

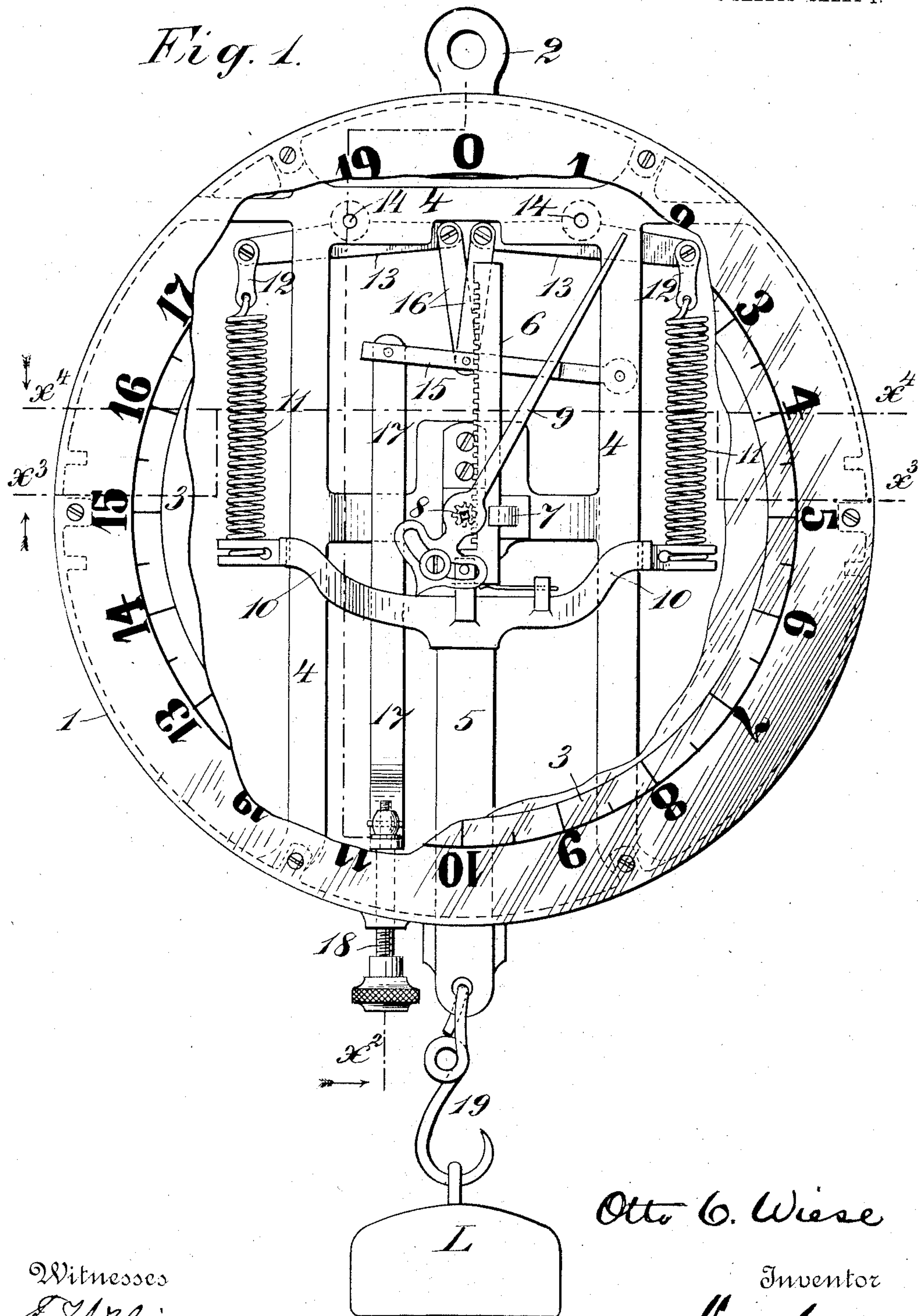
No. 811,979.

PATENTED FEB. 6, 1906.

O. C. WIESE.
SPRING SCALE.

APPLICATION FILED DEC. 31, 1904.

3 SHEETS—SHEET 1.



Otto C. Wiese

Inventor

Witnesses

E. H. Almon
William Firth

By his Attorney

Henry C. Wiese

No. 811,979.

PATENTED FEB. 6, 1906.

O. C. WIESE.
SPRING SCALE.

APPLICATION FILED DEC. 31, 1904.

