

No. 675,457.

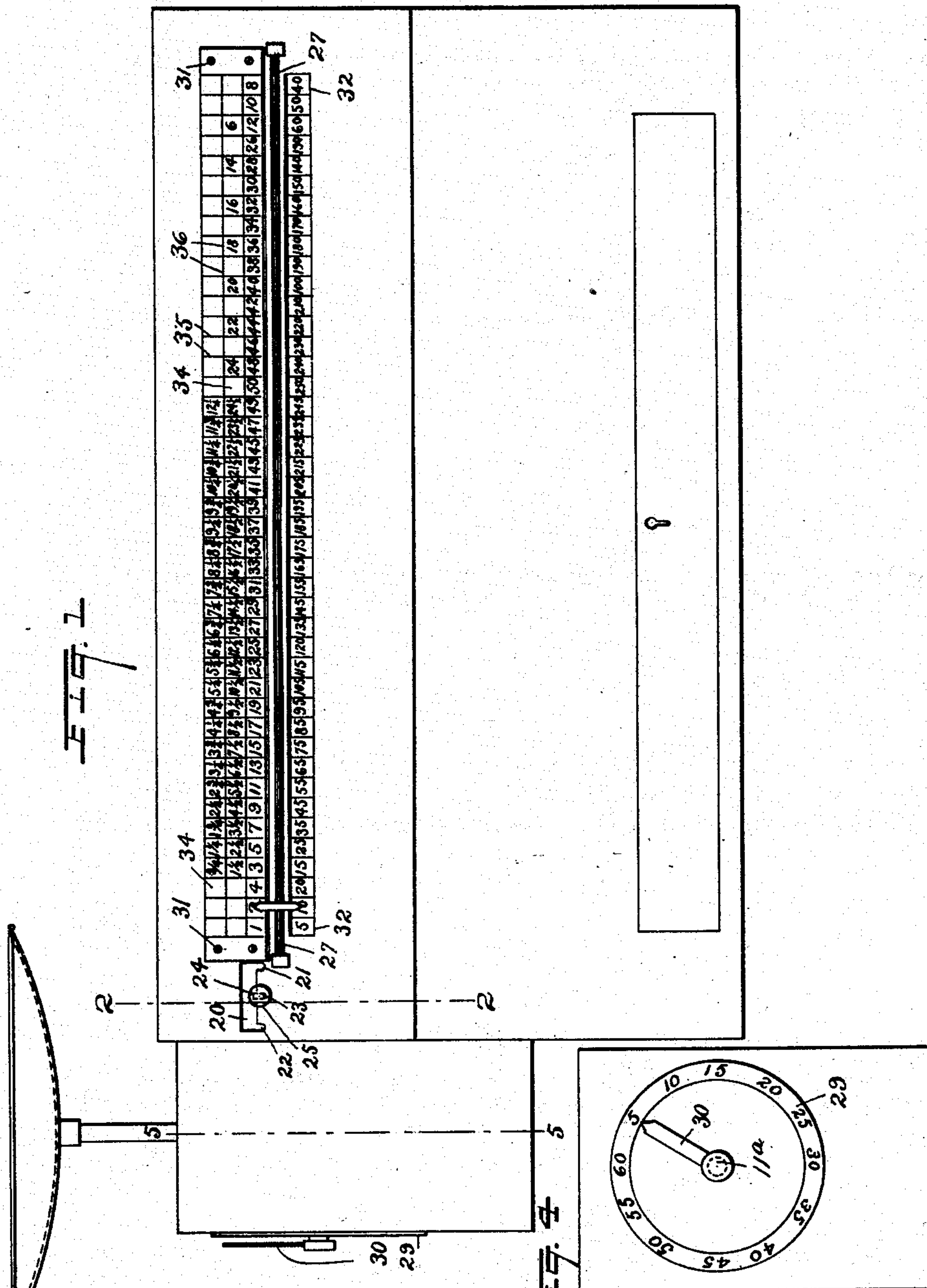
Patented June 4, 1901.

