No. 804,165. PATENTED NOV. 7, 1905.

D. M. ORCUTT.

PITLESS WAGON SCALE.

APPLICATION FILED AUG. 17, 1905.

2 SHEETS—SHEET 1.

Fig. 1

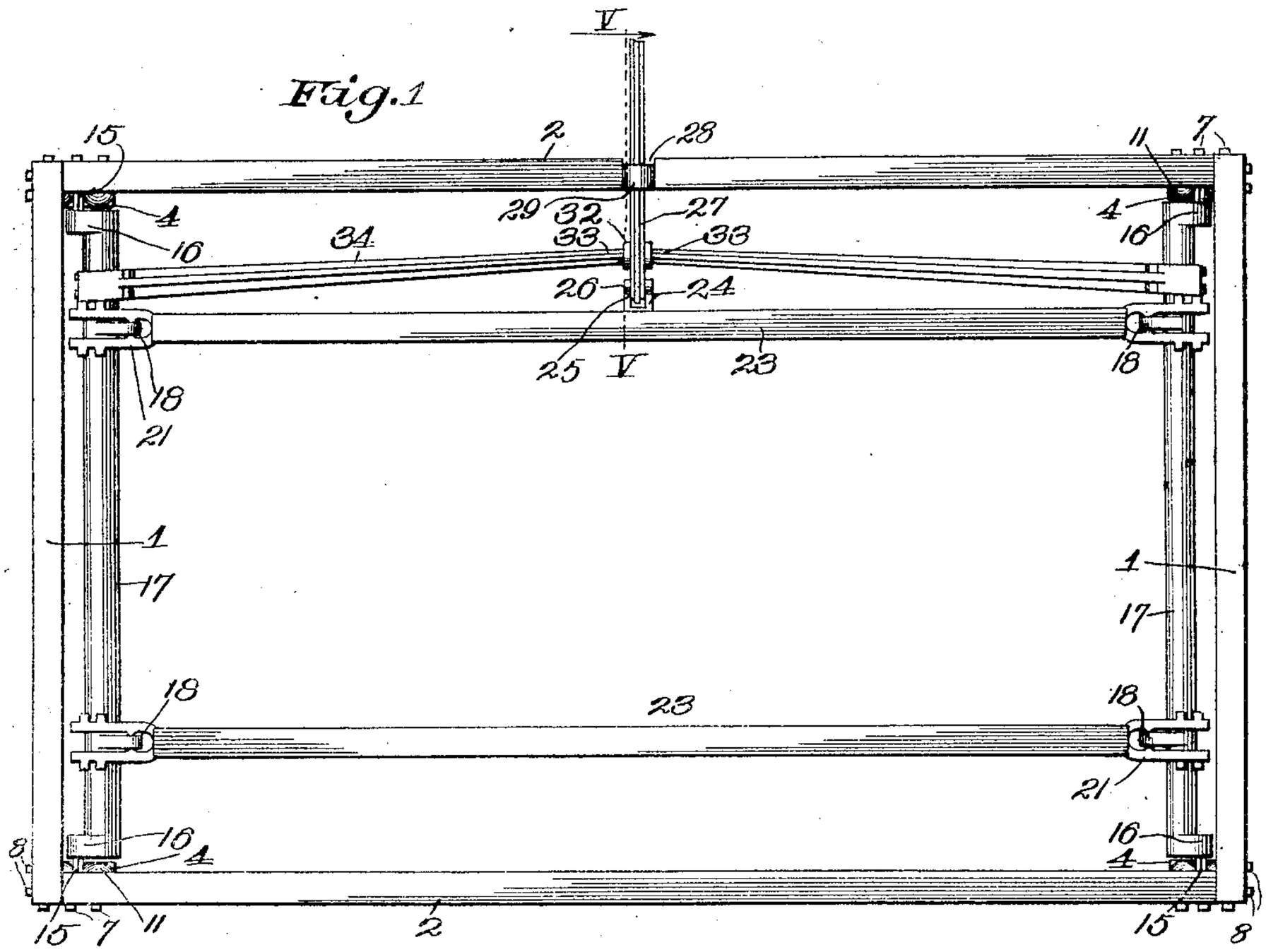
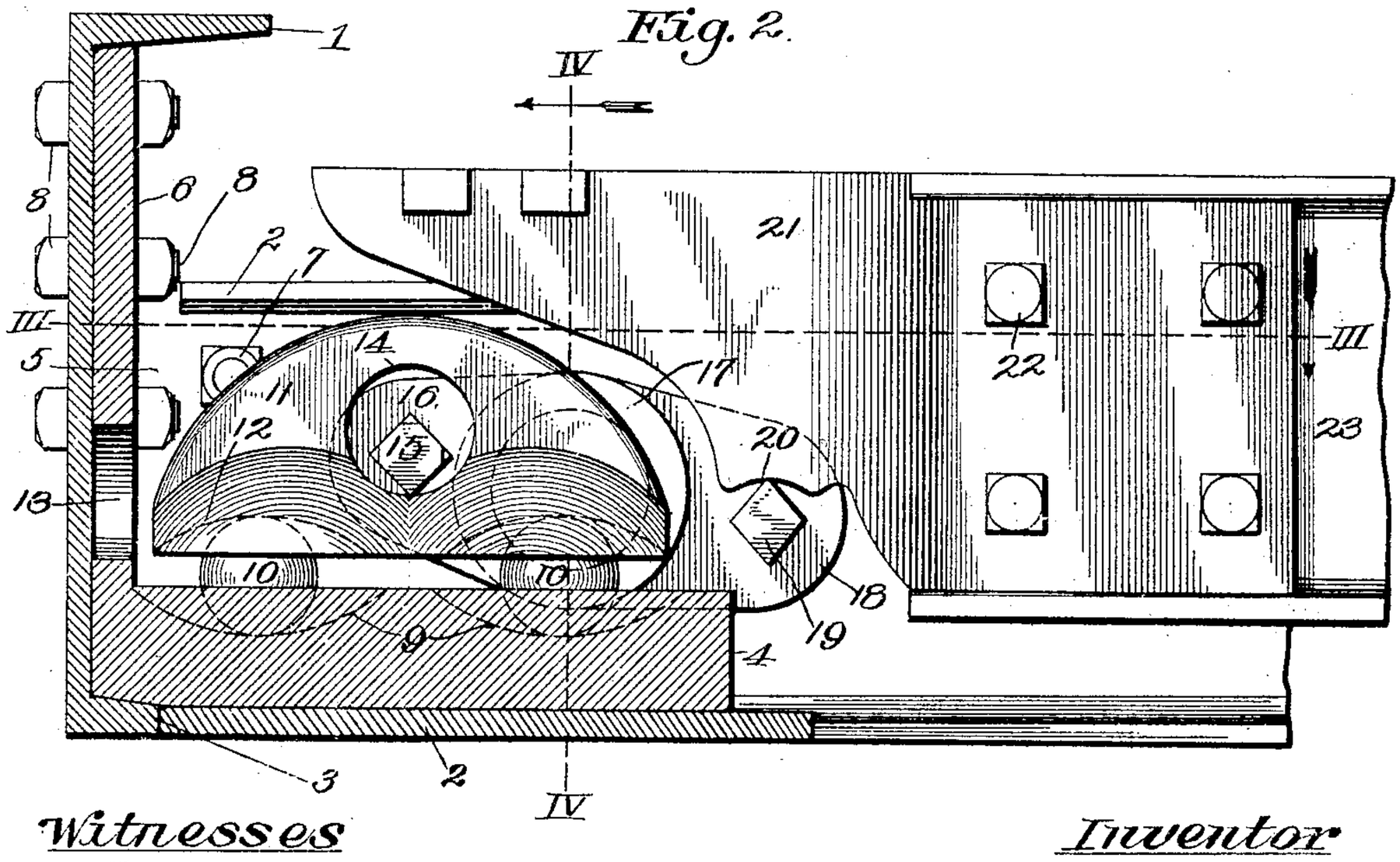


