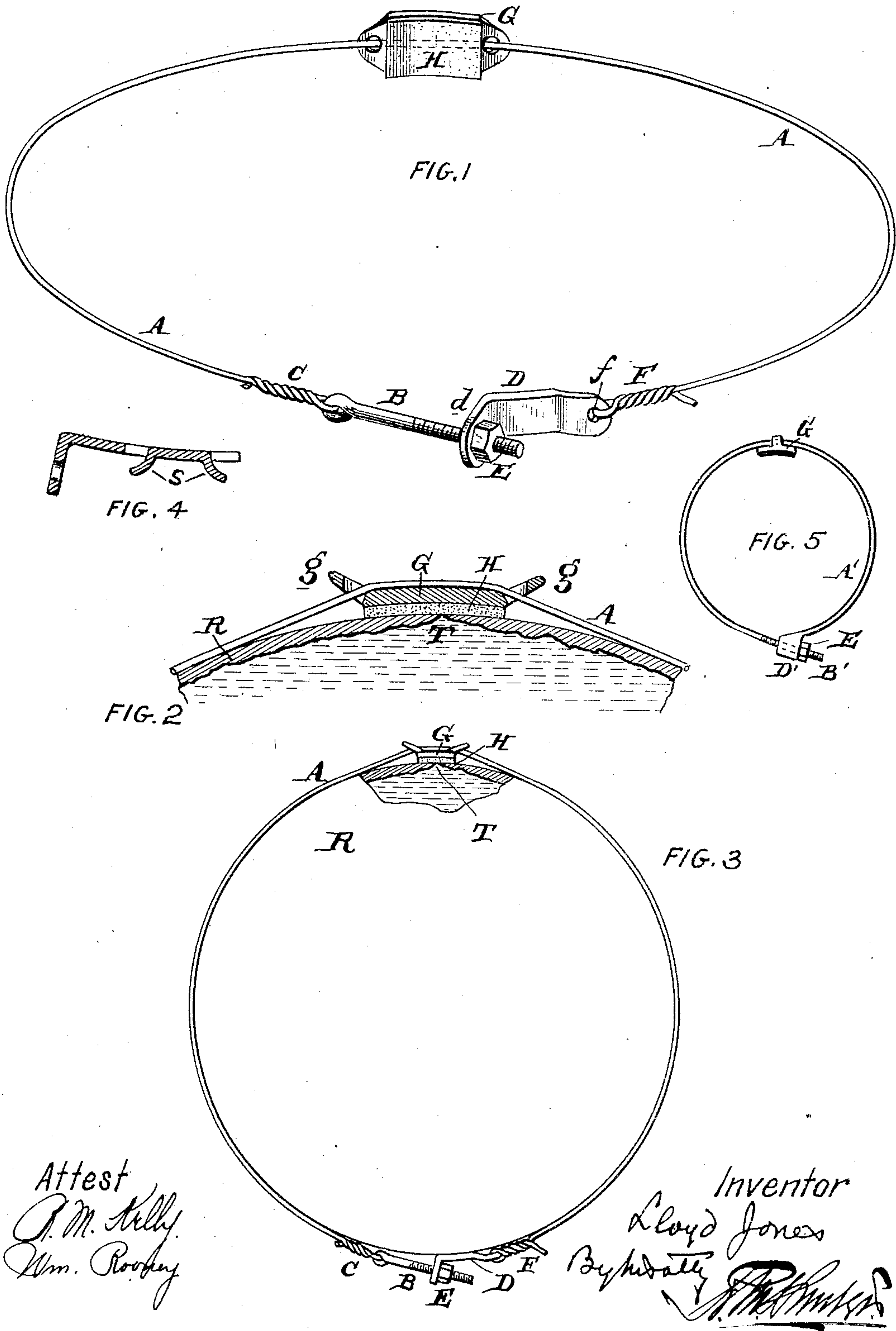


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PATENTED MAR. 28, 1905.

L. JONES.
DEVICE FOR STOPPING LEAKS.
APPLICATION FILED SEPT. 3, 1904.



Attest
J. M. Kelly
Wm. Roofey

Inventor
Lloyd Jones
By *[Signature]*

UNITED STATES PATENT OFFICE.

LLOYD JONES, OF PHILADELPHIA, PENNSYLVANIA.

DEVICE FOR STOPPING LEAKS.

SPECIFICATION forming part of Letters Patent No. 785,737, dated March 28, 1905.

Application filed September 3, 1904. Serial No. 223,192.

To all whom it may concern:

Be it known that I, LLOYD JONES, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in Devices for Stopping Leaks, of which the following is a specification.

My invention has reference to devices for stopping leaks; and it consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to provide a simple device which may be quickly applied by inexperienced persons to stop a leak in a water-boiler, steam, water, or other pipe.

In construction my invention consists of a metallic band having its ends provided with means for tightening the band around the boiler, pipe, &c., and a packing-plate adapted to be pressed against the surface of the boiler, &c., over the leak by the tension of the band. More specifically, the packing-plate is adjustable along the band, and the band consists of strong wire having its ends respectively secured to a plate and a threaded stem adapted to be passed through the plate and tightened by a nut.

My invention also comprehends details of construction which, together with the features above specified, will be better understood by reference to the drawings, in which—

Figure 1 is a perspective view of my improved device for stopping leaks. Fig. 2 is a sectional view through the packing-plate and the leaking portion of the boiler, showing how the leak is sealed. Fig. 3 is a plan view of a hot-water boiler having my invention applied thereto and with a portion in section corresponding to Fig. 2. Fig. 4 is a sectional view of a modified form of the clamping-plate, and Fig. 5 is a plan view of a modified form of clamp embodying my invention.