D. WALKER.  
PRICE DENOTING SCALE.

(Application filed June 7, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES  
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*C. C. Allen*

INVENTOR  
*David Walker*  
BY  
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ATTORNEYS

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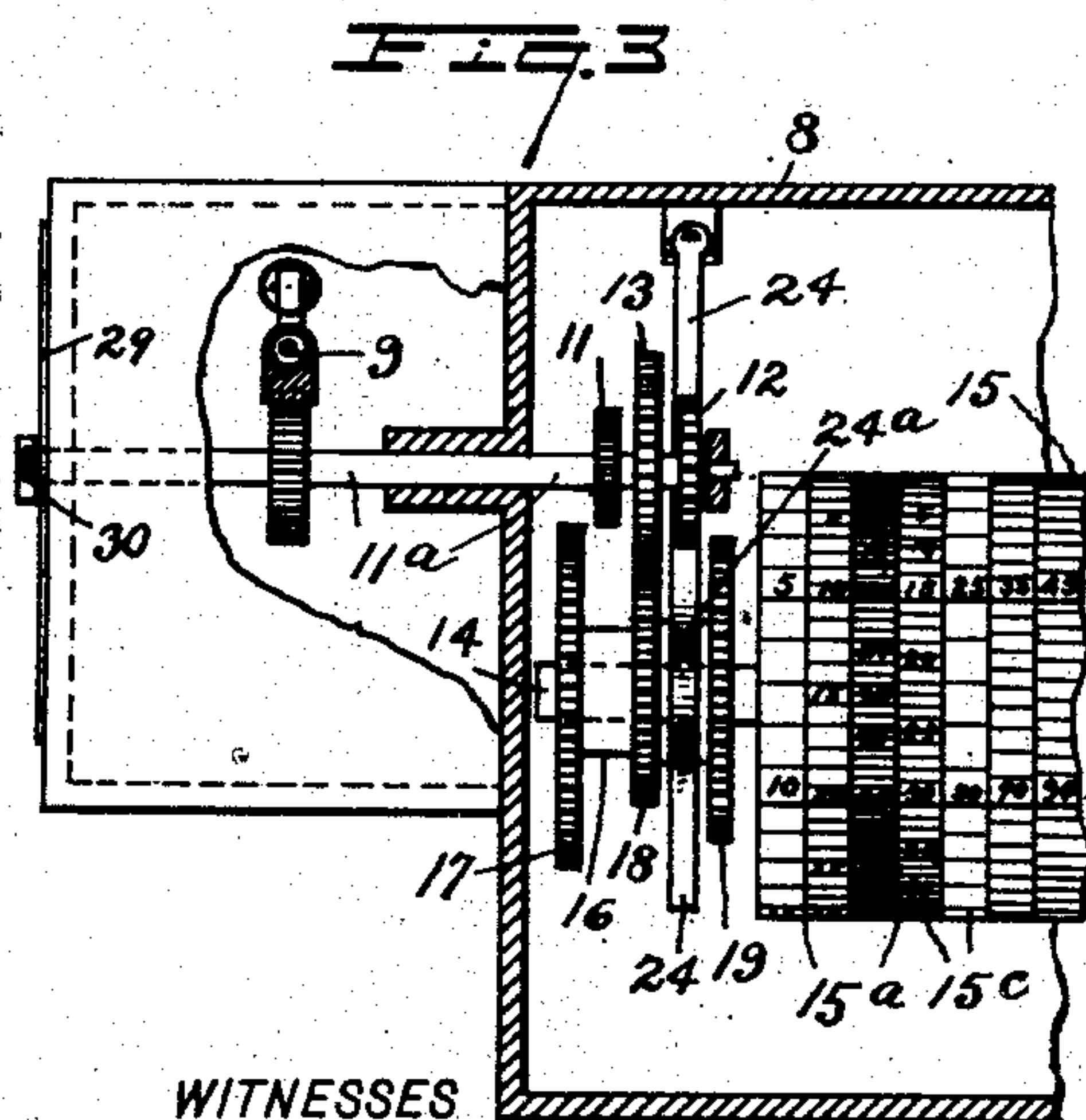
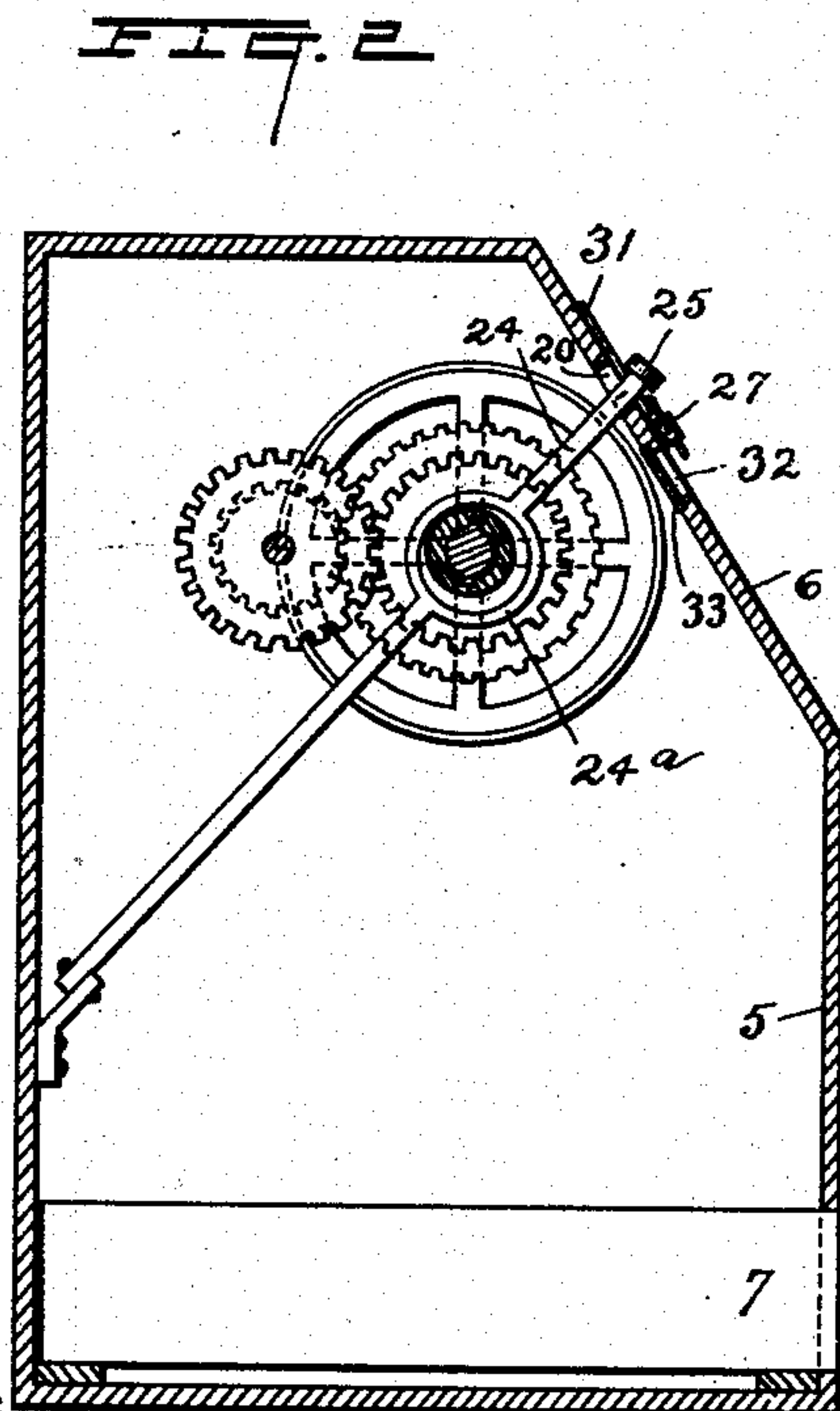
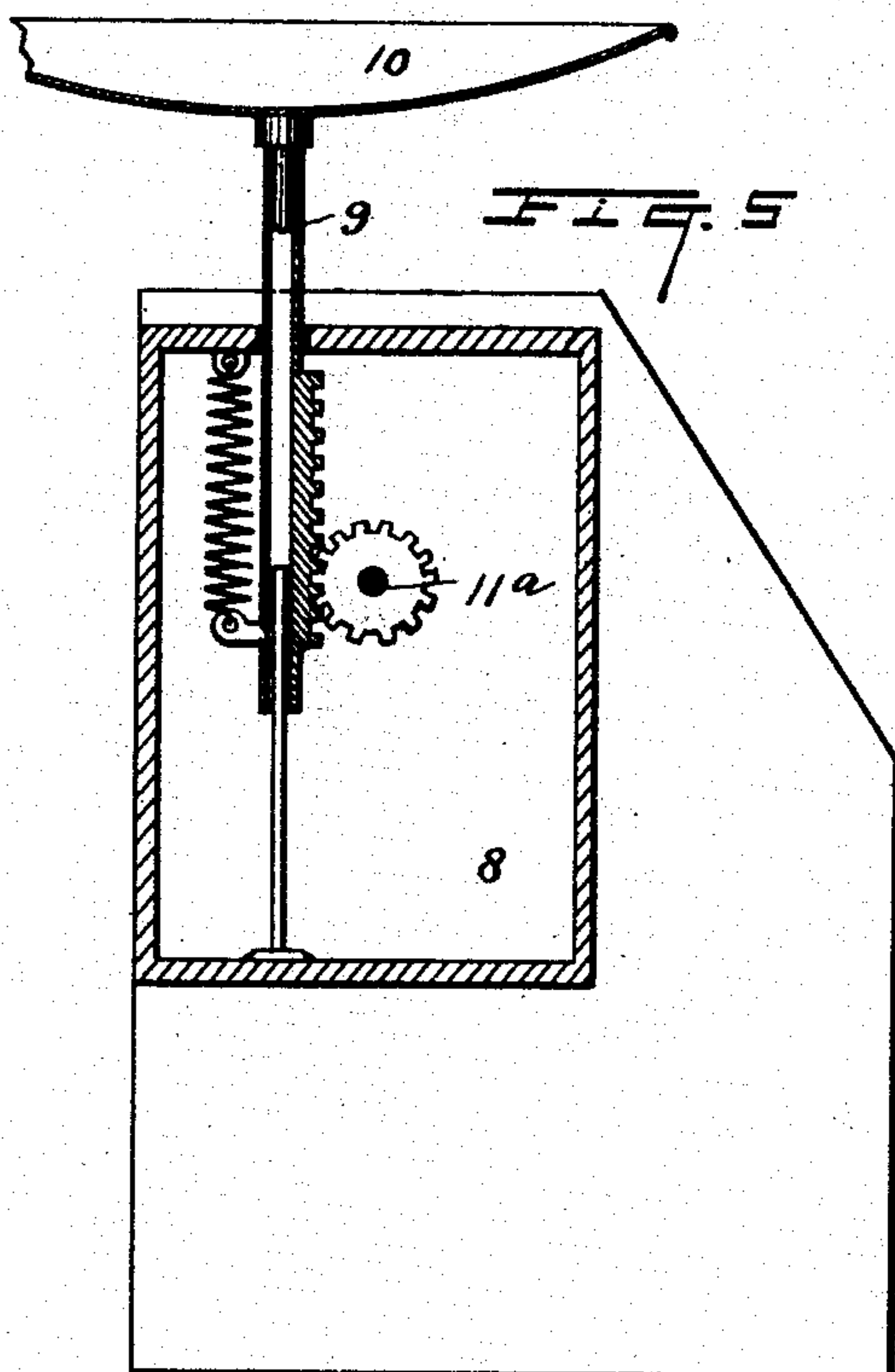
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**2 Sheets—Sheet 2.**



