

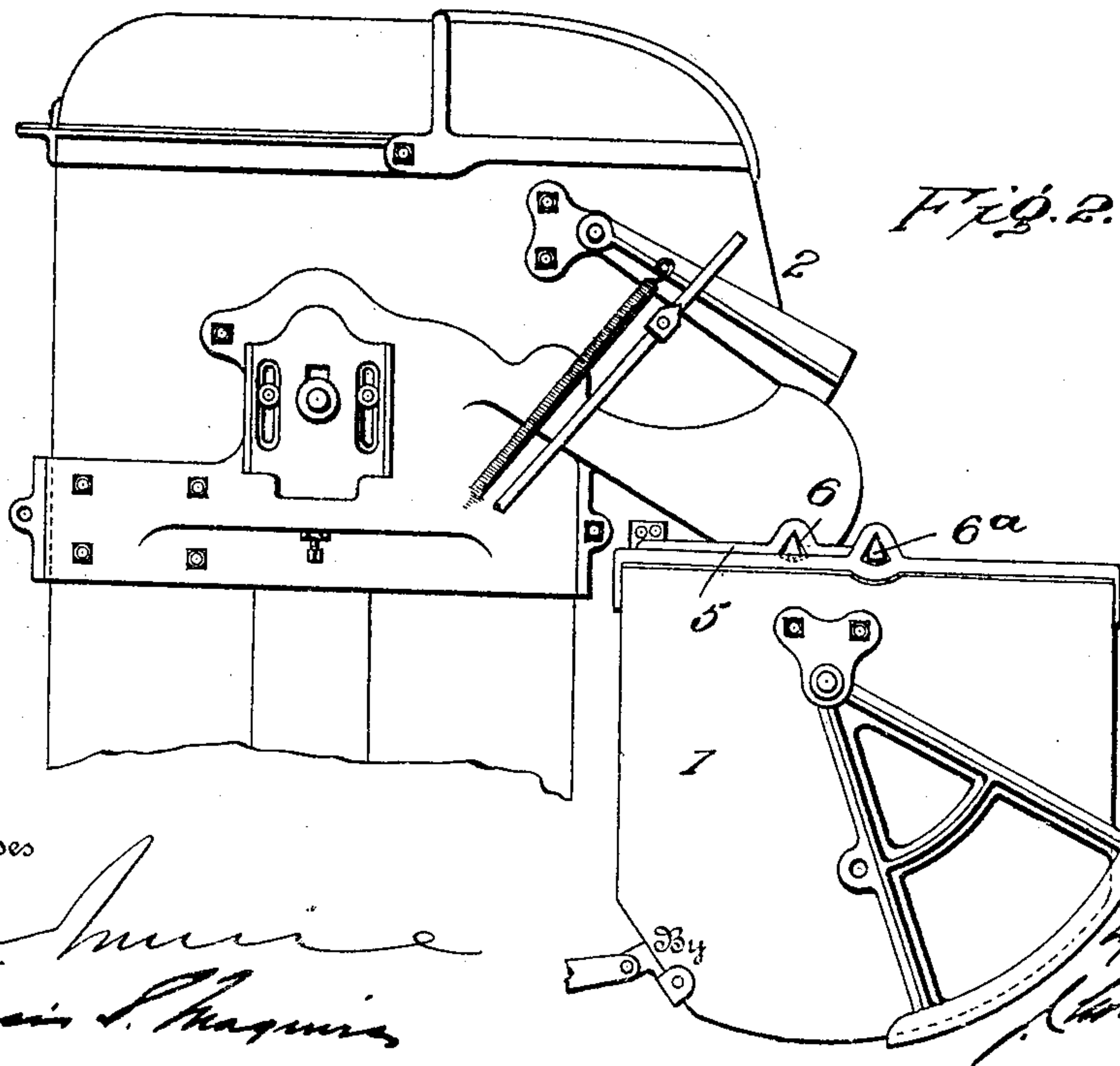
