944,506.

J. J. RYAN.

GRAVITY SLIDE ASH PAN.

APPLICATION FILED SEPT. 8, 1908.

Patented Dec. 28, 1909.

2 SHEETS—SHEET 1.

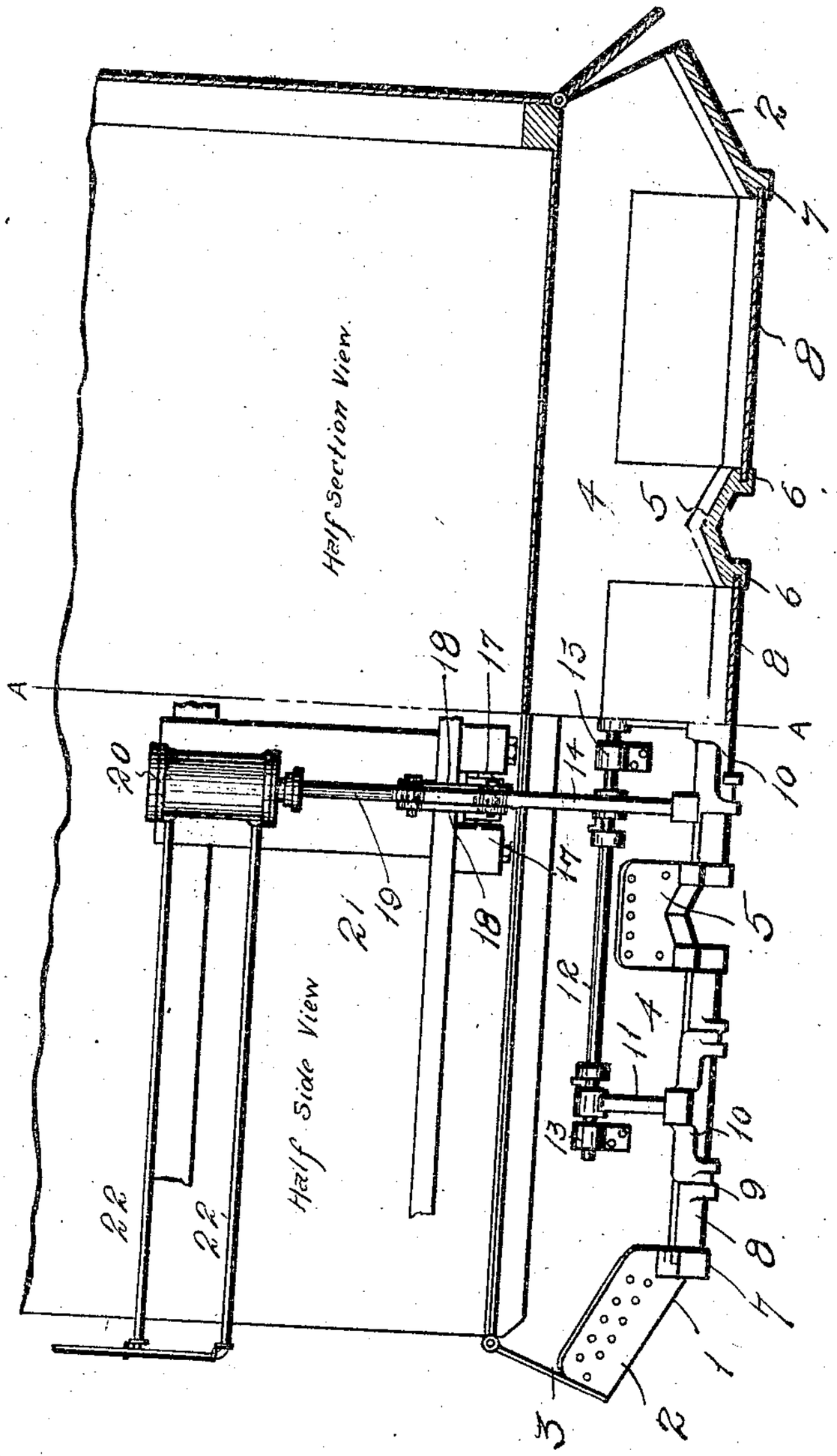

Fig. 1.

