No. 862,937. PATENTED AUG. 13, 1907.

T. C. PROUTY.

COMPUTING SCALE.

APPLICATION FILED NOV. 19, 1906.

2 SHEETS—SHEET 1.

Fig. 3.

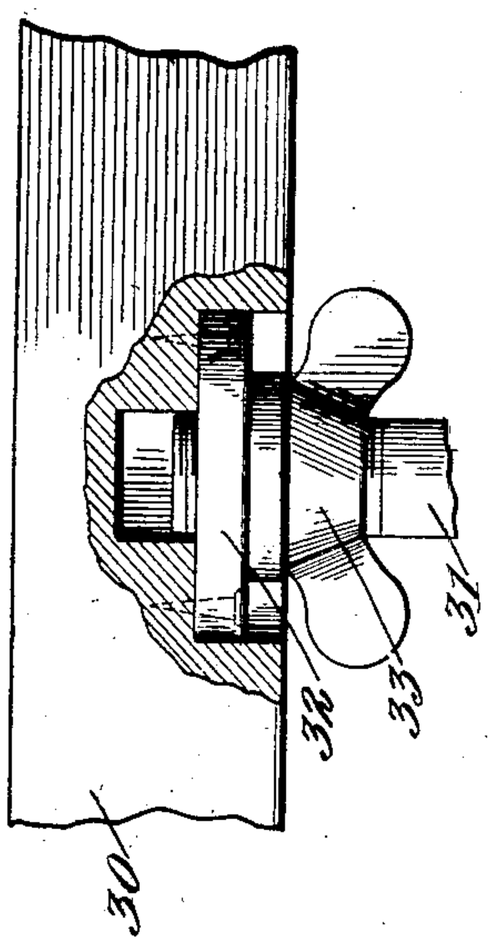

Fig. 2.

