

T. L. RICHMOND.
SCALE.

APPLICATION FILED MAY 20, 1902.

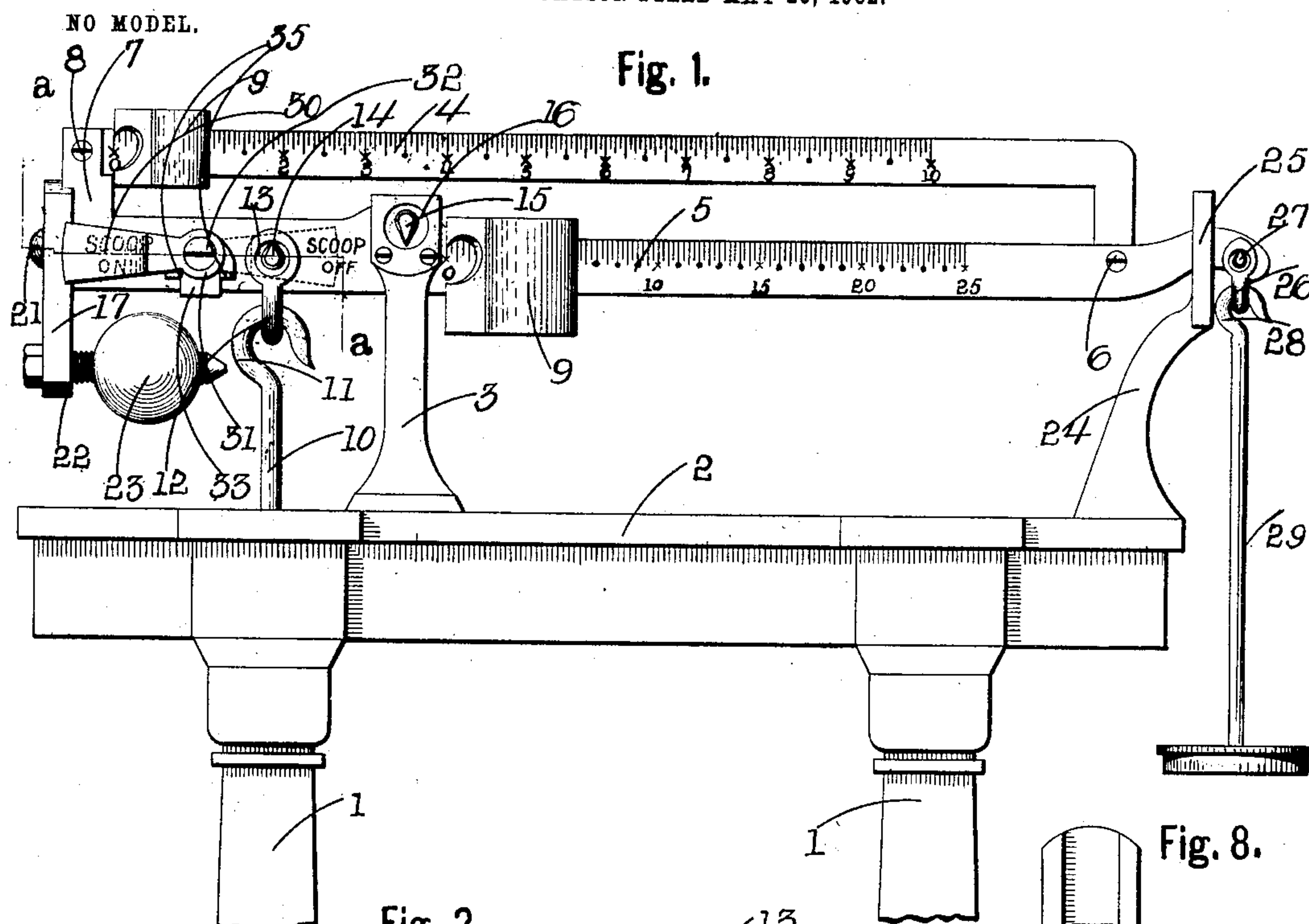


Fig. 2.

