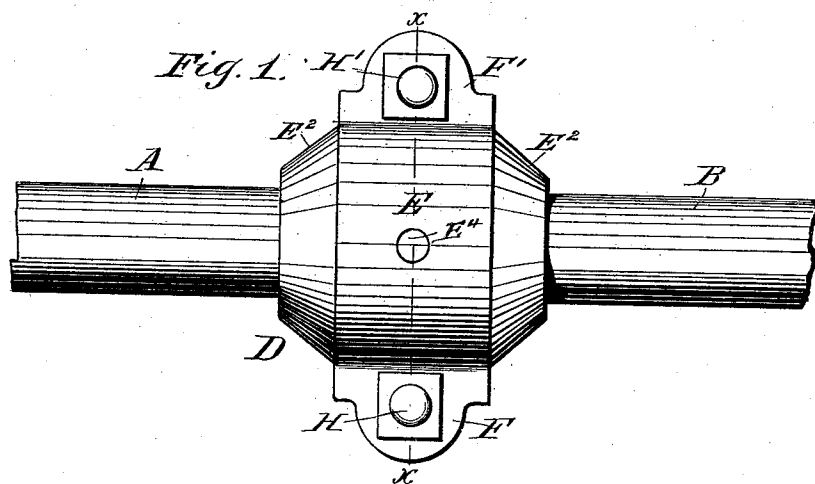
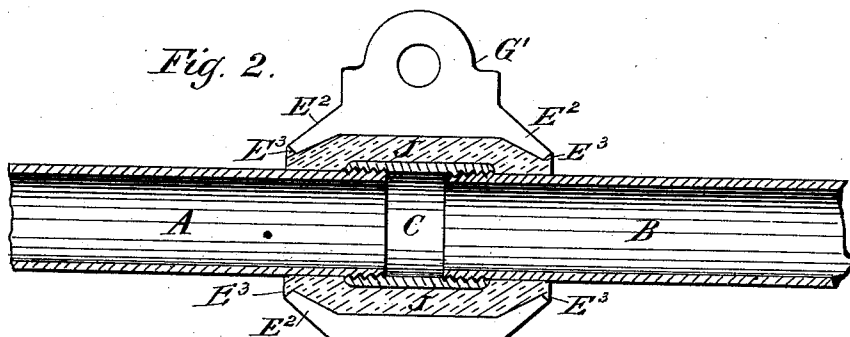
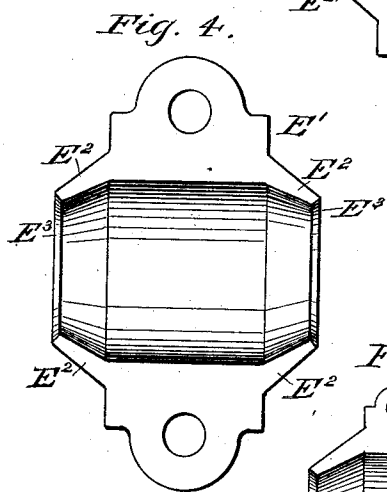
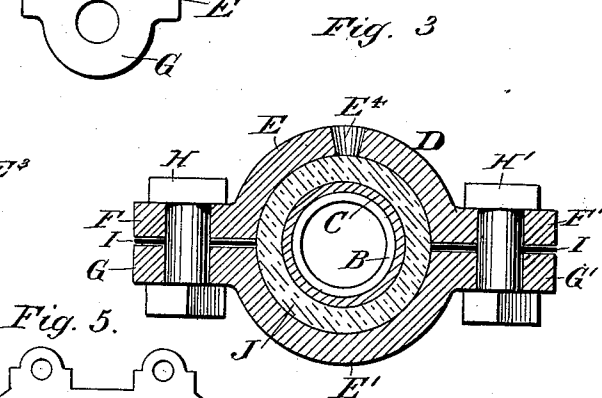
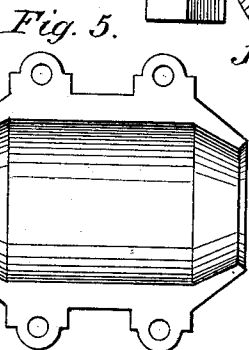


(No Model.)

W. WALKER & J. B. DAVIS.
PIPE CLAMP.

No. 410,816.

