

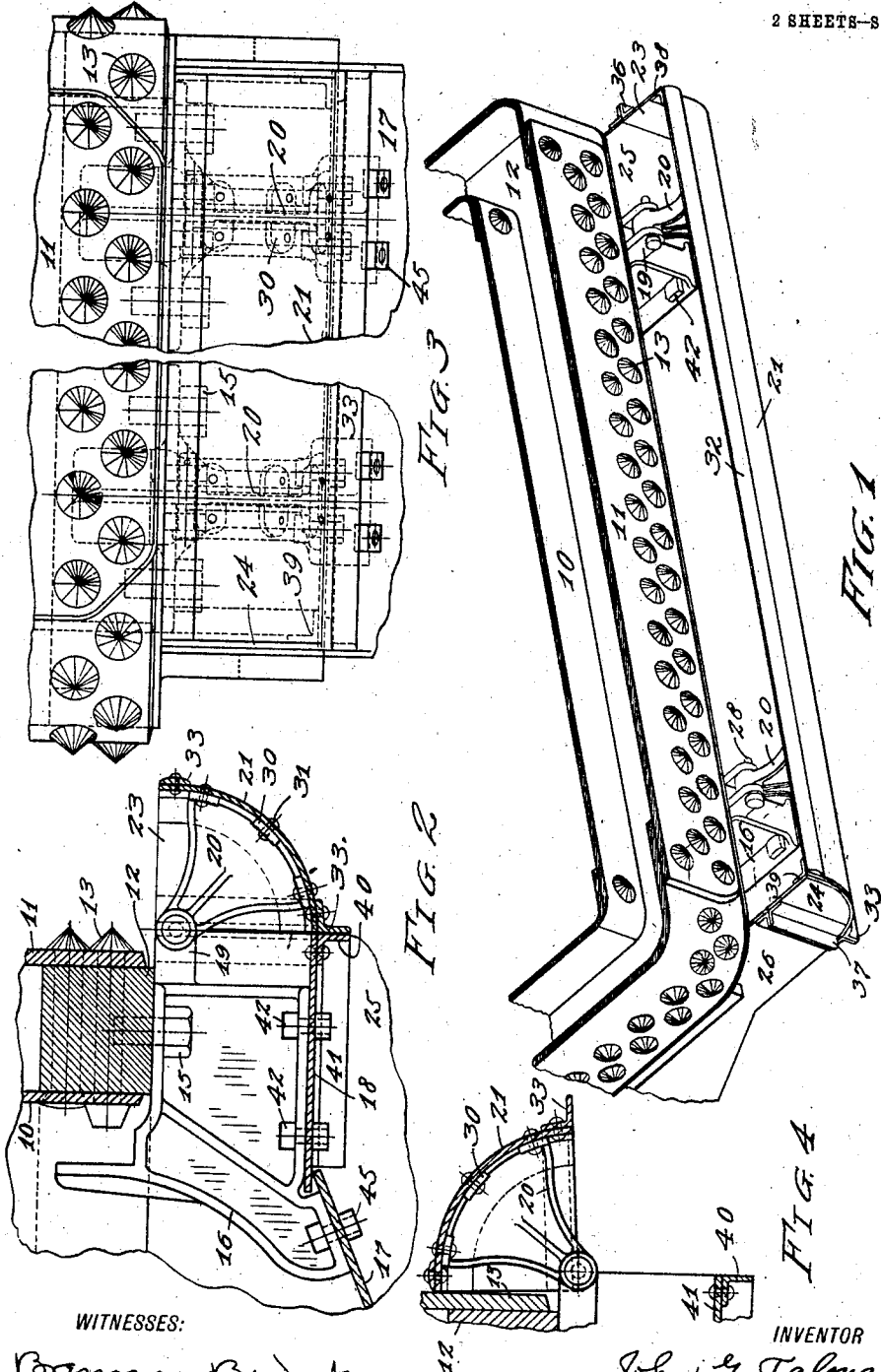
J. G. TALMAGE.
AIR ADMISSION DEVICE FOR LOCOMOTIVE FIRE BOXES.

1,047,590.

APPLICATION FILED APR. 24, 1911.

Patented Dec. 17, 1912.

