

E. THORNE.

PRICE COMPUTING BALANCE TRIP SCALE.

(Application filed Sept. 22, 1900.)

(No Model.)

2 Sheets—Sheet 1.

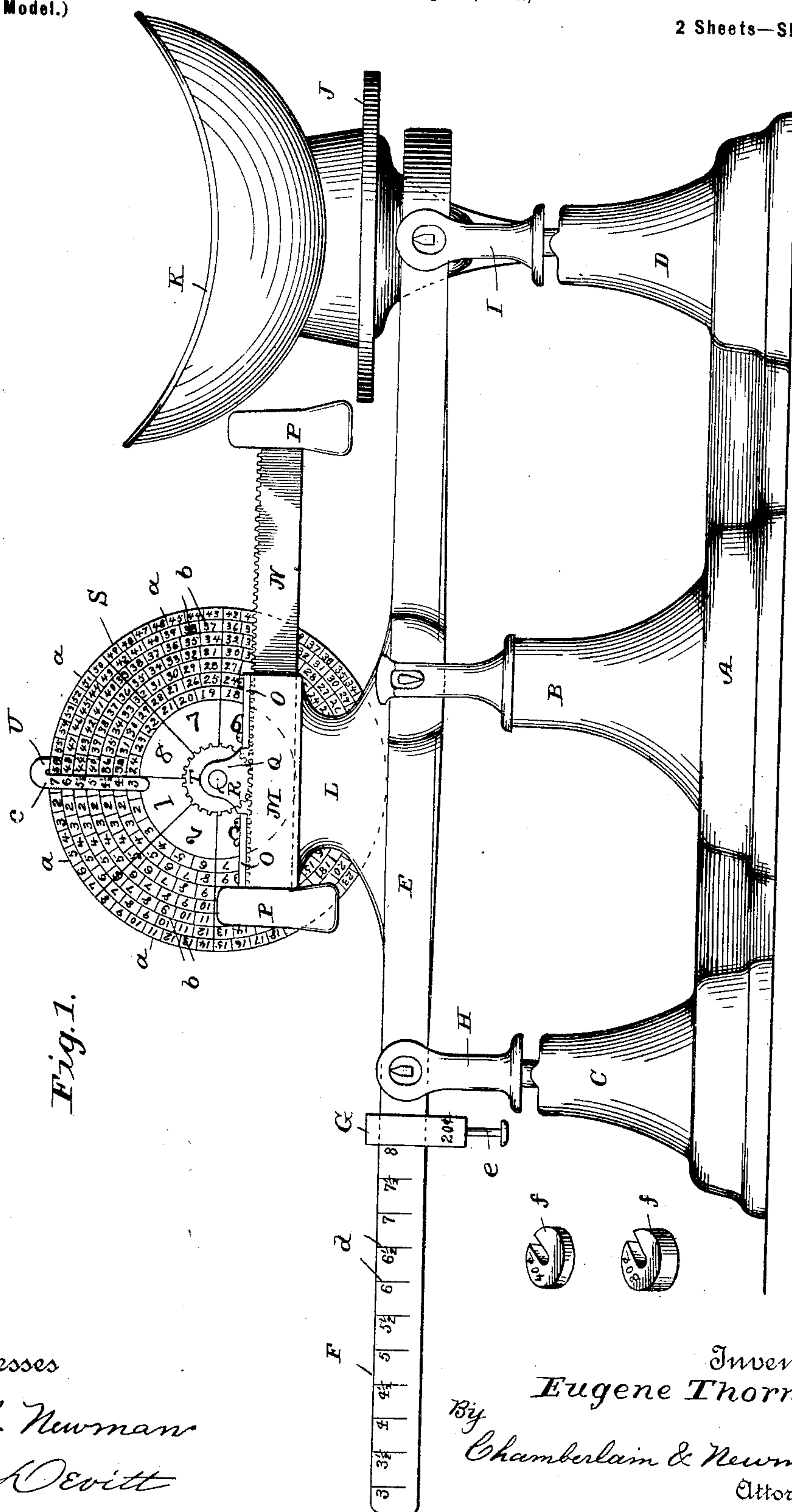


Fig. 1.

