

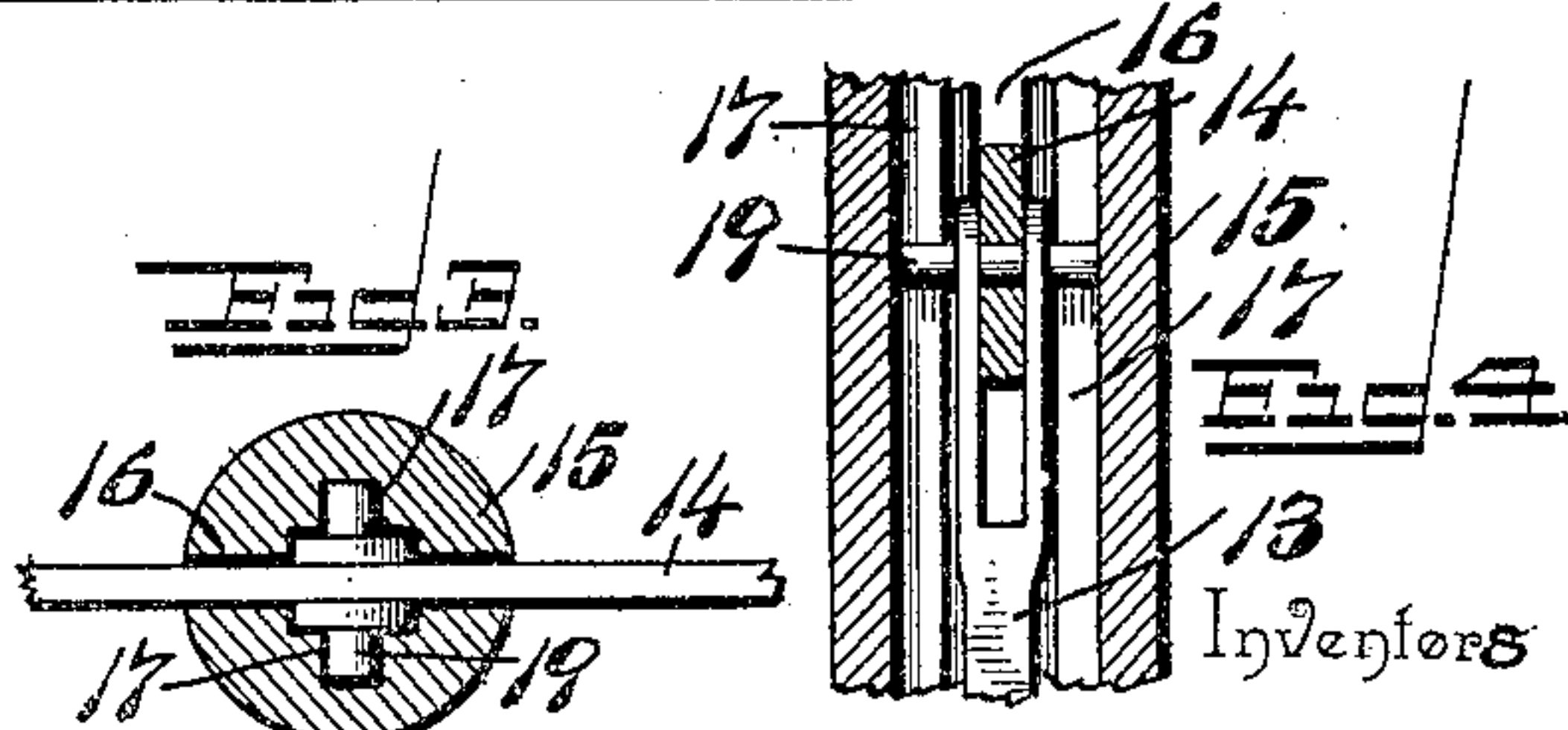
