No. 844,267. PATENTED FEB. 12, 1907.

C. G. ECKENRODE & N. BALDWIN.

ASH PAN FOR LOCOMOTIVES.

APPLICATION FILED AUG. 8, 1906.

2 SHEETS—SHEET 1.

Fig. 1

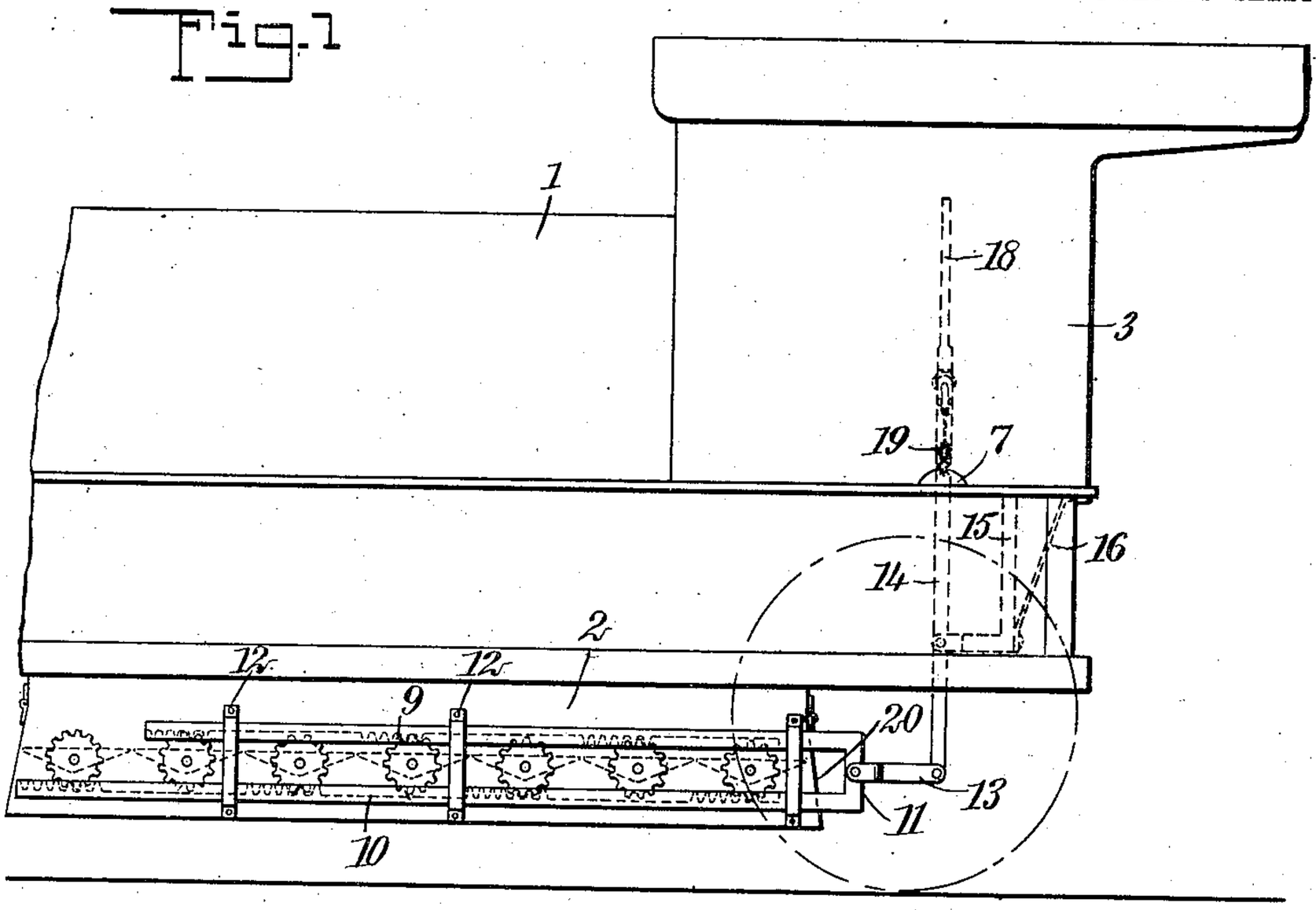
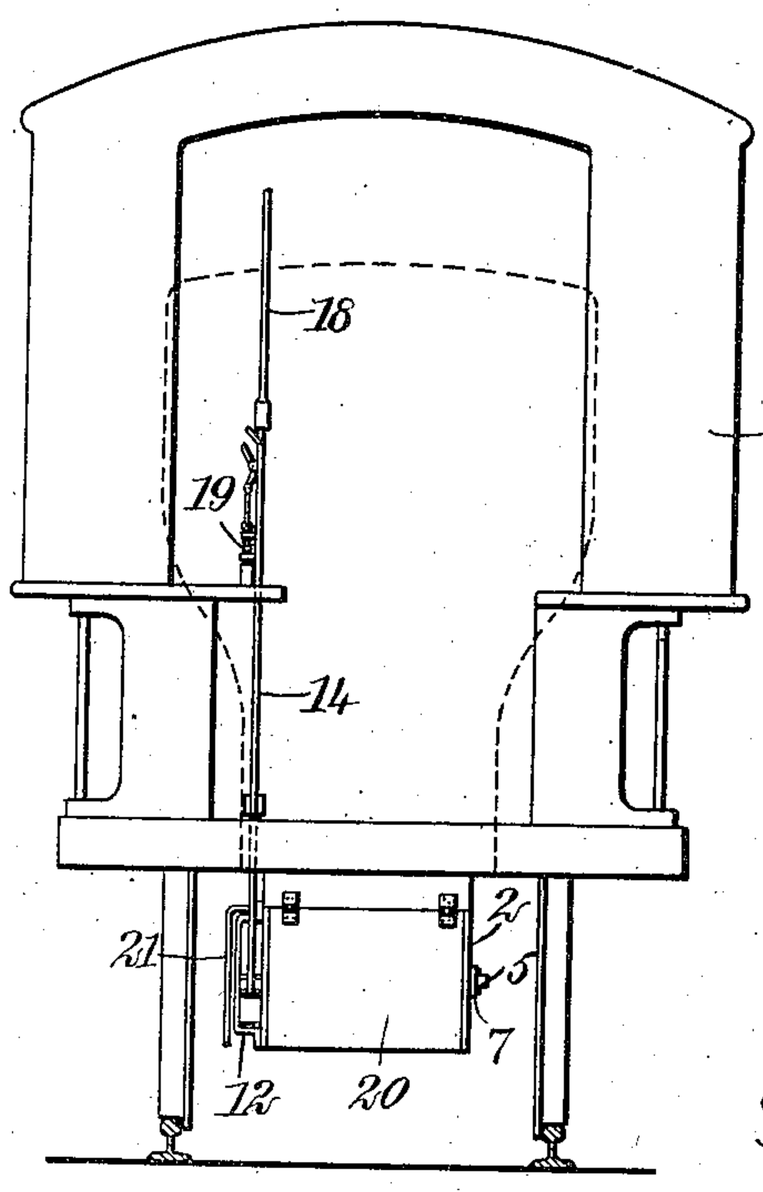


