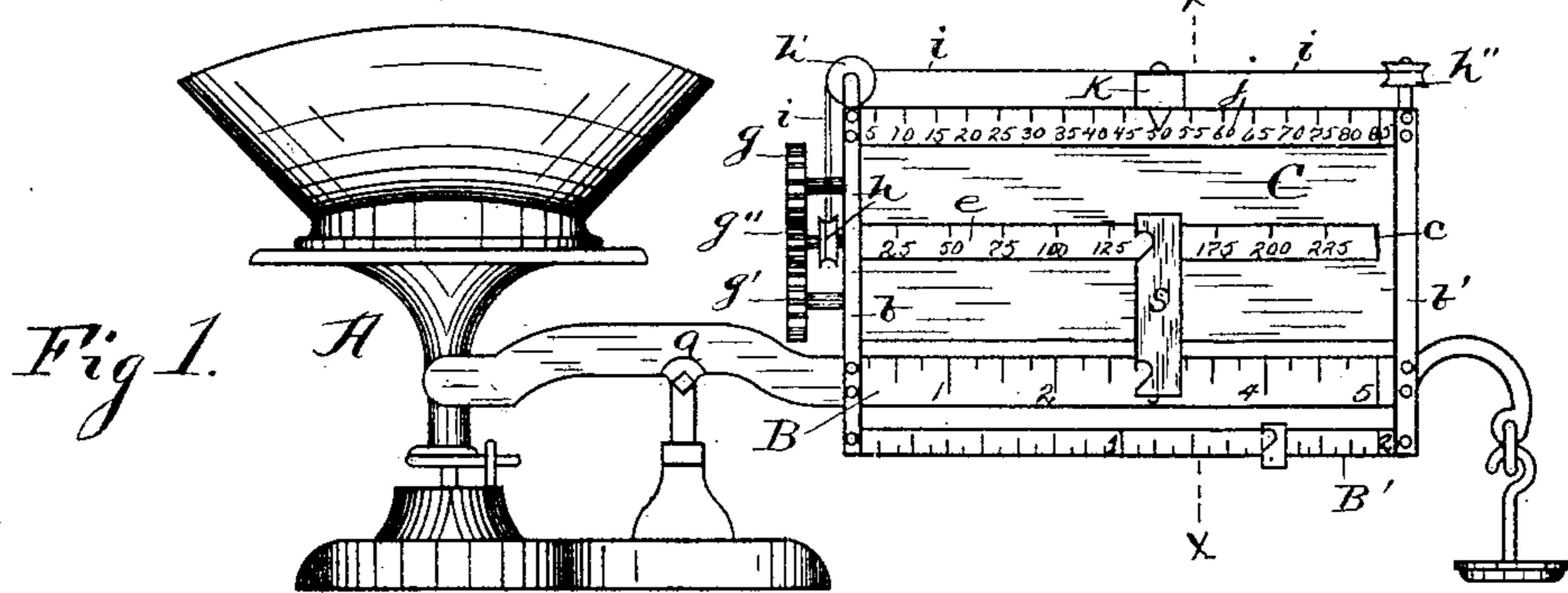


(No Model.)