3 SHEETS—SHEET 2.

Fig. 3.

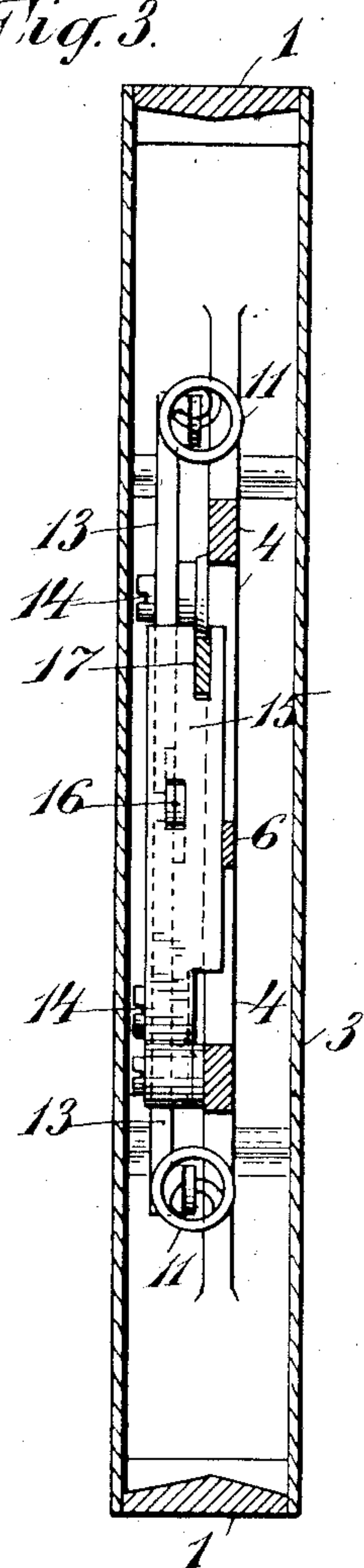


Fig. 2.

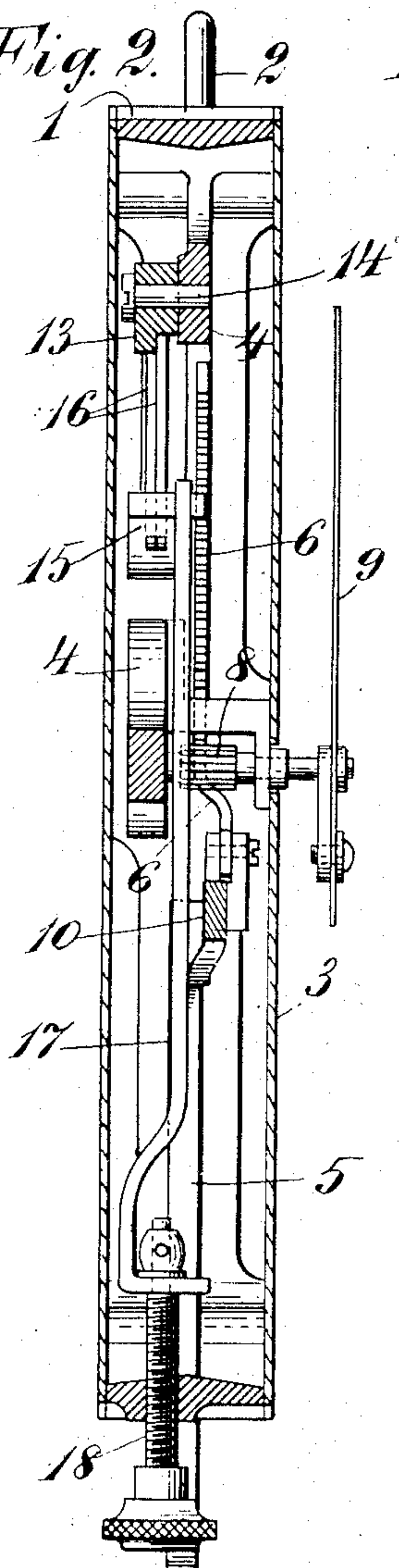
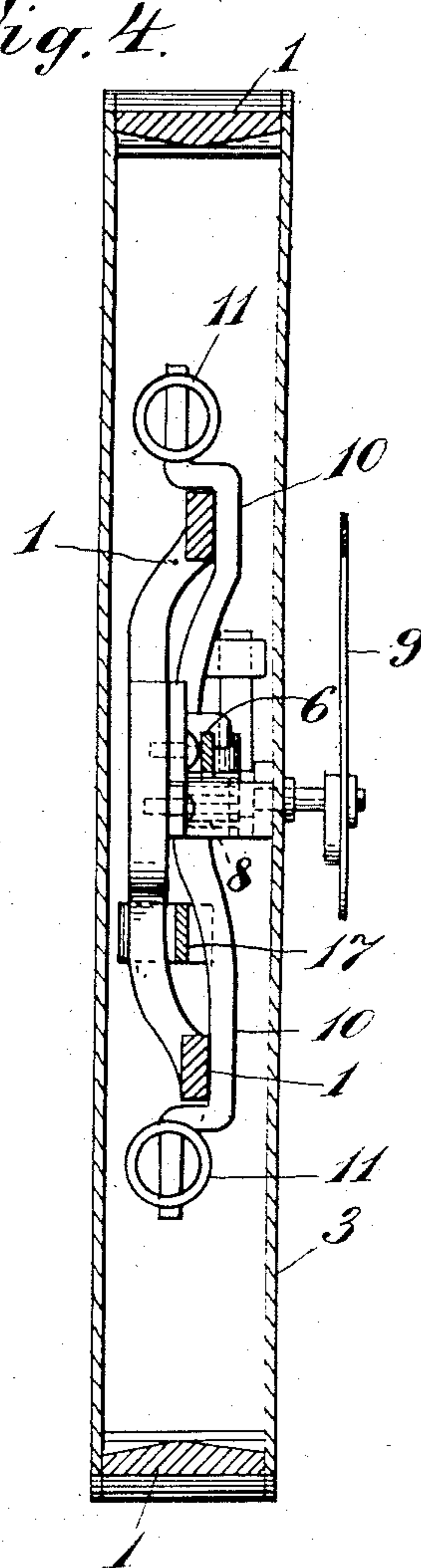