Patented Sept. 10, 1889.



WITNESSES:

Chas. Lurcott
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WILLIAM WALKER AND JOHN B. DAVIS, OF LACKAWANNA, PENNSYLVANIA.

PIPE-CLAMP.

SPECIFICATION forming part of Letters Patent No. 410,816, dated September 10, 1889.

Application filed March 14, 1889. Serial No. 303,344. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM WALKER and JOHN B. DAVIS, both of Lackawanna, in the county of Lackawanna and State of Pennsylvania, have invented a new and Improved Pipe-Clamp, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pipe-clamp designed for pipes through which a fluid passes under high pressure, and serving for strengthening parts of the pipe that have become weak through constant use and for mending ruptured and broken pipes.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement as applied. Fig. 2 is a sectional plan view of the same. Fig. 3 is a transverse section of the same on the line $x x$ of Fig. 1. Fig. 4 is a plan view of the lower semi-cylindrical section of the clamp, and Fig. 5 is a plan view of a modified form of the same.

The sections A and B of the pipe-line are united at their ends by means of a socket or ring C in the usual manner. The pipe-clamp D surrounds the joined ends of the sections A and B, and comprises two semi-cylindrical sections E and E', provided with the transversely-extending flanges F and F' and G G', respectively, each having one or more suitable apertures through which pass the bolts H H', respectively, so as to fasten the two sections E and E' together. A suitable packing I is placed between the flanges F G and F' G'. Each of the semi-cylindrical sections E and E' is provided on each end with a semi-annular flange E², inclined inward, as is plainly shown in Figs. 1, 2, and 4. The outer ends of the flanges E² are chamfered at E³, and when the two sections E and E' are bolted together the smallest diameter of the flanges E² is somewhat larger than the diameter of the pipe-sections A and B. In case the pipe-line extends horizontally, the upper section E

is provided with a conical aperture E⁴, through which the molten calking material J is introduced into the interior of the sections E and E'. In case the pipe-line extends vertically, the molten calking material is introduced through the upper end of the pipe-clamp D.

The device is used as follows: When a weak spot or leak is found in the horizontally-extending pipe-line, the disconnected sections E and E' are placed around the said weak spot or leak and bolted together by the bolts H and H' with the packing I between the flanges F G and F' G', and the openings at the ends of the inclined flanges E² are closed by suitable clay or with packing-yarn, and then the molten lead or other material is poured through the hole E⁴ to fill the space formed by the clamp-sections around the pipe-sections A and B. As soon as the molten material is hardened, the clay or packing-yarn is removed, and then the operator calks the material J by suitable tools applied to the projecting ends of the material in the inclined flanges E². When the pipe-line extends vertically, the clamp D is placed in position, as above described; but the opening at the upper inclined flanges is left open and not closed by packing-yarn to introduce the molten metal.

It will be seen that when the operator calks on the right-hand end of the clamp he presses the material inward against the joint or leak, and it is prevented from passing out at the opposite end of the clamp by the inclined flange E² on said opposite end. As soon as one end is calked the operator calks on the opposite end in the same manner, whereby the material is firmly pressed against the weak spot or leak in the pipe-line.

It will be understood that the molten material when cooling contracts, and consequently is loose in the clamp D, and if the material were not calked the fluid under high pressure might easily break the weak spot or leak through the broken pipe. By being enabled to calk from both ends of the clamp and force the calking material onto the weak spot or leak during the operation of calking we form a very secure clamp around the pipe-line, strengthen the same, and prevent any leakage whatever.

The chamfered edges of the inclined flanges E² greatly facilitate the operation of calking by permitting a convenient application of the calking-tool.

5 Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

The combination, with the pipe and its coupling, of the clamp D, formed of two semi-cylindrical sections E E', bolted together around 10 the coupling and having semi-annular flanges E² at their opposite ends projecting beyond

the ends of the coupling, and chamfered at E³ to form flaring openings of greater diameter than the pipes, and the packing J, filling 15 the space within the clamp from one extremity to the other, and calked therein and against the outer chamfered ends E³, substantially as set forth.

WILLIAM WALKER.
JOHN B. DAVIS.

Witnesses:

GEO. D. COUCH,
P. S. JOSLIN.