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

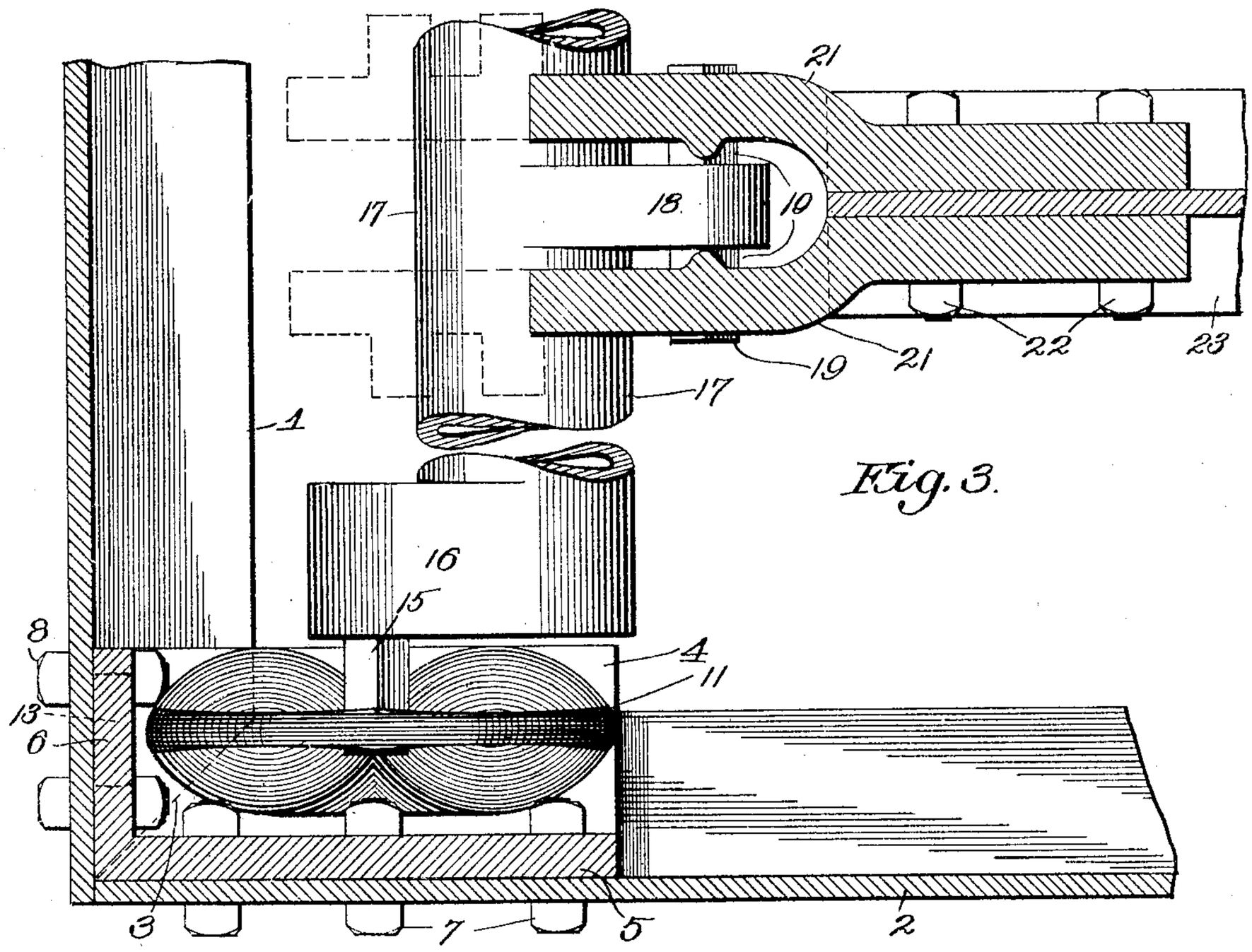

Fig. 3.