WITNESSES

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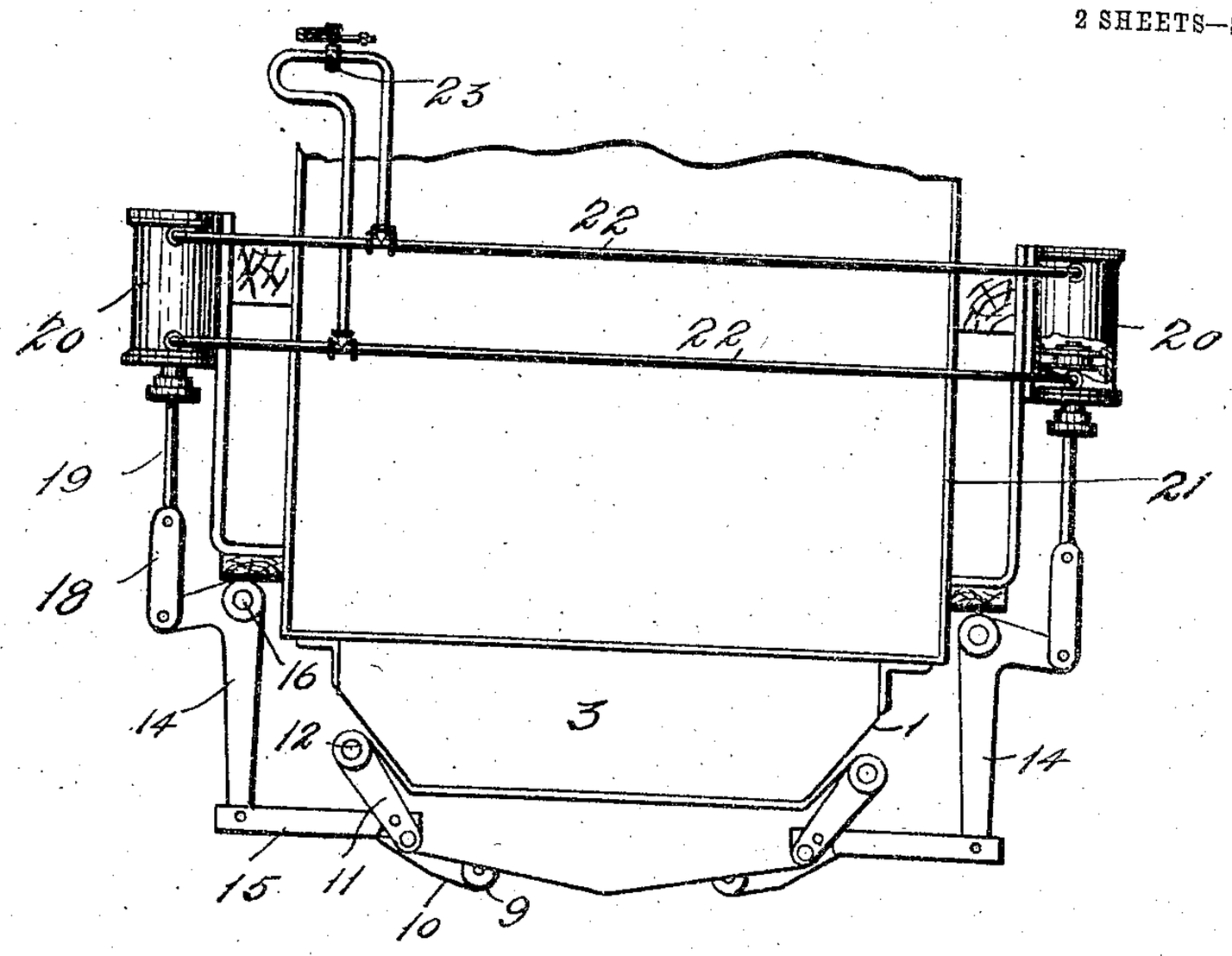

Fig. 2.