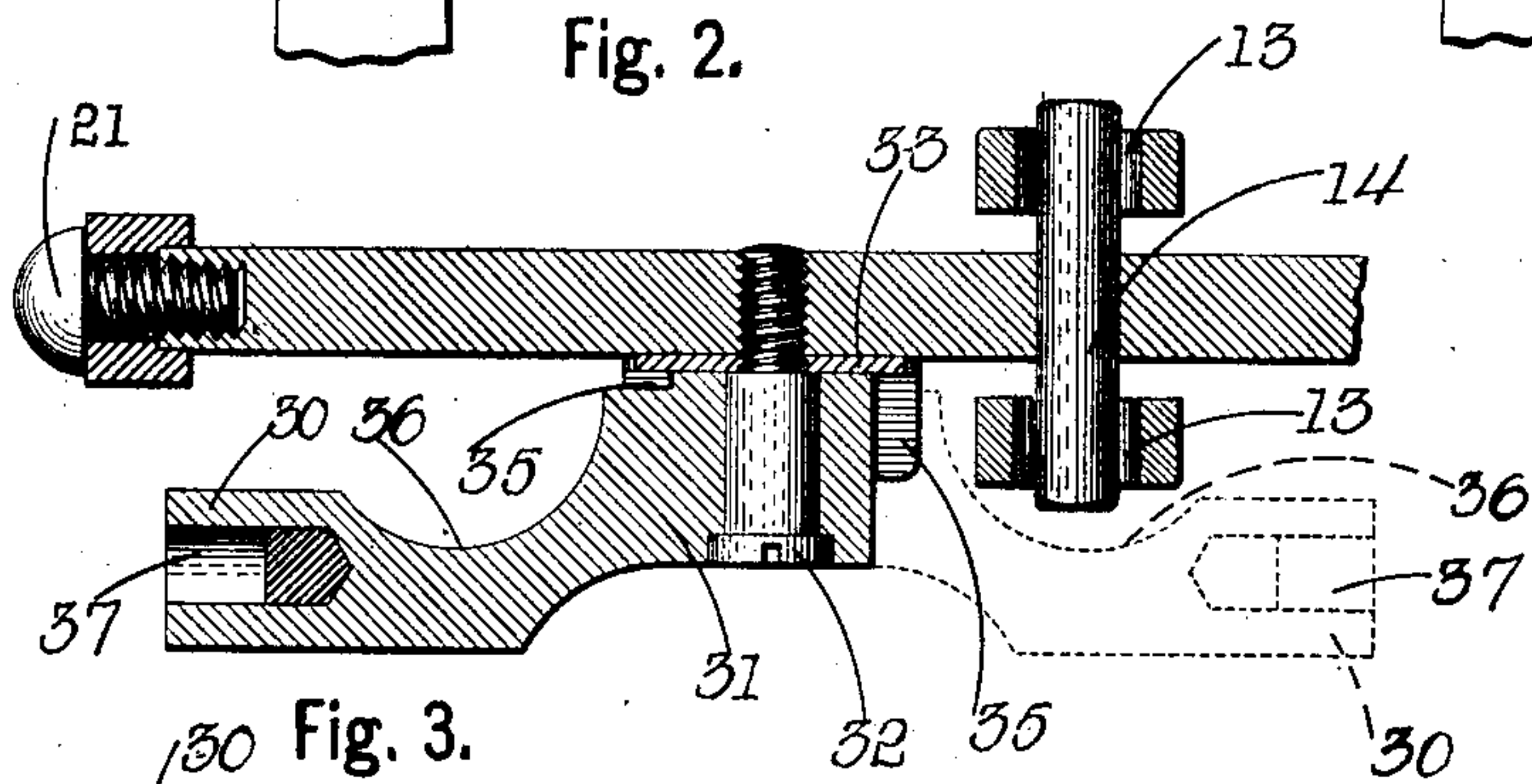


Fig. 3.