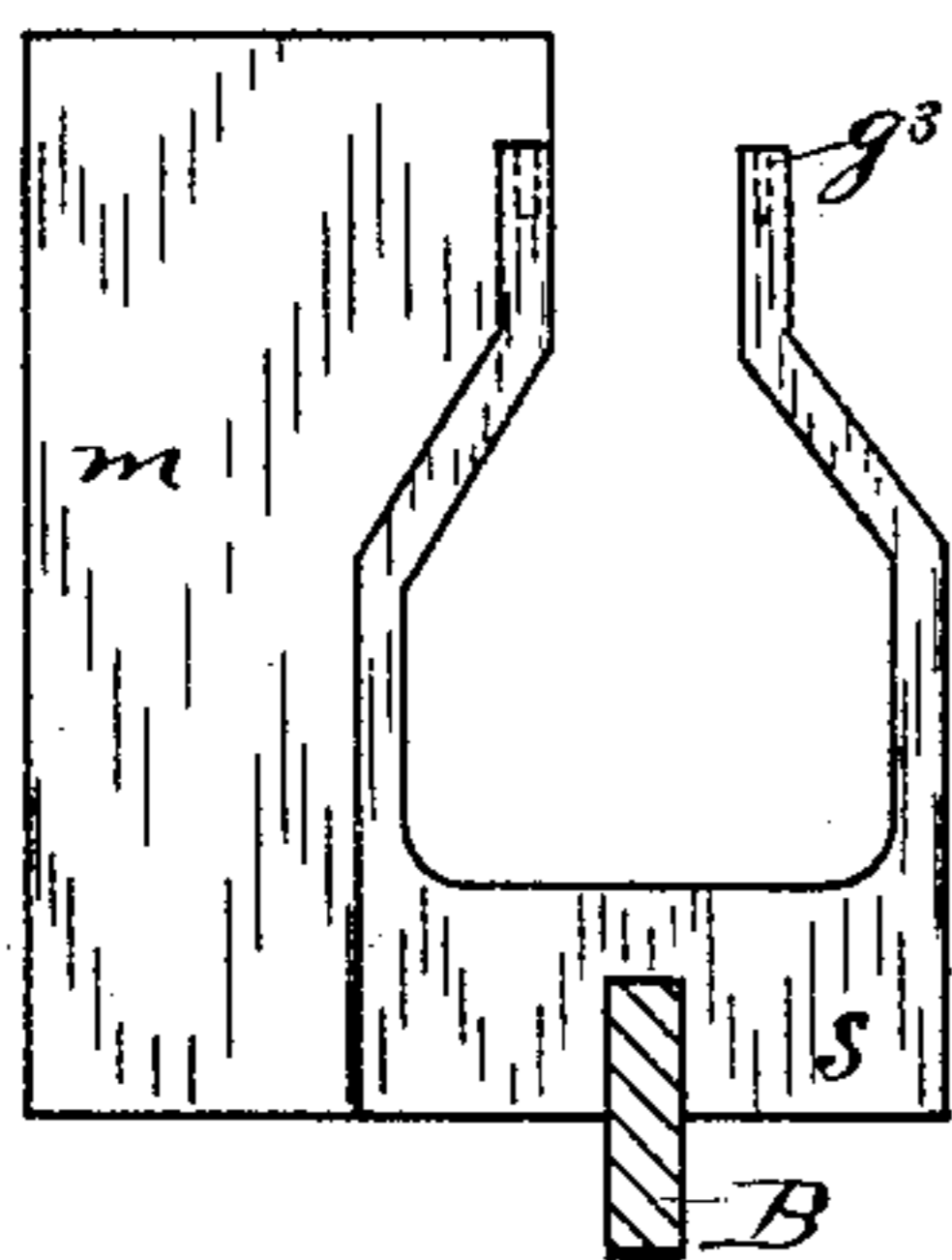
D. J. SMITH, Jr.  
COMPUTING SCALE.

No. 534,483.

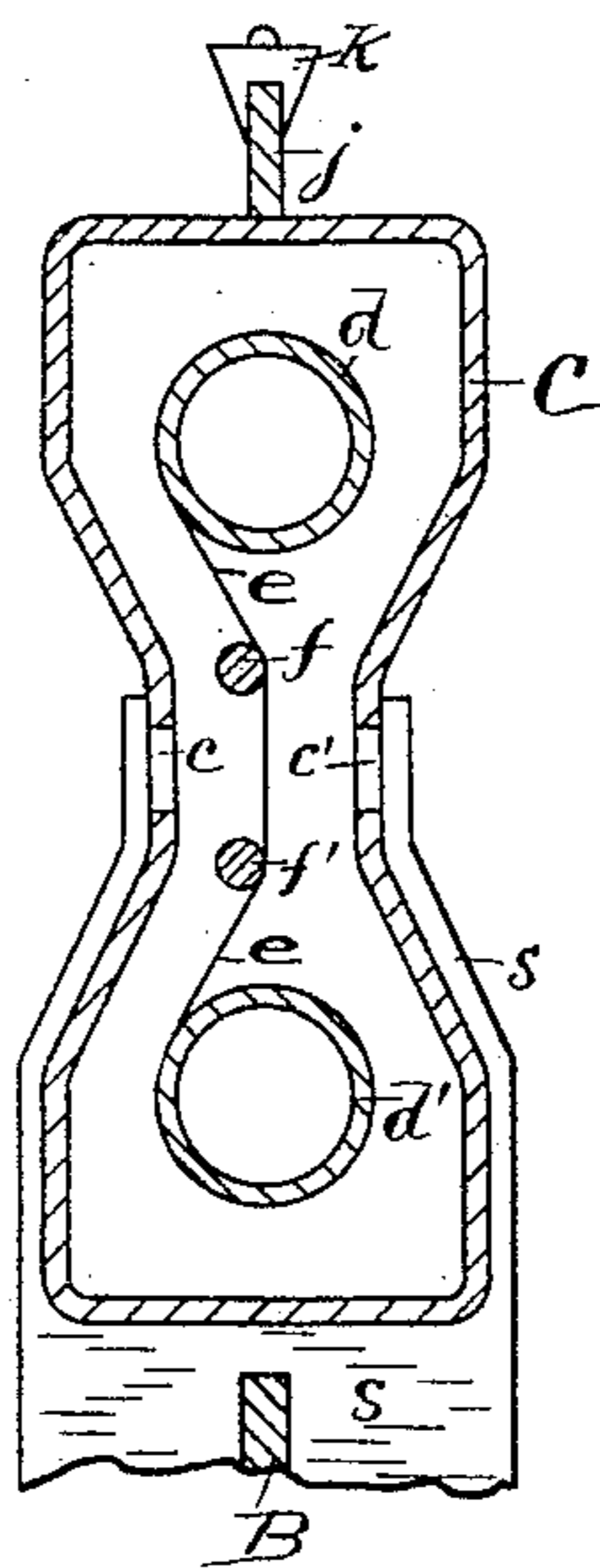
Patented Feb. 19, 1895.



