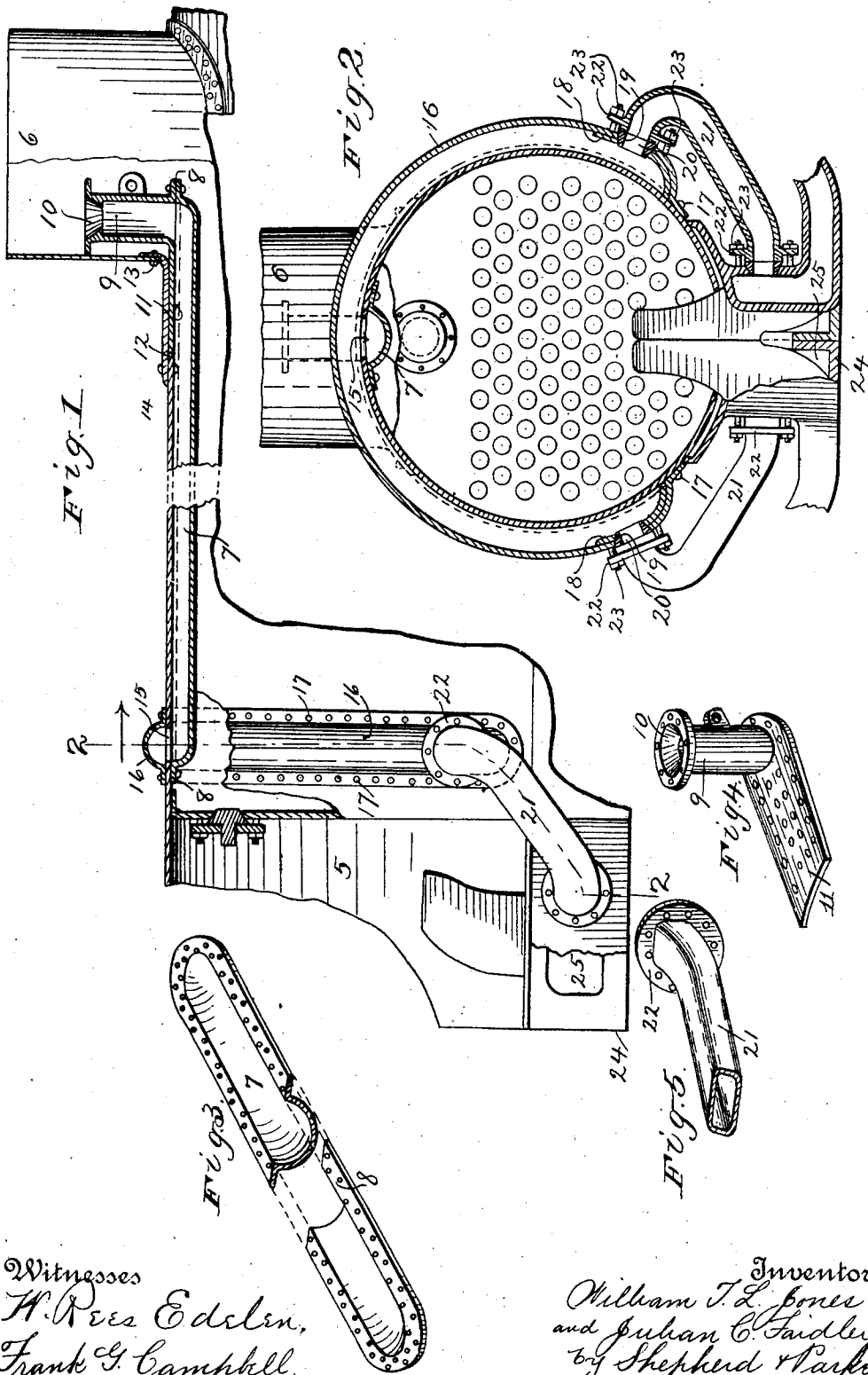


No. 832,735.

PATENTED OCT. 9, 1906.

W. T. L. JONES & J. C. FAIDLEY.
STEAMWAY FOR LOCOMOTIVES.

APPLICATION FILED MAR. 1, 1906.