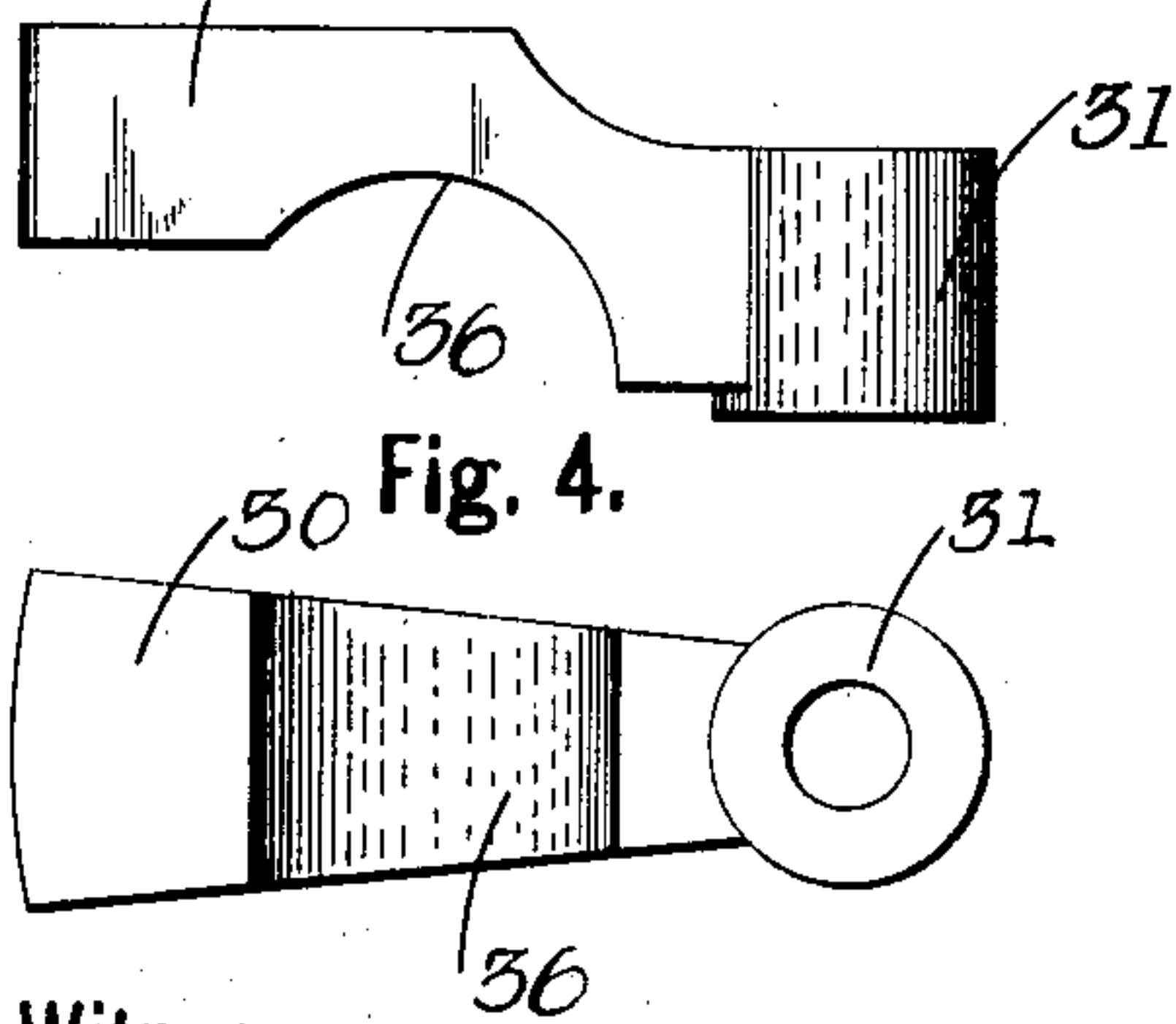


Fig. 4.

Fig. 5.

