

J. G. TALMAGE.
ATTACHMENT FOR LOCOMOTIVE ASH PANS.
APPLICATION FILED JULY 13, 1912.

1,046,403.

Patented Dec. 3, 1912.

2 SHEETS-SHEET 1.

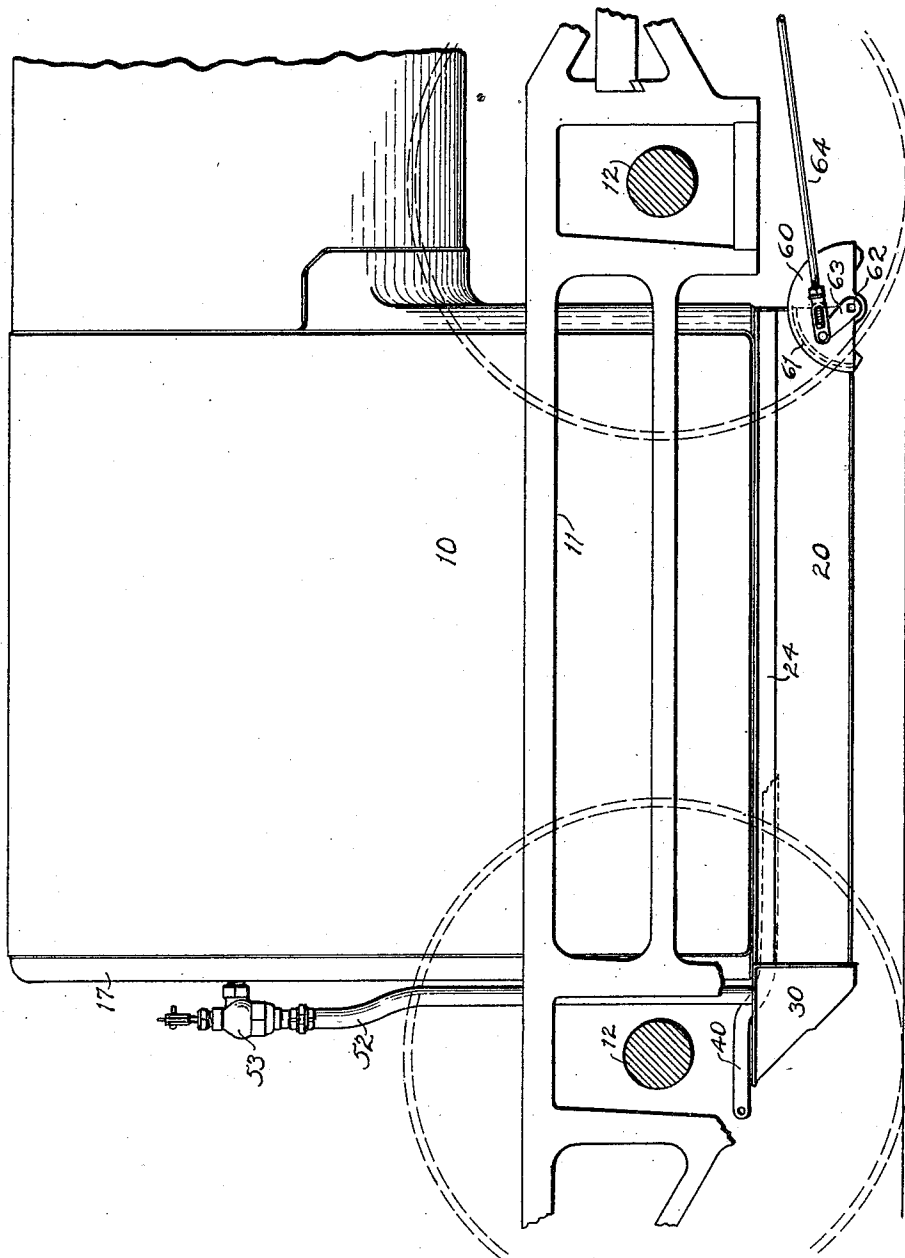


FIG. 1.

