No. 659,888. Patented Oct. 16, 1900.

S. R. DRESSER.

PIPE COUPLING.

(Application filed Jan. 18, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

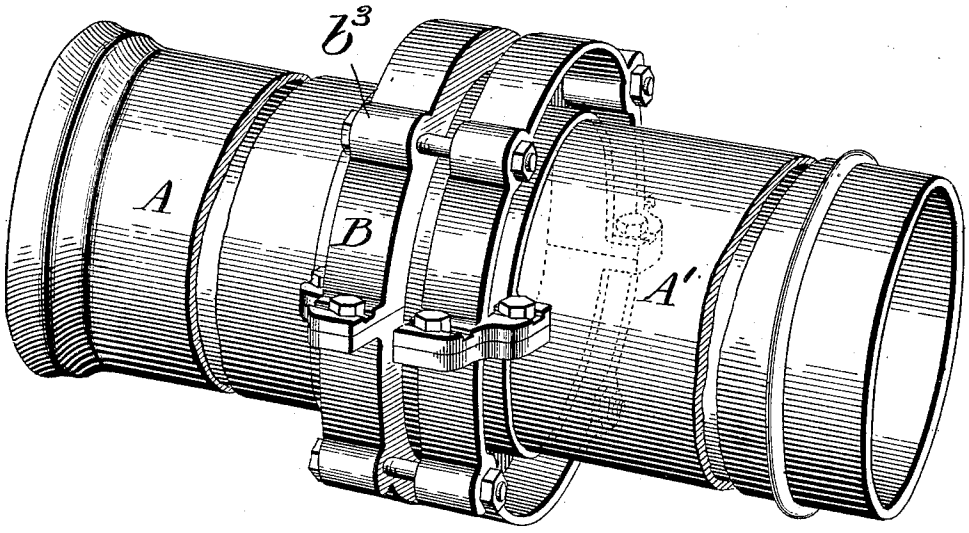
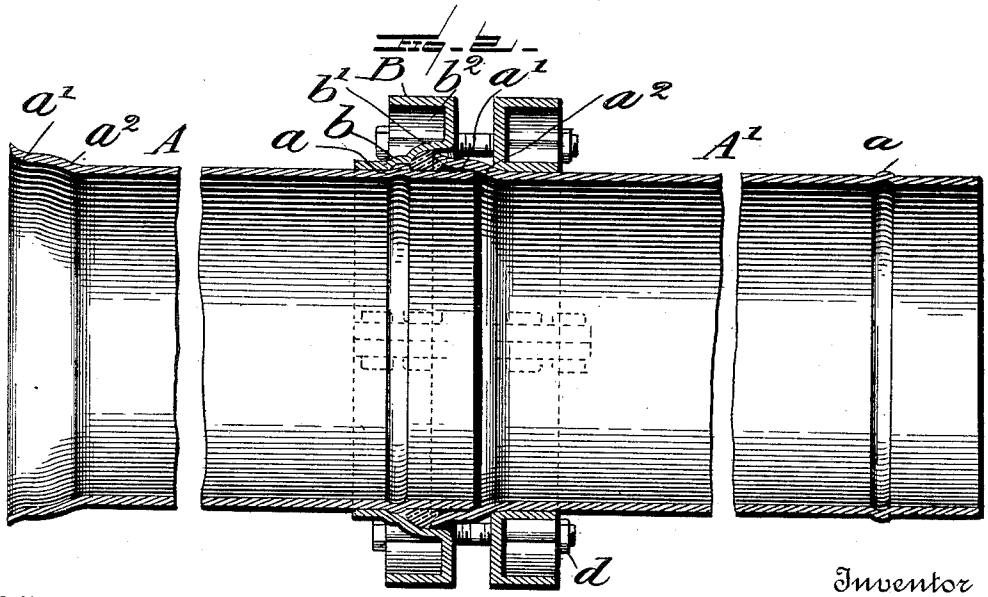


Fig. 2.