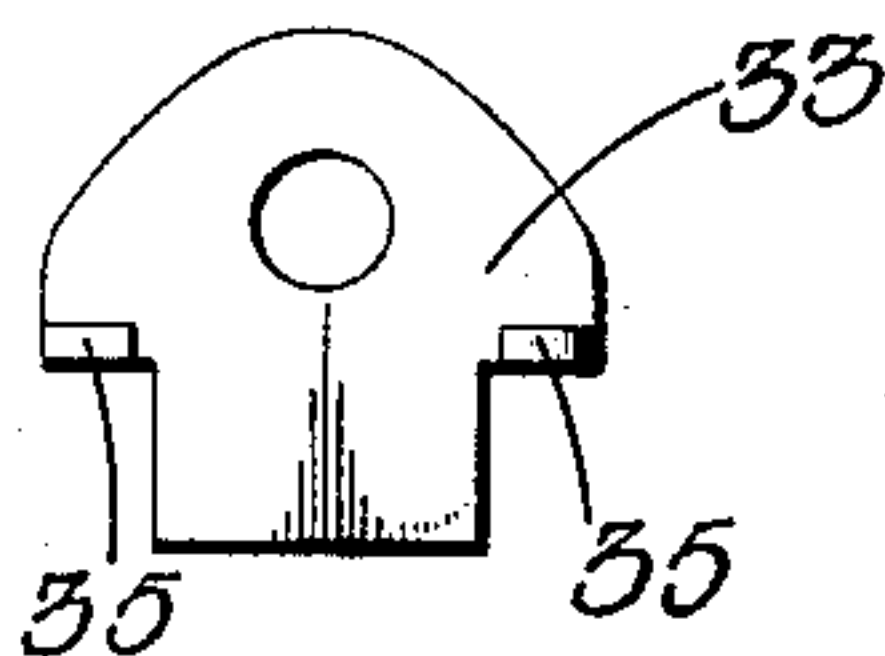


Fig. 6.

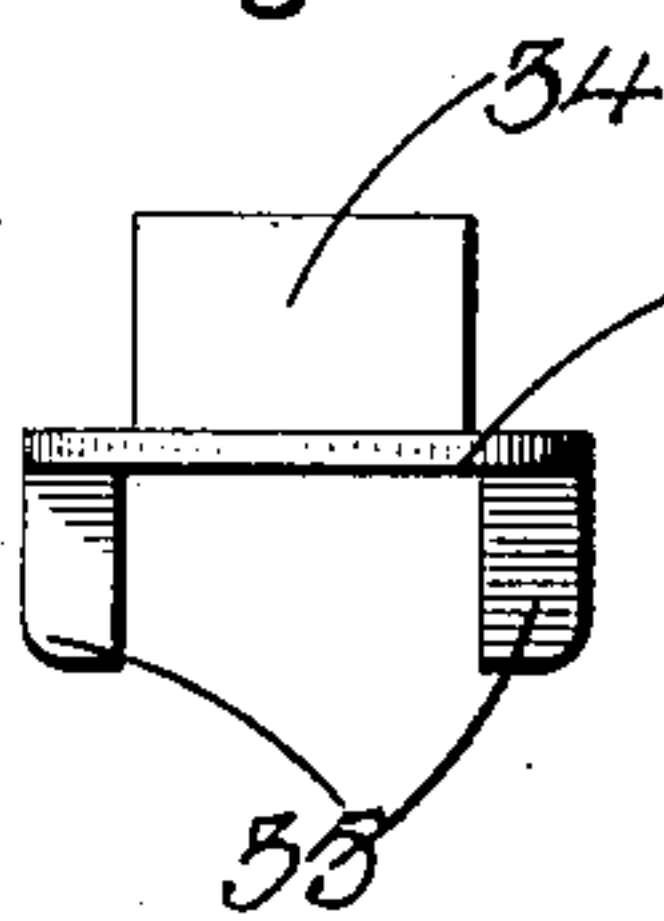
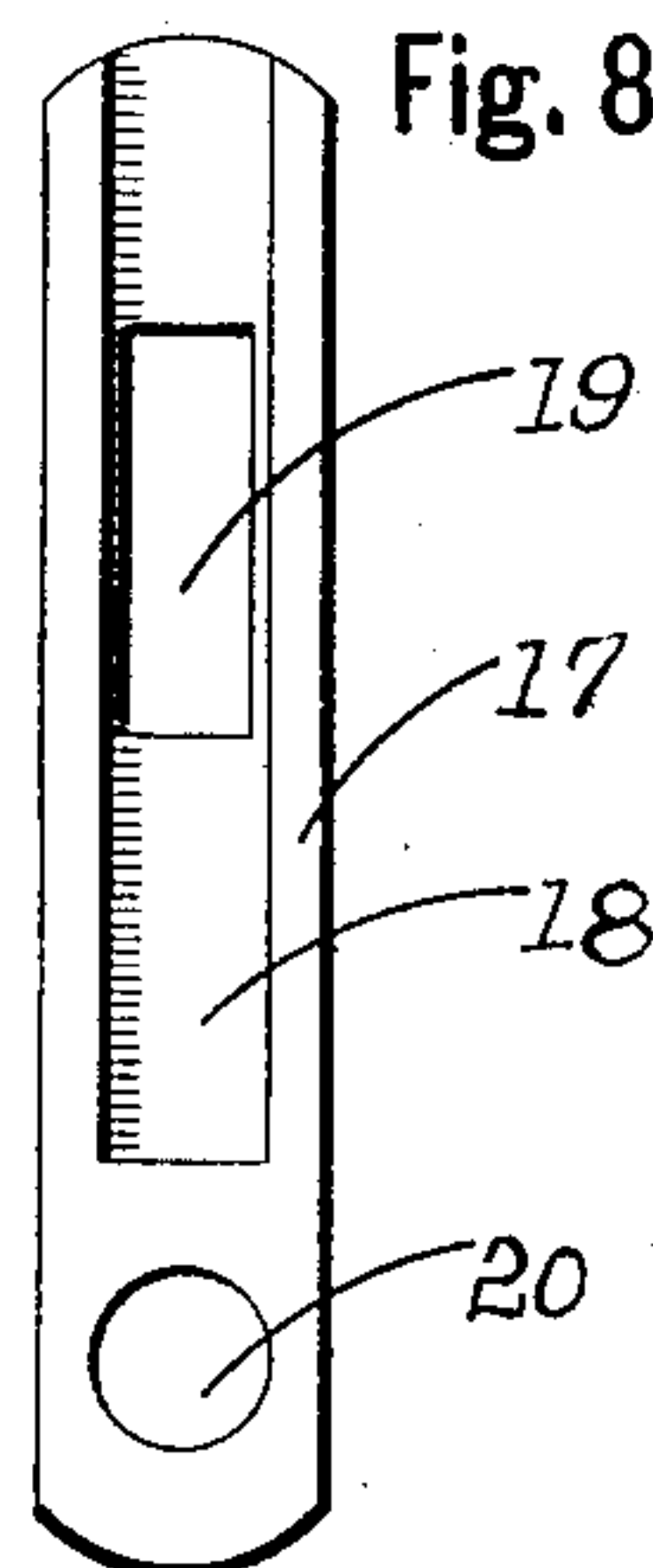