2 SHEETS-SHEET 1.



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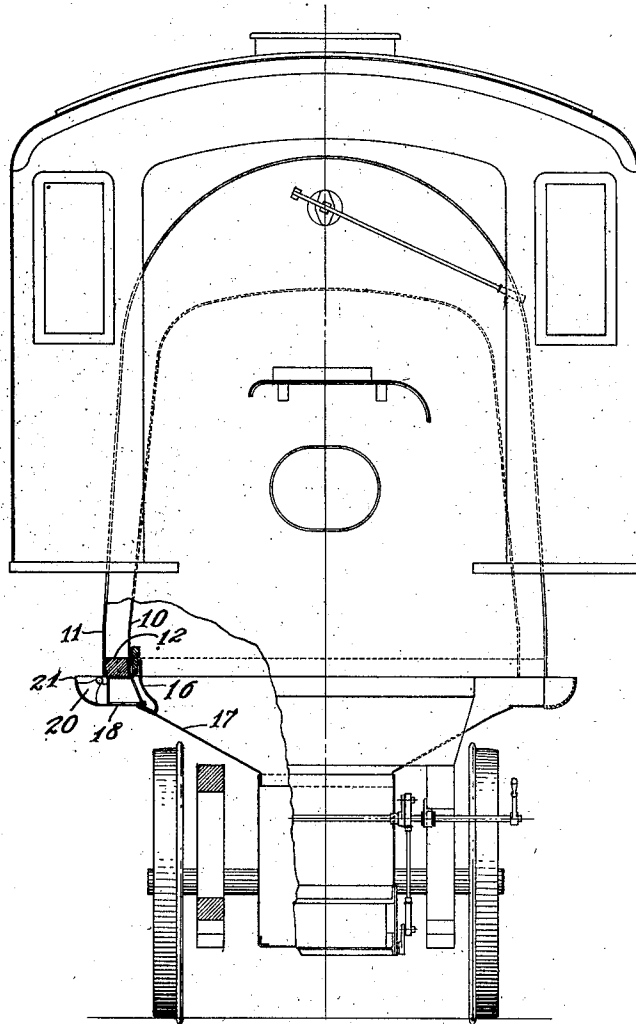


FIG. 5.

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UNITED STATES PATENT OFFICE.

JOHN G. TALMAGE, OF CLEVELAND, OHIO.

AIR-ADMISSION DEVICE FOR LOCOMOTIVE FIRE-BOXES.

1,047,590.

Specification of Letters Patent.

Patented Dec. 17, 1912.

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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 Air-Admission Devices for Locomotive Fire-Boxes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

One of the objects of this invention is to provide effective means for enabling the admission of air to a locomotive fire box from the sides of the locomotive in such a way as will not allow the hot coals to drop out at the sides of the ash pan.

Another object is to enable the convenient cleaning of the side portions of the ash pan where material is liable to clog.

Still another object is to provide for convenient calking of the mud ring.

Another object is to simplify and render more efficient the general construction at the outer edge of the ash pan, including its support and the support of the grate.

In accomplishing the desired result I provide an air space beneath the mud ring leading to the top of the ash pan adjacent to the under side of the grate, and at the outer side of this air space I mount a concave, upwardly extending deflector. This deflector is open above so that there is a convenient air passageway to the grate, while the deflector prevents any hot coals dropping out; it also gives a neater appearance to the locomotive by preventing the hot coals in the ash pan being ordinarily visible from the outside. By having this deflector pivotally mounted, it may be swung upward on its pivots to enable access to the ash pan for cleaning its outer portions, where material is liable to clog. The bottom plates supported by the brackets and defining the air space are made removable to enable access to the mud ring for calking. I use the same brackets for holding not only the deflector and the bottom plate referred to, but also the outer portion of the ash pan and the grate itself. All these features will be hereinafter more fully described.

My invention is clearly illustrated in the drawings hereof, in which—

Figure 1 is a perspective view of the lower portion of a water leg of a locomotive boiler equipped with my air admission device; Fig. 2 is a vertical cross section through the air

admission device and the mud ring and the outer part of the ash pan; Fig. 3 is a side elevation of the parts shown in Fig. 2, Fig. 4 is a detail in vertical section illustrating the deflector in its uppermost position; Fig. 5 is a rear end view, partly broken away, of a locomotive equipped with my improvement.

As shown in the drawings, 10 and 11 represent respectively the inner and outer plates of the water leg of a locomotive boiler, 12 the mud ring between these plates forming the bottom of the water leg, and 13 the usual rivets securing the plates to the mud ring. Secured to the under side of the mud ring by bolts 15 are brackets 16, which carry at their upper, inner portions the grate (not shown) and at their lower, inner portions the inclined outer part 17 of the ash pan. On the under sides of the brackets 16 are bottom plates 18, and on the outer sides of the brackets are ears 19, on which are pivotally mounted sector-like arms 20, which carry at their outer edges a quadrant-shaped shield 21. 23 and 24 indicate end plates for the shield, which are adapted to aline with end plates 25 and 26 of the ash pan.