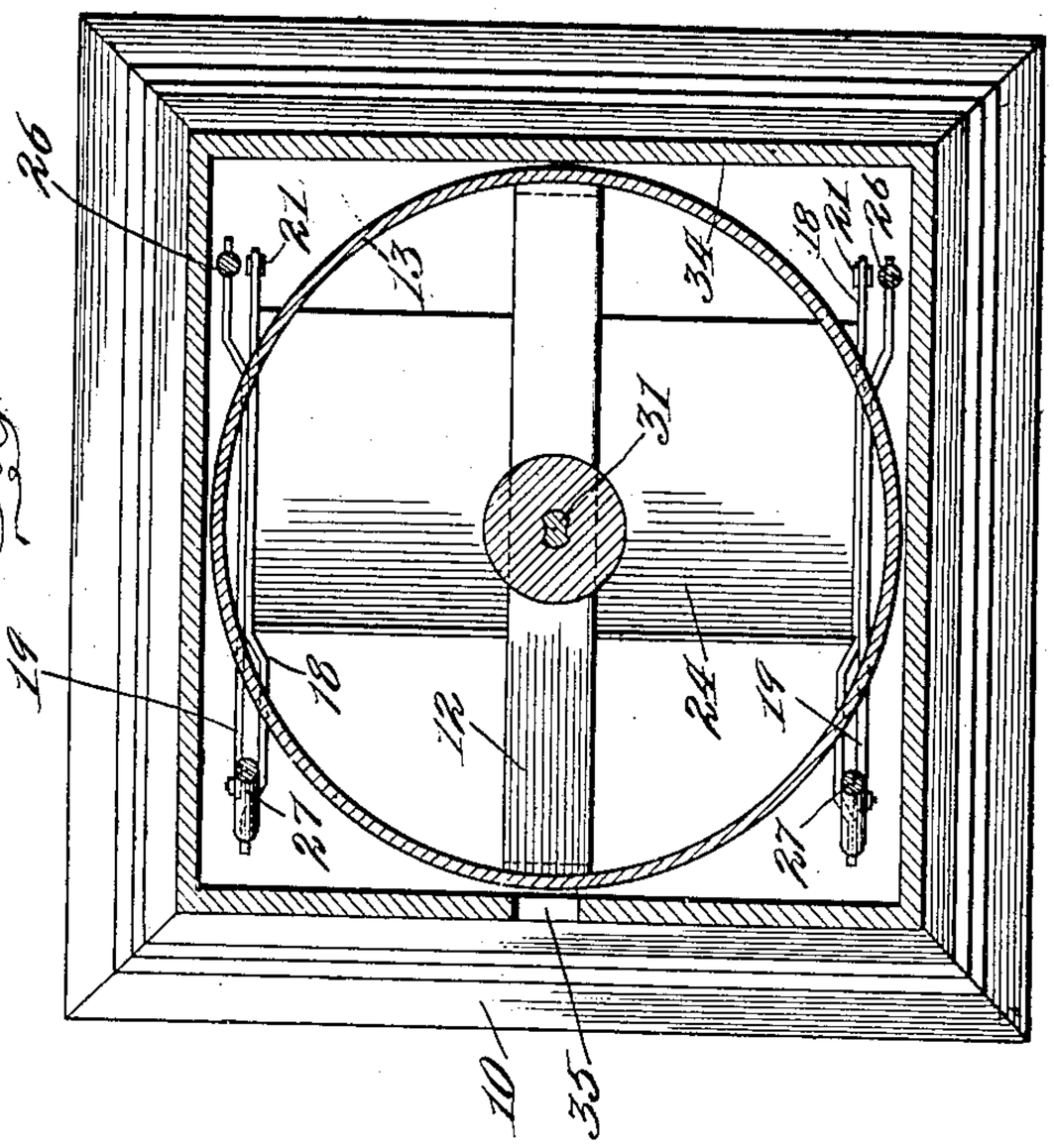

Fig. 1.

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2 SHEETS—SHEET 2.

