

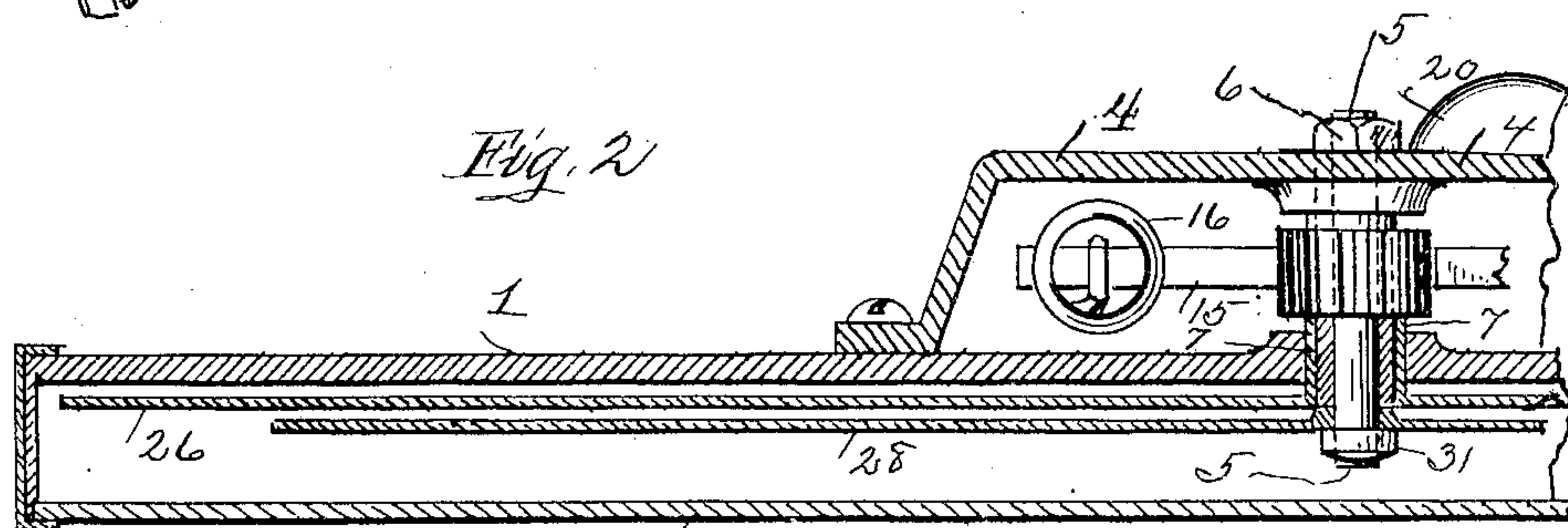
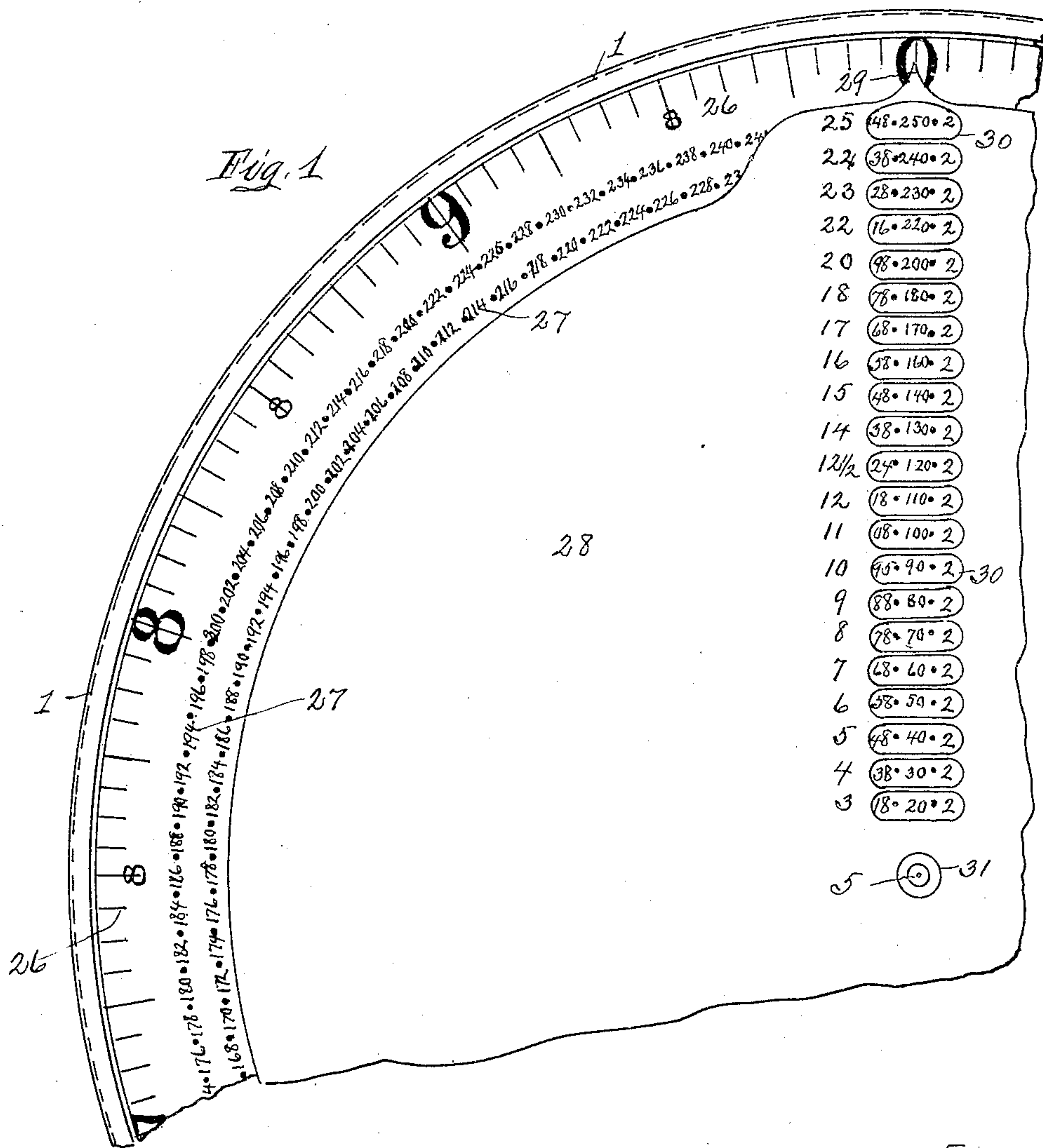
No. 789,726.