Where boilers or pipes rust internally, small leaks are produced which must be stopped by some form of clamping means, and as the metal of the boiler or pipe is frequently quite weakened it is difficult to provide any means which must be locally applied which will hold,

and, furthermore, all such means in common use require skilled mechanics to apply them. My invention overcomes the difficulties mentioned, as the packing-plate is held over the leak by a clamp that extends entirely around the boiler or pipe, and the device is easily applied by any one having ordinary common sense. Another difficulty which has been experienced is that the leaks often come in those portions of the boiler or pipe next to a wall, and hence inaccessible, making the repair quite expensive, whereas in the use of my invention the packing-plate is easily applied to any part of the boiler, and the clamping parts for applying the tension may always be arranged at the front, where access can be had to them.

A is a clamping-band, of wire, upon which is adjustably threaded the packing-plate G, having the soft packing H upon its clamping-face. This plate is preferably curved on its face, as shown, to conform to the curvature of the boiler R or pipe to which it is to be applied, and its ends are provided with ears g, having holes through which the wire A is threaded. One end of the wire A is threaded upon an eyebolt B and twisted, as at C, so as to be securely held to the bolt, and the other end of the wire is secured at F through a hole f in the clamp-plate D in like manner. This plate D is bent outward, as at d, and provided with a hole through which the bolt B passes. A nut E is screwed upon the bolt for applying tension to the wire A, as will be readily understood.

In using my invention the nut E is taken off and the wire passed around the boiler, the packing-plate G placed in position over the leak T, the bolt B then passed through the hole in the plate D, and the nut E applied and screwed upon the bolt until the proper tension is secured. To permit easy adjustment to suit boilers or pipes of different diameters, it is only necessary to draw the wire A through the hole f of the plate D until the bolt B just fits the plate D and then twists the wire upon itself, as at F. By then turning the nut E the proper tension will be applied.

If desired, the plate D may have lugs S

stamped up as shown in Fig. 4, and the wire A may be twisted or wound upon them for attaching it to the plate.

For heavier work, as in sealing leaks of steam-pipes, the construction shown in Fig. 5 may be used. In this case the wire A' is made heavy and formed integral with the bolt end B', which is screw-threaded, and the other end of the wire A' is formed into an eye-head D', through which the end B' passes, as will readily be understood.

While I prefer the construction shown, I do not confine myself to the details, as they may be modified without departing from the spirit of my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device for stopping leaks consisting of a band to encircle the boiler or pipe in which the leak occurs, combined with a packing-plate arranged intermediate of its ends and having means for preventing lateral displacement upon the band, and an adjustable clamping device independent of the packing-plate for detachably connecting the ends of the band and putting it under tension.

2. A device for stopping leaks consisting of a band to encircle the boiler or pipe in which the leak occurs, combined with a packing-plate arranged intermediate of its ends and adjustable longitudinally on the band, and an adjustable clamping device for detachably connecting the ends of the band and putting it under tension.

3. A device for stopping leaks consisting of a band to encircle the boiler or pipe in which the leak occurs, combined with a packing-plate arranged intermediate of its ends and formed of a metal plate threaded on the band and faced with a soft packing material, and an adjustable clamping device for detachably connecting the ends of the band and putting it under tension.

4. A device for stopping leaks consisting of a band to encircle the boiler or pipe in which the leak occurs, combined with a packing-plate upon the band provided with means to prevent lateral displacement and arranged intermediate of its ends, and an adjustable clamping device for detachably connecting the ends of the band and putting it under tension consisting of an eye structure secured to one end of the band, a bolt secured to the other end of the

band and a nut on the bolt resting against the eye structure.

5. A device for stopping leaks consisting of a band to encircle the boiler or pipe in which the leak occurs, combined with a packing-plate upon the band provided with means to prevent lateral displacement and arranged intermediate of its ends, and an adjustable clamping device for detachably connecting the ends of the band and putting it under tension consisting of an eye structure adjustably secured to one end of the band, a bolt adjustably secured to the other end of the band and a nut on the bolt resting against the eye structure.

6. A device for stopping leaks consisting of a band adapted to encircle the boiler or pipe in which the leak occurs provided with means to shorten its encircling length to put it under tension so as to clamp tightly to the boiler or pipe and also having a packing-surface to fit over the leak secured to the band so as to be held against lateral displacement.

7. A device for stopping leaks consisting of a band adapted to encircle the boiler or pipe in which the leak occurs provided with means to put it under tension so as to clamp tightly to the boiler or pipe and also having a packing-surface adjustably supported by the band and faced with a soft packing material to fit over the leak.

8. A device for stopping leaks consisting of a band adapted to encircle the boiler or pipe in which the leak occurs provided with means to put it under tension so as to clamp tightly to the boiler or pipe and also having an adjustable curved packing-surface faced with soft packing material to fit over the leak.

9. A device for stopping leaks consisting of a packing-plate having a curved packing-surface, combined with a band encircling the boiler or pipe in which the leak occurs provided with adjustable tension devices to draw the packing-plate tightly against the boiler or pipe to cover the leaking spot and in which the packing-plate is adjustable longitudinally upon the band to or from the devices for creating the tension.

In testimony of which invention I hereunto set my hand.

LLOYD JONES.

Witnesses:

J. W. KENWORTHY,
WM. ROONEY.