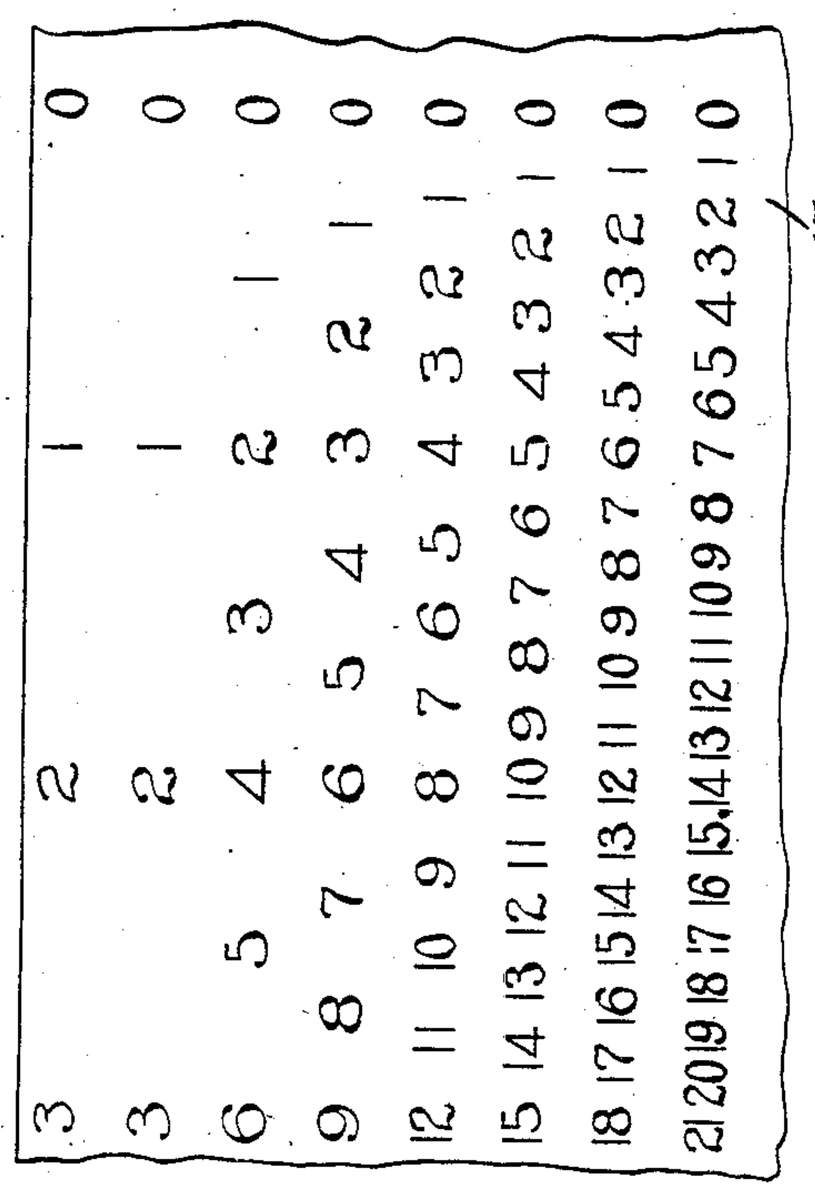

Fig. 5.

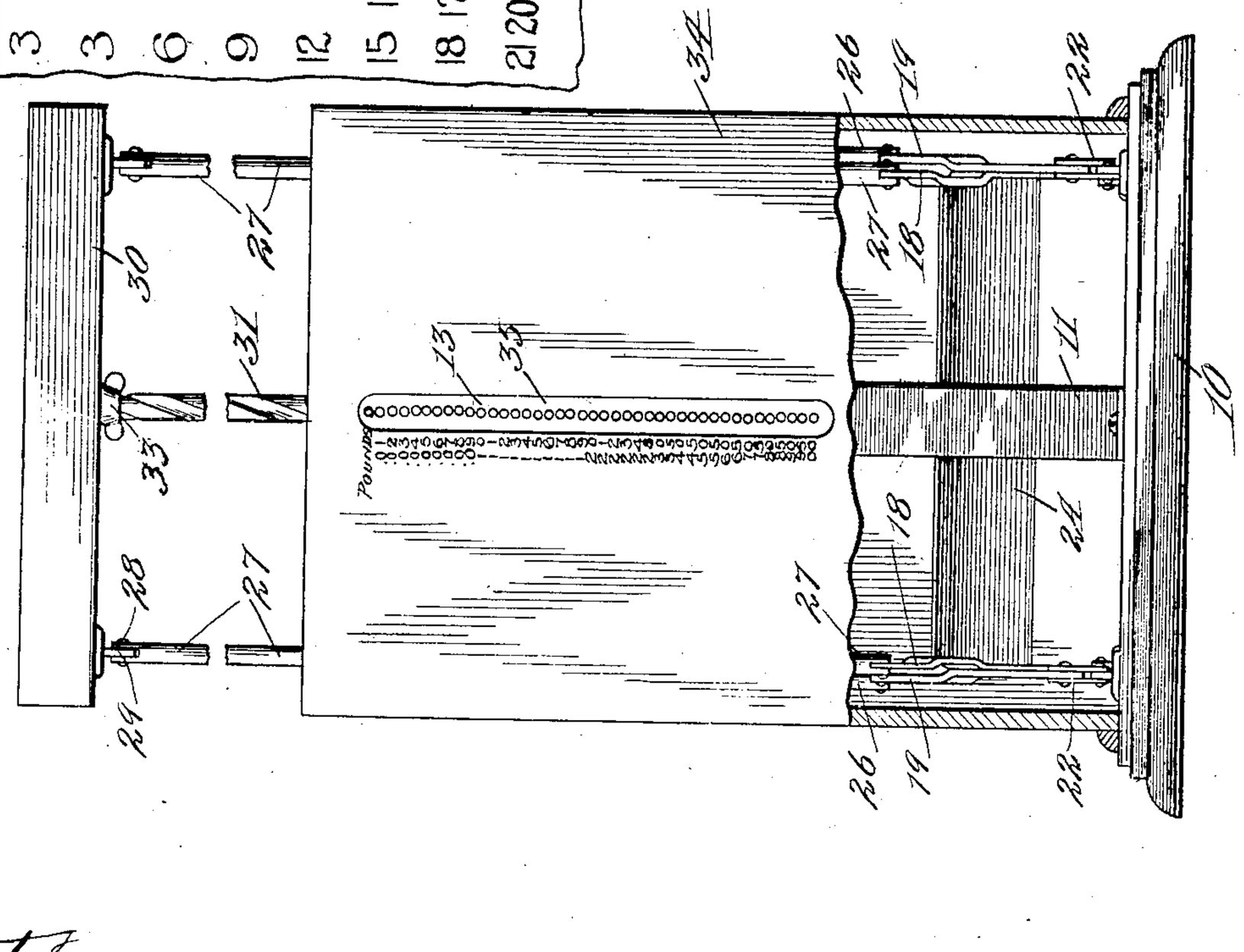

Fig. 4.

