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L. M. SEAWARD.

FASTENING MEANS FOR STEAM BOILER FLUES OR TUBES.

APPLICATION FILED MAY 24, 1907.

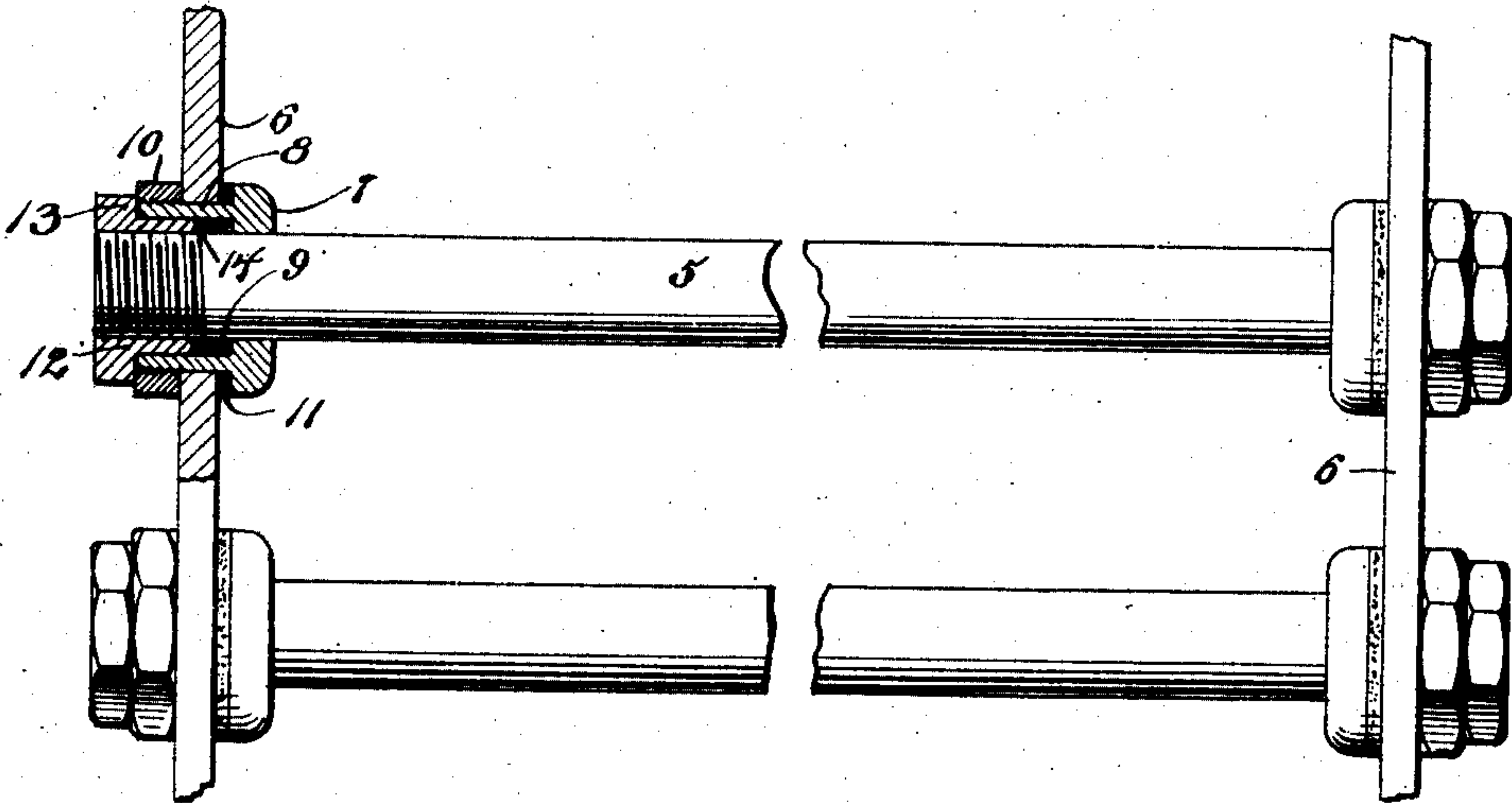


Fig. 1.