|    |    |    |    |     |     |     |     |
|----|----|----|----|-----|-----|-----|-----|
|    |    |    |    | 5   | 5   | 5   | 5   |
|    |    |    |    |     | 10  | 10  | 10  |
|    |    | 5  |    | 5   | 15  | 15  | 15  |
|    | 5  |    |    | 10  | 20  | 20  | 20  |
|    |    | 10 |    | 15  | 25  | 25  | 25  |
|    |    |    | 10 | 20  | 30  | 30  | 30  |
|    |    | 15 |    | 25  | 35  | 35  | 35  |
|    |    |    |    | 30  | 40  | 40  | 40  |
| 5  | 10 |    |    | 35  | 45  | 45  | 45  |
|    |    | 20 | 15 | 40  | 50  | 50  | 50  |
|    |    |    |    | 45  | 55  | 55  | 55  |
|    |    | 25 |    | 50  | 60  | 60  | 60  |
|    |    |    | 20 | 55  | 65  | 65  | 65  |
|    | 15 |    |    | 60  | 70  | 70  | 70  |
|    |    | 30 |    | 65  | 75  | 75  | 75  |
|    |    |    |    | 70  | 80  | 80  | 80  |
|    |    | 35 | 25 | 75  | 85  | 85  | 85  |
|    |    |    |    | 80  | 90  | 90  | 90  |
| 10 | 20 |    |    | 85  | 95  | 95  | 95  |
|    |    | 40 | 30 | 90  | 100 | 100 | 100 |
|    |    |    |    | 95  | 105 | 105 | 105 |
|    |    | 45 |    | 100 | 110 | 110 | 110 |
|    |    |    | 35 | 105 | 115 | 115 | 115 |
|    | 25 |    |    | 110 | 120 | 120 | 120 |
|    |    | 50 |    | 115 | 125 | 125 | 125 |
|    |    |    | 40 | 120 | 130 | 130 | 130 |
|    |    | 55 |    | 125 | 135 | 135 | 135 |
|    |    |    |    | 130 | 140 | 140 | 140 |
| 15 | 30 |    |    | 135 | 145 | 145 | 145 |
|    |    | 60 | 45 | 140 | 150 | 150 | 150 |
|    |    |    |    | 145 | 155 | 155 | 155 |
|    |    | 65 |    | 150 | 160 | 160 | 160 |
|    |    |    |    | 155 | 165 | 165 | 165 |