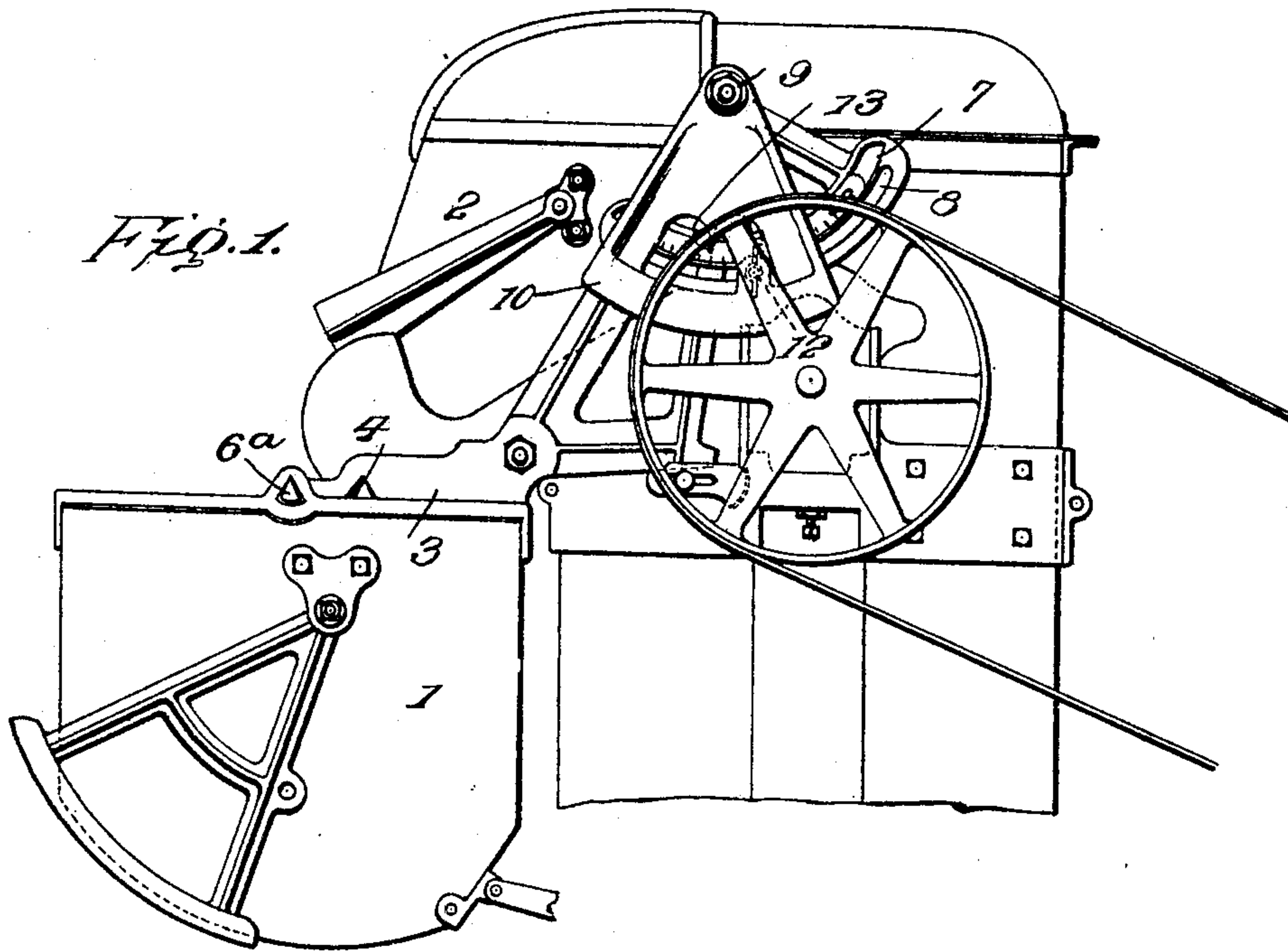
No. 824,606.