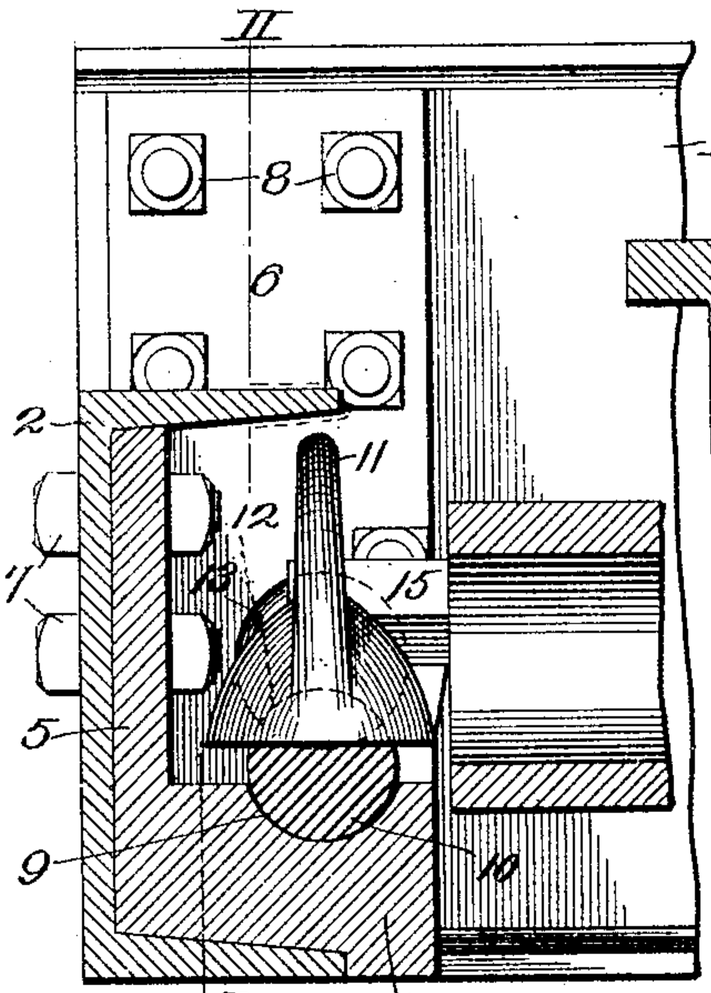

Fig. 4.

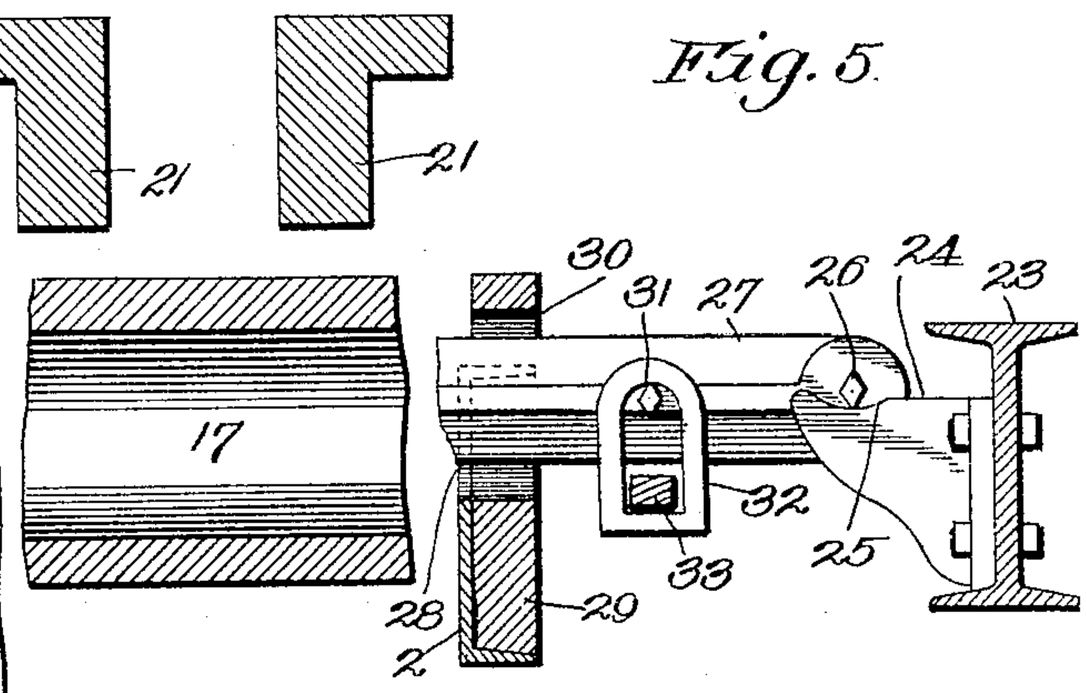

Fig. 5.