PATENTED MAY 16, 1905.

T. A. GRUBBS.  
WEIGHING SCALE.

APPLICATION FILED DEC. 2, 1903.

2 SHEETS—SHEET 1.



Witnesses:

J. A. Herron.  
Edward Ziefel.

Искренно,

Thomas A. Griebbe  
M. E. Harrison.  
Oct 14

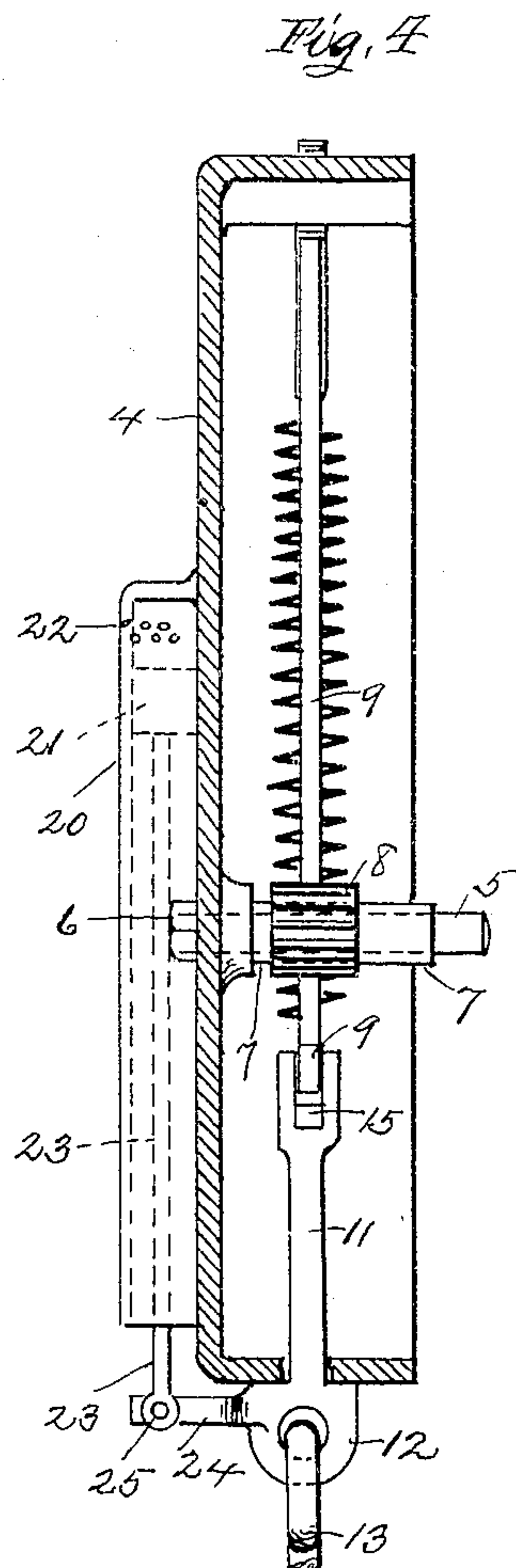
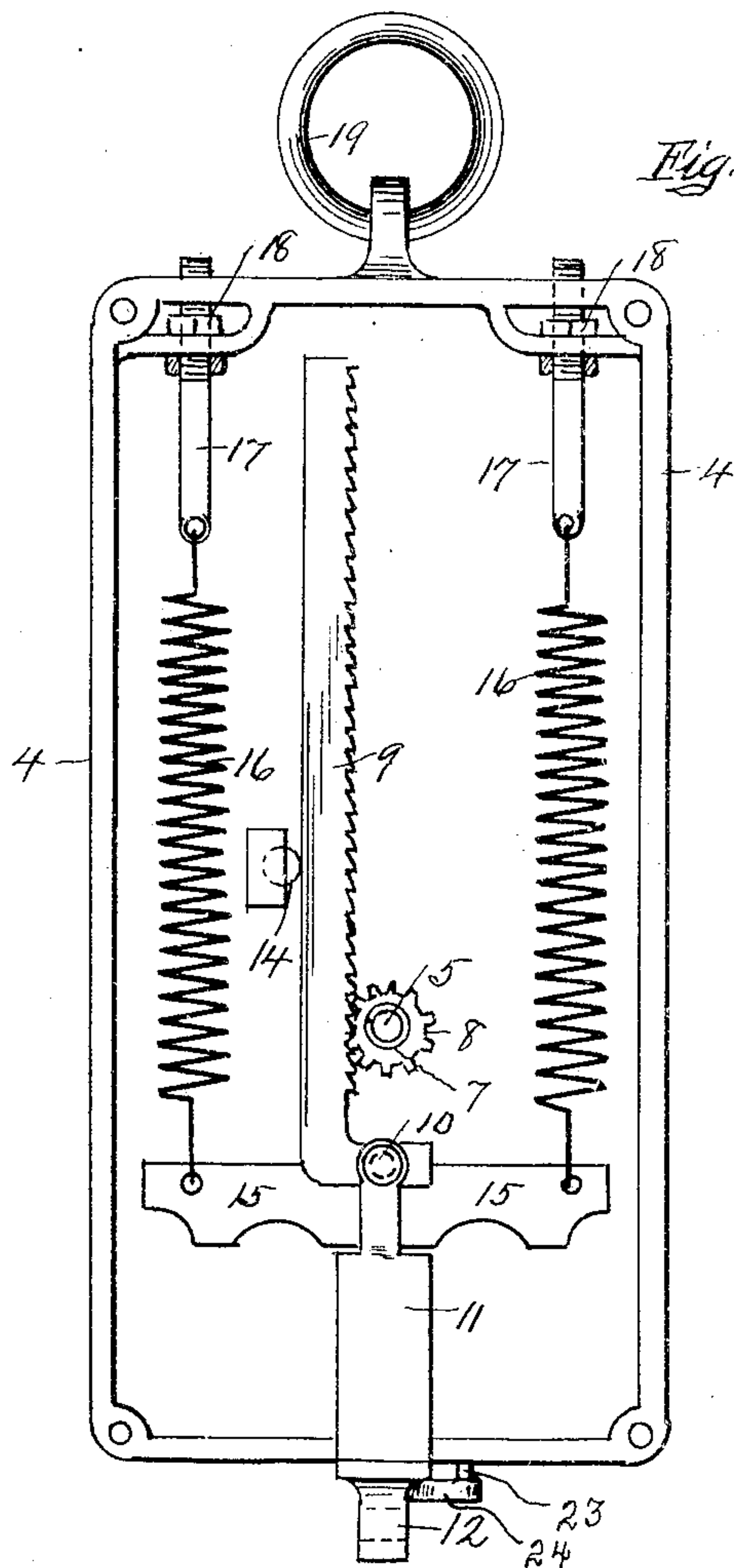
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Witnesses:  
J. A. Hervey,  
Edward Giefel,

Inventor:  
Thomas A. Grubbs  
By M. E. Harrison,  
att'y.