Fig. 7.



Witnesses.

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SCALE.

SPECIFICATION forming part of Letters Patent No. 742,742, dated October 27, 1903.

Application filed May 20, 1902. Serial No. 108,236. (No model.)

To all whom it may concern:

Be it known that I, THEODORE L. RICHMOND, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Scales, of which the following is a specification.

This invention relates to that type of scale which is provided with a removable scoop and movable counterbalance-weight for the scoop; and the principal improvement consists in pivoting a counterweight to the side of the scale-beam, which when turned on its pivot to one position will balance the weight of the scoop.

The object of the invention is to attach the counterbalance-weight for the scoop to the side of the beam so as not to interfere with the movement of the upper poise.

The invention also relates to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the upper portion of a counter-scale, showing my improvement attached thereto. Fig. 2 is an enlarged fragmentary section on line *a a*, Fig. 1, showing the pivoted counterweight in one position in full lines and in another position in dotted lines. Fig. 3 is an enlarged detached top plan view of the counterweight for the scoop. Fig. 4 is an enlarged detached side view of the scoop-counterweight. Fig. 5 is an enlarged detached side view of the angular plate. Fig. 6 is an enlarged detached top view of the angular plate. Fig. 7 is an enlarged edge view of the angular plate. Fig. 8 is an enlarged detached side view of the channeled vertical bar.

In referring to the drawings in detail like numerals designate like parts.

1 represents upright supporting-pillars, fragments of which are shown in Fig. 1. A horizontal top frame-plate 2 is mounted on these uprights, and a vertical beam support or standard 3 extends upward from the plate 2.

While the scale-beam shown in the accompanying drawings is of double or compound character, having two graduated beams, it may be formed in any of the usual ways, and

consists of one or more than one graduated beam part, as desired, as the scoop counterbalancing-weight is applicable to nearly all styles of beams or scales.

