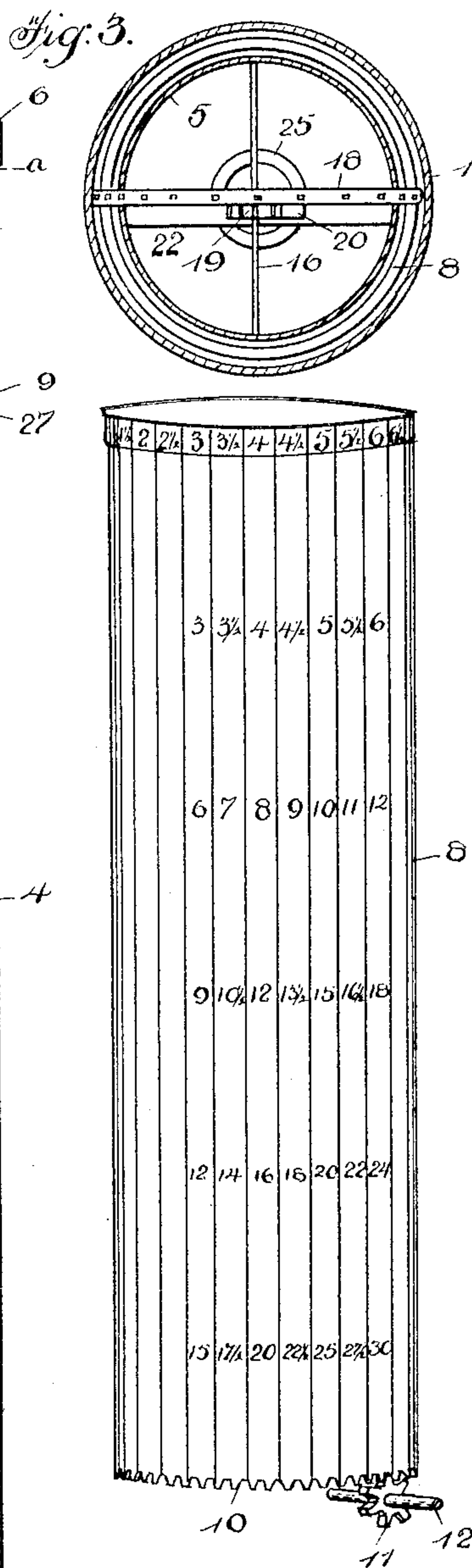
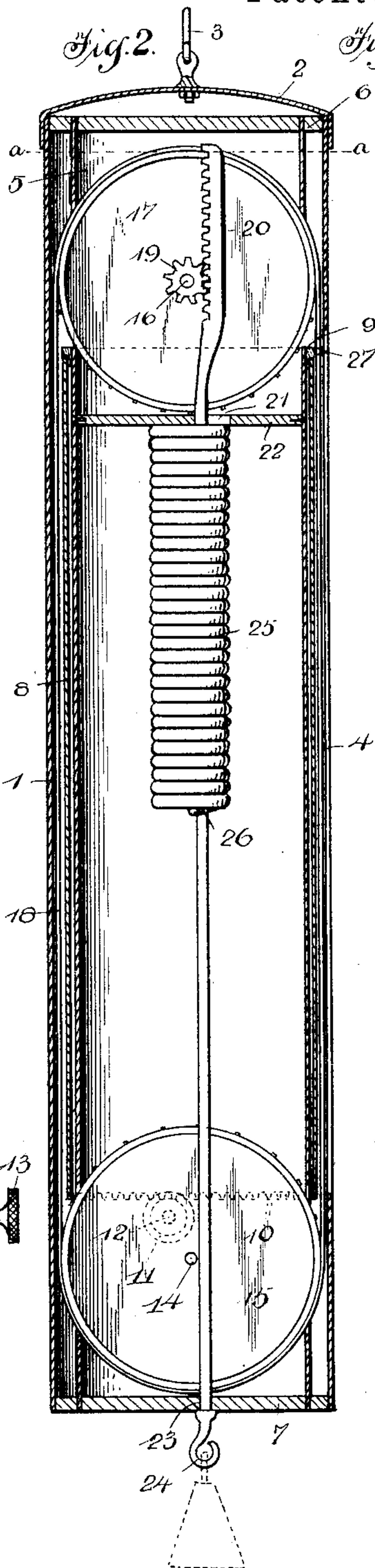
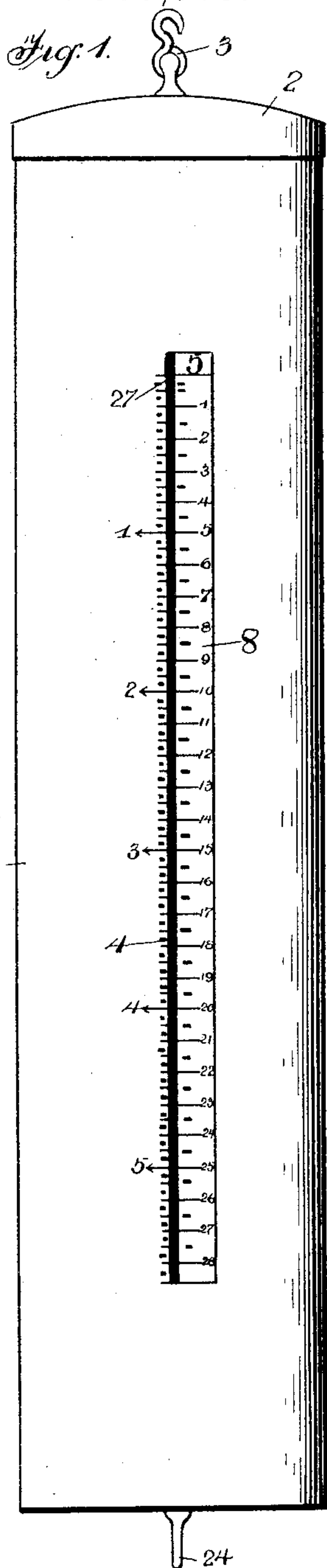


