

No. 896,888.

PATENTED AUG. 25, 1908.

A. BRUBAKER.
PEA GRADER.

APPLICATION FILED JAN. 6, 1908.

2 SHEETS—SHEET 1.

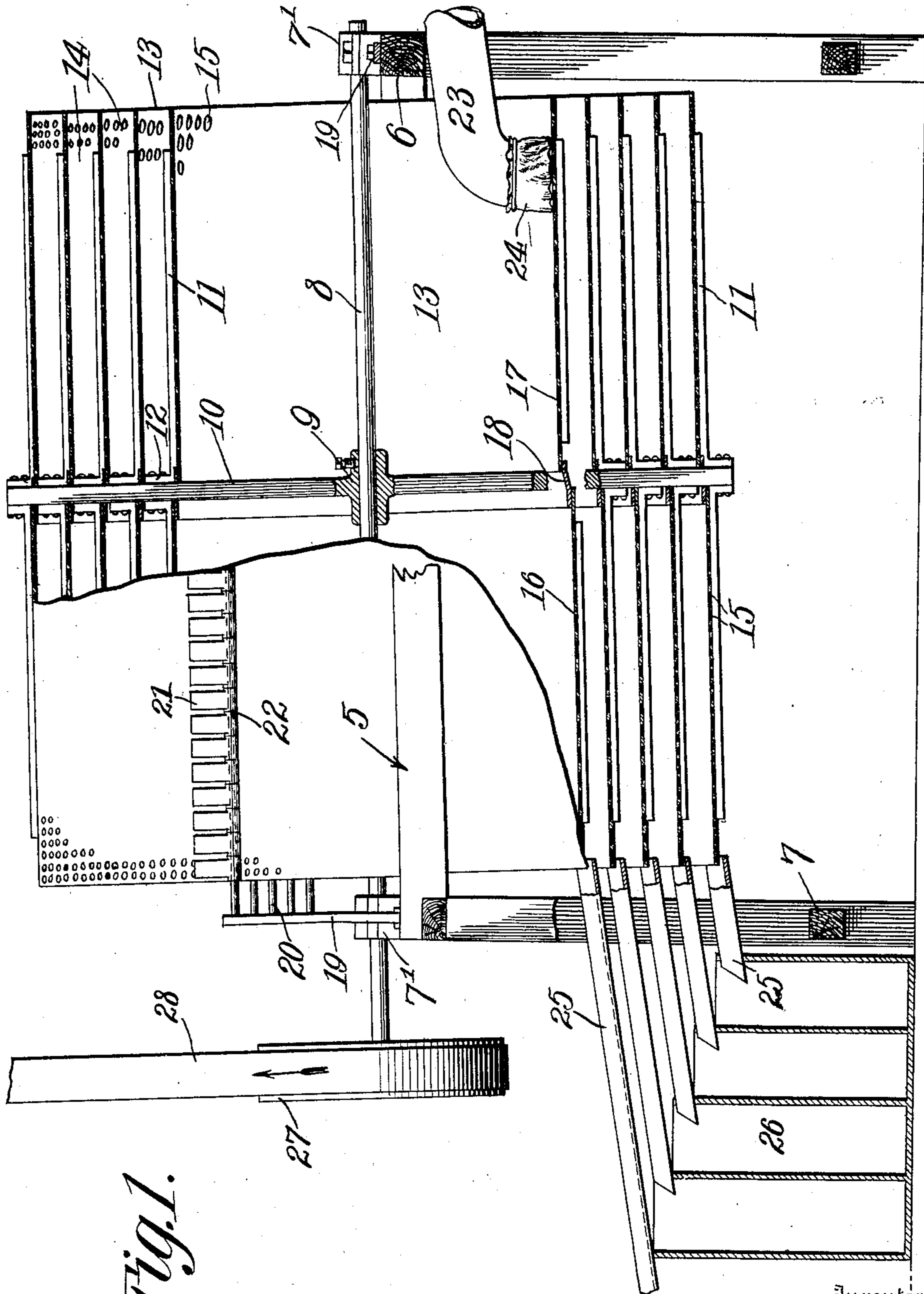


Fig. 1.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

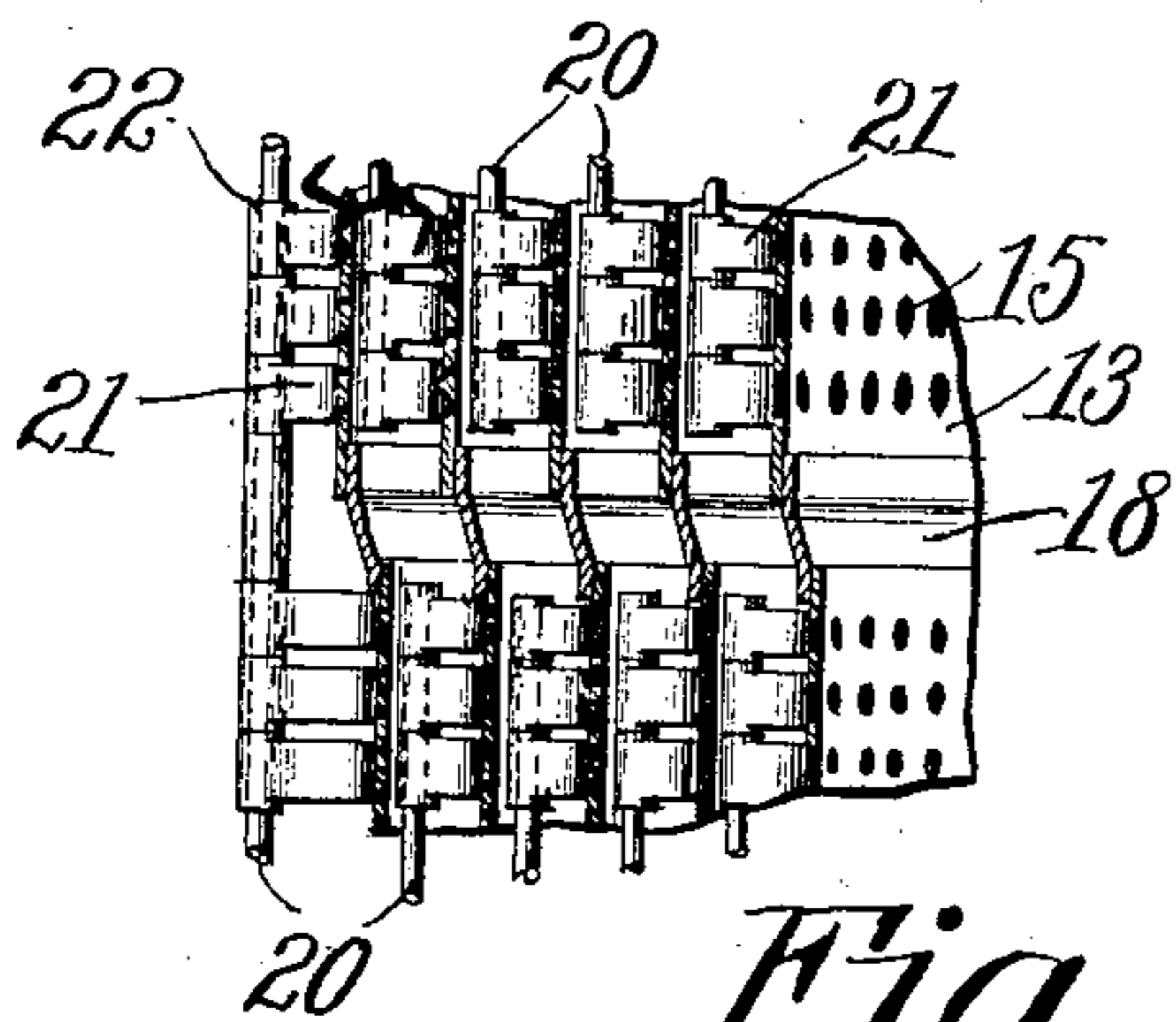