Witnesses
H. Rees Edelen,
Frank G. Campbell.

Inventors
William T. L. Jones
and Julian C. Faidley
by Shepherd & Parker
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM T. L. JONES AND JULIAN C. FAIDLEY, OF CLIFTON FORGE,
VIRGINIA.

STEAMWAY FOR LOCOMOTIVES.

No. 832,735.

Specification of Letters Patent.

Patented Oct. 9, 1906.

Application filed March 1, 1906. Serial No. 303,711.

To all whom it may concern:

Be it known that we, WILLIAM T. L. JONES and JULIAN C. FAIDLEY, citizens of the United States, residing at Clifton Forge, in the county of Alleghany and State of Virginia, have invented certain new and useful Improvements in Steamways for Locomotives, of which the following is a specification.

Our invention relates to steamways for locomotives, and has for its object the provision of improved members comprising a steamway leading from the steam-dome of the locomotive to the cylinders thereof and constructed in such manner that the steamway forms practically an integral portion of the boiler, and further constructed in such manner that leakage of the parts is prevented.

A further object of the invention is the provision of a steamway for locomotives constructed in such manner that the steam is conducted from the steam-dome to the forward portion of the boiler upon the interior of the boiler and is then conducted from the top of the boiler down the outer side thereof to the cylinders.

A further object of the invention is the provision of a steamway for locomotives constructed in such manner that expansion and contraction of the boiler will not cause leakage of steam from said steamway.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawings, Figure 1 is a view, partly in vertical section and partly in side elevation, of a portion of a locomotive-boiler having our improvement applied thereto. Fig. 2 is a transverse vertical section upon line 2 2 of Fig. 1. Fig. 3 is a perspective view of a flanged trough hereinafter described. Fig. 4 is a perspective view of a stand-pipe and strengthening-web hereinafter described. Fig. 5 is a perspective view of a steam-conducting pipe hereinafter described.

Like numerals designate corresponding parts in all of the figures of the drawings.

In the drawings, the numeral 5 designates a locomotive-boiler, and the numeral 6 the usual steam-dome carried thereon. Riveted to the inside of the top of the boiler is a U-shaped trough 7, having a flange 8 extending

entirely around the edge thereof, through which the rivets pass. A stand-pipe 9, having a valve-seat 10 formed at the upper end thereof for the reception of the usual throttle-valve, (not shown,) has a forwardly-extending web 11, which forms the base thereof. This web 11 is riveted at its outer edges to the flange 8 of trough 7 and is riveted along its central portion to a plate 12, which is riveted at 13 to the wall of the steam-dome and at 14 to the boiler-shell. An opening 15, formed through the boiler-shell, provides communication between the interior of trough 7 and the interior of a U-shaped flanged trough 16, which extends around the outside of the boiler and is riveted thereto, as at 17. Strengthening-plates 18, located at the ends of this trough 16, together with the walls of the trough, provide seats for conical plugs 19. Openings 20, formed through these plugs, permit the steam to pass through the channel formed by the U-shaped trough 16 to the interior of pipes 21. These pipes have flanges 22 formed at the ends thereof, through which studs 23 pass. These studs provide means for forcing the ends of the pipes firmly against the outer walls of the conical plugs and for forcing the inclined faces of the conical plugs firmly against their seats.

The saddle of the engine (indicated at 24) has passages 25 formed therein, from which the steam passes from the pipes 21 to the steam-chests of the locomotive. For connecting the lower ends of the pipes 21 to the channels 25 conical plugs and flanges similar to those located at the upper ends of the pipes 21 are provided. As this construction is similar in all respects to that shown at the upper ends of the pipes, further description thereof is thought to be unnecessary. The pipes 21 are rectangular in cross-section, as is clearly illustrated in Fig. 5, which structure serves to permit of freer movement of these pipes than would be the case if they were round in cross-section. It will of course be understood that the movement of these pipes due to expansion and contraction is a very slight one.

