Mar. 6, 1923. 1,447,192.

W. W. WATSON.

SECTIONAL PRESSURE TANK AND PIPE LINE COUPLING.

FILED APR. 30, 1920.

Fig. 1.

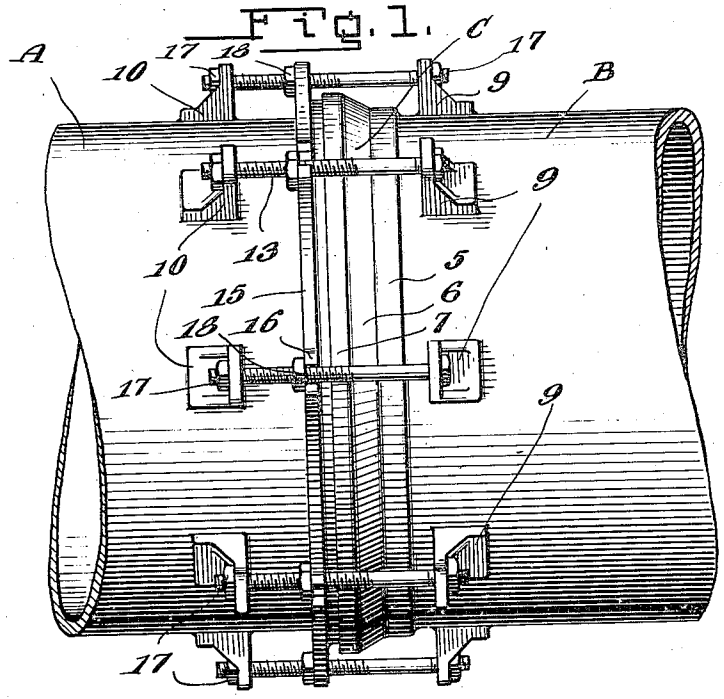


Fig. 2.

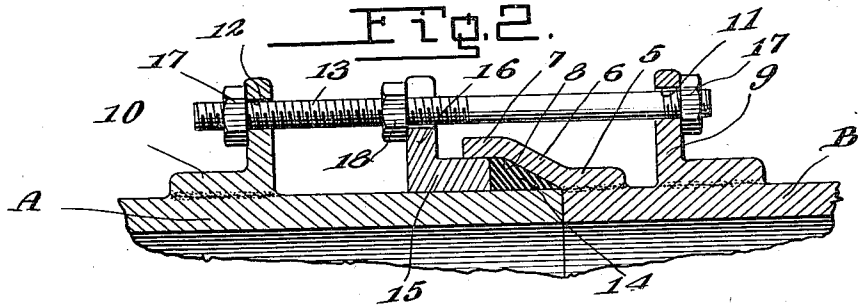
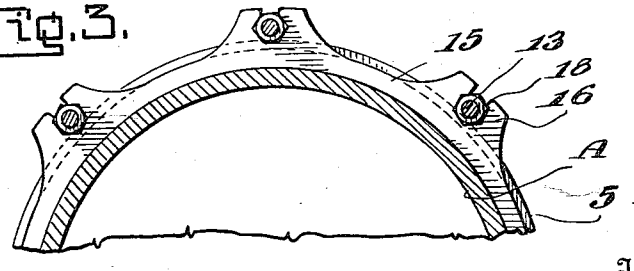


Fig. 3.



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UNITED STATES PATENT OFFICE.

WESLEY W. WATSON, OF FAIRFAX, MISSOURI.

SECTIONAL-PRESSURE-TANK AND PIPE-LINE COUPLING.

Application filed April 30, 1920. Serial No. 377,869.

To all whom it may concern:

Be it known that I, WESLEY W. WATSON, a citizen of the United States, residing at Fairfax, in the county of Atchison and State of Missouri, have invented certain new and useful Improvements in Sectional-Pressure-Tank and Pipe-Line Couplings, of which the following is a specification.

This invention relates to joints, and the primary object of the invention is to provide an improved means for operatively connecting boiler or pipe sections together, which will permit of the quick and easily assembling and dismembering of the sections.

Another object of the invention is to provide an improved air and water tight joint which is especially adapted for pressure tanks and the like which will permit of tanks being made in section and thus facilitate the handling and setting up thereof in houses already built.

A further object of the invention is to provide an improved means for operatively connecting boiler or pipe sections together embodying means for drawing and holding the sections together and means for compressing and holding a gasket in place around the joint.

A still further object of the invention is to provide an improved means for connecting sectional pressure tanks and pipe lines together of the above character which is durable and efficient in use, one that is simple and easy to manufacture, and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction arrangement and formation of parts as will be hereinafter more fully described, claimed and illustrated in the accompanying drawings, forming part of this specification, in which drawings:

Figure 1 is a fragmentary side elevation of a pair of boiler or pipe sections showing the improved means for connecting the same together.

Figure 2 is an enlarged longitudinal section through the same.

Figure 3 is a fragmentary transverse section through the same.