WITNESSES   
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***INVENTOR***

15a BY

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# UNITED STATES PATENT OFFICE.

DAVID WALKER, OF MAITLAND, CANADA.

## PRICE-DENOTING SCALE.

SPECIFICATION forming part of Letters Patent No. 675,457, dated June 4, 1901.

Application filed June 7, 1900. Serial No. 19,488. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID WALKER, a citizen of the United States, residing at Maitland, in the county of Hants, Nova Scotia, Dominion of Canada, have invented certain new and useful Improvements in Price-Denoting Scales, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to price-denoting weighing-scales; and the object thereof is to provide a weighing-scale whereby the price as well as the weight of a commodity may be determined simultaneously.

The invention consists in the novel construction and arrangement of parts hereinafter specified.

In the accompanying drawings, forming part of this specification, in which like reference characters denote like parts in the several views, figure 1 is a front elevation of a weighing-scale constructed according to my invention; Fig. 2, a section thereof upon the line 2 2 of Fig. 1; Fig. 3, a sectional plan view; Fig. 4, a face view of the scale-dial proper; Fig. 5, a vertical sectional view on the line 5 5 of Fig. 1, and Fig. 6 a plan view of cylinder-scale which I employ enlarged.

In the practice of my invention I provide a casing 5, having a beveled top portion 6 at the front thereof and preferably provided in the lower portion with a slidable drawer 7, which may serve as a money-drawer or otherwise. The casing 5 is provided at one end with a supplemental extension 8, which embodies a scale portion proper, which is constructed in the customary or any desired manner and provided with a depressible pan support or shaft 9, upon which the pan 10 is mounted, and the pan-support 9 is geared in connection with a drive-shaft 11<sup>a</sup>, which extends from the extension 8 into the casing 5, as clearly shown in Fig. 3. Upon reciprocation of the pan-support 9 the shaft 11<sup>a</sup> is rotated. Mounted upon the shaft 11<sup>a</sup>, within the casing 5, are three gears, respectively 11, 13, and 12, arranged in the order named, and the sizes of which are proportionate to the sizes of the respective numbers 6, 10, and 15.