It will be seen from the above described construction that there is an air space opening into the top of the ash pan beneath the grate, such space extending downwardly and inwardly between the bottom of the water leg and the curved shield and bottom plate 18. It will be seen also that, while the curved shield with the top open space does not restrict the air passageway, it does prevent any material dropping outwardly through the passageway. Whenever desired, the shield may be turned upwardly, as indicated in Fig. 4, and in that position allows easy access of suitable implements to the ash pan for purposes of cleaning the slope 17, where material is liable to cling.

In the particular form shown, the brackets 16 are webbed malleable castings, the ears 19 are arranged in pairs and the arms 20, which are also webbed malleable castings, take between these ears and are pivoted to them by hinge pintles 28. The arms 20 have at their arcual edges ears 30 and the shield plates are secured to these ears by suitable rivets 31. The shield is stiffened at its upper edge by a reinforcing strip 32 and at its lower edge by a reinforcing angle bar 33. The end plates 23 and 24 are also shown stiffened by angle bars 36 and 37. The ends may be conveniently secured to the quadrant

portion by intermediate angle pieces 38 and 39 riveted to them. This construction makes a very stiff and at the same time cheap and light quadrant shield which normally rests by gravity in its closed position but may be swung upwardly whenever desired. It will be noticed that, whatever the position of this shield, the effective air passageway to the fire box is substantially the same. This is true whether the admission to the air passageway is entirely from above the shield, as shown in Fig. 2, or entirely below it, as shown in Fig. 3, or partly above and partly below it.

The bottom plates 18 may be reinforced at their outer edges by angle bars 40, which form a convenient abutment for the angle bars 33 at the lower edge of the shield. Furthermore, angle bars 41 may be provided at the ends of these bottom plates 18. The bottom plates are secured by bolts 42 to the bottom of the brackets 15. This construction enables these bottom plates to be readily removed whenever desired, thus giving easy access to the bottom of the water leg for purposes of calking. Furthermore, the bolting of the ash pan plate 17 to the bracket at 45 and the bolting of the bracket itself to the mud ring by the bolts 15 enables convenient installation of the parts and their convenient removal when necessary.

My construction, as above described, may be easily and economically applied to locomotives; it insures the proper air admission at all times to the grate through the sides; it enables proper cleaning of the ash pan slopes; when the shields are swung upwardly for cleaning, or other purposes, they swing substantially in their own space, so that they are always within proper clearance lines; and finally, the simple removal of the hinge pintles allows the removal of the shields, and the removal of the bolts 42 allows the removal of the bottom plates to enable convenient access to the mud ring for calking.

Having thus described my invention, what I claim is:

1. The combination, with a mud ring, of brackets secured thereto and projecting below the mud ring, an ash pan having an inclined side secured to said brackets and thereby spaced from the mud ring, a bottom plate secured to said brackets on their under sides and cooperating with the mud ring to provide an air passageway to the grate above the top of the ash pan, and a

deflector at the outer side of the bottom plate.

2. The combination, with a mud ring, of brackets secured thereto, an ash pan having an inclined side secured to the bottom portion of said brackets and thereby spaced from the mud ring, a bottom plate for the brackets, outwardly extending ears on the brackets, and a segmental deflector cooperating with the bottom plate and hinged at its center of curvature to said ears.

3. The combination, with a mud ring, of brackets secured to the under side of the mud ring and projecting downwardly, an ash pan having an inclined side secured near its outer edge to the under side of the brackets and thereby spaced from the mud ring, bottom plates secured to the under side of the brackets and cooperating with the mud ring to form an air passageway above the ash pan, and an upwardly extending deflector at the outer end of the passageway.

4. The combination, with a mud ring, of brackets secured to the under side of the mud ring and extending downwardly from the mud ring and inwardly therefrom, said brackets having their upward inner portion adapted to form a grate support, an ash pan having an inclined side secured near its outer end to the lower part of the inner portion of the bracket, a plate secured to the bottom of the brackets beneath the mud ring, and a deflector carried by the brackets beyond the outer side of the mud ring and cooperating with the bottom plate.

5. The combination of a locomotive boiler having a water leg, of a set of brackets secured to the water leg at the opposite sides of the boiler, an ash pan having inclined sides which are secured near their upper edges to the bottom of said brackets, bottom plates secured to the under sides of the brackets beneath the mud ring and cooperating therewith to define an air passageway to the grate above the top of the ash pan, ears on said brackets, segmental arms connected with said ears, and a segmental deflector secured to the outer face of said arms and coacting with the bottom plate to define a downward and inward air passageway.

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

JOHN G. TALMAGE.

Witnesses:

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