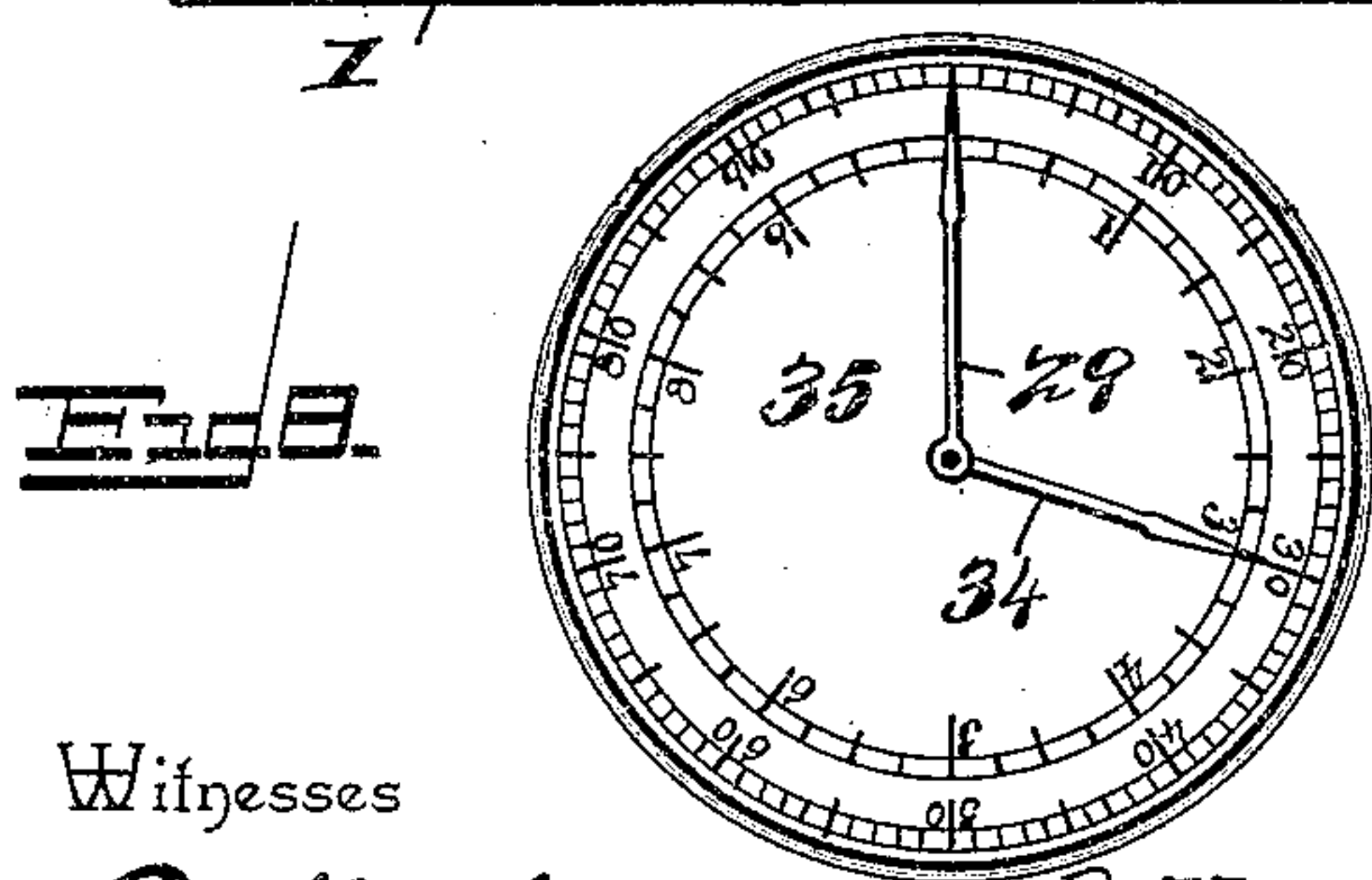