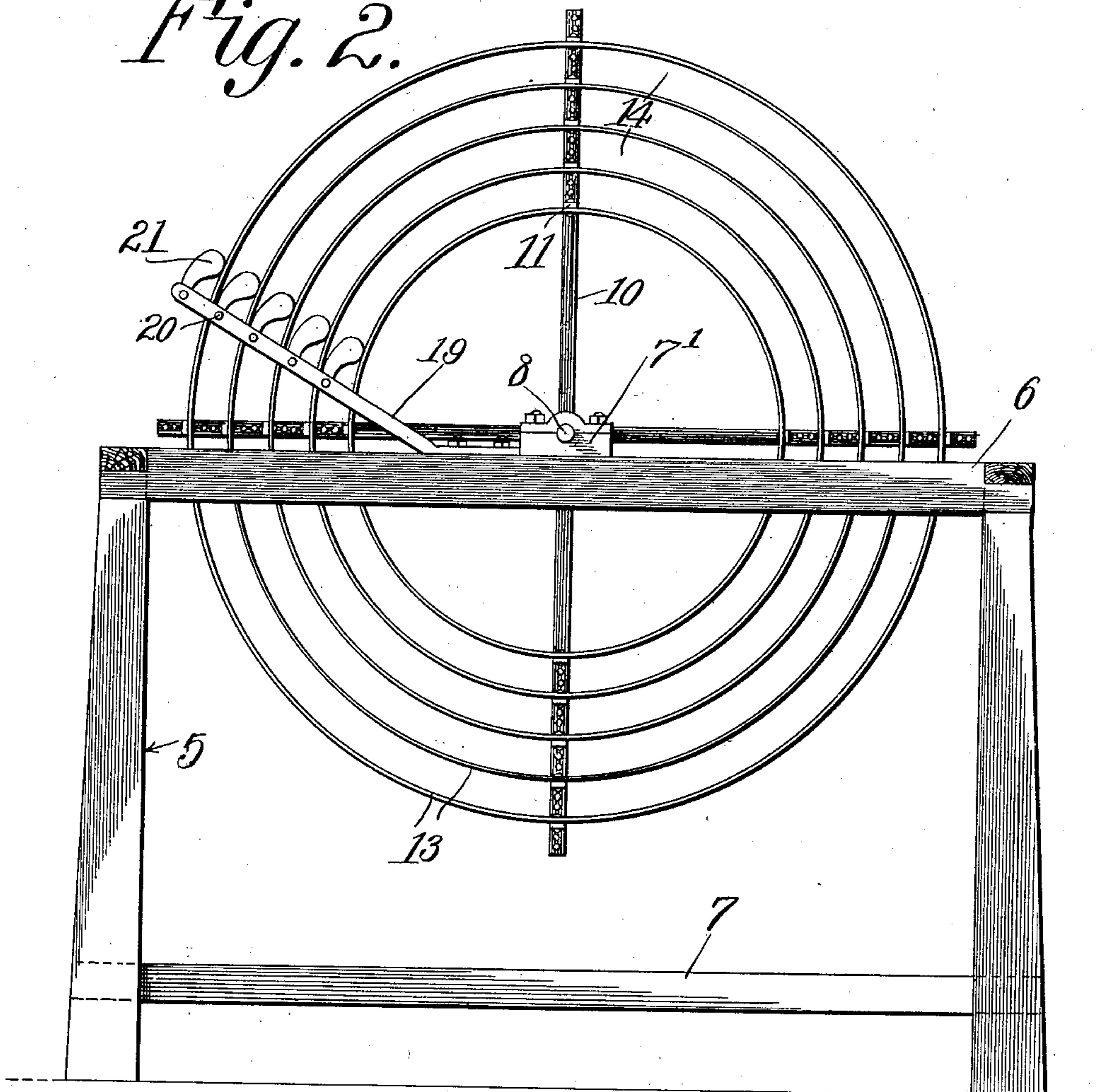


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ABRAHAM BRUBAKER, OF WARSAW, INDIANA.