Mounted revolubly within and longitudinally of the casing 5 is a driven shaft 14, upon

which is mounted a cylinder, (denoted by the general reference character 15,) and slidably mounted upon the shaft 14, being splined thereto at the end thereof adjacent the end of the shaft 11<sup>a</sup> within the casing 5, is a sleeve 16, upon which are fixed three gears 17, 18, and 19, arranged in the order named, and the sizes of which are proportionate to the sizes of the corresponding wheels 11, 13, and 12.

The beveled top portion of the casing 5 is provided with a slot 20, provided at its ends with notches 21 and 22, respectively, and at its middle with a notch 23, and slidably mounted in said slot is a shifting-pin 24, provided at its upper end with a knob 25 and pivoted at its lower end to the casing at 26, and which projects between two of the gears 17, 18, and 19 and is provided with a collar 24<sup>a</sup>, through which the sleeve 16 passes, and which fits in and is adapted to move in a deep annular groove formed in said sleeve, the depth of said groove and the diameter of said collar or sleeve being such as to permit of the lateral movement of said rod.

By means of the pin 24 the sleeve 16 and gears 17, 18, and 19 may be shifted to bring said gears respectively into operative engagement with the corresponding gears 11, 13, and 12, respectively, upon the shaft 11<sup>a</sup>. The relative arrangement of the notches 21, 22, and 23 and the gears 17, 18, and 19 is such that when the upper end of the pin 24 rests in the notch 23 the gears 13 and 18 will be in mesh. When the pin rests in the notch 22 the gears 12 and 19 will be in mesh, and when the pin rests in the notch 21 the gears 11 and 17 will be in mesh, and according to the intermeshing of the several gears as above the speed of rotation imparted to the shaft 14 and cylinder 15 by the shaft 11<sup>a</sup> will be varied, three of such speeds being producible.

A track-rod 27 is secured to the beveled top portion 6 of the casing 5 and is arranged longitudinally of said casing, and slidably mounted upon the track-rod 27 is a vertically-arranged finger 28.

At 29 is shown the dial proper of the scale, being circular in form and provided with a pointer 30, mounted upon the shaft 11<sup>a</sup>, whereby as the weighing-pan 10 is depressed the weight of the commodity thereon will be indicated upon the dial 29, as well as the price



thereof upon the cylinder 15, as hereinafter described.

The surface of the cylinder 15 is divided by a plurality of transverse circular lines 15<sup>a</sup> into a plurality of circular spaces 15<sup>c</sup>, and in said spaces, beginning preferably at the left-hand end of the cylinder, are arranged a plurality of series of price-total members, the price-totals in each of the series following the first, as shown in the drawings, being multiples of five, and those in the first being five, or a multiple of five, as clearly shown in Figs. 3 and 6. The several numbers in each of the said series are not consecutive, but are separated by spaces divided by graduations indicating the values of fractional parts of a pound.

A price-unit scale-plate 31 is arranged upon the beveled top portion 6 of the casing 5, being mounted parallel with an elongated opening 32 in the beveled portion 6 of the casing, which opening 32 is preferably covered by a transparent plate 33, as shown in Fig. 2, whereby the cylinder 5 and the numbers thereon may be readily viewed; but the opening 32 is preferably of such form as to only allow a single row or series of the numbers upon the cylinder to be viewed therethrough. The track-rod 27 is arranged between the scale-plate 31 and the opening 32. The price-unit scale-plate 31 is divided into a plurality of surface squares 34 by means of a plurality of transverse surface lines 35 and a plurality of longitudinal surface lines 36, and in the squares 34 are irregularly arranged three longitudinal series of numbers or figures, each of which numbers is twice as great as the registering number in the series next thereabove, if such number be found. For instance, in the fourth square, counting from left to right, in the lowermost longitudinal series is found the number "3." In the next series higher registering therewith is found the number "1½," and in the next still higher series registering therewith is found the number "¾." In the operation of the machine the notches 21, 22, and 23 correspond with the uppermost, lowermost, and intermediate series, respectively.