Witnesses

R. H. Newman

W. T. Devitt

Inventor

Eugene Thorne

By

Chamberlain & Newman

Attorneys

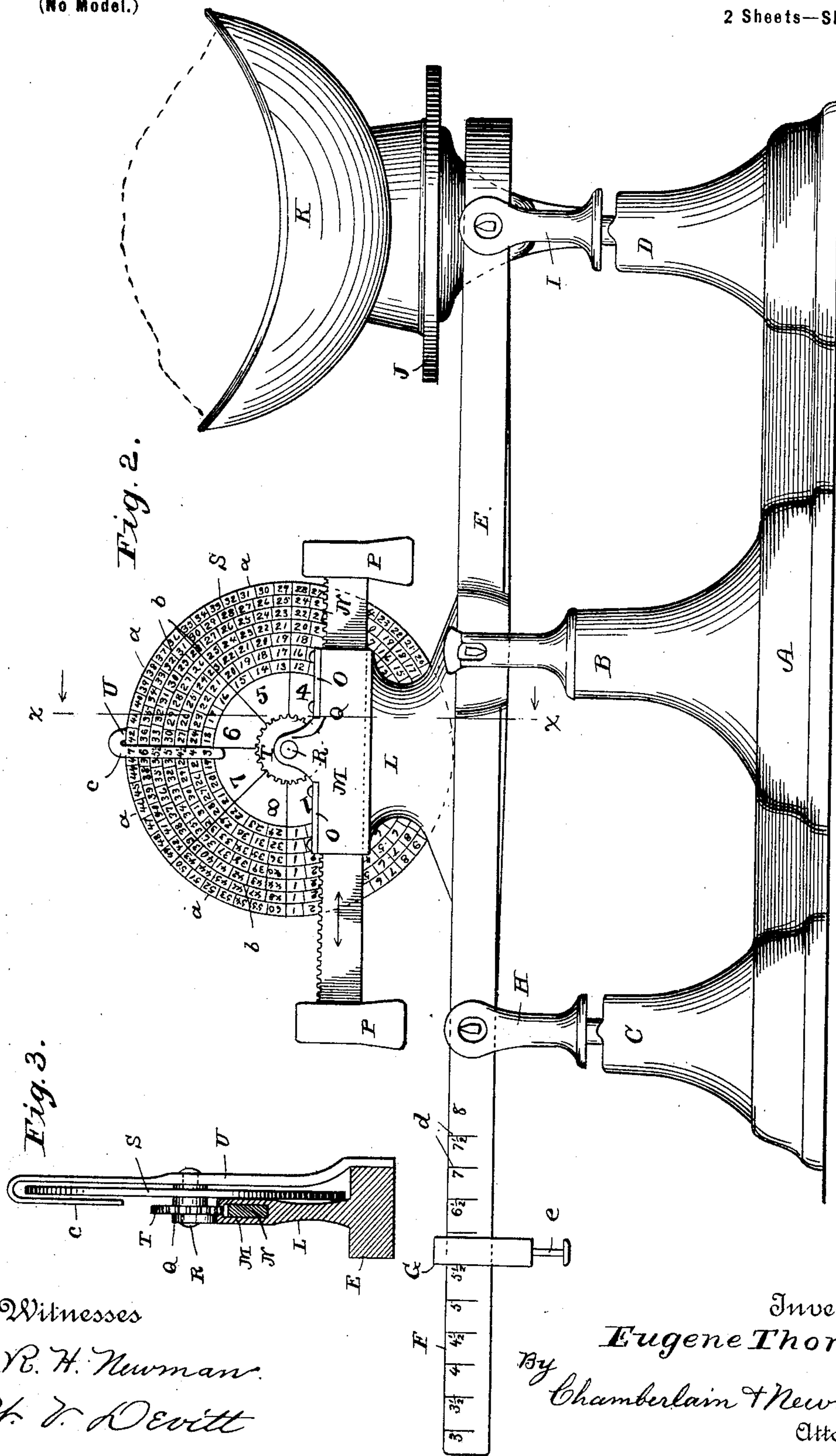
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Witnesses
 R. H. Newman.
 W. V. Devitt

Inventor
 Eugene Thorne
 By Chamberlain & Newman
 Attorneys

UNITED STATES PATENT OFFICE.

EUGENE THORNE, OF HENDERSON, NORTH CAROLINA.

PRICE-COMPUTING BALANCE TRIP-SCALE.

SPECIFICATION forming part of Letters Patent No. 673,095, dated April 30, 1901.

Application filed September 22, 1900. Serial No. 30,844. (No model.)

To all whom it may concern:

Be it known that I, EUGENE THORNE, a citizen of the United States, and a resident of Henderson, in the county of Vance and State of North Carolina, have invented certain new and useful Improvements in Price-Computing Balance Trip-Scales, of which the following is a specification.

My invention relates to new and useful improvements in balance trip-scales such as are employed for counter service, in which various commodities are weighed, and more especially to a combined price-computing device therefor.