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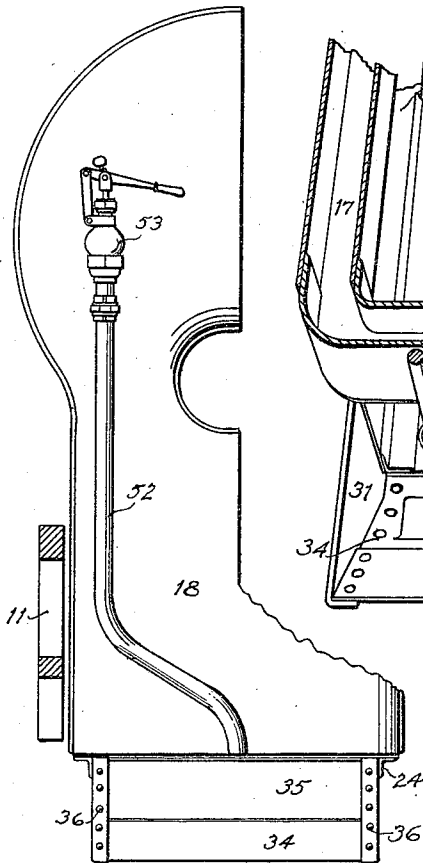


FIG. 2.

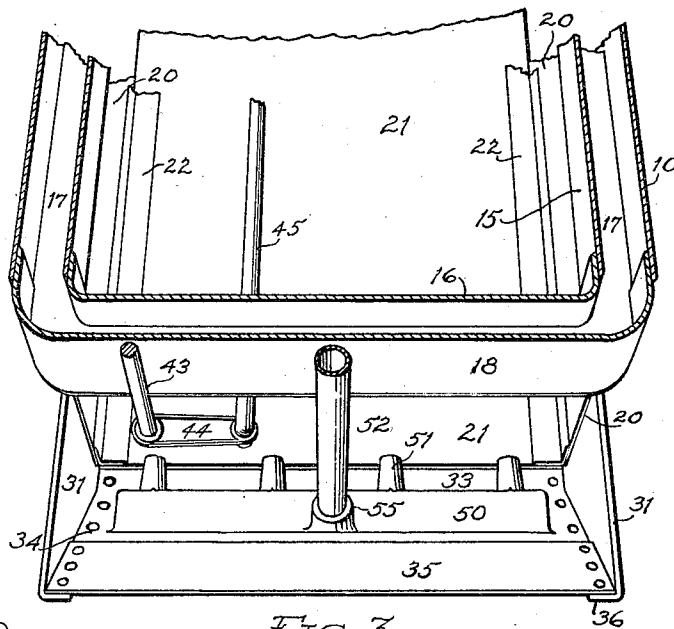


FIG. 3.

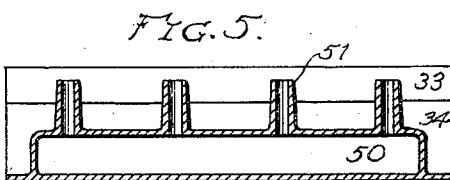


FIG. 5.

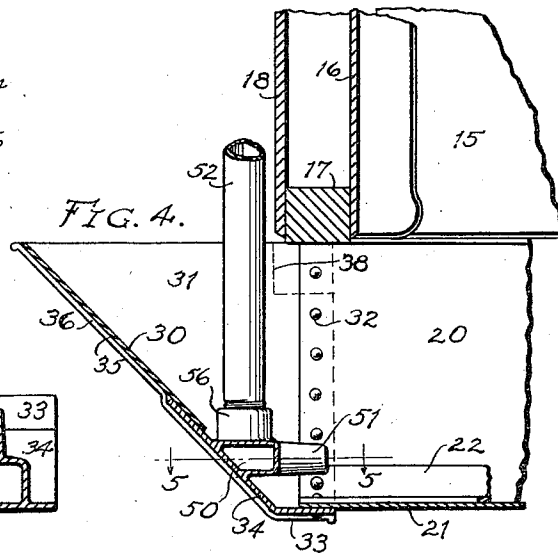


FIG. 4.

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR LOCOMOTIVE ASH-PANS.

Specification of Letters Patent.

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1,046,403.