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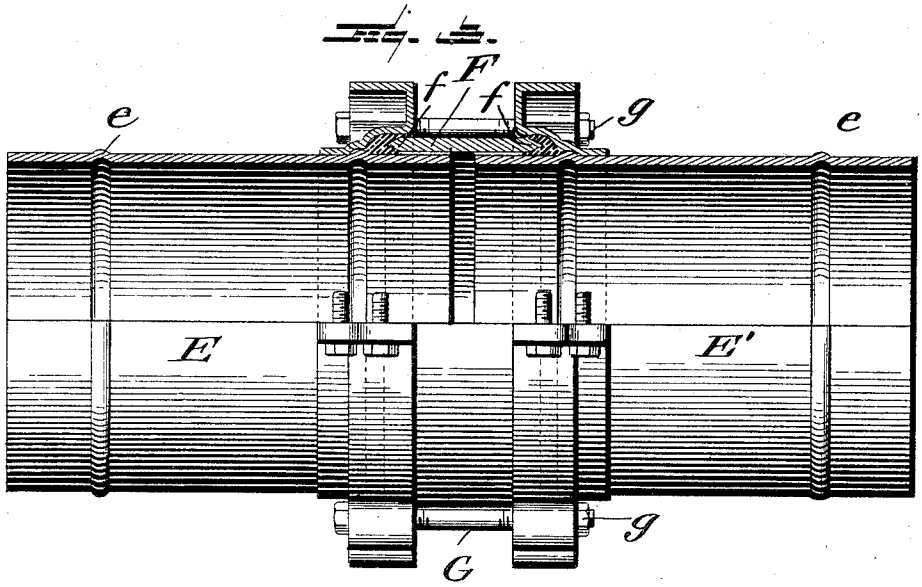
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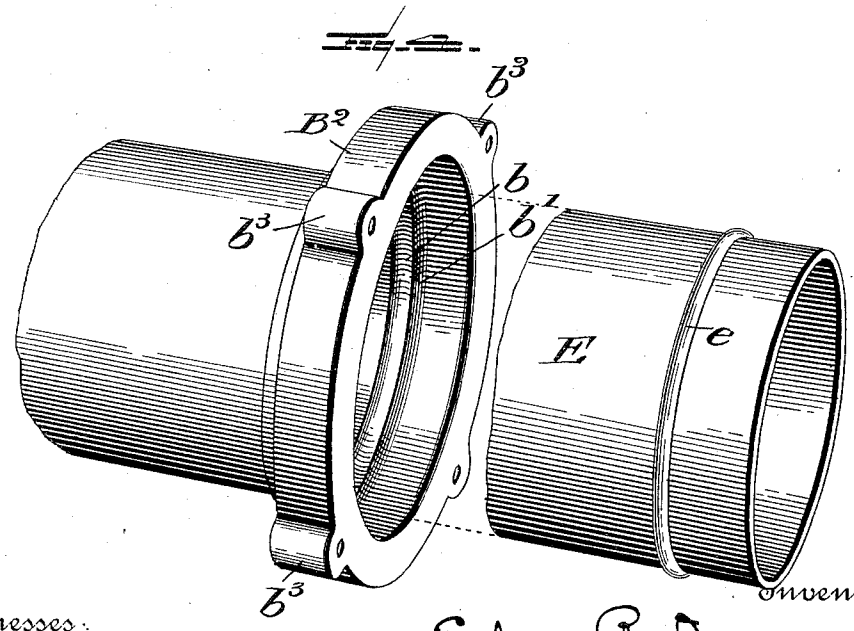
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PIPE COUPLING.

(Application filed Jan. 18, 1900.)

(No Model.) 2 Sheets—Sheet 2.





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UNITED STATES PATENT OFFICE.

SOLOMON R. DRESSER, OF BRADFORD, PENNSYLVANIA.

PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 659,888, dated October 16, 1900.

Application filed January 18, 1900. Serial No. 1,904. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON R. DRESSER, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Pipe-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in pipe-couplings; and it consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention, and said invention is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 represents a perspective view of portions of two adjacent pipe-sections, showing their meeting ends united by my improved coupling. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a side elevation, partly in section, of two pipe-sections united by a coupling embodying a modification of my invention. Fig. 4 is a perspective view of a pipe-section and a one-piece coupling-ring applied thereto.

According to my invention the meeting ends of two pipe-sections are provided with annular projecting portions which are engaged by the coupling-rings, said rings being provided interiorly with annular recesses to engage said projecting portions.

In the form of my invention shown in Figs. 1 and 2, A and A′ represent two pipe-sections which are to be connected. Each pipe-section, which may be formed of cast or wrought iron, is provided on its outside adjacent to one end with an annular projecting bead a, which in the case of cast-iron pipe will be cast and in the case of wrought-iron pipe may be spun or formed in any desired way. Each pipe-section is provided at its other end with a flared portion a', forming where it joins the straight part of the pipe an outwardly-curving shoulder a^2. The flared portion a' of one pipe-section is of sufficient diameter to allow the opposite end of another pipe-section to enter it a short distance, as shown.

B represents one of the coupling-rings, which is provided interiorly with an annular groove b, adapted to fit against the inner side of the annular bead or rib a of a pipe-section. The ring B is also provided with an annular packing groove or recess b' to receive a packing-ring C. The rear face of the ring B is cored out, as shown at b^2, and the ring is provided with a plurality of bolt-holes—in this instance four in number, although any desired number may be provided—which bolt-holes are reinforced by cylindrical walls b^3, extending partly outside of the outer edge of the ring and partly into the cored-out portion.

In order to enable the ring B to be readily slipped over the pipe, I preferably divide it into two parts on a central line, the meeting portions of the two parts of the ring being provided on the rear face of the ring with perpendicular flanges b^4 b^4 and on the outer face or edge with flanges b^5 b^5 in the same plane with and integrally connected with the flanges b^4 b^4, as shown. The flanges b^4 b^4 are connected by bolts b^6 b^6 and the flanges b^5 b^5 are united by bolts b^7 b^7, said bolts being provided with suitable nuts, and in order to prevent the heads of the bolts b^6 and b^7 from turning while the nuts are screwed up I provide one set of flanges b^4 b^5 on each side of the ring with recesses b^8 to receive and fit the bolt-heads and prevent their turning.