PATENTED JUNE 26, 1906.

E. J. VRAALSTAD.
GRAIN WEIGHER.

APPLICATION FILED JAN. 5, 1908.

2 SHEETS--SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

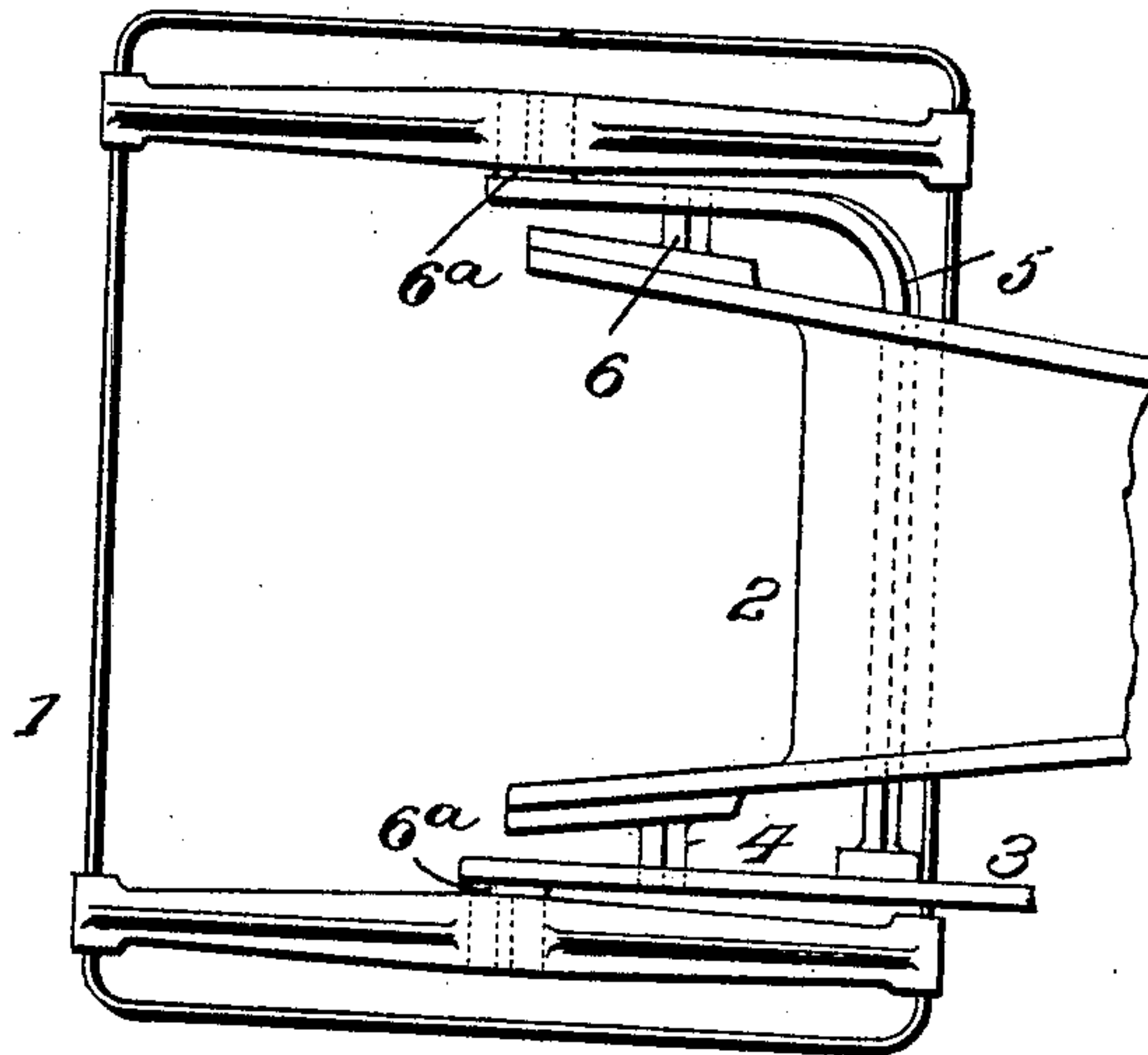


Fig. 4.