Fig. 2



WITNESSES

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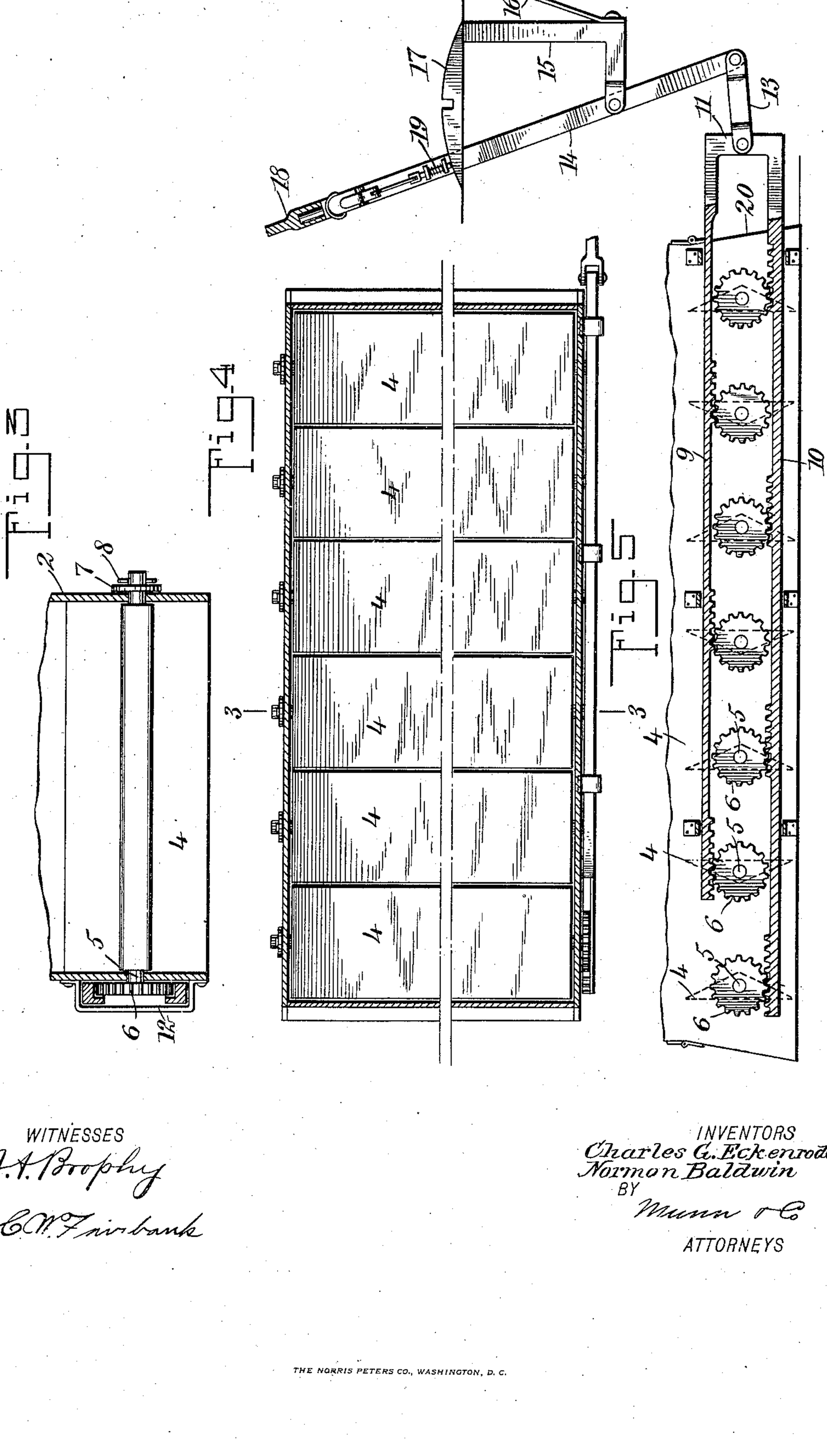

Fig. 4

Fig. 3

Fig. 5

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UNITED STATES PATENT OFFICE.

CHARLES GILBERT ECKENRODE AND NORMON BALDWIN, OF PIERRE, SOUTH DAKOTA.

ASH-PAN FOR LOCOMOTIVES.

No. 844,267. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed August 8, 1906. Serial No. 329,682.

To all whom it may concern:

Be it known that we, CHARLES GILBERT ECKENRODE and NORMON BALDWIN, both citizens of the United States, and residents of Pierre, in the county of Hughes and State of South Dakota, have invented a new and Improved Ash-Pan for Locomotives, of which the following is a full, clear, and exact description.

This invention relates to an improved construction in ash-pans for locomotives whereby the pan may be dumped at any time by the movement of a single lever within easy reach upon the cab.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, in which—

Figure 1 is a side elevation of a portion of a locomotive, illustrating our improved ash-pan and dumping means attached thereto. Fig. 2 is an end elevation of the parts shown in Fig. 1. Fig. 3 is a vertical section through a portion of the pan and on the line 3 3 of Fig. 4. Fig. 4 is a horizontal section through the pan and illustrating the sectional bottom; and Fig. 5 is a side elevation of the lower portion of the same, showing the mechanism by which the pan is dumped.

To more clearly illustrate the construction of our improved ash-pan and dumping device and the method in which it is attached to a locomotive, we have shown a portion of the latter diagrammatically, so that the relative position of the parts of our improvement in respect to the locomotive may be fully understood.

Beneath the fire-box of the locomotive 1 we secure our improved ash-pan 2 and extend the means for dumping the same upward into the locomotive-cab 3. The bottom of our improved pan is composed of a plurality of sections 4, each pivoted upon a rod or bar 5, extending through the opposite walls of the pan and having one end thereof provided with a pinion 6 and the other end provided with a suitable washer 7 and key 8 for preventing the longitudinal movement of the rod or bar. Each of the sections 4 and the pinions 6 is rigidly connected to its respective shafts, so that when a pinion is rotated the section of the bottom will be also rotated on the bar 5 as a center, and said section may be thus turned to a vertical position. For rotating the pinions we provide a rack-bar 9 above and a second rack-bar 10 below the same. These rack-bars are connected at their ends by a connecting-bar 11, and the distance between the two bars is substantially the same as the diameter of the pinions. The teeth on the rack-bars occur only intermittently, so that as the two rack-bars are moved simultaneously in the same direction the teeth of one rack-bar will engage only every alternate pinion, while the teeth of the other engages the remaining pinions to rotate them in the opposite direction. By the endwise movement of the rack-bars and the consequent rotation of the pinions each section of the bottom of the ash-pan is turned edgewise, whereby the contents of the pan may freely drop therefrom. For supporting the rack-bars and holding them in contact with the pinions we provide suitable brackets 12, secured to the sides of the ash-pan and inclosing the two rack-bars, as clearly illustrated in the drawings.

