No. 715,222. Patented Dec. 2, 1902.

J. M. WERTH.

PIPE COUPLING.

(Application filed July 25, 1902.)

(No Model.)

Fig. 1.

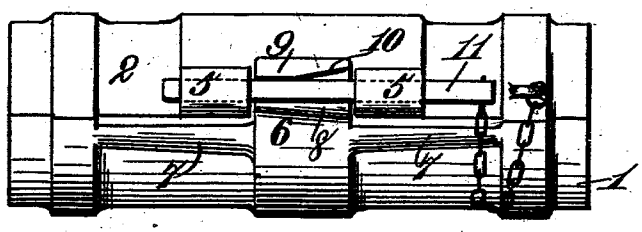



Fig. 2.

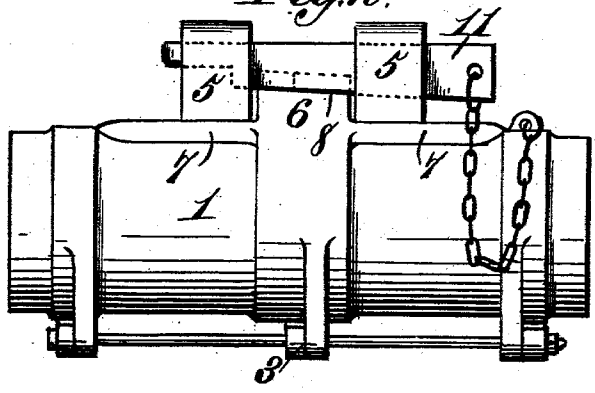



Fig. 3.

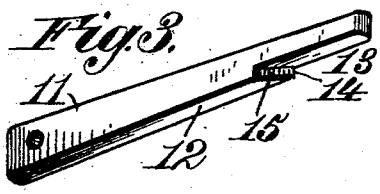



Fig. 4.

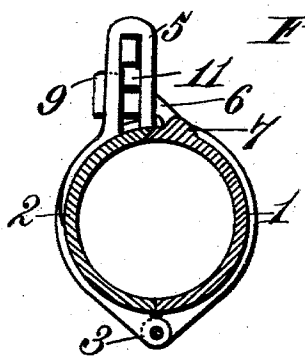
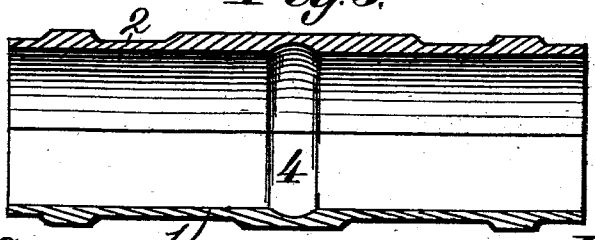



Fig. 5.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

JOSEPH M. WERTH, OF ELKHORN, WEST VIRGINIA.

## PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 715,222, dated December 2, 1902.

Application filed July 25, 1902. Serial No. 116,969. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH M. WERTH, a citizen of the United States, residing at Elkhorn, in the county of McDowell and State of West Virginia, have invented new and useful Improvements in Pipe-Couplings, of which the following is a specification.

This invention relates to pipe-couplings; and the objects of the invention are to provide a simple and efficient device of this character which can be easily applied and as readily removed without the use of pipe-wrenches, as it is not threaded onto the adjacent ends of contiguous pipe-sections. It can be used upon old pipes having threads where the same are worn and will effectually unite the same without possibility of leakage, it can be applied under water or in close places, it is especially well adapted for uniting temporarily-laid pipes, and it costs but a trifle more than a plain coupling.

The improved pipe-coupling includes in its construction a plurality of sections, one of which has wedge-faces transverse to each other and the other of which is provided with key-holding means in connection with a key also having wedge-faces transverse to each other and adapted to coöperate with the other wedge-faces, so that when the key is driven home the coupling will be firmly clamped in place and will bind a gasket or packing surrounding the adjacent ends of pipe-sections firmly in place. In the present case one of the sections of the coupling has a projection upon which the said wedge-faces first mentioned are formed, while the other section is furnished with loops for receiving the key, and between which when the coupling is in its effective position the said projection is disposed.

The invention includes further objects and advantages which, with the foregoing, will be set forth in the following description, while the novelty thereof will form the basis of the claims succeeding such description, and said invention is clearly shown in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a plan view of the improved device in its working condition. Fig. 2 is a similar view of the same with the sections open. Fig. 3 is a perspective view of the locking-key. Figs. 4 and 5 are respectively transverse and longitudinal sections of the device.

Like characters refer to like parts in all the figures of the drawings.