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UNITED STATES PATENT OFFICE.

THEODORE C. PROUTY, OF AURORA, ILLINOIS, ASSIGNOR TO WILCOX MANUFACTURING COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

COMPUTING-SCALE.

No. 862,937. Specification of Letters Patent. Patented Aug. 13, 1907.

Application filed November 19, 1906. Serial No. 344,064.

To all whom it may concern:

Be it known that I, THEODORE C. PROUTY, a citizen of the United States, residing at Aurora, in the county of Kane, State of Illinois, have invented certain new and useful Improvements in Computing-Scales, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to scales of the kind wherein in addition to showing the weight of an article placed thereon there is also shown at the same time the total price of the article being weighed at varying prices per pound.

The objects of the invention are to provide new and improved means for rotating the member that carries the weight and price figures, and to improve generally the construction and operation of devices of this character whereby a very reliable computing scale can be constructed of comparatively few and simple parts and at small cost. These objects I attain by the devices and combinations of devices shown in the drawings and hereinafter specifically described.

That which I believe to be new will be pointed out in the claims.

In the accompanying drawings:—Figure 1 is a vertical section through the rotating drum or cylinder and its inclosing case, the platform being shown in elevation and broken away sufficiently at its central portion to illustrate the manner of connecting to it the operating rod. Fig. 2 is a cross section taken at line 2 2 of Fig. 1. Fig. 3 is an enlarged detail, partly in section, showing the means for adjustably connecting the operating rod with the platform. Fig. 4 is a side elevation of my improved scale, the lower portion of the inclosing frame being partly broken away and in section. Fig. 5 is a detail, being an enlarged view showing a portion of the figures that indicate weights and prices as they appear upon the rotatable cylinder or drum, such representation being for clearness of illustration shown as if on a flat surface instead of on a curved one.

In the several figures of the drawings, in which corresponding parts are indicated by like reference numerals, 10 indicates a suitable base, to the upper face of which are secured two supports 11 united at their upper ends by a cross strip 12. In the construction shown, these supports and the cross strip 12 are formed of a single piece of metal, and I prefer to so form them, although it is obvious that they may be separately formed and suitably united.

13 indicates a cylinder or drum open at its lower end but closed at its upper end by a head 14.

15 indicates a bridge-piece within the cylinder or drum 13 extending across such cylinder or drum and suitably secured at its ends to such cylinder or drum. At its central portion and located on its under face there is secured to this bridge-piece 15 a bearing 16, in which is seated a pivot 17 secured to the horizontal connecting strip 12 that unites the supports 11. By thus pivotally mounting the cylinder or drum 13, such cylinder or drum is adapted to be easily rotated by the means hereinafter described.

18 19 indicate a pair of bars, two such pairs of bars being located at opposite sides of the machine, as clearly shown in Figs. 2 and 4. The bars 18 19 of each pair are connected together by a suitable pivot 20. Each bar 18 is pivotally connected at one end to a short vertical pin 21 affixed to the base 10, and each bar 19 is pivoted at one end to a link 22 that is pivotally attached to an ear 23, or other suitable device, secured to said base 10.

24 indicates a strip or plate extending between the two parallel bars 18, to which bars the ends of the said strip or plate are connected. 25 indicates a coiled spring suitably secured at its lower end to said strip or plate 24 and at its upper end to the cross strip 12 that unites the supports 11 at their upper ends.