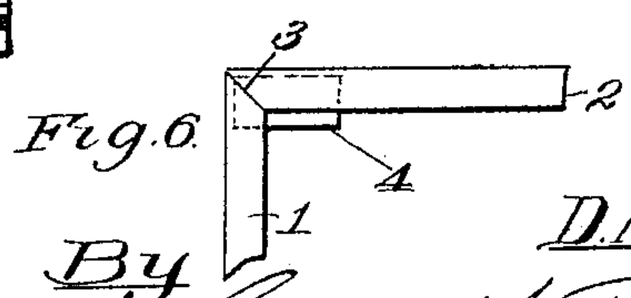

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

DARIUS M. ORCUTT, OF KANSAS CITY, KANSAS.

PITLESS WAGON-SCALE.

No. 804,165. Specification of Letters Patent. Patented Nov. 7, 1905.

Application filed August 17, 1905. Serial No. 274,537.

To all whom it may concern:

Be it known that I, DARIUS M. ORCUTT, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Pitless Wagon-Scales, of which the following is a specification.

My invention relates to pitless wagon-scales, and has for its object to produce certain new and useful improvements in such scales whereby they are rendered more sensitive, and therefore weigh more accurately.

A further object is to produce a scale of this character of simple, strong, durable, and inexpensive construction.

To these ends and others, as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a top plan view of a pitless weighing-scale embodying my invention with the platform-boarding omitted. Fig. 2 is a vertical section taken on the line II II of Fig. 4. Fig. 3 is a horizontal section taken on the line III III of Fig. 2. Fig. 4 is a vertical transverse section taken on the line IV IV of Fig. 2. Fig. 5 is an enlarged section on the line V V of Fig. 2. Fig. 6 is an inverted plan view of one corner of the scale with certain parts omitted.

In the said drawings, 1 indicates parallel channel-irons forming the end bars of the scale-frame.

2 indicates parallel channel-irons forming the side bars and connecting the ends of the end bars, the lower flanges of said side bars and end bars being cut at an angle of forty-five degrees, so as to abut together, as indicated by 3, Figs. 3 and 6.

4 indicates corner-blocks fitting snugly against the inner sides and upon the lower flanges of the end bars and side bars and provided at their side margins with longitudinal flanges 5, bearing against the inner sides of the side bars and extending up to the top flanges thereof, and also provided with end flanges 6, fitting against the inner sides of the end bars and extending upward to the top flanges thereof, said flanges being bolted, as at 7 and 8, respectively, to said side and end bars, so as to unite them rigidly together.

9 indicates a pair of longitudinally-extending and alined channels of segmental form in cross-section in the upper sides of corner-blocks 4, and 10 indicates balls or rollers engaging said grooves or channels.

11 indicates caps provided in their under sides with channels or grooves 12 of substantially the same character as channels 9 and engaging the upper portions of said balls or rollers, portions of flanges 6 of the corner-blocks being provided with openings 13, in which the caps may play back and forth when the scale vibrates, though it is to be understood that the corner-blocks may be sufficiently long to accommodate such vibration without necessitating said openings. Formed centrally in each cap is an opening 14, and engaging the same are the outwardly-projecting bearings 15 of lugs 16, rigid with the transverse rock-shafts 17.

18 indicates levers projecting from the rock-shafts 17 oppositely to lugs 16 and provided with transverse bearings 19, engaging bearing-cavities 20 in the under side of brackets 21, bolted, as at 22, to the opposite ends of the platform-bars 23, said platform-bars being adapted to support the board platform (not shown) in the usual or any preferred manner.

24 indicates a bracket bolted centrally to one of the bars 23 and provided with bearing-cavities 25 for the bearings 26 of the cross-lever 27, said cross-lever being adapted for connection with the scale-beam in the usual or any preferred manner, the contiguous side bar 2 being provided with a notch 28 in its upper side through which said cross-bar extends, and in order that the strength of said side bar shall not be impaired a bracket 29 is secured rigidly to it and is provided with a vertical slot 30, in which said cross-lever operates.

31 indicates bearings secured to the cross-lever, and 32 stirrups suspended from said bearings and forming a bearing for the contiguous ends of a pair of arms 34, secured rigidly, as shown, or in any other suitable manner to the rock-shafts.

In practice the team is driven over the platform in the usual manner until the wagon or other vehicle to be weighed is disposed upon it, the platform vibrating endwise with a minimum of friction because of the ball or roller bearing relation between the corner-blocks and the caps, the rock-lever bearings 15 finding a fulcrum on said caps. The weight of the platform on the pivoted bearings 19 rocks said shafts and causes their arms 34 to

impose downward pressure on the stirrups 32, said pressure being transmitted, through the cross-lever, to the scale-beam, which indicates the weight in the usual manner.