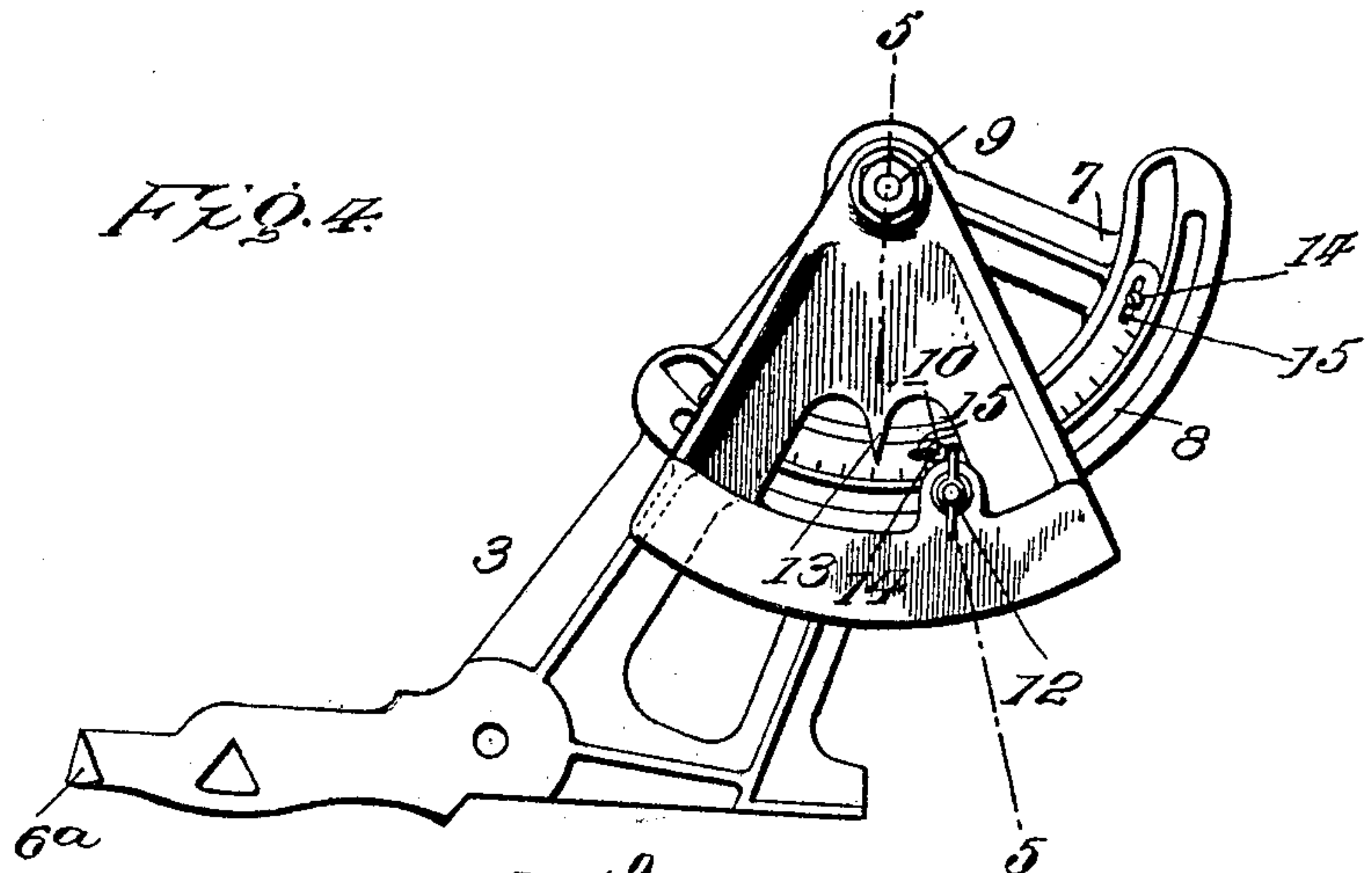
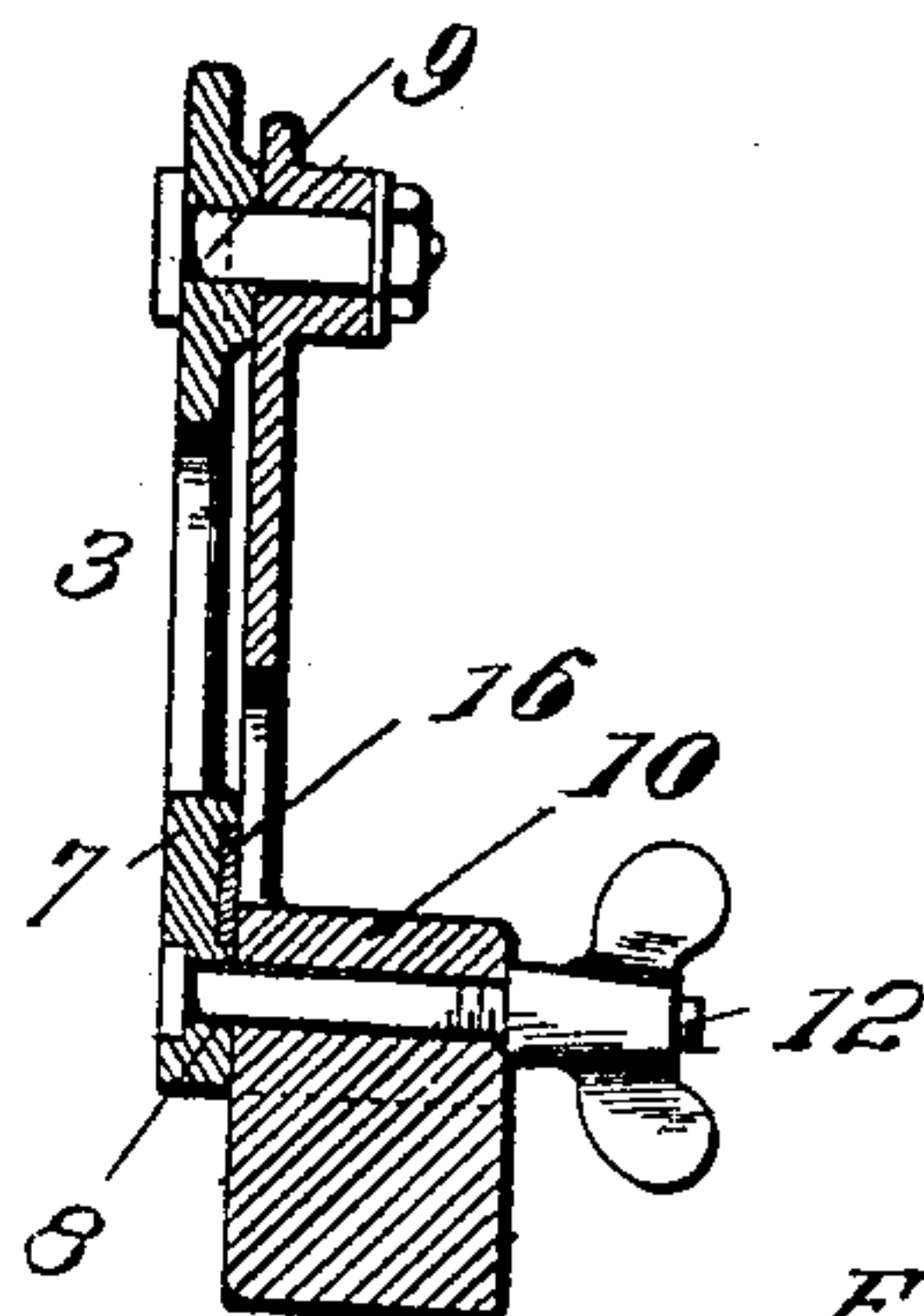