Referring to the drawings, in detail, wherein similar reference characters designate corresponding parts throughout the several views A and B indicate a pair of pipe or tank sections and C the improved point for connecting the same together.

The joint C includes a collar 5 which is formed integral with, welded, bolted, or secured on the outer surface of the section C adjacent to its inner end in any preferred manner. The collar 5 is provided with an outwardly inclined extension 6, which protrudes beyond the inner edge of the section B and terminates in a forwardly projecting annular portion 7 which extends parallel with the sections A and B. The formation of the collar 5 provides an inclined inner surface 8 for a purpose which will be hereinafter more fully described.

Directly in rear of the collar 5 are a plurality of equi-distantly circumferentially spaced angle brackets 9 which are arranged in annular formation and are either formed integral with, welded, bolted or secured on said section in any preferred manner and the brackets extends radially beyond the collar 5 as clearly shown in Figure 2 of the drawing. The section A is also provided with a plurality of equi-distantly circumferentially spaced brackets 10 which are arranged in direct alignment with the brackets 9 and portions of the brackets 10 extend radially beyond the collar 5 and the extended portions of the brackets 9 and 10 are provided with bores 11 and 12 for the reception of tie bolts 13 which are adapted to draw the sections A and B into tight engagement with each other. The inclined inner surface 8 of the collar 5 forms means for centering the sections while the same are being assembled and thus facilitates the correct positioning of one within the other. The collar 5 overlaps the section A and receives an annular wedge shaped gasket 14 formed of rubber or the like which is shaped to conform to the configuration of the collar 5 and is adated to seat between the collar 5 and the section A.

A gland ring 15 of annular formation is slidably mounted on the section A and is of such a thickness as to snugly fit between the extension 7 of the collar and the section A. The gland ring 15 is provided at equi-distantly spaced points with radially ex-

tending slotted lugs 15 which are in direct alignment with the angle brackets 9 and 10 and the slotted portions of the lugs are adapted to receive the tie bolts 13. The tie bolts 13 are of the ordinary or any preferred construction and have fitted on the shanks thereof the jam nuts 17 and 18. The nuts 17 are threaded on the opposite ends of the tie bolts and engage respectively the angle brackets 9 and 10. The nuts 18 are adapted to engage the outer surface of the slotted lugs 16 for a purpose which will be hereinafter more fully described:

In assembling the pipe or tank sections the section carrying the collar 5 is placed in engagement with the end of the section which is not provided with the collar 5 and the jam nuts 18 are loosened on the shank of the tie bolts 13 so as to permit the ready placing of the gland ring 15 between the collar 5 and the pipe sections and in engagement with the gasket 14. The jam nuts 17 are then threaded on the shanks of the tie bolts so as to effectively draw the sections into tight engagement with each other. After the sections have been drawn into tight engagement with each other the jam nuts 18 are threaded on the shanks of the tie rods, so as to force the gland ring in between the collar 5 and the section and thus tightly force the gasket 14 between the collar and the sections and thus provide a tight air and water proof joint. Owing to the configuration of the gasket 14 and the inclined inner surface 8 of the collar the gasket will be tightly worked into position and thus absolutely prevent any leakage of material between the sections. If the gasket becomes worn after use, the same can be readily and quickly replaced without the employance of a skilled mechanic.

From the foregoing description it can be seen that an improved air and water tight joint is provided for pressure tanks and pipes which will permit of the sections of boilers and pipes to be readily and easily connected together.

Changes in details may be made without departing from the spirit or scope of the invention; but,

I claim:

1. In a joint, a pair of sections, means for bringing the adjacent terminals of the sections in abutting relation, a collar carried by one section and extended beyond said section and surrounding the other section, a gasket fitted in said collar, a sliding ring carried by the last mentioned section arranged to engage in said collar and to engage said gasket, an adjustable means carried by the means for bringing the sections into abutting engagement for moving the collar into forcible contact with the gasket.

2. In a joint, a pair of sections, means for bringing the adjacent terminals of the sections in abutting relation, a collar carried by the terminal of one section having a portion thereof extended beyond the section, said extended portion including an inclined wall, and an outer annular wall arranged in concentric relation with the other section, the inclined wall terminating in alignment with the mentioned terminal of the first section, a wedge shaped gasket slidably carried by the other section, a sliding ring mounted upon the last mentioned section, and adjustable means carried by the means for bringing the adjacent terminals of the sections in abutting relation, for forcibly bringing the ring in engagement with the gasket for moving the same into contact with the inside wall.

3. In a joint, a pair of sections, aligned ears carried by the sections, tie bolts connecting the ears for bringing the adjacent terminals of the sections in abutting relation with each other, a collar carried by one of the sections having an extended portion arranged beyond the sections, a flexible gasket slidably carried by the section and fitted in said collar, a sliding ring mounted upon the second mentioned section, and adjustable members mounted upon the tie bolts for engaging the ring for forcing the same into engagement with the gasket.

WESLEY W. WATSON.