(No Model.)

J. E. PITRAT.  
COMPUTING SCALE.

No. 589,365.

Patented Aug. 31, 1897.



*Fig. 4.*

Witnesses  
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# UNITED STATES PATENT OFFICE.

JULIUS E. PITRAT, OF GALLIPOLIS, OHIO.

## COMPUTING-SCALE.

SPECIFICATION forming part of Letters Patent No. 589,365, dated August 31, 1897.

Application filed December 2, 1896. Serial No. 614,171. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS E. PITRAT, of Gallipolis, in the county of Gallia and State of Ohio, have invented a new Improvement in Computing-Scales, of which the following is a specification.

My invention has relation to portable spring-balances, and more particularly to that class of hand-scales that simultaneously indicate the weight and price of an article; and the object is to provide a simple, cheap, and reliable device of this kind.

To this end the novelty consists in the construction, combination, and arrangement of the several parts of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-numerals indicate the same parts of the invention.

Figure 1 is a front elevation of a portable spring-scale embodying my invention. Fig. 2 is a vertical section of the same. Fig. 3 is a horizontal section on the line *a a* of Fig. 2, and Fig. 4 is a perspective view of the price-cylinder removed from the case.

1 represents a cylindrical barrel provided with a cap 2, having the usual eye 3, by means of which it may be held in the hand or suspended from any convenient fixed support. 4 represents a longitudinal slot in said barrel, and the outer face of the barrel on one side of said slot is provided with the usual scale-divisions, as shown in Fig. 1.

5 represents an inner sleeve, the upper end of which is suitably secured in an annular collar 6, fixed to the upper end of the barrel 1, and its lower end is correspondingly secured to a disk 7, fixed in the lower end of the barrel 1.