26 indicates two rods, each being pivotally connected at its lower end to one of the bars 19 and rigidly secured at its upper end in any suitable manner to the scale platform hereinafter more specifically referred to. 27 indicates two other rods, each pivotally secured at its lower end to the end of one of the bars 18 and at its upper end pivotally connected, as at 28, to an ear 29 depending from and affixed to the lower face of the scale platform. These four rods, 26, 26 and 27, 27 extend up alongside of and but a short distance from the cylinder or drum 13, as best shown in Fig. 2.

30 is the scale platform before mentioned, which may be in the form shown or of any other desired form or shape.

31 indicates an operating rod having its surface formed with a spiral, as shown, which operating rod fits snugly, but so as to move freely longitudinally therethrough, within a proper shaped opening in the head 14 of the rotatable cylinder or drum. By the expression "proper shaped" I mean such a shape as will permit the said operating rod 31 to be moved longitudinally therethrough, but which, by such longitudinal movement, will compel a rotation of the cylinder or drum. The section shown in Fig. 2 illustrates such form of opening. This operating rod 31, in the construction shown, is screw-threaded at its upper end, and is screw-threaded into a suitable plate or nut 32 carried by the scale platform 30, such platform 30 being recessed centrally on its under face to receive such plate or nut and the projecting end of the rod 31, as clearly shown in Figs. 1 and 3. 33 indicates a set-screw on the screw-threaded portion of the rod 31, which, by being screwed up against said nut 32, will hold the rod rigidly in place.

34 indicates an inclosing casing surrounding the cylinder or drum and the parts located beneath the same. In one face of this casing is a longitudinal slot 35, through which one of the vertical rows of figures that are on the face of the rotatable cylinder or drum can be seen. In the upper end of this casing is formed a central opening 36, through which the operating rod 31 can freely pass, and it is also provided with four other openings through which pass the four rods 26, 26 and 27, 27. One of the openings for the rods 26 is shown in Fig. 1 and is indicated by 37, and one of the openings for the rods 27 is shown in said Fig. 1 and is indicated by 38. The openings 37 for the rods 26 are but slightly larger than the diameter of such rods, while the openings 38 are quite considerably larger than the rods 27 that pass through them, and this is necessary owing to the slight sidewise movement of such rods 27 when they are moved up and down. Such provision is not necessary, however, with respect to the rods 26, as they move at all times vertically, as will be hereinafter explained when describing the operation.

As indicated in Fig. 4, the surface of the inclosing case 34 is to be provided at one side of the slot or sight opening 35 with the word "Pounds", to indicate that the figures that may be brought into view directly opposite such word represent the weight of the article being weighed; and also at the side of such slot or sight opening there will be disposed parallel with such slot a line of figures indicating prices; and, as the cylinder or drum is rotated, various figures will be brought into view through such slot or sight opening opposite the price figures on the case, so that there can be told at a glance the cost of the article being weighed at varying prices per pound. This feature of determining the total price of an article being weighed is, of course, common to devices of this kind, and needs no further description.

Before the device is placed in use, the set-screw 33 is to be loosened sufficiently to allow the operating rod 31 to be turned in its nut 32 so as to bring the cylinder or drum in position to have the vertical row of naughts on its face brought to view through the slot or sight opening 35. The set-screw is then to be tightened up and the device is ready for use.

In use, an article to be weighed is to be placed on the platform 30 and the weight thereof will of course cause a downward movement of the platform, and, through the two pairs of rods 26, 26 and 27, 27, force down the outer ends of the two pairs of pivoted bars 19 19 and 18 18, such movement also of course being against the tension of the spring 25.

It is required, of course, that the platform 30 be at all times maintained in a horizontal position for the double purpose of properly supporting the articles placed thereon and for the purpose of maintaining its spiral operating rod in proper connection with the rotatable cylinder or drum, but at the same time it is necessary that compensation be made for the tendency to separate further apart of the free ends of each pair of the bars 18 18 and 19 19. I provide for these two conditions by rigidly uniting the rods 26 with the platform 30 and connecting the lower ends of the bars 19,—to which the lower ends of the rods 26 are connected,—with the base through the pivoted links 22, and by connecting the rods 27 to the platform 30 by pivots,—making such connection of the rods 27 with the platform a pivotal one on account of the fact that the bars 18 to which the rods 27 are connected are joined to the base by the rigid pins 21. The rods 26 which are rigidly secured to the platform 30 are necessarily at all times vertical and in alinement with the points of connection of the bars 20 with their fixed pins 21. By reason of this construction and arrangement of parts, the platform 30 will be held in proper position at all times, whereby its operating spiral rod will pass through the central opening in the head 14 with but slight friction and the coiled spring will be given a direct and even pull and not be liable to become distorted by use.