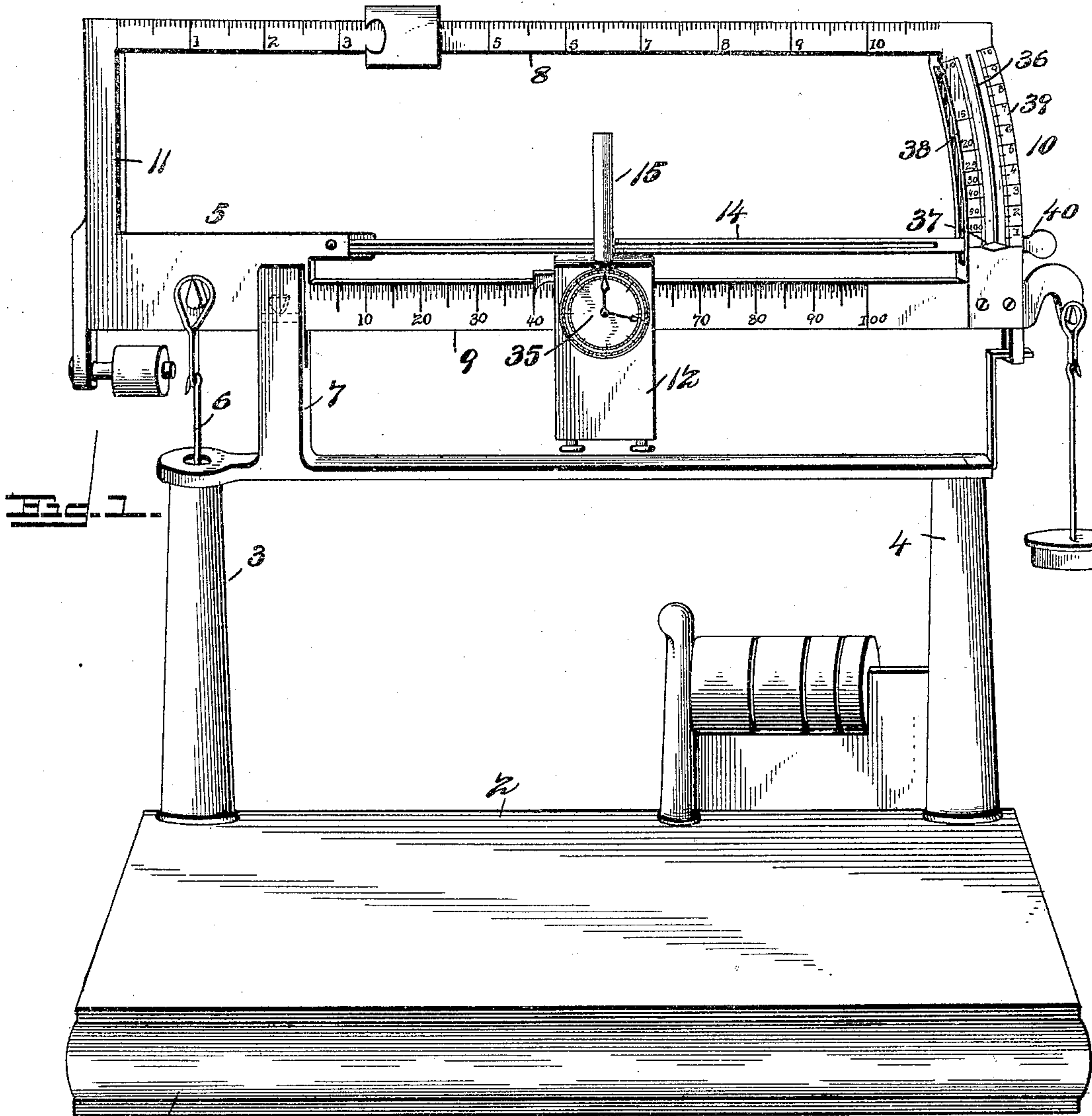
(No Model.)