It is the object of my invention to produce a balance trip-scale with a price-computing attachment in a specially-desirable compact and unique manner, whereby quantities of merchandise or other articles may be weighed and their value in dollars and cents computed at a given price, thus greatly lessening the labor in connection therewith.

A further and essential feature of my invention is to provide for said scale, in addition to the computing mechanism, what I term a "tally-beam," whereby desired quantities or values of commodities may be readily weighed out at specified prices, as will later be more fully explained.

With the above and other minor objects in view my invention resides and consists in the novel construction and combination of parts illustrated upon the accompanying two sheets of drawings, forming a part of this specification, upon which similar characters of reference denote like or corresponding parts throughout the several figures, and of which—

Figure 1 shows a front elevation of a balance-scale provided with my improved computing device. Fig. 2 is a similar elevation, the position of the computing-dial, weights, &c., being changed. Fig. 3 is a vertical cross-section on line *xx* of Fig. 2, illustrating the supports for the dial.

Referring in detail to the characters of reference marked upon the drawings, A indicates the base, B the central pedestal forming the pivot for the beam, C and D supporting end pedestals for the movable ends of the scale-frame, and E represents the balance or scale frame, which may be of the usual or any preferred construction.

F is a narrow graduated extension of E, forming a tally-beam having a slidable weight G, the purpose of which construction will again be referred to and described.

H and I represent guided supports connecting the pedestals C and D with the balancing-frame, respectively.

J is a platform attached to the support I, and K is a scoop, of any usual or preferred construction, for use upon said platform.

Upon the balancing-frame of the scale is formed a post L, which I provide with a longitudinal way M to form a guide for a rack-bar N, which is slidably mounted therein, said bar being preferably inserted from the top and retained in position by caps O O, secured to the post by means of screws. To either end of the rack-bar N is a weight P, which when adjusted to the extreme right causes the empty scale to balance, and by adjusting said bar to the left I am enabled to tip the scale and counteract the weight of the commodity which may be placed in the receptacle K, as shown in Fig. 2.

To the post L is secured an extension Q, forming a bearing for the front end of the pivotal shaft R of the dial S, the opposite end of this shaft being supported in a rear post U. (See Fig. 3.) Upon said shaft is also secured a small pinion T, the teeth of which mesh with those of the rack N in a manner to cause the rotation of the pinion by the movement of the rack-bar and likewise a rotary movement of the dial which is connected therewith through the medium of the shaft before mentioned.

The dial S may be divided to indicate as many pounds as desired. In the drawings, for convenience of illustration, I have divided it into eight equal parts *a*. I further divide the dial into a series of circles *b*, of which in practice there may be any desired number, there being seven represented in the drawings. The spaces between each of these circles are divided into a number of equal parts ranging from twenty-four to sixty, and upon each of said spaces is represented a numeral. The outermost circle of spaces has numerals from "1" to "56," inclusive, while the smaller and innermost circles has numerals from "1" to "24." In the operation of my scale these numerals indicate the values in cents of the com-

commodity weighed at a given price. In front of the face of the upper portion of the dial is represented a stationary indicator *c*, which is supported from the rear by the post *U*. This indicator is provided with price-numerals for each circle or series of figures, which price-numerals range in the drawings from three to seven cents and are located, of course, directly opposite to the one of the series of numbers to which they apply.

In the operation of my scale it will therefore be noted that the carrying out of my multiple price is as follows: Assuming that the scoop is laden with goods to the weight of six pounds, the adjustable bar and its weight are shifted to the left, (see Fig. 2,) which rotates the dial to the right, thus carrying the entire series of numerals around until the six-pound line registers with the right-hand edge of the stationary indicator *c*, thus indicating that the weight of the article is six pounds. Presuming, then, that the price of the article is seven cents per pound, it will be simply necessary to look at the dial adjacent to the numeral "7," where the figures "42" will be shown, thus informing you that the six pounds at seven cents amounts to forty-two cents. The same reckoning may be carried out to the full capacity of the scale, and, as before stated, the dial may be enlarged, so as to give a larger range of prices, if desired.