PEA-GRADER.

No. 896,888.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed January 6, 1908. Serial No. 409,515.

To all whom it may concern:

Be it known that I, ABRAHAM BRUBAKER, a citizen of the United States, residing at Warsaw, in the county of Kosciusko and State of Indiana, have invented a new and useful Pea-Grader, of which the following is a specification.

This invention relates to grading machines and more particularly to a machine for separating and grading peas.

The object of the invention is to provide a grading machine in which the separation of the larger peas is initially effected and the smaller peas subsequently graded thereby to prevent the smaller peas from being carried along in bulk with the larger peas.

A further object of the invention is to provide a grading machine including a plurality of perforated concentric cylinders spaced apart to form intermediate compartments for the reception of the peas, said cylinders being mounted for rotation having a series of tappets associated therewith and adapted to bear against the perforated walls of the cylinders thereby to prevent the peas from lodging in the perforations or against the walls of said cylinders.

A still further object of the invention is generally to improve this class of machines so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation partly in section of a pea grading and separating machine constructed in accordance with my invention. Fig. 2 is an end view of the same. Fig. 3 is a detail sectional view showing the manner of connecting the perforated cylinders.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved grading machine forming the subject matter of the present invention includes a supporting frame preferably rectangular in shape, as shown, and comprising longitudinal bars 5 connected by spaced transverse bars 6 and 7.

Secured to the transverse bars 6 are suitable bearings 7' in which is journaled a longitudinal shaft 8, the latter having keyed or otherwise rigidly secured thereto a central wheel or spider 9.

The wheel or spider is provided with a plurality of radiating arms or spokes 10 preferably four in number, as shown, and which form supports for a plurality of spaced longitudinal arms or braces 11. The longitudinal arms 11 are each preferably formed of a single piece of metal having its inner end bent laterally to form a flange 12 for attachment to the adjacent radiating arm of the spider, said radiating arms being preferably rectangular in cross section so as to permit the flange 12 to fit snugly against the adjacent wall of said arm.

Riveted or otherwise rigidly secured to the longitudinal arms 11 are a plurality of concentric cylinders 13 spaced apart to form intermediate compartments 14 and having their side walls formed with a series of perforations 15, the perforations in the several cylinders gradually decreasing in size from the inner cylinder to the outer cylinder so that when the peas are discharged on the interior walls of the inner cylinder, all except the largest peas will pass through the perforations in the inner cylinder into the next compartment 14, while the smaller peas will pass through the smaller perforations in the succeeding cylinders into the adjacent compartments from whence they are discharged at one end of the machine.

The longitudinal arms 11 on each side of the spokes 10 are preferably disposed one slightly above the other while the adjacent sections 16 and 17 of each screen are connected by an inclined plate or member 18 having one end thereof disposed beneath the section 17 and the opposite end arranged in contact with the inner surface of the section 16 thus forming a guide for the peas and preventing the latter from lodging between the spokes.

Secured to the opposite transverse plates 6 of the supporting frame are brackets 19, each having its free end deflected upwardly and extended transversely across the adjacent ends of the cylinders and provided with a plurality of spaced longitudinally disposed rods 20. The upper rod 20 extends on the outside of the outer perforated cyl-

inder and serves to connect the brackets 19 while the intermediate rods terminate at a point adjacent the arms or spokes 10.

Pivotaly mounted on the rods 20 are a plurality of weights or tappets 21 which bear against the exterior walls of the adjacent perforated cylinders and serve to prevent the peas from lodging in the perforations of said cylinders or against the walls of the latter. The pivoted ends of the tappets 21 are each formed with a lateral extension or collar 22 which bears against the collar of an adjacent tappet, thereby to properly space the tappets and prevent accidental displacement of the same. The peas are discharged on the interior walls of the inner cylinder 11 through a spout 23, the latter being arranged beneath the longitudinal shaft 8 and provided with a flexible sleeve 24 which bears against the adjacent wall of the inner cylinder, as shown there being a trough 25 communicating with each compartment 24 for discharging the peas from said compartments into suitable bins or receptacles 26 designed to receive the same.