2 Sheets—Sheet 1.

T. A. KILLMAN & H. A. BRATTEN.
COMPUTING SCALE.

No. 604,535.

Patented May 24, 1898.



Witnesses

E. H. Stewart
J. F. Riley

By *their* Attorneys,

Thomas A. Killman
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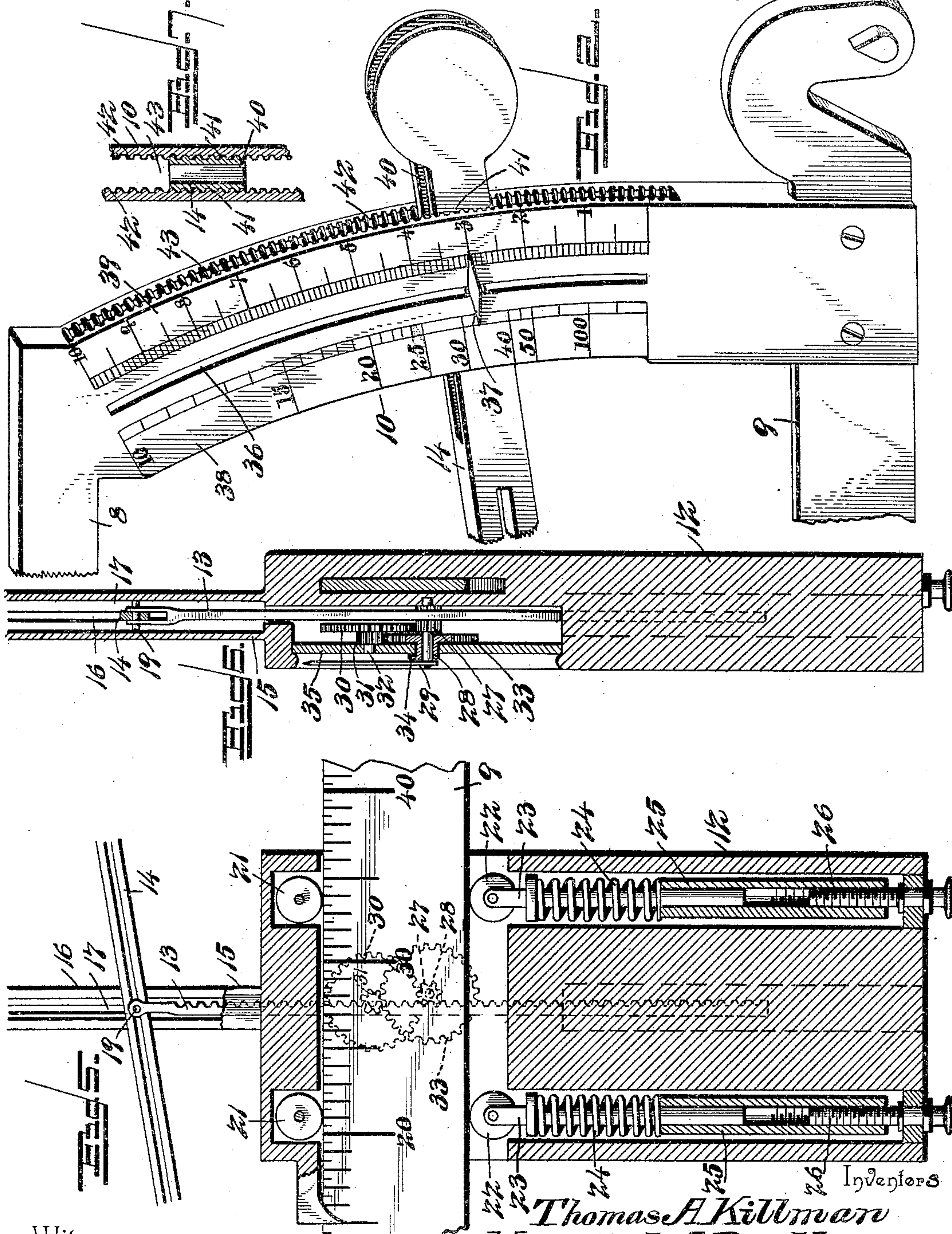
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UNITED STATES PATENT OFFICE.

THOMAS A. KILLMAN AND HERSCHEL A. BRATTEN, OF LIBERTY, TENNESSEE, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE AMERICAN COMPUTING SCALE COMPANY, OF NEW YORK, N. Y.

COMPUTING-SCALE.

SPECIFICATION forming part of Letters Patent No. 604,535, dated May 24, 1898.

Application filed June 9, 1897. Serial No. 640,019. (No model.)

To all whom it may concern:

Be it known that we, THOMAS A. KILLMAN and HERSCHEL A. BRATTEN, citizens of the United States, residing at Liberty, in the county of De Kalb and State of Tennessee, have invented a new and useful Computing-Scale, of which the following is a specification.