*Fig 3.*



*Fig 2.*



WITNESSES:

Lester L. Allen.

Dorsey Kreitzer.

INVENTOR

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# UNITED STATES PATENT OFFICE.

DRURY J. SMITH, JR., OF DAYTON, OHIO.

## COMPUTING-SCALE.

SPECIFICATION forming part of Letters Patent No. 534,483, dated February 19, 1895.

Application filed June 22, 1894. Serial No. 515,443. (No model.)

*To all whom it may concern:*

Be it known that I, DRURY J. SMITH, Jr., of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Computing-Scales; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to new and useful improvements in computing or price scales, with special reference to counter scales of the non-changeable leverage type.

The object of the invention is to provide means for simultaneously showing, by a single operation, the prices per pound of the various goods, the total weight and the total value of the package or the specific quantity of said goods, that may at any time be sold.

A further object is to provide means for showing these on both sides of the scale, in order that the vendee and vendor may have equal facility for seeing the same.

To these ends my invention consists of parts and arrangements thereof that will be described in the following specification, and set forth in the claims.

In the annexed drawings which form a part of the specification: Figure 1 is a side elevation, showing my improved attachment; Fig. 2, a section on the line  $x-x$  of Fig. 1; Fig. 3, a detail end elevation of the poise with a portion of the weight beam in section, and a supplemental weight attached to the poise.

A indicates a scale; B, the weight beam thereof, having a fulcrum at  $a$ .

$b$  and  $b'$  indicate uprights, secured to the weight, and tare beams B and B'.

C is a casing, preferably constructed of sheet metal, with its ends inclosed, and at which points said casing is attached to the uprights  $b$  and  $b'$  so that it occupies a position above the beam B. In cross section, the shape of this casing is substantially as shown in Fig. 2, in which it will be noted, the central longitudinal sides turn or deflect inwardly, making this portion of said casing more nar-

row than the remaining parts, which is a desirable construction.  $c$  and  $c'$  designate slots provided in the central longitudinal sides of said casing.  $d$  and  $d'$  designate parallel rollers inclosed in the upper and lower longitudinal parts of said casing, and the journals of which are provided with bearings in the uprights  $b$  and  $b'$ .  $e$  designates a flexible sheet inclosing said rollers and made fast thereto at both ends. This sheet may be of any suitable material having the requisite strength and pliability to stand the usage, and admit of a ready winding about the rollers. At present, however, I prefer to construct it of thin tenacious celluloid. This sheet is adapted to be wound back and forth on the rollers  $d$  and  $d'$  in a manner presently described, and the function thereof, is to indicate the various numerals contained thereon (which are duplicated on both sides of the sheet) through the longitudinal slots  $c$  and  $c'$  in the casing.

$f$  and  $f'$  designate small rollers having their ends journaled in the ends of the metallic casing C, the purpose of which is to maintain the index sheet  $e$  between the rollers  $d$  and  $d'$  in a central position, to admit of the figures thereon being visible with equal plainness through both slots. See Fig. 2. The figures inscribed on this sheet, in the present instance, indicate the values of specific quantities of goods.