The machine may be operated either manually or from any suitable source of power and in the present instance one end of the shaft 8 is shown extended longitudinally beyond the adjacent cross beam 6 and provided with a pulley 27 having a belt 28 mounted thereon and operatively connected with an engine or other source of power.

The operation of the device is as follows: The peas are discharged through the spout 23 from the blower of a fanning mill and deposited on the interior walls of the inner cylinder, motion having been previously imparted to the several cylinders through the medium of the pulley and belt. As the peas are discharged into the machine the largest peas will roll down the inclined interior walls of the inner perforated cylinder into the upper spout 25, while the next largest peas will pass through the perforations in said cylinder into the adjacent compartment 14 from whence they are discharged through the next spout 25 into one of the receptacles 26, the smaller peas dropping through the perforations in the remaining screens into the adjacent compartments from whence they pass into the continuous spouts 25 and thence into the receptacle 26, thus thoroughly and effectually separating and grading the peas.

Attention is here called to the fact that the discharge end of the cylinder is slightly lower than the intake or feed end thereof so as to permit the peas in the several compartments to roll downwardly by gravity into the receptacles 26. It will also be noted that the plates 18 not only serve to connect the adjacent sections comprising each screen or cylinder but also prevent the peas from lodging against the screens at the juncture of said sections.

It will of course be understood that the peas may be discharged onto a suitable separating table having the usual pockets for the reception of different grades of peas instead of employing the receptacles at the lower end of the machine.

Having thus described the invention what is claimed is:

1. A separating machine including a plurality of sectional concentric screens mounted for rotation in an inclined plane and spaced apart to form intermediate compartments, the perforations of the screens gradually decreasing in size from the inner screen to the outer screen, and inclined connecting members uniting the sections of each screen and arranged to bear against the upper surface of one section and the lower surface of the next.

2. A separating machine including a plurality of sectional concentric screens spaced apart to form intermediate compartments, the perforations of the screens gradually decreasing in size from the inner screen to the outer screen, tappets bearing against the walls of the several screens, and connecting members uniting the ends of adjacent sections of each screen and arranged to bear against the upper surface of one section and the lower surface of the next.

3. A separating machine including a plurality of sectional concentric cylinders spaced apart to form intermediate compartments and arranged to rotate in an inclined plane, the perforations in the cylinders gradually decreasing in size from the inner cylinder to the outer cylinder, a spout for discharging the peas on the wall of the inner cylinder, tappets bearing against the exterior walls of the cylinders, inclined connecting plates uniting the sections of each cylinder and arranged to bear against the upper surface of one section and the lower surface of the next, and means for rotating the cylinders.

4. A separating machine including a plurality of sectional perforated concentric cylinders spaced apart to form intermediate compartments and arranged to rotate in an inclined plane, longitudinal rods disposed within the compartments, gravity actuated tappets pivotaly mounted on the rods and bearing against the adjacent cylinders, inclined connecting plates uniting the sections of each cylinder, and means for rotating said cylinders.

5. A separating machine including a supporting frame, a shaft journaled in the frame and supported in an inclined position, a spider secured to the shaft and provided with radiating arms, longitudinal arms secured to the radiating arms on opposite sides of the latter, sectional perforated cylinders secured to the longitudinal arms, connecting plates uniting the sections of each cylinder, and means for rotating the shaft.

6. A separating machine including a supporting frame, a longitudinal shaft journaled in said frame, a spider secured to the shaft and provided with radiating arms, longitudinal arms secured to the radiating arms, sectional perforated cylinders secured to said longitudinal arms and spaced apart to form intermediate compartments, inclined connecting plates uniting the sections of each cylinder, brackets secured to the opposite ends of the frame, rods carried by the

brackets and extended within the compartments, weighted tappets pivoted on the rods, and means for rotating the cylinders.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ABRAHAM BRUBAKER.

Witnesses:

S. D. ANGLIN,

T. WAYNE ANGLIN.