The scale-beam in the embodiment of the invention shown consists of two substantially horizontal and parallel graduated beams 4 and 5, one placed above the other and separated sufficiently for the movement of the poise on each graduated beam. The upper graduated beam 4 has its forward end bent downward and secured to the lower beam 5 by a screw 6, and a vertical part 7 extends up from the opposite end of the lower beam 5, which is fastened at its upper extreme to the upper beam 4 by a screw 8. (See Fig. 1.) The graduated beams are each provided with the usual series of weight-indicating lines, placed at intervals on their faces, and a weight-poise 9 is slidably mounted on each beam. The usual steelyard-rod 10 has a hook end 11, which catches in a loop 12, provided with eyes 13, and oppositely-extending lateral pivots 14, projecting from the lower beam and extend through the eyes. The scale-beam is pivotally supported from the beam support or standard by oppositely-extending lateral pivots 15, which extend through openings 16 in the standard 3, which is of the usual bifurcated form, as shown in Fig. 1. A flat bar 17, having a longitudinal channel 18, a longitudinal slot 19, and an opening 20 in its lower extreme, is secured in vertical position to the inner end of the scale-beam by a screw 21, which passes through the slot 19 and extends into the lower indicated beam, as shown in Fig. 2. The end of the scale-beam fits and slides in the channel 18 when the bar 17 is vertically adjusted. A horizontal screw-bar 22 extends through the opening 20, and a ball-counterweight 23 is secured on said bar. The usual angular arm 24 extends upward from the outer end of the top frame-plate and is provided with the usual loop 25, through which the outer extreme of the lower graduated beam 5 projects. A loop 26 is hung on oppositely-projecting pivots 27, extending to the outer extreme of the lower graduated beam through which the hooked upper end 28 of the counterpoise-rod 29 is passed.

The counterbalance for the scoop consists of an angular block 30, having a bearing 31 at one end, through which a pivot-pin or screw 32 is passed to secure it to the side of the scale-beam, preferably to the lower graduated beam. A plate 33 is interposed between the block 30 and the surface of the scale-beam and has a lug 34, extending at substantially right angles in one direction, which fits beneath the bottom edge of the scale-beam, and two lugs 35, extending oppositely to the lug 34, which form stops for limiting the pivotal movement of the block 30 and support said block approximately horizontally in either of its positions. The plate 33 and block 30 are secured to the side of the lower indicating-beam by the pin or screw 32, which passes through both the plate and block, as shown in Fig. 2. The words "Scoop on" and "Scoop off" or other words of like purport are placed on the side of the scale-beam, so that one or the other is covered when the said block is in one of its positions. The words covered by the block indicate the position of the block relatively to the scoop. For instance, in Fig. 1 the block is shown in full lines covering the words "Scoop on," which indicates that the scoop is on and that the block is counterbalancing the weight of the same. The block is made of angular form and is hollowed out or cut away at 36 to permit it to be turned forward without touching the lateral pivot 15 or the bifurcated standard 3, as shown in dotted lines in Fig. 2.

The block 30 is provided with a depression 37 in its end, which can be filled or partially filled with lead to bring it to the proper balancing-weight.

The advantage in attaching the counterbalance to the side of the lower graduated beam in the preferred adaptation shown is that it is below and out of the range of movement of the poise in the upper graduated beam, so that said poise can be moved throughout the length of the upper graduated beam. In fact, in Fig. 1 it is shown in position above the counterbalancing-block.

I am aware that a counterbalance has been heretofore pivoted to the top of a beam, as shown in the patent to Houghton, No. 280,377, granted July 3, 1883, which necessarily interfered with the movement of the poise and restricted its movement. I do not, therefore, claim pivoting a counterbalance to the top of a beam; but

What I do claim is—

1. In a scale, the combination with a scale-beam and a poise on said beam, of a scoop-counterbalance pivoted to the side of said beam and below and out of the range of movement of said poise, substantially as set forth.

2. In a scale, the combination with a scale-beam having words signifying "Scoop on" and "Scoop off" on its side surface and a poise on said scale-beam, of a scoop-counterbalance having support from the side of the scale-beam and adapted to be moved to cover either of said words, said counterbalance being below and out of range of movement of the poise, substantially as set forth.

3. In a scale, the combination with the scale-beam, of a scoop-counterbalance block, a plate having lateral lugs or stops and a pivot passing through the block and plate and into the scale-beam.

4. In a scale, the combination with a scale-beam, of a scoop-counterbalance block, a plate having a lateral lug adapted to fit beneath the scale-beam, and two oppositely-extending lugs constituting stops to limit the movement of the block, and a pivot passing through the plate and block and into the scale-beam.

5. In a scale, the combination with a plurality of graduated beams, of a poise on the upper beam and a scoop-counterbalance pivoted to the side of the lower beam out of the range of movement of the poise on the upper beam, substantially as set forth.

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Witnesses:

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