$g$  and  $g'$  designate gear wheels, keyed to the respective shafts of rollers  $d$  and  $d'$  which project beyond the upright  $b$ , for this purpose.

$g''$  is an intermediate gear wheel keyed to a short shaft which is also journaled in the upright  $b$  and upon which shaft a pulley  $h$  is also fixed. This intermediate gear wheel meshes with wheels  $g$  and  $g'$ .

$i$  designates an endless cord or cable which is preferably wound a couple of times around pulley  $h$ , carried upward over a guide pulley  $h'$  and horizontally over a similar pulley  $h''$ , both of the latter pulleys being mounted on the extreme ends of the casing C in a central position. In order to prevent the cord from slipping on pulley  $h$  and to secure a positive movement of said pulley to insure the proper figures on the sheet  $e$  appearing at the slots

$c$  and  $c'$ , I fasten one strand of said cord to the pulley at a given point by means of a pin or staple.

$j$  designates a supplemental scale mounted horizontally above the casing  $C$ , and occupying a central position with reference to said casing, as shown in Fig. 2. The ends of this scale are made secure to the uprights  $b$  and  $b'$  and the figures thereon indicate the prices per pound of the various commodities.  $k$  designates a poise straddling said scale and adapted to be moved thereon. To this poise one strand of the endless cord  $i$  is fastened. By winding the cord  $i$  around the pulley  $h$  a given number of times, the pulley is subjected to as many revolutions in either direction.

From the foregoing description, it will be seen that the sliding of the poise  $k$ , will likewise move the cord  $i$ , and the pulley  $h$ , through which the train of gearing will be set in motion, and the rollers  $d$  and  $d'$  will simultaneously wind and rewind the sheet  $e$  to indicate the desired figure or figures at the slots  $c$  and  $c'$ .

It will be understood that the figures on the sheet  $e$  are arranged with reference to those on the scale  $j$ ; that is to say, assuming that three pounds of an article are sold, at fifty cents per pound, the compound weight and value poise  $s$  is moved along the weight beam  $B$  to figure "3." The poise  $k$  is then moved to "50" on the scale  $j$ . This movement of the poise  $k$  will rotate the flexible sheet  $e$ , in the manner hereinbefore described, to make "150" appear at the upper pointer on the poise  $s$ . As is now shown in Fig. 1, two and three-fourths pounds of an article selling at fifty cents per pound have been retailed. If there were sufficient space, "137" and a fraction would appear to the right of "125."

It will be seen from Fig. 2, that the poise  $s$  extends up on both sides of the casing  $C$  to the vicinity of the longitudinal slots  $c$  and  $c'$  where it points to the figures on the winding sheet. In connection with the poise  $s$ ,  $m$  indicates a supplemental weight, of which there

may be a number, having greater or less specific gravity, which may be attached to either side of the poise  $s$  in any suitable way. In the present instance, said weight is provided with one or more pins that enter holes in the upper edge of the poise as is shown in dotted lines, at  $g^3$ , Fig. 3. The object of thus multiplying the weight of poise  $s$  is to increase the capacity of the scale, which is done by multiplying the figures on the weight beam, and flexible sheet in the same ratio that the weight is increased, or extra sets of figures may be provided on the weight beam and flexible sheet, to indicate the weight and value when said additional weight is attached to the poise  $s$ .

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

1. The combination with the weight beam, of a flexible winding sheet provided with corresponding figures on both sides, the figures on one side being in alignment with those on the other, devices interposed between the sheet, and the price per pound poise for moving said sheet, substantially as herein described.

2. The combination with a scale beam, and sliding poise, of a flexible sheet having corresponding figures on both sides indicating the total values of specific quantities of goods, rollers upon which said sheet is wound, a casing inclosing said sheet, having longitudinal slots through which the figures on said sheet are visible on both sides of the scale, a graduated scale adjacent to said casing indicating the cost of goods in pound quantities, a sliding poise on said scale, and means interposed between said sliding poise, and the flexible sheet for winding the latter, substantially as herein described.

In testimony whereof I have hereunto set my hand this 13th day of June, 1894.

DRURY J. SMITH, JR.

Witnesses:

R. J. MCCARTY,  
LESTER L. ALLEN.