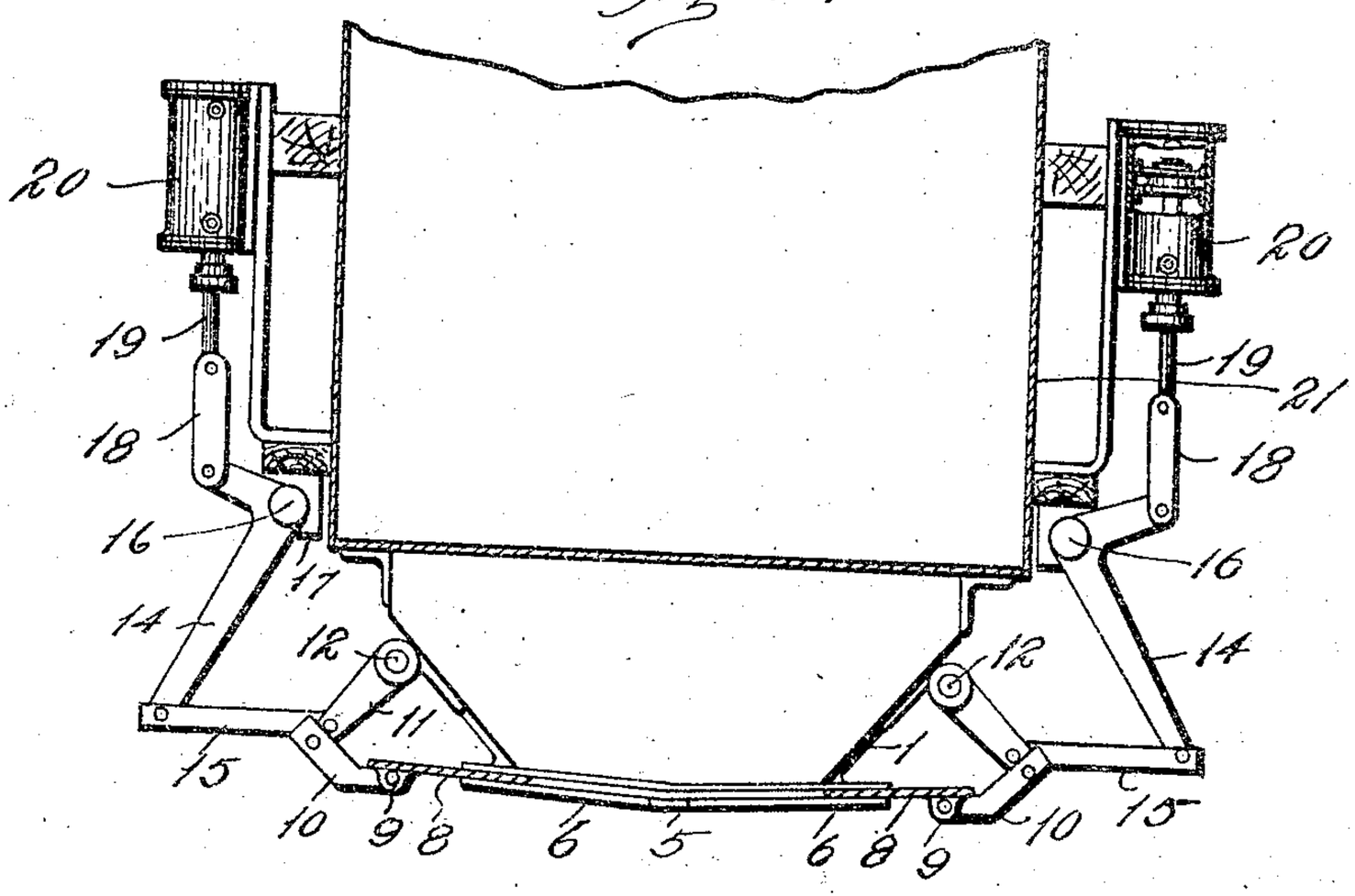

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN J. RYAN, OF HOUSTON, TEXAS.

GRAVITY-SLIDE ASH-PAN.

944,506. Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed September 8, 1908. Serial No. 451,993.