A further feature of my scale resides in the tally-beam *F*, by means of which I am enabled to more readily reckon or weigh up a dollar's worth of goods at a stated price per pound. This is accomplished by means of the graduations *d* upon the beam, which, as will be seen, are represented by price-numerals ranging from "3" to "8," including one-half cents each. It will further be obvious that the number of those graduations may be increased, if desired. In carrying out this computation of prices it is necessary to have the weight *G* of a proper size with relation to the graduations upon the beam to represent a certain amount in value, and for convenience of description we will presume that said weight represents twenty cents' worth. Therefore if it is desired to give a purchaser twenty cents' worth of sugar and the same is selling at five cents per pound the weight *G* would be shifted from the position shown in Fig. 1 to the numeral "5" or position shown in Fig. 2, whereupon the commodity would be placed in the scale until the same is balanced, which would indicate twenty cents' worth at five cents per pound. If the amount desired to be weighed out is greater than twenty cents' worth, the extra amount is secured by placing upon the depending support *f* of the weight *G* one of the detachable weights *f*, of which there may be any desired number, representing from twenty to eighty cents each. By this means I am able to give a dollar's worth or less at from three to eight cents per pound. Thus if you desire a dollar's worth at five cents per

pound you would place upon the hanger *e* an eighty-cent weight *f*, which weight, with the original weight *e*, when adjusted to the price-numeral *d* desired would give you the dollar's worth at the selling-price to which it had been moved. Any less amount can be secured in the same manner by simply applying the proper weight *f* to the hanger *e* corresponding to the amount of the value desired to balance.

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

1. In a balanced trip-scale, the combination with a balancing-frame, of a post mounted thereon, a racked weight-bar slidably mounted in a way of said post, a shaft bearing a pinion to engage the rack referred to, a dial mounted upon the pinion-shaft and bearing a number of series of numerals circularly arranged, a stationary indicator extended across the path of said numerals and bearing price-numerals to register with those upon the dial in a manner to present total amounts by said prices in accordance with the adjustment of the dial.

2. In a computing price-scale, the combination with the balancing trip-frame, of a price-computing mechanism comprising a post on said frame, a weighted rack-bar adjustably mounted in the post on the balancing-frame, a removable cap inclosing said bar, a rotary dial mounted upon a shaft journaled in said post and containing several series of numerals, a pinion connection interposed between the weighted rack-bar and the dial whereby the latter is rotated by the movement of said weight, a stationary indicator located in front of the dial and containing price-numerals adapted to register with the numerals upon the rotary dial before mentioned, substantially as shown and described.

3. In a balance trip-scale, the combination with a pivoted scale-frame, of an adjustable weight mounted in a post thereon and bearing a rack, a rotatable shaft mounted in said post, a rotary dial on said shaft having a pinion connected with said rack and adapted to be rotated by the movement of the weight, a graduated tally-beam and a weight adjustably mounted thereon representing the same value when adjusted to the several price-graduations upon the beam, and additional weights for attachment of said adjustable weight whereby increased stated values may be secured.

4. In a balance trip-scale, the combination with the balancing-frame, of a post secured thereon, a rack-bar having weights on either end adjustably mounted in said post, a dial rotatably mounted adjacent to said weight, a rotatable pinion connected with said dial and adapted to engage the adjustable rack in a manner to cause the complete rotation of the dial by an adjustment of the bar, a fixed vertically-disposed indicator stationed

in front of the dial bearing price-numerals to register with numerals circularly arranged upon the face of the rotatable dial.

5 The combination in a scale, of a balancing-frame, front and rear posts secured thereon, a shaft mounted in said posts, a rotatable round dial on said shaft bearing several series of circularly-arranged numerals, a sliding weighted bar mounted in one of said
10 posts for operating said scale and bearing a rack, a rotatable pinion on the dial-shaft forming a connection between said weighted rack-bar and the dial whereby the latter may be rotated in accordance with the adjustment
15 of the weight and to present at a fixed point the total amount of the commodity upon the scale at a given price, a fixed indicator with which the dial is read.

6. The combination with a scale-beam, of
20 a post mounted thereon, a guide located in said post, a rack-bar located in said guide and bearing weights upon either end, a round, flat rotatable dial adjacent to said rack-bar, a rotatable shaft and pinion for said dial engaged and operated by the rack-bar before
25 mentioned, a vertical stationary indicator

bearing price-numerals with which the numerals upon the face of the dial register, the whole arranged to give total amounts of weighed commodities at given prices. 30

7. In a scale of the class described, the combination with the balancing-frame, of an adjustable weighted bar bearing a rack, a round dial adapted to rotate, a shaft on which said
35 dial is mounted, a rotatable pinion on said dial-shaft to engage the rack of the weight whereby the dial may be rotated to compute the value of a commodity, a stationary price-indicator by means of which the numerals of the dial are reckoned, a graduated beam
40 mounted upon the movable frame of the scale, and a tally-weight of specific worth upon said beam representing the same values when adjusted to the several price-numerals on the beam, as described. 45

Signed at Henderson, in the county of Vance and State of North Carolina, this 20th day of September, A. D. 1900.

EUGENE THORNE.

Witnesses:

J. A. PHELPS,
B. I. POWELL.