The invention relates to improvements in computing-scales.

The object of the present invention is to improve the construction of computing-scales and to provide a simple and comparatively inexpensive one adapted to indicate the weight and price of an article and capable of ready adjustment to set it to correspond to the price per pound of the merchandise to be weighed.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a computing-scale constructed in accordance with this invention. Fig. 2 is an enlarged detail perspective view of the front portion of the beam of the scale, illustrating the manner of mounting the outer end of the adjusting-bar on the graduated arm of the scale-beam. Figs. 3 and 4 are detail views illustrating the manner of connecting the rack-bar to the adjusting-bar. Fig. 5 is a vertical sectional view of the poise of the lower bar of the scale-beam, the section being taken longitudinally thereof. Fig. 6 is a similar view taken transversely of the poise. Fig. 7 is a detail sectional view of the outer arm of the scale-beam. Fig. 8 is a detail view showing the dial and hands of the indicating device.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

1 designates a base supporting a platform 2 and having standards 3 and 4 rising from the back of it. The standard 3 is hollow, and a scale-beam 5 is connected with the platform 2 by a link 6 in the usual manner. The scale-beam, which is fulcrumed on a support or bearing 7, is provided with upper and lower

bars 8 and 9, having graduations and connected by front and rear arms 10 and 11.

The poise 12, which is slidingly mounted on the lower bar of the scale-beam, carries a vertically-movable rack-bar 13, which is connected at its upper end with an adjustable bar 14, arranged at an angle to the lower bar of the scale-beam and adapted to cause the rack-bar to move upward as the poise slides from left to right on the scale-beam, and it will be apparent that the greater the angle formed by the adjustable bar and the scale-beam the greater will be the upward movement of the rack-bar as the poise slides outward.

The poise 12 is provided at its top with a vertical post 15, having a vertical slot 16 to receive the adjustable bar 14 and provide it at the inner faces of its sides with vertical grooves 17, which are engaged by the ends of a horizontal pin 19. The upper end of the rack-bar 13 is bifurcated to receive the adjustable bar 14, and the pin 19, which pivots the rack-bar to the adjustable bar, slides in a slot 20 of the latter, whereby the rack-bar will be drawn upward as the poise slides outward.

The lower bar of the scale-beam passes through an opening of the poise 12, and the latter is provided with upper and lower rollers 21 and 22, which enable the said poise to slide frictionlessly on the scale-beam. The lower pulleys 22 are journaled in bifurcations of rods 23 and are forced against the lower edge of the scale-beam by springs 24, which exert sufficient pressure to prevent the poise from sliding accidentally. The springs 24, which are disposed on the rods 23, are engaged by sleeves 25, having the upper portions of their bores or openings smooth to receive the rods, and the lower portions of the openings or bores are threaded and engaged by adjusting-screws 26. The adjusting-screws are mounted on the poise at the bottom thereof and have exteriorly-arranged heads which permit the tension of the springs to be readily regulated.

The rack-bar meshes with a pinion 27 of a shaft 28, which carries a hand 29, and the said

pinion 27 also meshes with a gear-wheel 30, connected with a pinion 31 and mounted on a shaft 32. The pinion 31 meshes with a gear-wheel 33, which is mounted on the shaft 28 and which is connected with a hand 34, and the diameters of the gears are such that when the hand 29 makes one revolution the other hand will make ten, or, in other words, one hand moves one-tenth as fast as the other.

The hands are arranged on a dial 35, which is provided with two separate series of graduations, as shown. The outer graduations are divided off into hundreds and represent cents, and the inner circle of graduations is divided off into ten equal parts and represents dollars, so that the indicating mechanism records or registers dollars and cents.