Fig. 4.



Otto C. Wiese

Witnesses

E. H. Wiese
William J. Fitch

Inventor

By *his* Attorney *Henry C. Wiese*

No. 811,979.

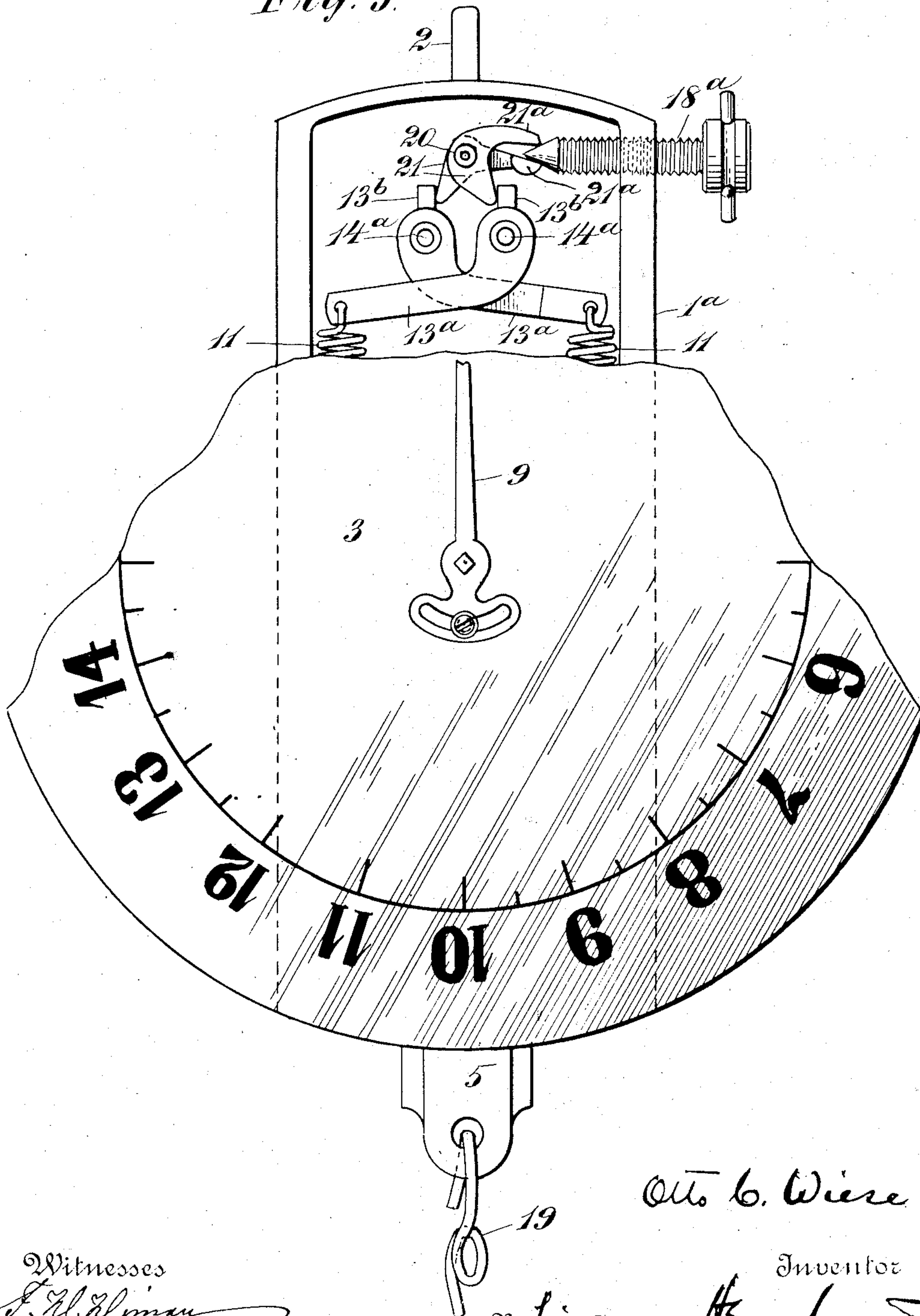
PATENTED FEB. 6, 1906.