The coupling-ring B′ is formed in all respects like the ring B, except that it is not provided with a packing-recess. Otherwise the foregoing description applies exactly to it and the identical parts thereof are indicated by the same reference-letters used in describing the ring B. The annular groove or recess b of the ring B′ is adapted to fit over the shoulder a^2 on the flaring end of a pipe-section, as shown.

In assembling the parts a ring B is applied to one pipe-section (illustrated at A) and is moved along until the groove a of the ring engages the annular bead a of the pipe. A packing-ring C is then placed in the packing-recess b' of ring B. A ring B′ is placed on another pipe-section (illustrated at A′) and moved along until its annular groove b engages the shoulder a^2 of said pipe-section. The flaring end a' of section A′ is then placed over or around the plain end of section A

and is made to enter the packing-recess b' of ring B and to engage the packing-ring C, located therein. The rings B B′ are then connected by coupling-bolts D D, which are passed through the bolt-holes of said rings, and the nuts d d on said bolts are screwed up, so as to draw the coupling-rings together. This will draw the pipes toward each other by reason of the positive engagement of the rings with projecting portions of the pipes, and the flaring end a' of the pipe-section A′ will be caused to compress and wedge the packing-ring between it and the ring B and the pipe-section A, (see Fig. 2,) thus forming a very tight and strong joint.

In Fig. 3 I have shown a slight modification of my invention, in which each pipe-section is formed with a bead adjacent to each end without any flaring portion and only one form of coupling-ring—to wit, the ring B, provided with a packing-recess—is employed on both sides of the joint, a coupling-sleeve being used to embrace the ends of the pipe-sections beyond the annular beads. In this figure, E E′ represent two pipe-sections, each having an annular bead e projecting from its outer surface adjacent to but a little back from each end. Each pipe-section E is provided with one of the coupling-rings B, previously described, which is placed around the pipe, moved into engagement with one of the beads e, and provided with a packing-ring C. F represents a coupling-sleeve which is slipped over the meeting ends of the pipes, with its ends, which are preferably V-shaped in cross-section, as shown at f, engaging the packing-rings C C of the rings B B. The rings B B are drawn together by clamping-bolts G G, provided with nuts g g, passing through the bolt-holes of the rings B B. In this case also it will be observed that the rings have a positive engagement with the pipe-sections owing to their engagement with the annular beads e e.

In Fig. 4 I have illustrated another slight modification of my invention, in which I use a one-piece ring B^2 at each side of the joint instead of a split ring. In using a one-piece ring the two rings necessary for each section of pipe are placed on the pipe-section, the pipe in this case being of necessity wrought-iron, and the beads e' e' are spun or otherwise formed on the pipe-section E′, adjacent to but a short distance back from each end. This will of necessity confine the two rings on the pipe-section, and the sections will be shipped with the rings so applied to the place where they are to be coupled into a pipe-line. The one-piece ring B^2 is constructed exactly like the ring B previously described, except that being in one piece the flanges for connecting the two parts of the split ring B together and the connecting nuts and bolts are of course dispensed with.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a pipe-section provided adjacent to but a short distance back from its end with an exterior projecting portion, and a coupling-ring provided with a shoulder to engage said projecting portion, on the side opposite the end of the said pipe-section, and an annular packing-recess between said projecting portions and the end of the pipe-section, substantially as described.

2. The combination with a pipe-section, provided adjacent to, but a short distance back from its end with an exterior projecting annular bead, and a coupling-ring provided with a shoulder to engage said projecting annular bead, on the side opposite the end of the said pipe-section, and an annular packing-recess between said projecting bead and the end of the pipe-section, substantially as described.

3. The combination with a pipe-section provided adjacent to but a short distance back from its end with an exterior projecting annular bead, and a coupling-ring provided interiorly with an annular groove to engage said bead, and with an annular packing-recess, a packing-ring in said packing-recess, a second pipe-section provided with an annular exterior projecting portion, a coupling-ring for engaging said projecting portion, an annular part extending from said second pipe-section over the end of said first pipe-section and engaging said packing-ring and coupling-bolts uniting said rings, substantially as described.

4. The combination with a pipe-section having adjacent to but a short distance back from its end an external projecting annular bead, a coupling-ring surrounding said section, provided interiorly with an annular groove engaging said bead, and with a packing-recess, a packing-ring in said packing-recess, a second pipe-section provided at its end with a flaring portion adapted to enter said packing-recess, engage said packing-ring and surround the end of the first pipe-section, and forming an annular shoulder, a second coupling-ring surrounding said second pipe-section for engaging said shoulder, and coupling-bolts for drawing said rings together, substantially as described.

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

SOLOMON R. DRESSER

Witnesses:
GEO. P. BOOTHI,
WM. L. GRAHAM.