The arm 10 at the outer end of the scale-beam is provided with a longitudinal slot to receive the outer portion of the adjustable bar 14, and it has a transverse slot or opening 36, through which extends the shank of a pointer 37. The transverse opening 36 divides the arm into two portions 38 and 39, and pointer 37 extends from each side of the opening 36 and registers with each of the scales or series of graduations of the arm 10, and by adjusting the bar 14 on the said arm the indicating mechanism of the poise 12 corresponds to the position of the pointer 37 and indicates the correct price, while the poise 12 indicates the weight. The graduations 39 at the outer side of the opening 36 are price-per-pound graduations, and those at the inner side of the opening are arranged to correspond with the price-per-pound graduations and indicate the number of pounds a dollar will buy at any price per pound on the scale 39. The scale-beam is graduated to weigh one hundred pounds and computes to that amount, but is adapted to weigh in the ordinary manner any amount by means of additional weights. The outer side 39 of the arm 10 is divided off into ten parts, representing from one cent to ten cents, but the range of the scale may be readily increased. If the article to be weighed costs forty cents per pound, the adjustable bar is arranged at "4" on the scale 39 and a "0" is affixed to the result shown by the indicator, which operation is equivalent to multiplying the result by ten.

The outer end of the adjustable bar is bifurcated to form spring-arms 40, which are provided with teeth 41 and which are adapted to interlock with corresponding teeth 42 of the walls of the longitudinal slot 43 of the arm 10. The inner end of the adjustable bar 14 is pivotally mounted on the scale-beam at a point above the inner end of the lower bar 9.

It will be seen that the computing-scale is exceedingly simple and inexpensive in construction, that the operating mechanism for indicating the price is positive and reliable, and it cannot readily become broken or otherwise get out of order.

Changes in the form, proportion, and minor

details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What we claim is—

1. In a computing-scale, the combination of a scale-beam, an adjustable bar arranged at an angle to the same, a sliding poise mounted on the scale-beam, a rack-bar mounted on the poise and connected with the adjustable bar, an indicator geared with and operated by the rack-bar, upper rollers journaled on the poise and resting upon the upper edge of the scale-beam, the lower rollers 22, engaging the lower edge of the scale-beam, screws mounted on the poise, sleeves adjustably connected with the screws, rods arranged in the sleeves and carrying the lower rollers, and springs interposed between the sleeves and the lower rollers, substantially as described.

2. In a computing-scale, the combination of a scale-beam, a sliding poise mounted on the same, and upper and lower rollers carried by the poise and bearing against the upper and lower edges of the scale-beam, one set of rollers being spring-actuated and yieldingly engaging the beam, substantially as and for the purpose described.

3. In a computing-scale, the combination of a scale-beam, a sliding poise mounted on the same and provided at its top with a vertical post having a longitudinal slot, an adjustable bar disposed longitudinally of the scale-beam, arranged within the slot of the post and adapted to be moved to and from the beam to vary the angle between the same, a vertically-movable rack-bar mounted on the poise, extending into the post and connected with the adjustable bar and adapted to be actuated by the same when the poise slides along the scale-beam, and an indicating mechanism mounted on the poise and geared with and actuated by the rack-bar, substantially as described.

4. In a computing-scale, the combination of a scale-beam, a sliding poise mounted thereon, an adjustable bar arranged at an angle to the scale-beam and adapted to be moved to and from the same to vary the angle, registering mechanism mounted on the poise and operated by the adjustable bar, an arm extending upward from the front or outer end of the scale-beam, arranged in the path of the adjustable bar and being rigid with the said scale-beam, said arm being provided with graduations, and means for securing the adjustable bar at any point on the arm, substantially as described.

5. In a computing-scale, the combination of a scale-beam provided with graduations, an arm rigid with the scale-beam and extending upward from the outer or front end thereof, said arm being provided with a longitudinal slot 36, and having graduations at opposite sides of the same, an adjustable bar arranged at an angle to the scale-beam and adapted to be moved to and from the same to vary the angle thereof, said adjustable bar

having its outer end arranged at and moving
along said arm, a pointer carried by the ad-
justable bar, operating in the slot 36 and ex-
tending from the same in opposite directions,
5 a sliding poise mounted on the beam, and a
registering mechanism carried by the poise
and actuated by the adjustable bar, substan-
tially as described.

In testimony that we claim the foregoing
as our own we have hereto affixed our signa- 10
tures in the presence of two witnesses.

THOMAS A. KILLMAN.

HERSCHEL A. BRATTEN.

Witnesses:

LENORA MARTIN,

H. M. EVANS.