted in the top of the housing. The upper lever 4 of the pan supporting mechanism extends through a slot 12 in one side of the housing 2 and is pivotally connected, near its outer end, to a rack bar 13, said rack bar extending upwardly from the lever and having an outstanding arm 14 connected to the outer end portion of lever 4 by a spring 15. A rod 16 extends downwardly from the rack bar and is adapted to work within an oil cup 17 on base 1, there being an aperture 18 in the bottom of the cup and into which the rod projects. This oil cup and rod thus coöperate to hold the rack perpendicular to the base 1 at all times during the actuation of the scales.

A standard 19 is mounted on the base 1 and carries a cylindrical casing 20 provided upon the central portion thereof with an upstanding housing 21, there being a slot 22 in the bottom portion of the casing and under this housing for the reception of the rack bar 13. A guide 23 may be arranged within the housing for engaging the rack bar to hold it against lateral displacement.

Separate alining longitudinal slots 24 and 25 are formed in the casing 20 where they can be easily seen by the person using the scales. The slot 24 is provided at that end thereof nearest the slot 25 with a downward extension 26 all parts of which are also easily visible to the user of the scales. An opening 27 is preferably formed in the casing 20 at a point diametrically opposite the extension 26 and is adapted to be within view of the customer.

A row of spaces, indicated at 28, is arranged along the lower edge of each slot 24 and 25 and these spaces preferably contain numerals indicating the different prices per pound to be charged for materials to be weighed. Small indexes or pointers 29 extend from the spaces 28 and project into the slots 24 and 25.

A shaft 30 is arranged longitudinally within the casing 20 and has two spaced cylinders 31 and 32 secured to it. A gear 33 is secured to the shaft between the cylinders 31 and 32 and constantly meshes with the

rack bar 13. This gear, and the space between the cylinders 31 and 32 is concealed back of that portion of the casing 20 located beween the slots 24 and 25.

The peripheral portions of the cylinders 31 and 32 are provided with longitudinal and annular lines subdividing said surface into spaces. The series of spaces extending around one end of the cylinder 31, and which has been indicated at 34, contains two sets of numerals ranging from zero to any desired number, the numerals of one series being disposed diametrically opposite the numerals of the other series so that when one numeral appears at a predetermined point in the slot extension 26, a similar numeral will appear within the opening 27. The other spaces on the peripheries of cylinders 31 and 32 contain numerals indicating the price asked for, the number of pounds indicated by the numerals 34, and any of the prices per pound indicated in the spaces 28. For example, should the numeral 1 appear opposite the index marks 25 adjacent to the openings 26 and 27 the numeral appearing through slot 24 above the numeral 25 will be 50, which is the price to be asked for two pounds at 25 cents per pound.

The means for connecting the shaft 30 to the ends of the casing 20 has been shown specifically in Fig. 4. By referring to this figure it will be seen that the end of the shaft is tapered, as at 36 and bears within a conical recess 37 formed in one end of an adjusting screw 38, said screw being mounted in a bracket 39 carried by a spider 40 or the like secured within the housing 20. The adjusting mechanism can be concealed by means of a cap 41 removably mounted within the end of the casing. Both ends of the shaft are of course to be mounted in the same manner. By providing bearings such as described wear can be easily taken up.

By providing the spring 15 for connecting lever 4 with the bar 13, the toothed portion of the bar is held constantly pressed in mesh with the gear 33 so that wear is promptly taken up and there is thus no lost motion between the parts.

What is claimed is:—

1. Computing scales including a casing having slots one of which has a downward extension, adjustable bearing members mounted within the end portions of the casing, a shaft mounted at its ends within said bearing members, caps engaging the ends of the casing for concealing the bearing members, spaced cylinders carried by the shaft and having numerals thereon indicating the prices of one or more pounds at different prices per pound, one of said cylinders having diametrically opposed series of pound designating numerals, the numerals of one series being visible successively within the slot extension, there being an opening in the casing at a point diametrically opposite said extension and in which the numerals of the other series are successively exposed, a yieldingly supported pan, and means for transmitting motion from said pan to the shaft.

2. Computing scales including a casing having alining spaced slots one of which has a downward extension, there being numerals adjacent the slots for indicating different prices per pound, an index extending into each slot from a point adjacent each numeral, adjustable bearing members mounted within the end portions of the casing, a shaft mounted at its ends within said bearing members, spaced cylinders carried by the shaft and having numerals thereon indicating the prices of one or more pounds at the different prices per pound designated by the numerals on the casing, one of said cylinders having diametrically opposed series of pound designating numerals, the numerals of one series being visible successively within the slot extension, there being an opening in the casing at a point diametrically opposite the slot extension and in which the numerals of the other series are successively exposed, a gear secured to the shaft and between the cylinders, a rack bar slidably mounted in the casing and meshing with the gear, means for guiding the rack bar, a housing, a yieldingly supported frame thereon, a pan on the frame, a lever pivotally connected to the frame and extending from the housing, there being a pivotal connection between the lever and the rack, and a spring connection between said lever and the rack bar.

3. Computing scales including a slotted casing, a shaft journaled therein, a cylinder on the shaft, a gear secured to the shaft, a rack bar meshing with the gear, means at the lower end of the bar for guiding it during its longitudinal movement, a yieldingly supported pan, a lever operated thereby and pivotally connected to the bar, and a spring connection between said lever and the bar for holding the bar constantly pressed in engagement with the gear.

4. Computing scales including a casing having slots, one of which has a downward extension, adjustable bearing members mounted within the end portions of the casing, means mounted for rotation within the casing and engaging the bearing members, said means having numerals movable therewith for indicating the prices of one or more pounds at different prices per pound, and having numerals arranged in diametrically opposed series for designating pounds, the numerals of one of said series being visible successively within the slot extension, there being an opening in the casing at a point diametrically opposite said extension and

within which the numerals of the other one of said series are successively exposed, a yieldingly supported pan, means for transmitting motion from said pan to the revoluble means, and caps engaging the ends of the casing for concealing the bearing members.

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:

T. J. HARRISON,

GEO. D. THOMAS.