8 represents a cylinder open at both ends and encompassing the inner sleeve 5, and its upper end revolves in the rabbeted periphery of an annular guide-collar 9, fixed on the outside of the sleeve 5, to permit said cylinder 8 to freely revolve concentrically about said sleeve. The lower end of this said cylinder 8 is formed with a continuous series of spur-teeth 10, which set upon and mesh with the pinion 11, fixed to the short radial shaft 12, journaled in the inner sleeve 5 and projecting through the barrel 1, where its outer end is

provided with a milled-head thumb-knob 13, by means of which said cylinder may be rotated on its axis and always in the same horizontal plane with reference to the barrel 1.

14 represents a horizontal shaft diametrically journaled in the lower end of the sleeve 5, and it carries a sprocket-wheel 15, and a similar shaft 16, journaled in the upper end of said sleeve, carries a similar sprocket-wheel 17, located in the same vertical plane as the lower wheel 15, and these two sprocket-wheels are connected by a flat sprocket-band 18, which extends down inside between the barrel 1 and the cylinder 8 in line with the vertical slot 4 in said barrel and up the other side between the cylinder and barrel, as in the first instance. As the sprocket-wheels 15 and 17 are of a greater diameter than the sleeve 5 in which they are mounted, it is necessary to form vertical longitudinal slots in the upper and lower ends of said sleeve in order that the peripheries of said wheels may project through a sufficient distance to align the sprocket-band parallel with and between the barrel and the price-cylinder. This shaft 16 is also provided with a fixed pinion 19, which meshes with a vertical rack-bar 20, which extends centrally downward through a guide-orifice 21 in the cross-brace 22, diametrically fixed in the sleeve 5, and thence passes through a central guide-orifice 23 in the disk 7, its extreme end being provided with a swivel-hook 24, from which the article to be weighed is suspended.

25 represents a spiral spring having its upper end fixed in the cross-brace 22, and its lower end engages a transverse orifice 26 in the rack-bar 20, and it will be observed that when the rack-bar is forced downward against the tension of the spring the pinion 19 is rotated, carrying with it the sprocket-wheel 17 and sprocket-band 18, causing an index or pointer 27 on said sprocket-band to travel vertically down behind the slot 4 to a point on the scale represented by the force or weight applied to the rack-bar. Upon release of the rack-bar the tension of the spring restores it, as well as the sprocket wheel and band, to its normal position of rest, at which point the index or pointer 27 stands at zero.

Referring to Fig. 4, it will be seen that the cylinder 8 is divided into two series of verti-



cal lines, forming corresponding spaces, each of which is adapted to register with the slot 4 in the barrel 1 and be seen therethrough. The upper ends of these spaces are provided  
5 with figures representing cents, beginning with one cent and increasing by a half-cent to each space up to the limit of the capacity of said cylinder, and each space is divided horizontally into multiples of the figures at  
10 its top, the divisions corresponding to the predetermined weights indicated on the scale. Thus when five pounds of an article retailing at five cents per pound is called for the cylinder 8 is first revolved by means of its  
15 thumb-button until the space headed by the numeral "5" registers with the slot 4 in the barrel 1. The article to be weighed is then suspended from the hook, and when the index comes to rest at a point on the scale representing five pounds the index will also be  
20 found to be in line with the horizontal division in the five-cents space represented by the figures "25," thus indicating at a glance the weight and the sum-total of the cost.  
25 This principle applies all the way through and will be fully understood without further example.

Various modifications of my device will readily suggest themselves to those skilled in  
30 this art without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

A computing-scale, comprising a slotted barrel, an inner sleeve connected at top and bottom to said barrel sprocket-wheels journaled in said sleeve, a sprocket-band connecting said wheels and provided with a traveling index or pointer registering with the slot in said barrel a pinion fixed to one of the said sprocket-wheels, a vertically-reciprocating rack-bar, in operative connection with said pinion, a spiral spring encompassing said rack-bar and connected at one end thereto and at its other end to a transverse bar fixed in said sleeve in combination with a vertically-arranged computing-cylinder, concentrically mounted between said sleeve and barrel, and means substantially as described for rotating said cylinder on its axis, to present its vertical divisions into successive alignment with the path of the traveling index, as and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

JULIUS E. PITRAT.

Witnesses:

C. H. BOOTON,  
BERT R. FRANCE.