The connecting-bar 11 of the two rack-bars has a link 13 pivoted thereto, and the end of this link is also pivoted to one end of a lever 14, extending upward into the cab 3 of the locomotive. This lever 14 is pivoted intermediate its ends on a bracket 15, rigidly supported in place by a brace 16, and the upper end of the lever swings adjacent a sector 17, having one or more notches cut in the curved surface thereof. The upper end of the lever is provided with a suitable handle 18 for operating the same, and the side of the lever is provided with a spring-pressed dog 19, adapted to engage with a notch or notches in the sector 17.

The lever normally stands in a vertical position, with the dog 19 in engagement with the center notch in the sector 17 and with the sections 4 of the bottom of the ash-pan lying in a horizontal position to effectively close the same. When it is desired to dump the ashes from the ash-pan, the fireman moves the lever-arm 14 forward after having disengaged the dog 19 from the notch in the sector 17. This forward movement of the lever draws the rack-bars 9 and 10 in the opposite direction, thus rotating the pinions and turning the sections of the bottom into

a vertical position. The ashes may then freely fall from the pan, and the trouble usually necessary to rake them out is entirely eliminated. By the use of our improved device the ashes may be dumped from the pan in a few seconds without the fireman leaving the cab or climbing to any dangerous position. The back end of our improved ash-pan may be provided with a hinged door 20, whereby the ashes may be raked out in the usual manner in case anything should accidentally happen to the improved dumping device and interfere with the normal operation thereof.

Any suitable protecting-casing 21, of sheet metal or other material, may be secured to a side of the ash-pan to protect and conceal the pinions and rack-bars and prevent foreign objects from interfering with their normal operation.

It is evident that the bottom of the ash-pan may be composed of any number of sections desired, depending upon the length of the ash-pan and the most convenient size for the sections, and it is also evident that minor changes may be made in the construction of the device above described without departing from the spirit of our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. An ash-pan having a bottom composed of a plurality of sections pivotally supported, and means for simultaneously rotating each alternate section in one direction and the remaining sections in the opposite direction, said means comprising a pinion carried by each section, and two rack-bars in engagement with said pinions.

2. An ash-pan having a bottom composed of a plurality of sections, a plurality of rods each carrying one of said sections and pivoted in the walls of said pan, pinions on the ends of said rods, a rack-bar upon one side of said pinions and in engagement with only a portion of said pinions, a second rack-bar oppositely disposed to said first mentioned rack-bar, and in engagement with the remaining pinions, and means for simultaneously moving said rack-bar.

3. An ash-pan having the bottom thereof composed of a plurality of pivotally-mounted sections, a pinion carried by each of said sections, a rack-bar in engagement with each alternate pinion, a second rack-bar in engagement with the remaining pinions, and means for simultaneously moving said rack-bars to rotate the sections.

4. In combination with a locomotive having a cab, of an ash-pan, bars extending across said pan and journaled in the walls thereof, a sectional bottom for said ash-pan, each section thereof being pivoted to one of said bars, pinions on the ends of said bars, a rack-bar mounted upon said pinions, a second rack-bar mounted below said pinions, the teeth of said rack-bars being arranged intermittently, whereby each rack-bar only engages with the alternate pinions, brackets secured to the side of said ash-pan for guiding said rack-bars, and means for simultaneously moving said rack-bars in the same direction.

5. In combination with a locomotive having a cab, of an ash-pan, bars extending across said pan and journaled in the walls thereof, a sectional bottom for said ash-pan, each section thereof being pivoted to one of said bars, pinions on the ends of said bars, a rack-bar mounted upon said pinions, a second rack-bar mounted below said pinions, the teeth of said rack-bars being arranged intermittently, whereby each rack-bar engages only with the alternate pinions, brackets secured to the side of said ash-pan for guiding said rack-bars, a lever connected to the ends of said rack-bars and extending upwardly into the cab of the locomotive, and means for normally holding said lever in a given position and preventing the accidental rotation of the sections of the ash-pan bottom.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES GILBERT ECKENRODE.
NORMON BALDWIN.

Witnesses:
C. D. COLER,
AGNES G. BALDWIN.