O. C. WIESE.
SPRING SCALE.

APPLICATION FILED DEC. 31, 1904.

3 SHEETS—SHEET 3.

Fig. 5.



Witnesses
F. H. Korman
William J. Fitch

O. C. Wiese
Inventor
By his Attorney *Harry Connelley*

UNITED STATES PATENT OFFICE.

OTTO C. WIESE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO OSCAR
MAYER, OF NEW YORK, N. Y.

SPRING-SCALE.

No. 811,979.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed December 31, 1904. Serial No. 239,206.

To all whom it may concern:

Be it known that I, OTTO C. WIESE, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings, in the city and State of New York, have invented certain new and useful Improvements in Spring-Scales, of which the following is a specification.

This invention relates to the general class of spring-scales, and particularly to such scales of that class as have means for regulating the tare by raising the spring in order to bring the hand or indicator to the zero-point on the dial or graduated plate, as the case may be.

The principal object of the present invention is to provide such a scale with two springs and with means whereby both springs may be regulated through levers simultaneously by one screw or regulating means.

In the accompanying drawings, which serve to illustrate an embodiment of the invention, Figure 1 is a front elevation of the scale with the dial-plate partly broken away in order to disclose the interior mechanism. Fig. 2 is a vertical section of the scale, taken at line x^2 in Fig. 1. Figs. 3 and 4 are sections taken at line x^3 and x^4 in Fig. 1, the former looking upward and the latter downward. Fig. 5 illustrates a slightly-modified construction.

Referring primarily to the first four figures of the drawings, 1 designates the casing, containing the mechanism; 2, the eye or loop thereon for suspending the same; 3, the dial or plate bearing the numerals, and 4 the frame in the casing for carrying the scale mechanism.

5 is a slidable draw-bar which carries the load L to be weighed, and to the upper end of this bar is pivotally coupled a rack 6, which plays up and down in a keeper 7 on the frame. The teeth of the rack gear with a pinion 8, rotatively mounted in the frame, and the arbor of this pinion carries a hand 9, which traverses the dial when the pinion is rotated by the vertical movements of the rack. These features are common in this general class of spring-scales and will require no especially-minute description.

On its upper end the bar 5 is provided with a cross-head 10, the respective arms of which are coupled to the lower ends of two coil-springs 11 at the respective sides of the frame. The upper ends of these springs are coupled

by links 12 to the respective arms of two like spring-levers 13, fulcrumed at 14 on the frame. At their inner and adjacent ends the other arms of the levers 13 are coupled, respectively, to a regulating-lever 15 by links 16, and this regulating-lever is coupled to a bar or rod 17, which is coupled at its lower end to an adjusting or tare-regulating screw 18 in the casing.