With the cylinder 15 in any position into which it may be turned by the shaft 11<sup>a</sup> and with the gear 13 in mesh with the gear 18 the price-total number displayed in any one of the spaces 15<sup>c</sup> upon the cylinder 15 through the opening 32 will be the product of the number of pounds or fractions thereof indicated by the pointer 30 upon the dial 29 and the registering price-number in the lowermost series longitudinally of the price-scale 31. Thus if the price be one cent per pound and five pounds be indicated upon the dial 29 "5" will show in the space 15<sup>c</sup> at the left end of the opening 32 in the casing.

For the purpose of performing fractional price calculations with the same price-total cylinder 15 the adjustable gears 17, 18, and 19 are provided, being arranged to mesh, re-

spectively and alternately, with the several gears 11, 13, and 12, as above described. Let it be assumed that the price of a commodity at three-fourths of a cent a pound is required. It is evident that that price-total will be one-fourth of the price-total at three cents per pound. If the cylinder 15 be rotated but one-quarter of the phase of rotation required to indicate the price of a given bulk of a commodity at three cents per pound, the price-total indicated upon the cylinder 15 in the space 15<sup>c</sup> thereof, which registers with the square 34 upon the plate 31, upon which is arranged the price-number "3," will be one-quarter of the price-total corresponding to the weight of the commodity at three cents per pound.

To produce the quarter phase of rotation of the cylinder, the gears 11 and 17 are brought into mesh by means of the knob 25 and pin 24, which pin is moved into the notch 22 in the slot 20. It is manifest that to calculate a price at one-half the amount of three cents the gear 19 would be brought into mesh with the gear 12 and the price-total would be read upon the cylinder 15, as above.

It is understood that the gears 11, 13, and 12 and 17, 18, and 19 are so cut that the relative phases of rotation of the computing-cylinder 15 caused thereby under the same actuation of the shaft 11<sup>a</sup> will result as above set out, the amount of rotation of the computing-cylinder 15 depending upon the amount of rotation of the scale-shaft 11<sup>a</sup>. The finger 28 is moved longitudinally of the track-rod 27 into the transverse column of spaces 34 upon the price scale-plate 31, in which lies the price-per-pound or other unit at which the cost of the commodity is to be calculated, and the purchasers and salesman may thus readily view the price-total, which will also register with the said finger 28.

The spaces 34 at the upper right-hand portion of the scale-plate 31 are not filled in, for the reason that the fractional prices are obtained from odd numbers, and "49" is the last odd number in the scale under "50." Of course these spaces could be filled in, if required; but it is not necessary to do so.

The gear-wheels 11, 13, and 12 and 17, 18, and 19 may be so formed and secured upon the shaft 11<sup>a</sup> and sleeve 16, respectively, that there will be no trouble connected with the shifting of the gears 17, 18, and 19, as hereinbefore described, and in order to do this the wheels 17, 18, and 19 would be put about one-half an inch apart. If the wheels 13 and 18 are engaged, as shown in the drawings, and the operator should desire to change from 11 to 17, the wheels 11 and 17 would become partially engaged before the wheels 13 and 18 are disengaged, and this would prevent any injury to the teeth of the gears, and this would also apply to the shifting of the sleeve 16 so as to engage the other gears 12 and 19 or 13 and 18. In other words, all that is necessary is to make these gears so that



when two of them will be engaged and it is desired to shift to another pair the last-named pair will be partially engaged before the first two are totally disengaged.

5 My invention is not limited to the exact construction herein described, and I reserve the right to make all such alterations therein as fairly come within the scope thereof.

10 Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A scale of the class described, comprising a casing, a weight-dial, a scale-shaft provided with a pointer which moves over said 15 dial, a vertically-movable support for the article to be weighed which is geared in connection with said shaft, a movable price-indicating member comprising a revoluble cylinder upon which are arranged in a predetermined manner, a plurality of price-total 20 symbols, devices for gearing said price-indicator member in connection with said shaft, and for varying the extent of the movement of said member as compared with that of said shaft, and a scale of prices per unit arranged 25 adjacent to said price-indicating member and adapted to be retained in connection therewith, substantially as shown and described.