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To all whom it may concern:

Be it known that I, JOHN G. TALMAGE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Attachment for Locomotive Ash-Pans, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to ash pans for locomotives, one of the objects being to provide the pan with simple and effective means for supplying plenty of air to the grate through the pan, while preventing hot coals, or other material, dropping from the pan in running.

Another object is to provide the air admission parts in the form of a self-contained device, which may be easily attached to existing pans and will not require changes in the shaker rigging or other parts cooperating with the pan.

Another object is to provide a very simple form of automatic cleaner for the pan.

The invention consists of the means by which I accomplish these objects, as hereinafter explained and as summarized in the claims.

The drawings clearly show my invention in an approved form.

Figure 1 is a side elevation of a portion of a locomotive having my ash pan attachment; Fig. 2 is a rear end view of the boiler and ash pan; Fig. 3 is a sectional perspective, looking downward into the ash pan; Fig. 4 is a vertical section through the rear end of the ash pan and the adjacent portion of the mud ring; Fig. 5 is a detail in horizontal section through the manifold of the cleaning device, this section being taken on the line 5-5 of Fig. 4.

As shown in the drawings, 10 represents a standard type of locomotive boiler having the usual water leg; 11 the side frames, and 12 the axles carrying the same. The water leg has the usual inner or fire-box sheets 13 and 16 and the mud ring 17 separating them from the outer side 10 and the rear end 18, as will be well understood. 20 indicates the sides of the ash pan which depend from the mud ring, being suitably secured thereto, as by the angle irons 24. 21 indicates the bottom of the ash pan and 22 angle irons

bracing the corners. This is a usual construction of ash pans for this type of boiler.

30, in the drawing, indicates a hood or deflector, which I secure to the rear end of the ash pan to prevent the coals inadvertently dropping out of the same, while allowing a large access of air to the ash pan, and from thence to the grate. This hood has side plates 31 which overlap the sides 20 of the ash pan and are bolted or riveted thereto, as shown at 32; the hood has a bottom portion 33 extending beneath the bottom of the ash pan and secured to it; the hood also has an inclined, outer end extending from the bottom to the top and forming the deflector described. As shown, this inclined end consists of a portion of the casting 34, which also forms the bottom 33, and the diagonally upwardly extending plate 35 which overlaps the casting 34. The side plates 31 are flanged inwardly at their rear diagonal edges, as shown at 36, and the casting 34 and the plate 35 rest within the flanges and are suitably riveted or otherwise secured thereto.

The hood, consisting of the side plates, the bottom and the inclined end, may be made in one rigid structure and supplied as an attachment for the ash pan. It is simply necessary then to take off the usual damper door and bolt or rivet the attachment to the ash pan proper. When in place it will be seen that a large open air space is provided at the top of the hood through which air may pass downwardly and inwardly across the ashes in the ash pan and to the grate. The open space also provides means for the passage of the shaker rigging into the ash pan.

Fig. 1 illustrates one form of shaker rigging which has a horizontal bar 40 extending beneath the grate and connected therewith. An upward offset in this bar enables it to pass freely over the top of the rear edge 36 of the hood and operate independently thereof. Fig. 3 illustrates another form of shaker rigging in common use, consisting of the vertical shaking post 43 having on the lower end a rock arm 44 connected with a fore-and-aft bar 45, which, in turn, is connected with the grate. It will be seen that this rocking post can extend down into the open space in my ash pan hood and there

connect with the rest of the rigging in the usual manner. Thus, either form of shaker rigging may be used with my improved ash pan without requiring change in the rigging.

5 To provide simple and effective means for automatically cleaning the pan of ashes, whenever desired, I mount in the hood a manifold 50 having a series of nozzles 51 pointing along the pan adjacent to the bot-
10 tom, and I connect this manifold by means of a pipe 52 and a valve 53 with the boiler. A suitable door is provided at the other end of the ash pan to allow the exit of ashes when they are propelled forwardly by the
15 steam and water discharging from the nozzles 51.