The operation will be readily understood. Suppose that a pan, for example, be suspended from the hook 19 to receive the load to be weighed and that this brings the hand 9, say, to the mark on the dial indicating one pound. The hand may be readily brought to the zero-mark by means of the screw 18, which acts simultaneously to elevate to an equal extent the two weighing-springs 11.

Fig. 5 shows a slightly-different construction for effecting the same object and one that operates on the same principle. In this construction the mechanism of the scale which is obscured by the lower part of the dial will be the same as that seen in Fig. 1; but the slight difference between the two constructions is clearly shown above, where the dial is broken away. 1^a is the casing, which in this case also performs the functions of the frame 4, and 13^a represents the spring-levers, fulcrumed at 14^a and having a somewhat L shape. The shorter arms 13^b of the levers 13^a extend upward, and above them are fulcrumed at the same point 20 two levers 21. The corresponding pendent arms of the levers 21 take between and bear on the respective shorter upright arms 13^b of the spring-levers, and between the other arms 21^a of the levers 21 is inserted the conical point or tip of a tare regulating or adjusting screw 18^a. As the spring-levers 13^a cross, it will be seen that by spreading their short upright arms the springs 11 will be elevated, and this spreading is effected by the operation of the levers 21 when the arms of these latter are spread by the screw 18^a. The levers 21 are also crossed, so that when the screw 18^a spreads one pair of arms thereof the other pair of arms thereof will also spread. In order that the screw 18^a may be driven in horizontally, the levers 21 are bent into an L shape; but this is not essential to the invention.

The coupling-links 12 in Fig. 1 form parts of the spring-levers 13 in substance, but are not really essential, as the movements of the levers will not be great.

It is not new, broadly speaking, to employ a plurality of springs in a spring-scale, and a screw and wedge have been employed as a tare-regulating means for elevating the springs; 5 but this form of tare-regulating means has not been found sufficiently delicate and accurate for spring-scales, as it is very difficult to elevate both springs to exactly the same extent, and unless this is done the adjustment 10 will produce an inequality in the tension of the two springs. With the present construction the two springs will always be manipulated alike.

Having thus described my invention, I 15 claim—

1. A spring-scale, having two distensible spiral springs which support the load, two alike spring-levers, one arm of each being coupled to the upper end of its spring, a tare-adjusting screw, and lever mechanism between said screw and the other arms of the spring-levers for simultaneously, and uniformly lifting both springs to regulate the tare.

2. A spring-scale, having a plurality of like distensible spiral springs which support the load, like spring-levers, one for each spring and each having an arm coupled to its spring, a regulating-lever, links 16, one for each 30 spring-lever, said links being coupled at a common point to the regulating-lever and at their other ends to the respective spring-levers, and means for adjusting the regulating-lever to bring the hand to zero on the dial.

3. A spring-scale, having a draw-bar from which the load is to be suspended, a cross-head on said bar, two like, distensible upright springs coupled below to said cross-head, two spring-levers, one arm of each of

which is coupled to the upper end of one of 40 said springs, and means for rocking or turning said spring-levers simultaneously about their respective fulcrums, for raising and lowering the springs said means comprising an intermediate lever, connecting-links, a screw, 45 and a bar between said screw and regulating-lever.

4. A spring-scale, having a draw-bar from which the load is to be suspended, a distensible coiled spring for weighing, coupled at one 50 end to said draw-bar, a spring-lever, one arm of which is coupled to the other end of said spring, a tare-adjusting screw, and means between said screw and the other arm of the spring-lever, for operating the last-named lever through the medium of the screw, said 55 means comprising an intermediate lever and connecting-bar.

5. A spring-scale, having a draw-bar from which the load is to be suspended, said bar 60 being provided with a cross-head, two upright weighing-springs 11, coupled at their lower ends to said cross-head, two spring-levers 13, provided with links 12 which couple an arm of each spring-lever to the upper end 65 of its respective weighing-spring, a regulating-lever 15, links 16 which couple the other arms of the respective spring-levers to said regulating-lever, a tare-regulating screw 18, and a bar connecting said screw with said reg- 70 ulating-lever.

In witness whereof I have hereunto signed my name, this 28th day of December, 1904, in the presence of two subscribing witnesses.

OTTO C. WIESE.

Witnesses:

HENRY CONNETT,
WILLIAM J. FIRTH.