To all whom it may concern:

Be it known that I, JOHN J. RYAN, citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Gravity-Slide Ash-Pans, of which the following is a specification.

My invention relates to new and useful improvements in ash pans and more particularly to a gravity slide ash pan.

The object of the invention is to provide an ash pan having a bottom formed of a plurality of hoppers each provided with laterally slidable valve plates arranged upon separation to drop the entire contents of the pan.

Another feature resides in the provision of guides for the plates whereby the latter are caused to incline toward the center, thus tending to slide toward each other and keep the pan closed.

Finally the object of the invention is to provide a device of the character described that will be strong, durable and efficient, and simple and comparatively inexpensive to produce, also one in which the several parts will not be liable to get out of working order.

With the above and other objects in view, the invention has relation to certain novel features of construction and operation, an example of which is described in the specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a side view of the ash pan, one half being shown in elevation and the other in section, Fig. 2 is an end elevation, and Fig. 3 is a transverse sectional view.

In the drawings, the numeral 1 designates the ash pan which is composed of inclined end castings 2 against which the usual doors 3 close, and sheet metal sides 4.

Intermediately arranged ridged guide castings 5 provided with downwardly inclined guide hangers 6 act in conjunction with guide hangers 7 in slidably supporting valve plates 8. The guide hangers incline from each side of the pan to the longitudinal center thereof. It is obvious that this construction forms a plurality of hoppers and by sliding the plates laterally the bottom of the ash pan may be opened and closed.

For operating the valve plates, each is provided with an ear 9 adapted to receive a yoke link 10 having pivotal connections and arm 11. These are mounted on rock shafts 12 extending longitudinally on each side of the pan. These shafts are mounted in bearings 13 secured to the sides 4.

By rocking the shafts the valves are moved through the agency of the arms and the links. It is obvious that the shafts may be rocked by various means. However, I prefer to mount on shafts 16 bell crank levers 14 having connection with links 15 pivotally connected with the links 10. The shafts 16 are supported in bearings 17 mounted above the ash pan.

At their upper end each bell crank has pivoted connection with a link 18 pivotally connected to the lower end of a piston rod 19. The piston rods project from steam or air pressure cylinders 20 mounted on the sides of the fire box 21 and having connection with steam or air supply and exhaust pipes 22 connected with a controlling valve 23 which may be suitably located. By this means the piston rods are moved up and down and the bell crank levers swung in and out and the plates moved laterally at will.

It is apparent that the plates inclining downward will have a tendency to work or slide together and thus keep the bottom of the pan closed.

I wish to call attention to the fact that the construction herein set forth permits of an easy and ready emptying of the pan and obviates the necessity of a man going under the pan to empty and clean the same. The device may be used on various styles of ash pans as well as those of locomotives.

What I claim is:

1. In combination with an ash pan having bottom openings separated by a member 5 arranged transversely of the pan between its ends having oppositely disposed guides 6, other guide members 7 at the ends of the pan, and two pairs of oppositely movable valve plates slidable in said guides to close the bottom openings of the pan, one pair of said plates being devoted to each opening.

2. In combination with an ash pan having bottom openings separated by a member 5 arranged transversely of the pan between its ends having oppositely disposed guides 6, other guide members 7 at the ends of the pan, and two pairs of oppositely movable valve plates slidable in said guides to close the bottom openings of the pan, one pair of said plates being devoted to each opening, the guides 6 and 7 inclining from the oppo-

site ends thereof inwardly toward their centers, substantially as and for the purpose described.

3. In combination with an ash pan having bottom openings separated by a member 5 arranged transversely of the pan between its ends having oppositely disposed guides 6, other guide members 7 at the ends of the pan, and two pairs of oppositely movable valve plates slidable in said guides to close the bottom openings of the pan, one pair of said plates being devoted to each opening, the guides 6 and 7 inclining from the opposite ends thereof inwardly toward their centers, and the bridging portion between the guides 6 inclining downwardly in opposite directions toward the bottom openings of the pans.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN J. RYAN.

Witnesses:
A. SCHLAFT,
GEO. MCCORMICK