From the above description it will be apparent that I have produced a scale embodying the features of advantage enumerated as desirable and which is obviously susceptible of modification in minor particulars without departing from the spirit and scope of the appended claims.

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

1. In a weighing-scale, the combination of end bars and side bars, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars, and fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

2. In a weighing-scale, the combination of end bars and side bars, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars, and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon, and arms projecting from the rock-shafts and imposing downward pressure on said cross-lever.

3. In a weighing-scale, the combination of end bars and side bars, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars, and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon, stirrups pivotally suspended from the cross-lever and arms rigid with the rock-shafts and having their inner ends engaging and imposing downward pressure on said stirrups.

4. In a weighing-scale, the combination of end bars and side bars, one of the latter having a notch in its upper side, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon and extending through the notch of the said side bar, arms projecting from the rock-shafts and imposing downward pressure on said cross-lever, and a slotted casting secured to the notched cross-bar through which the cross-lever extends.

5. In a scale, the combination of end bars and side bars, one of the latter having a notch in its upper side, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon and extending through the notch of said side bar, stirrups pivotally suspended from the cross-lever, arms projecting rigidly from the rock-shafts and engaging and imposing downward pressure on the stirrups, and a slotted casting secured to the notched cross-bar through which the cross-lever extends.

6. In a weighing-scale, parallel end bars, parallel side bars, corner-blocks at the inner sides of said end and side bars, and provided with upwardly-projecting end flanges secured to the end bars and upwardly-projecting side flanges secured to the side bars, longitudinally-movable caps having a roller-bearing relation to said blocks, transverse rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

7. In a weighing-scale, a pair of channeled end bars having their flanges projecting inwardly, a pair of channeled side bars having flanges projecting inwardly, corner-blocks seated on the contiguous portions of the lower flanges of said bars and secured rigidly to the latter, longitudinally-movable caps having a roller-bearing relation to said blocks, transverse rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

8. In a weighing-scale, a pair of channeled end bars, having their flanges projecting inwardly and their bottom flanges beveled to converge inwardly, a pair of channeled side bars having their flanges projecting inwardly and their bottom flanges beveled to converge inwardly and abutting squarely against the beveled ends of the bottom flanges of the end bars, corner-blocks provided with longitudinal grooves or channels in their lower sides to receive the bottom flanges of the side bars, and communicating transverse grooves or channels to receive the bottom flanges of the end bars, means for securing said blocks rigidly to said end and side bars, longitudinally-movable caps having a roller-bearing relation to said blocks, transverse rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

9. In a weighing-scale, end bars, side bars, corner-blocks secured rigidly to the side and end bars and provided with one or more longitudinal channels, rollers in said channels,

caps provided in their lower sides with one or more longitudinal channels to engage the upper portions of said rollers, rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

10. In a weighing-scale, end bars, side bars, corner-blocks secured rigidly to the side and end bars and provided with a plurality of longitudinally-alined segmental channels, rollers in said channels, caps provided in their lower sides with alined segmental channels engaging the upper portions of said rollers, transverse rock-shafts fulcrumed upon and centrally of said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

11. In a weighing-scale, end bars, side bars, corner-blocks secured rigidly to the side and end bars and provided with a plurality of longitudinally-alined segmental channels, rollers in said channels, caps provided in their lower sides with alined segmental channels engaging the upper portions of said rollers, and provided centrally with openings, transverse rock-shafts having lugs provided with bearings engaging said openings, and fulcrumed upon the caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

12. In a weighing-scale, end bars, side bars, corner-blocks secured to the end and side bars, and provided with a pair of longitudinally-alined channels of segment shape both longitudinally and transversely, a ball fitting in each channel, caps provided with longitudinally-alined channels in their under sides of segment form both longitudinally and transversely, transverse rock-shafts fulcrumed on and centrally of said caps, and platform-bars supported from said rock-shafts, and at the opposite sides from their fulcrum-points.

In testimony whereof I affix my signature in the presence of two witnesses.

DARIUS M. ORCUTT.

Witnesses:
H. C. RODGERS,
G. Y. THORPE.