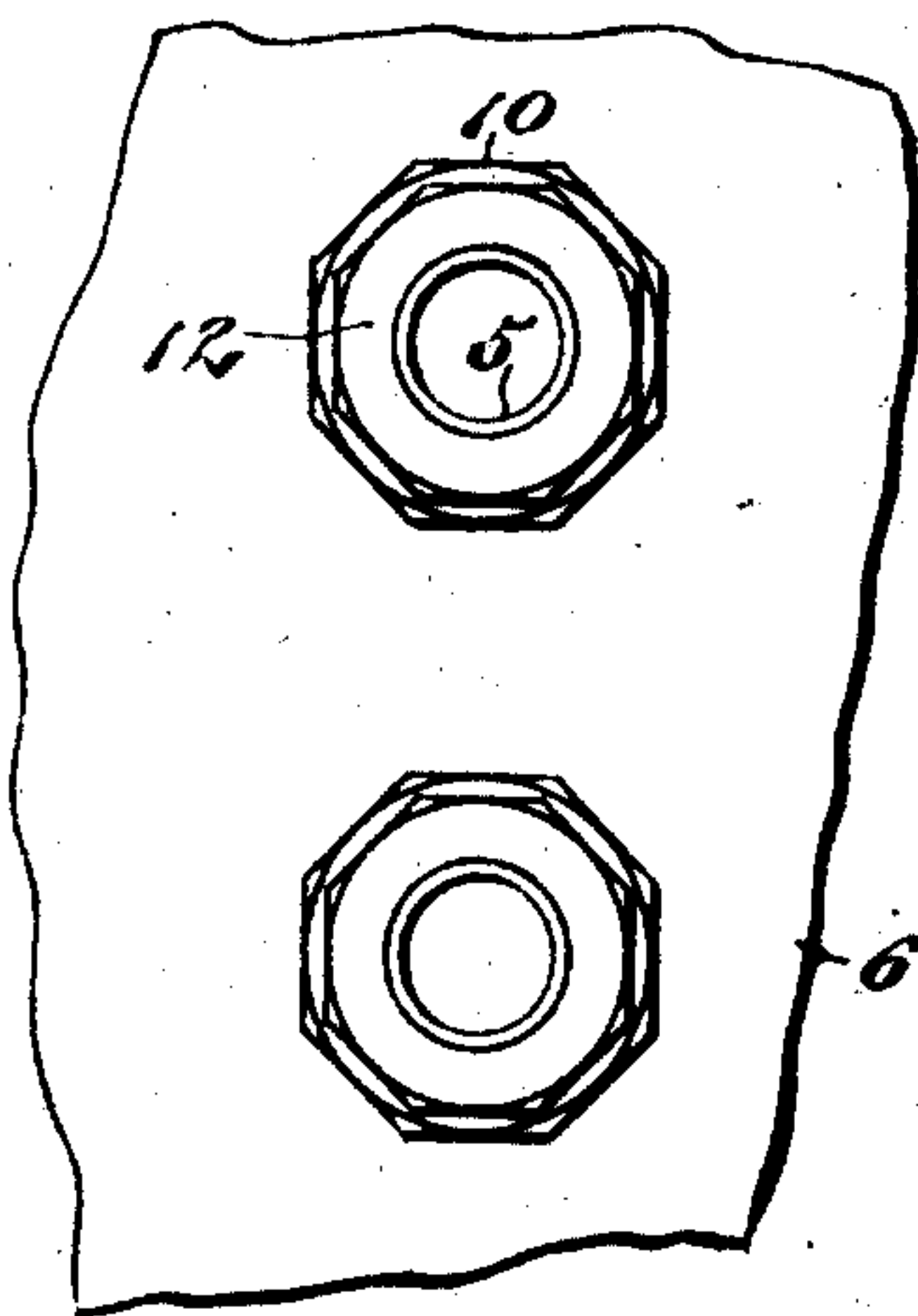


Fig. 2.