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD J. VRAALSTAD, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO BUFFALO PITTS COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

GRAIN-WEIGHER.

No. 824,606.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed January 5, 1906. Serial No. 294,779.

To all whom it may concern:

Be it known that I, EDWARD J. VRAALSTAD, of Buffalo, in the county of Erie and State of New York, have invented certain
5 new and useful Improvements in Grain-Weighers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to
10 make and use the same.

The object of this invention is to permanently secure the counterweight of a steelyard to the long arm thereof and yet permit of a wide range of adjustment.

15 The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a weighing-machine equipped with my improvements.
20 Fig. 2 is a similar view from the opposite side of the machine. Fig. 3 is a plan view with parts broken away. Fig. 4 is a side elevation of the steelyard with the weight attached. Fig. 5 is a sectional view on line 5 5,
25 Fig. 4.

Referring to the drawings, 1 designates the grain-receiving bucket, suspended in close proximity to the discharge-spout 2 for grain
30 or the like, such bucket being equipped with means for effecting the automatic opening of its bottom when it is lowered under the weight of such grain. This bucket is fulcrumed at the center of its top at one side on
35 a steelyard 3, which latter is fulcrumed on a lug 4 projecting from spout 2. The steelyard is located at one side of this spout, and in order to support the bucket at both sides is equipped with a right-angular arm 5, se-
40 cured at one end to the long arm of the steelyard and carried beneath the spout and in a direction parallel with the fulcrumed end of the steelyard, being likewise mounted on a
45 lug 6 in direct line with lug 4. These two lugs, as well as the lugs 6^a on the ends of the steelyard and arm 5, are preferably of triangular formation, so as to provide knife-edge bearings. The long arm of steelyard 2 is an-
50 gularly disposed relatively to the short arm—that is, it is extended obliquely upwardly and equipped with a quadrant 7 having a longitudinal slot 8 concentric to the pivot-pin 9 of a weight 10, suspended over one side of the