The forward door may be a segmental gate made and operating according to my prior Patent No. 978,074 and serving to deflect the ashes downwardly to the track. This is the form illustrated in Fig. 1, where
20 60 represents an attachment at the front end of the ash pan, and 61, in dotted lines, a segmental gate within this attachment
25 mounted on a rock shaft 62, with which is connected a rock arm 63. A suitable rod 64, or other means for operating this rock arm, swings the gate from the closed position shown over to a position ninety degrees
30 therefrom, which not only opens the end of the ash pan, but provides a downward deflector leading toward the ground. When this gate is opened, by opening the valve 53, steam and water under pressure is dis-
35 charged through the nozzles 51 and thereby forces the ashes in the pan forwardly and discharges them downwardly between the rails.

I prefer to make the manifold 50, together
40 with the nozzles 51 and the bottom plate 33 and the lower portion 34 of the inclined back one integral casting. This is illustrated particularly in Figs. 3, 4 and 5. This
45 integral casting also includes a boss 56 on the upper side of the manifold, having a threaded opening for receiving the pipe 52.

By making the manifold an integral part of the hood itself, I provide a single self-contained attachment adapted to be secured
50 to the rear end of the ash pan, and, when properly piped to the boiler, serving the double purpose of providing for the cleaning and for the proper air admission without in any way interfering with the adjacent parts of the locomotive. By cutting out
55 the upper inner corners of the hood, as indicated by the broken lines 38 in Fig. 4, I at once make the attachment suitable for shallower pans, thus increasing its adaptability to existing structures.

60 It should be particularly noted that my hood, while providing a large enough opening for all of the air which may be drawn through the end of the ash pan, absolutely
65 prevents any hot coals dropping onto the

right of way. This is a very important feature, as it eliminates the destruction of property, continually resulting from fires by hot coals dropping from damper-door pans, or other usual types.

Having thus described my invention, what I claim is:

1. The combination, with a locomotive boiler, of an ash pan formed with a hood adapted to provide an air admission deflector therefor, a manifold for distributing fluid to the ash pan, said manifold being mounted in said hood, and a steam pipe extending upwardly from the manifold through the air opening of the hood to the boiler. 70 80

2. The combination, with a locomotive boiler and an ash pan beneath it, of an air-admission hood at the end of the ash pan having a rear inclined wall, and a manifold for directing fluid to the ash pan carried by such inclined wall. 75 85

3. The combination of a locomotive boiler, an ash pan beneath it, a gate at the forward end of the ash pan, a hood at the rear end of the ash pan having an upwardly inclined wall providing an open space at the top through which the shaker rigging may enter, a manifold within the ash pan carried by said inclined wall, forwardly projecting nozzles on said manifold, and a steam pipe adapted to carry fluid from the boiler to said manifold. 90 95

4. The combination, with a locomotive boiler and an ash pan beneath it, of a hood adapted to be secured to the ash pan and provide an air admission deflector therefor, and a manifold for distributing fluid to the ash pan, said manifold being mounted on and carried by said hood. 100 105

5. The combination, with a locomotive boiler and an ash pan beneath it, of an inclined wall at the rear end of the ash pan providing an open space at its top for directing air downwardly and inwardly into the ash pan, a manifold for distributing liquid to the ash pan mounted on such inclined wall, and a gate at the forward end of the ash pan for controlling the discharge therefrom. 110 115

6. The combination, with a locomotive boiler and an ash pan beneath it, of a hood at the rear end of the ash pan having an inclined wall formed of a casting and an upper inclined plate, a manifold forming an integral portion with said casting and having nozzles projecting toward the forward end of the ash pan, and a pipe for conveying fluid to the manifold. 120 125

7. The combination, with a locomotive boiler and an ash pan beneath the same having vertical sides and a horizontal bottom, of a hood at the rear end of the ash pan adapted to form an air deflector and a protector therefor, said hood having vertical 130

sides and an inclined end and a horizontal
bottom, the sides and bottom overlapping
and secured to the sides and bottom of the
ash pan and the inclined end consisting of
5 an upper plate and a lower casting, which
casting also forms the bottom, a horizontal
manifold within the hood formed also in-
tegrally with said casting, and a pipe and

valve connecting said manifold with the
boiler.

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

JOHN G. TALMAGE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."