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## FASTENING MEANS FOR STEAM-BOILER FLUES OR TUBES.

No. 879,330.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed May 24, 1907. Serial No. 375,543.

*To all whom it may concern:*

Be it known that I, LEONIDAS M. SEAWARD, citizen of the United States, residing at Ontario, in the county of Malheur and State of Oregon, have invented certain new and useful Improvements in Fastening Means for Steam-Boiler Flues or Tubes, of which the following is a specification.

This invention relates to fastening means for steam-boiler flues or tubes, and has for its object to provide improved means for securing the same so that they can be readily put in and taken out, and also to make a steam and water-tight joint between the flues and the flue-sheets of the boiler.

In the accompanying drawing, Figure 1 is an elevation partly in section, showing the application of the invention. Fig. 2 is an end view.

Referring specifically to the drawing, 5 denotes the flues; and 6, the flue-sheets of a boiler. The flue-openings in the sheets are of a larger diameter than the flues. On the end of the flue, inside the flue-sheets, is mounted a collar 7 having on one side a sleeve 8 which fits snugly in the flue opening. The inside of the sleeve is spaced from the flue and forms a stuffing-box to receive a packing-ring 9. The sleeve projects to the outside of the flue-sheet and the projecting end is threaded to receive a ring 10 which serves to securely hold the stuffing-box in place on the flue-sheet. Between the collar 7 and the flue-sheet is placed a gasket 11. The flue projects from the outside of the flue-sheet for a short distance and said projecting end is threaded on which is screwed a gland-nut 12 which enters the sleeve 8 and has at its outer end a flange 13 which bears on the outer end of the sleeve to prevent inward displacement of the flue. Between the inner end of the nut 12 and the packing-ring 9 is placed a washer 14.

The construction herein described securely holds the flues in place without welding or expanding them, and they can be readily removed and put in. To remove the flue, it is necessary only to unscrew the nut 12 at one end of the flue, after which the flue can be removed endwise through the flue-sheet at the opposite end of the boiler. The ring 10 will hold the stuffing-box in place on the flue-sheet so that the flue can be readily replaced, and upon screwing up said ring, the

gasket 11 will be tightly pressed against the inside of the flue-sheet. The packing 9 will be tightly pressed around the flue by screwing in the nut 12. A thoroughly efficient packing is therefore had, and leakage effectually prevented. The fastening means herein described are the same at both ends of the flues.

I claim:

1. A boiler-flue fastening comprising a stuffing-box secured to the flue-sheet, a flue passing through the stuffing-box, and a gland fastened to the flue and having means for holding the flue in place.

2. A boiler-flue fastening comprising a stuffing-box secured to the flue-sheet, a flue passing through the stuffing-box and having a threaded end, and a gland-nut screwed on the threaded end of the flue.

3. A boiler-flue fastening comprising a flue, a collar on the flue inside the flue-sheet, a sleeve projecting from the collar and fitting in the flue-opening, the inside of the sleeve being spaced from the flue, a packing inside the sleeve around the flue, means for securing the sleeve in the flue-opening, and a gland secured to the flue, and having means for holding the same in place.

4. A boiler-flue fastening comprising a flue, a collar on the flue inside the flue-sheet, a gasket between the collar and the flue-sheet, a stuffing-box carried by the collar and passing through the flue-opening, through which stuffing-box the flue passes, and a gland fastened to the flue and having means for holding the same in place.

5. A boiler-flue fastening comprising a flue, a collar on the flue inside the flue-sheet, a sleeve projecting from the collar through the flue-opening and to the outside of the flue-sheet, the projecting end of the sleeve being threaded, and its inside being spaced from the flue, a ring screwed on the threaded end of the sleeve and bearing on the flue-sheet, a packing inside the sleeve around the flue, and a gland secured to the flue and engageable with the end of the sleeve for holding the flue in place.

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

LEONIDAS M. SEAWARD.

Witnesses:

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C. A. COOK.