S. KEMPER.

STEAM-BOILER ATTACHMENT.

No. 192,265. Patented June 19, 1877.

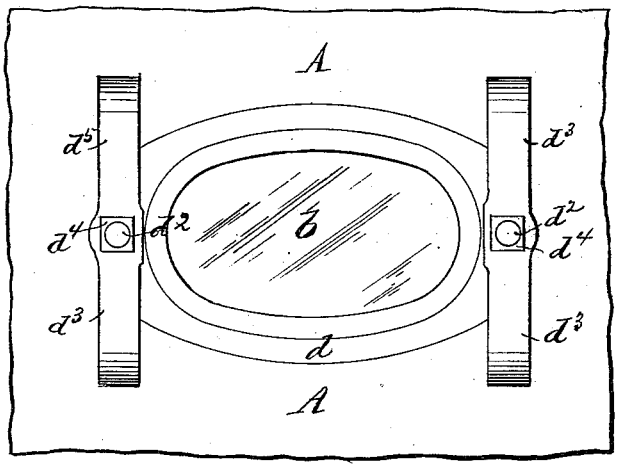

Fig. 1.

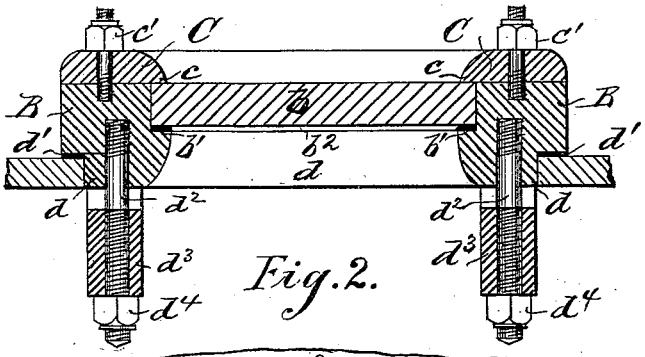

Fig. 2.

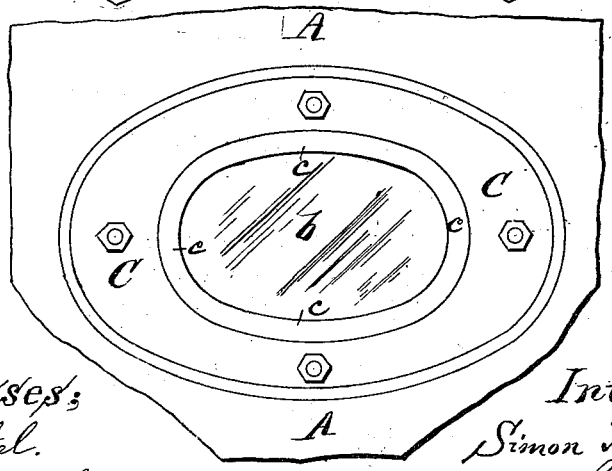

Fig. 3.

Witnesses;
J. W. Kerthel.
Chas Kerthel

Inventor;
Simon Kemper
per Kerthel & Co

UNITED STATES PATENT OFFICE.

SIMON KEMPER, OF HERMANN, MISSOURI.

IMPROVEMENT IN STEAM-BOILER ATTACHMENTS.

Specification forming part of Letters Patent No. 192,265, dated June 19, 1877; application filed May 2, 1877.

To all whom it may concern:

Be it known that I, SIMON KEMPER, of Hermann, Gasconade county, and State of Missouri, have invented an Improvement in Steam-Boiler Attachment, of which the following is a specification:

The object of this invention is to provide steam-boilers with a means to enable the operator to see inside the boiler, and thus notice the height of the water-level, also the action of the water. This to accomplish, my invention consists in providing the boiler with a transparent medium, such as glass, and to the peculiar manner of joining the same steam-tight to the boiler, and as will hereinafter appear.

Of the drawing, Figure 1 is a front elevation. Fig. 2 is a longitudinal section. Fig. 3 is a rear elevation.

A represents the boiler. I provide the boiler with a hand-hole to contain the parts, as follows: B is the frame or casting that contains the glass or mica, or transparent media *b*. The rear part of the frame B is recessed, to form a seat at b^1, for the glass. (See Fig. 2.) Between the glass *b* and seat b^1 intervenes a packing, b^2, (see Fig. 2,) to obtain a steam-tight joint. The glass fills up the chamber in the frame B, and presents a face flush with the rear face of its frame and in order that the glass can be further secured by the ring C. The ring C has its opening somewhat smaller than the face of the glass, in order to present a supporting-edge at *c*, which is to fasten the glass. (See Figs. 2 and 3.) The glass is thus held by the bearings at b^1 and *c*. The ring is placed contiguous to the rear face of the glass, and by screw-bolts at c' said ring is securely fastened to the frame B. (See Figs. 2, 3.)

The frame B has its front face cast with a projecting bearing at *d*, (see Figs. 1, 2,) so as to fit flush in the opening of the boiler-plate, the joint at *d* being made steam-tight by the packing d^1. (See Fig. 2.) The frame B with all its described parts is, lastly, united to the boiler by means of screws d^2 and arches d^3, secured by nuts d^4. (See Figs. 1 and 2.)

In this wise the transparent media can be most practically (with the necessary steam-tight joint) made to form part of the boiler. The operator can see through the window and keep posted as to the condition of the water-level and the action of the water, &c.

Water-gages frequently indicate too much water when the engine is running, and as soon as the engine is stopped the water is too low.

My invention is reliable, and affords a means of safety in the use of boilers.

What I claim is—

The combination of the frame B, transparent media *b*, packing b^2 d^1, ring C, arches d^3, and fastening-bolts, all said parts being constructed and arranged as and for the purpose set forth.

In testimony whereof I have hereunto set my hand.

SIMON KEMPER.

Witnesses:

WILLIAM W. HERTHEL,

JOHN W. HERTHEL.