quadrant. This weight carries a set-screw 12, which extends through slot 8, so that by
55 tightening such screw the weight may be held in different positions relatively to the fulcrum of the steelyard. The weight has a central cutaway equipped with a V-shaped pointer 13, perpendicular to the axis of the
60 weight. To the quadrant is secured, preferably by means of screws 14 passed through slots 15, a scale-plate 16, over which the pointer travels. This scale-plate is made ad-
65 justable so as to secure accuracy. By loosening screw 12 the weight may be readily turned on its axis to regulate the weighing capacity of the bucket—that is to say, to fix the weight required in the bucket to over-
70 come the weighted arm of the steelyard. As is well known in the art, when the bucket is lowered under the weight of its contents its bottom is automatically opened to permit of the discharge of the grain, whereupon the
75 bucket will instantly be restored to its raised position under the counterbalancing-weight of the steelyard. As it is desirable to have the bucket held as against lateral displacement, I have provided for suspending it from
80 both sides, and hence have employed the right-angular arm 5, which forms a continuation or duplication of a portion of the steelyard. It is manifest, however, that if the
85 bucket were to be suspended directly from its axial center the right-angular arm 5 would not be necessary.

The operation is readily apparent. In order to regulate the weight under which the bucket is to be lowered, it is only necessary for the operator to loosen screw 12 and turn
90 the weight on its pivot until its pointer coincides with the desired graduation indicated on the scale-plate. Thereupon the screw is tightened, and the bucket will automatically lower as soon as it attains the weight for
95 which the device is set. This allows for a comparatively wide range of operation, the extent of which is controlled by the arc over which the pivoted weight may be moved. It will be noted that this weight being perma-
100 nently secured to the steelyard is always at hand and not liable to be accidentally displaced.

My improvement is especially applicable to the grain-discharge spouts of threshing-
105 machines, but its use is in no way restricted.

It is well known that such discharge mechanisms embody means for automatically cutting off the outlet of grain while the bucket is lowered in discharging and that the outlet
5 from the bucket is open only when the latter is in its lowered position. It is not necessary to describe these features, as they form no part of my invention.

I claim as my invention—

10 1. A steelyard having its short arm constructed and arranged to support a bucket suspended therefrom, and having its long arm extended angularly relative to such short arm, said long arm having at its outer
15 upper end a vertically-disposed quadrant, a weight pivoted concentric to the axis of such quadrant, and means carried by such weight for engaging such quadrant and holding the weight in position thereon.

20 2. A steelyard having its long arm extended angularly relative to its short arm, said long arm having at its outer end a quadrant formed with a concentric slot, a weight pivoted concentric to the axis of such quad-
25 rant, and a set-screw carried by such weight extended through said slot.

30 3. The combination with the frame, and the vertically-movable bucket, of the steelyard fulcrumed on such frame and having its short arm supporting one side of such
bucket, a branch arm supporting the other side of the bucket, a weight pivotally se-
cured to the long arm of said steelyard, and means for holding such weight in different

positions relatively to the fulcrum of the 35 steelyard.

4. The combination with the frame, and the vertically-movable bucket, of the steel-
yard fulcrumed on such frame and having its short arm supporting such bucket at one side 40 thereof, a right-angular arm secured to the steelyard and also fulcrumed on said frame, said angular arm supporting such bucket at its other side, a weight pivotally secured to the long arm of said steelyard, and means for 45 holding such weight in different positions relatively to the fulcrum of the steelyard.

5. The combination with the frame, and the vertically-movable bucket, of the steel-
yard fulcrumed on such frame and having its 50 short arm supporting such bucket at one side thereof, a right-angular arm secured to the steelyard and also fulcrumed on said frame, said angular arm supporting such bucket at its other side, the long arm of the steelyard 55 being angularly disposed relatively to its short arm and having a graduated quadrant, and an adjustable weight movable over said quadrant and pivoted concentrically to the axis thereof. 60

In testimony whereof I have signed this specification in the presence of two subscrib-
ing witnesses.

EDWARD J. VRAALSTAD.

Witnesses:

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