I have described the cylinder or drum 13 as being provided with a head, which as ordinarily constructed will be a circular member covering the entire end of the cylinder or drum, but it is evident, of course, that it is not necessary for such head to completely cover the entire end of such cylinder or drum.

What I claim as my invention and desire to secure by Letters Patent is—

1. In a scale, the combination with a rotatable member having an opening, of a spiral operating device fitting in said opening and movable longitudinally therein, a platform or support for articles to be weighed, means for connecting said platform or support with the upper part of said spiral device, and means for yieldingly sustaining said platform or support.

2. In a scale, the combination with a rotatable member provided with an opening, of a spiral operating device fitting in said opening and movable longitudinally therein, a platform or support for articles to be weighed located above said rotatable member and connected with said spiral device, and movable means outside of said rotatable member and connected with said platform or support for keeping said platform or support substantially horizontal at all times.

3. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod secured to and depending from said platform or support and fitting into said opening, and means for yieldingly sustaining said platform or support.

4. In a scale, the combination with a rotatable cylinder provided with an apertured head, of a device outside of said cylinder movable toward and away from said apertured head, and a spiral rod secured at its outer end to said movable device and held by said device in alinement with the aperture in said head, the inner end of said rod being free and projecting through said aperture into said cylinder.

5. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod adjustably attached to said platform or support and fitting into the opening in said head, and means for yieldingly sustaining said platform or support.

6. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod depending from said platform or support and fitting into the opening in said head, rods secured at their upper ends to said platform or support, means adapted to yield under pressure to which means the lower ends of said rods are secured, and a spring adapted to resist pressure applied to said means.

7. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod depending from said platform or support and fitting into the opening in said head, rods secured at their upper ends to

said platform or support, pivoted bars to which the lower ends of said rods are connected, and a spring for normally holding said bars in a raised position.

8. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod depending from said platform or support and fitting into the opening in said head, rods secured at their upper ends to said platform or support, two pairs of bars, the bars of each pair being pivoted together and each bar being pivotally secured in place at one end and at its other end connected with one of said rods, and a spring for normally holding said bars in a raised position.

9. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod depending from said platform or support and fitting into the opening in said head, rods secured at their upper ends to said platform or support, two pairs of bars, one bar of each pair being secured in place through a pivoted link and the other bars being pivoted to fixed supports and each of said bars being connected with one of said rods, and a spring for normally holding said bars in a raised position.

10. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod depending from said platform or support and fitting into the opening in said head, a plurality of rods depending from said platform or support, and yielding devices with which the lower ends of said rods are connected, some of said rods being rigidly secured to said platform or support and some movably connected therewith.

11. In a scale, the combination with a rotatable cylindrical member provided with a head having an opening, of a platform or support for articles to be weighed located above said cylindrical member, a spiral operating rod depending from said platform or support and fitting into the opening in said head, a plurality of rods depending from said platform or support, some of said rods being rigidly connected and some pivotally connected with said platform or support, pivoted bars to which the lower ends of said rods are connected, means for permitting an endwise movement of some of said bars as such bars are swung downward, and a spring for normally holding said bars in a raised position.

12. In a scale, the combination with a base, of a rigid supporting device affixed thereto, a rotatable cylindrical member having an opening in its upper end and provided with a bridge-piece in its interior, said bridge-piece being pivotally mounted on said supporting device, two pairs of bars pivotally connected with said base, a spring connected with said supporting device and said bars and adapted to normally hold said bars in a raised position, rods connected to said bars and projecting above the said cylindrical member, a platform connected with the upper ends of said rods, and a spiral rod depending from said platform and fitting into an opening in the upper end of said rotatable cylindrical member.

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