The improved pipe-coupling includes in its construction the sections or halves 1 and 2, the same being suitably united together at what might be considered their back—as, for example, by means of a hinge 3. The improved article has its inner surface smooth, except, of course, for the grooved portion 4, which is adapted to receive the ends of the coupled pipe-sections. As the coupling is smooth interiorly, it is not necessary to apply the same with a wrench.

The section 2 of the coupling is provided with the substantially perpendicular loops 5, adapted to receive a locking-key, hereinafter more particularly described, and these loops may or may not be integral with the part carrying the same.

The section 1 is provided upon its upper side with a projection 6, which may or may not, as is the case with the loops 5, be made in one piece with the coupling-half to which it is secured. Strengthening ribs or fins 7 extend laterally from the said projection. The sides of the projection are in contact, or substantially so, with the adjacent faces of the loops 5, so as to secure the projection firmly in place.

The projection 6 has upon its upper side a wedge-face 8 and terminates in a vertical lug 9 upon said upper side, said lug having upon its inner side a wedge-face 10, which, it will be seen, is situated at right angles to the other wedge-face, and these wedge-faces are adapted to coöperate with similar wedge-faces, hereinafter more particularly described, upon the locking-key 11.

The coupling, with the parts carried thereby, may be made of any suitable material, and the internal diameter of the coupling is somewhat greater than the external diameter of the pipe-sections which it unites, so that a gasket fitted around said pipe-sections can be accommodated within the coupling. The wedge-key 11 may also be made of any suitable material. Said key, which is adapted when in its working position to fit between the loops 5, has upon its under side a wedge-face 12, adapted to coöperate with the wedge-

face 8 and an undercut-out portion 13, which thereby forms a shoulder 14, said undercut portion, it being seen, being situated at the reduced end of the wedge-key. The shoulder 14 has upon its outside the wedge-face 15, adapted to coöperate with the wedge-face 10.

In use a gasket of sheet lead, rubber, or any other suitable material is wrapped around the adjacent sections of pipe, after which the coupling is placed around the gasket and drawn tightly therearound, with the projection 6 disposed between the loops 5. The reduced end of the wedge-key 11 is then introduced into one of the loops 5 and advanced toward and into the other loop. This will bring the wedge-faces 8 and 10 and 12 and 15 into contact. The wedge-key is then driven home by a suitable implement, so as to constrict the coupling upon the pipe, and thereby bind the gasket securely in place and effectually close the joint between the sections of said pipe. Primarily the function of the coöperating wedge-faces 10 and 15 is to hold the coupling in place; but I do not rely on these wedge-faces to prevent accidental removal of the key, but provide the second pair of wedge-faces 8 and 12 to secure this result, which pairs of wedge-faces, it will be seen, are disposed transversely and substantially at right angles to each other, by virtue of which it is practically impossible for the key to be accidentally dislodged when it is driven home.

The grooved portion 4, hereinbefore referred to and which receives a bead upon the pipe, serves to prevent longitudinal movement of the sections of said pipe when the same are coupled.

The invention is not limited to the exact construction hereinbefore set forth, for many variations may be adopted within the scope of the following claims, and said pipe-coupling may be used in many other ways than those indicated herein.

Having described the invention, what I claim is—

1. A pipe-coupling having a plurality of wedge-faces disposed transversely to each other, a locking-key for securing the pipe-coupling in place also having wedge-faces disposed transversely to each other and cooperative with said other wedge-faces, and means for holding the key in place.

2. A pipe-coupling having a plurality of hinged sections one of which has wedge-faces disposed transversely to each other, key-holding means on the other section, and a key, said key having wedge-faces disposed transversely to each other and coöperative with said other wedge-faces.

3. A pipe-coupling comprising a plurality of hinged parts, one of which is provided with a plurality of loops, and the other of which has a projection furnished with wedge-faces disposed transversely to each other, and a key held in place by said loops and having wedge-faces also disposed transversely to each other, and adapted to coöperate with said other wedge-faces.

4. A pipe-coupling having a plurality of loops and a projection adapted to fit between said loops and movable relatively thereto, said projection having wedge-faces disposed transversely to each other, and a key adapted to enter said loops and having wedge-faces also disposed transversely to each other and coöperative with said other wedge-faces.

5. A pipe-coupling comprising a plurality of sections, one of which is provided with a plurality of loops, and the other of which is furnished with a projection, said projection having a wedge-face and a lug upon its upper side, and the lug having upon its inner side a wedge-face disposed transversely to the other wedge-face, and a key adapted to be held in place by said loops and having a wedge-face upon its under side adapted to engage said first-mentioned wedge-face, said key having an undercut portion at its reduced end, thereby forming a shoulder, and said shoulder having a wedge-face coöperative with the wedge-face on said lug.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSEPH M. WERTH.

Witnesses:
ISAAC W. GIBSON,
ALLEN RAUP.