2. A scale of the class described, comprising a casing, a vertically-movable support 30 for the article to be weighed, a scale-shaft operated by said support, a weight-dial, a pointer connected with said scale-shaft and movable over said dial, a movable price-indicating cylinder upon which are arranged 35 in a predetermined manner, a plurality of price-total symbols, devices for gearing said cylinder in connection with said scale-shaft so as to vary the movement of said cylinder 40 relative to the movement of said shaft, said casing being also provided with a longitudinal slot adjacent to said cylinder, and through which said cylinder may be seen, and a scale of prices per unit arranged adjacent 45 to said slot, and adapted to be read in connection with the price-indicating cylinder, substantially as shown and described.

3. A scale of the class described, embodying a movable price-indicating member having a 50 plurality of price-total symbols arranged thereon in a predetermined order, a movable support upon which the commodity to be weighed is placed, and adjustable means for operatively connecting said movable support 55 with said movable price-indicating member, whereby the amount of the movement of the price-indicating member relative to the movement of the support may be varied, substantially as shown and described.

60 4. A scale of the class described, embodying a movable price-indicating member having a plurality of price-total symbols arranged thereon in a predetermined order, a movable support upon which the commodity to be 65 weighed is placed, and adjustable means for operatively connecting said movable support with said movable price-indicating member,

whereby the extent of the movement of the price-indicating member relative to the movement of said support may be varied, and a 70 scale of prices per unit arranged adjacent said price-indicating member and adapted to be read in connection therewith, substantially as shown and described.

5. A scale of the class described, embodying 75 a turnable cylindrical member having a plurality of price-total symbols arranged thereon, a movable support upon which the commodity to be weighed is placed, a drive-shaft operatively connected with said movable support 80 and provided with a plurality of gears having varying numbers of teeth, a plurality of supplemental gears loosely and operatively connected with said cylindrical member, and means for shifting said supplemental gears, 85 whereby the several supplemental gears may be caused to separately engage each with one of the gears upon said drive-shaft, substantially as shown and described.

6. A scale of the class described, embodying 90 a turnable cylindrical member having a plurality of price-total symbols arranged thereon, a movable support upon which the commodity to be weighed is placed, a drive-shaft operatively connected with said movable support 95 and provided with a plurality of gears having varying numbers of teeth, a plurality of supplemental gears loosely and operatively connected with said cylindrical member, and means for shifting said supplemental gears, 100 whereby the several supplemental gears may be caused to separately mesh each with one of the gears upon said drive-shaft, and a scale of price-per-unit symbols adapted to be read in connection with the symbols upon said cylindrical member, substantially as shown and 105 described.

7. A scale of the class described, comprising a weighing member provided with a dial 110 of weights having a plurality of symbols of weight, a drive-shaft provided with a pointer which operates in connection with said dial, a movable pan-support operatively connected with said drive-shaft, said drive-shaft being 115 provided with a plurality of gears of varying numbers of teeth, and a price-denoting member comprising a rotatable cylinder having arranged in a predetermined manner upon its surface, a plurality of symbols of price-totals, 120 a plurality of supplemental gears loosely operatively connected with said cylinder and arranged to be each separately operatively connected with one of the gears upon said drive-shaft, means for adjusting said supplemental gears, and a scale arranged adjacent 125 said cylinder and provided with a plurality of symbols of prices per unit which are read in connection with the symbols upon said cylinder, substantially as shown and described.

8. A scale of the class described, comprising 130 a weighing member provided with a dial of weights having a plurality of symbols of weight, a drive-shaft provided with a pointer which operates in connection with said dial,



a movable pan-support operatively connected with said drive-shaft, said drive-shaft being provided with a plurality of gears of varying numbers of teeth, and a price-denoting member comprising a rotatable cylinder having arranged in a predetermined manner upon its surface, a plurality of symbols of price-totals, a plurality of supplemental gears loosely operatively connected with said cylinder and arranged to be each separately operatively connected with one of the gears upon said drive-shaft, means for adjusting said supplemental gears, and a scale arranged adjacent said cylinder and provided with a plurality of symbols of prices per unit which are read

in connection with the symbols upon said cylinder, said means for adjusting said supplemental gears comprising a slidably-mounted device, and means for locking the same in one of a plurality of positions, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 2d day of June, 1900.

DAVID WALKER.

Witnesses:

W. M. CHRISTIE,  
WM. A. BEGG.