From the foregoing description it will be seen that a steamway is herein provided which does away with the usual pipes leading from the steam-dome to the steam-chests of

the engine. These pipes are in some cases partially submerged in the water contained in the boiler, which causes them to corrode and sometimes to break. The breakage of the steam-pipe of a locomotive would be likely to cause serious damage, for the engineer could not then control the flow of steam to the steam-chests, for the steam would enter the pipe between the steam-chests and the throttle-valve. The locomotive would consequently be entirely beyond the control of the engineer until the steam contained in the boiler became exhausted.

The structure herein provided forms a strong and substantial steamway which is practically integral with the boiler. By virtue of the construction provided the steam is carried inside the boiler from the steam-dome to the forward end of the boiler, which is thus protected from the cold air through the major portion of its travel. When it reaches the forward end of the boiler, it is carried down upon the outer side of the boiler instead of passing through the smoke-box, as has heretofore been the case. It has been found that where the pipes are located in the smoke-box any leakage from said pipes tends to destroy the draft through the flues.

From the foregoing description it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purpose for which they are intended it is to be understood that our invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

Having described our invention, what we claim is—

1. The combination with a locomotive-boiler, of a trough-like member secured to the inside of the top of the boiler-shell, means for conducting steam from the steam-dome into said trough-like member and means for conducting steam from the forward end of said trough-like member to the steam-chests of the locomotive.

2. The combination with a locomotive-boiler, of a trough-like member secured to the inside of the boiler-shell, means for conducting steam from the steam-dome to said trough-like member and means for conducting steam from said trough-like member to the steam-chests of the locomotive, said last-named means being located upon the exterior of the boiler.

3. The combination with a locomotive-boiler, of a trough-like member secured to the inside of the top of the shell of the boiler, means for conducting steam from the steam-dome of the locomotive to the channel formed by said trough-like member, a second trough-like member secured upon the exterior of the

boiler-shell and extending partially around said boiler-shell, the passages formed by the first-named trough-like member connecting with the interior of the second trough-like member and means for conducting steam from the second trough-like member to the steam-chests of the locomotive.

4. The combination with a locomotive-boiler, of a trough-like member secured to said locomotive-boiler and extending from the steam-dome to the forward end of the locomotive, a second trough-like member connecting with the first-named trough-like member and extending partly around the locomotive-boiler, means for conducting steam from the last-named trough-like member to the steam-chests of the locomotive and means for conducting steam from the steam-dome to the interior of the first-named trough-like member.

5. The combination with a locomotive-boiler, of a trough-like member secured to the inside of the top of said boiler, a stand-pipe connecting with the interior of said trough-like member and extending up into the steam-dome, a second trough-like member secured upon the exterior of the boiler and extending partially therearound, the boiler-shell having an opening formed there-through to establish communication between the interior of the first-named trough-like member and the interior of the second-named trough-like member and conductors rectangular in cross-section for conducting the steam from said second trough-like member to the steam-chests of the locomotive.

6. The combination with a locomotive-boiler, of a trough-like member secured to the exterior face of said boiler and extending partially therearound, means for conducting steam from the steam-dome of the boiler to said trough-like member and means for conducting steam from said trough-like member to the steam-chests of the locomotive.

7. The combination with a locomotive-boiler, of a trough-like member secured upon the exterior face of said boiler and extending partially therearound, means for conducting steam from the steam-dome of the locomotive to the interior of said trough-like member, and pipes leading from said trough-like member to the steam-ports of the locomotive.

8. The combination with a locomotive-boiler, of a trough-like member closed at each end and having a flange which extends entirely therearound which is secured to the inside of the top of the boiler, means for conducting steam from the steam-dome of the locomotive to said trough-like member and means for conducting steam from said trough-like member to the steam-chests of the engine.

9. The combination with a locomotive-boiler, of a trough-like member having a

flange extending entirely therearound, said
trough-like member being secured to the in-
side of the top of the boiler, a stand-pipe se-
cured to the flanges of said trough-like mem-
ber and extending up into the steam-dome,
a second trough-like member extending par-
tially around the boiler of the locomotive and
having downwardly-extending flanges and
means for conducting steam from said last-

named trough-like member to the steam-
 chests of the locomotive.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

WILLIAM T. L. JONES.
JULIAN C. FAIDLEY.

Witnesses:

JOHN PAYNE, Jr.,
R. M. BOOTH.