# UNITED STATES PATENT OFFICE.

THOMAS A. GRUBBS, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-EIGHTH TO GEORGE P. ECKERT, OF ALLEGHENY, PENNSYLVANIA.

## WEIGHING-SCALE.

SPECIFICATION forming part of Letters Patent No. 789,726, dated May 16, 1905.

Application filed December 2, 1903. Serial No. 183,449.

*To all whom it may concern:*

Be it known that I, THOMAS A. GRUBBS, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Weighing-Scales, of which improvement the following is a specification.

This invention relates to an improvement in computing weighing-scales; and it consists in the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a face view of a portion of the dial, pointer, and frame of my improved computing-scale, the same being constructed and arranged in accordance with my invention. Fig. 2 is a sectional plan view of the same, the said section taken through the center of the dial. Fig. 3 is a face view of the spring box or frame located at the rear of the dial, the front portion being removed to show the inner working parts. Fig. 4 is a sectional side elevation of the same.

To put my invention into practice, and thereby provide a computing balance-scale, I form from cast metal a frame consisting of an annular disk 1, arranged at the front, provide the same with a glass 2, and secure to the back a spring-box 4. Mounted in a suitable bearing in the frame 1 is a stationary pin or shaft 5, held rigid by a nut 6 and located at the center of the disk of the scale. This shaft is fitted with a loose sleeve 7, upon which is fixed a pinion 8, arranged inside of the spring-box 4, and the said shaft having attached to its outer end the computing-disk 26, the said disk and pinion adapted to rotate together. Operating in connection with the pinion 8' is a rack 9, arranged in a vertical position and held engaged by means of a roller 14 at the rear. Pivotally connected to the rack-bar is a cross-piece 15, to which springs 16 are attached, the other ends of which being connected to adjusting-rods 17, operated by nuts 18. Attached to the bar 15 and to the rack 9 is a piece 11, provided at its lower end with an enlarged portion 12 and

with an eye, to which is attached the handle 13 of the weighing-pan of the scale. Arranged at the rear of the spring-box 4 and integral therewith is a cylinder 20, fitted with a piston 21, a piston-rod 23, and attached to an arm 24, forming a part of the stop 12, the said cylinder being provided with perforations 22 at the top for the admission of air into the same. Rigidly attached to the shaft 5 is a thin disk 28, provided at the top with a pointer 29 and with a series of radial openings 30, arranged in a vertical line beneath said pointer and corresponding in position to circular concentric rows of figures 27, printed in radial lines on the face of the dial 26. This dial 26 is printed with the usual figures and space marks or dots, indicating the number of pounds being weighed and the price thereof.

The figures and dots are arranged alternately in said rows. Disk 28 has its said radial series of openings or apertures 30 separated by intervening strips, which register with the spaces between the said circles or rows of indications on the dial or face member 26.

In the use of a scale constructed and arranged as described dial 26 revolves instead of the pointer 29, and as the figures 27, indicating the cost of the material being weighed, are arranged in radial-lines the same may be easily read. The pointer-disk 28 being stationary leaves the indicating-figures representing the number of pounds at all times in a vertical position. The piston 21 will prevent any dancing or vibrating movement of the weighing-pan when a weight or package is suddenly placed thereon.

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

1. The combination with a casing, a shaft projecting through the wall thereof, a computing-disk loosely mounted on said shaft, a pointer-disk fixed on said shaft in front of said computing-disk and being formed with a plurality of openings, a pinion loosely mounted on said shaft and being rotatable with said first-named disk, a spring-retracted rack meshing with the said pinion and a connection

attached to said rack and depending there-  
from, a rearwardly-extending arm formed in-  
tegral with said connection, a cylinder se-  
cured to the rear of said casing, and a piston  
5 operating in said cylinder and being connect-  
ed to said arm, substantially as described.

2. In combination with the frame, a shaft  
mounted therein, a computing-disk loosely  
mounted on said shaft, a fixed disk arranged  
10 in front of said computing-disk and being  
formed with openings, means for imparting  
movement to said computing-disk, a casing  
secured to the rear wall of said frame in

which said last-named means is mounted, a  
cylinder secured to the rear wall of the last- 15  
named casing, a piston operating in said cyl-  
inder and being operatively connected to  
said means, substantially as described.

In testimony whereof I have hereunto  
signed my name in the presence of two sub- 20  
scribing witnesses.

THOMAS A. GRUBBS.

In presence of—

JOHN C. THOMPSON,  
ALEXANDER CARSON.