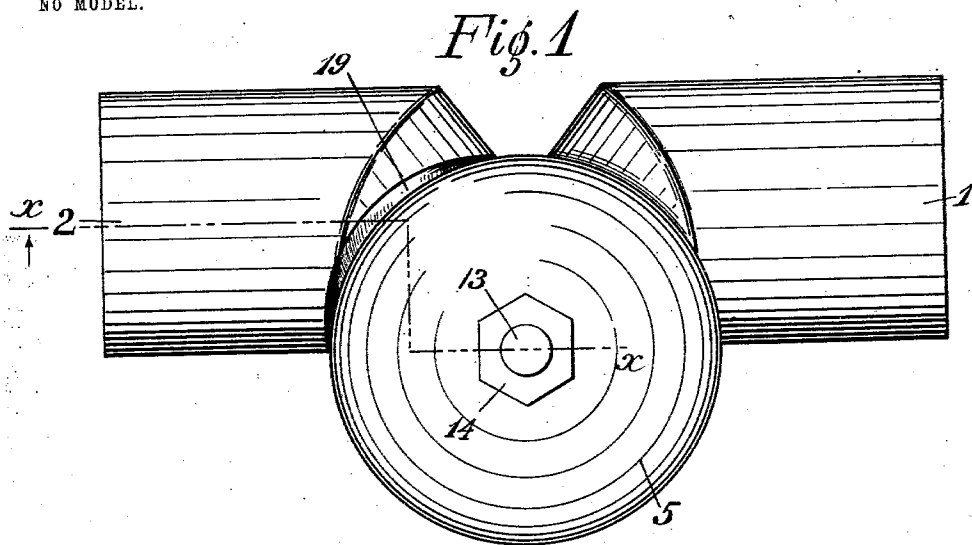
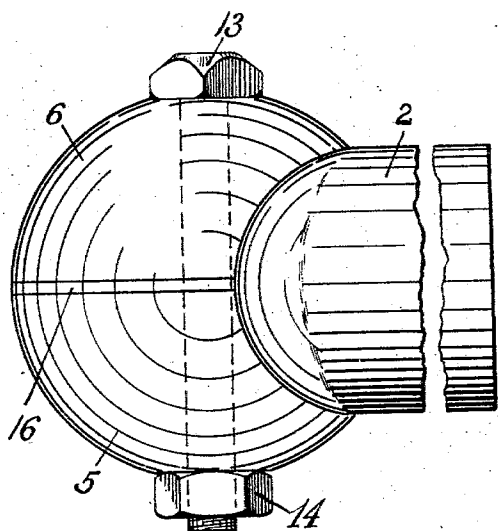
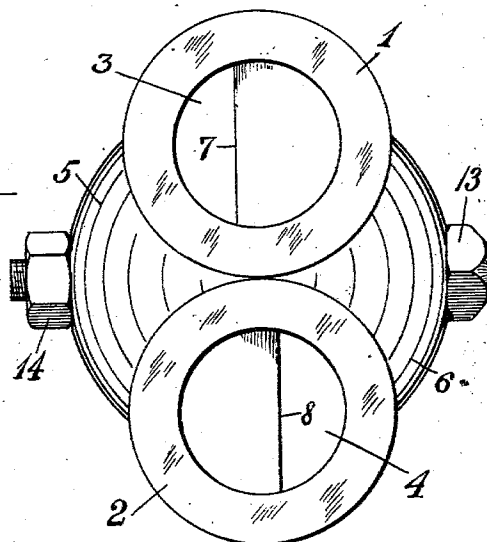


C. GUYER.
JOINT FOR WATER PIPES OR THE LIKE.

APPLICATION FILED OCT. 9, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Ivan Honigsberg
Harry H. Walton.

Clinton Guyer
Inventor

By *his* Attorney
Alexander C. Prosser.

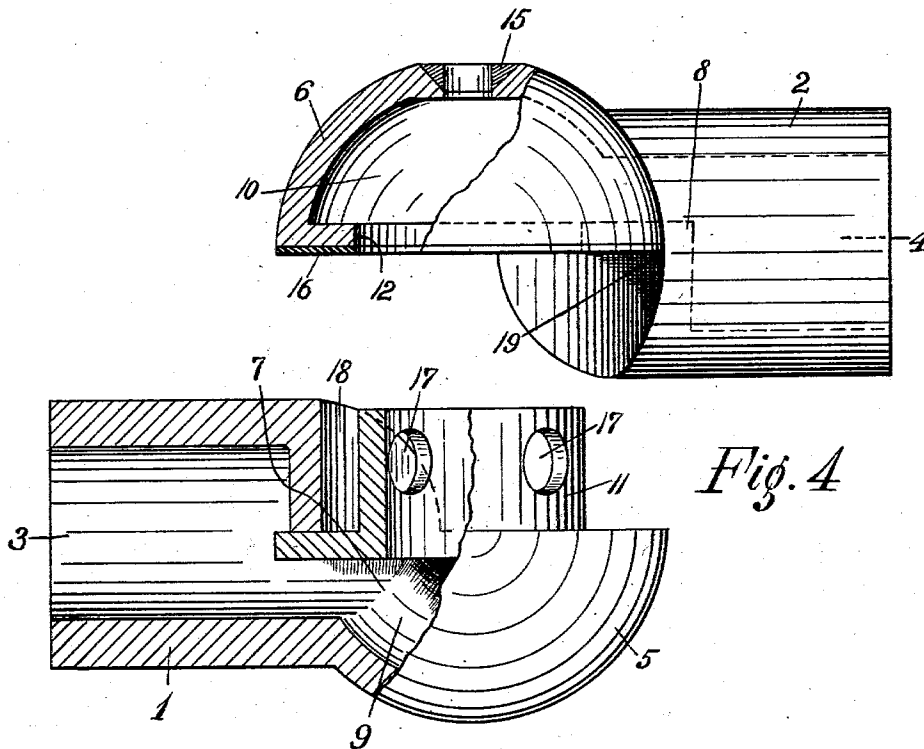
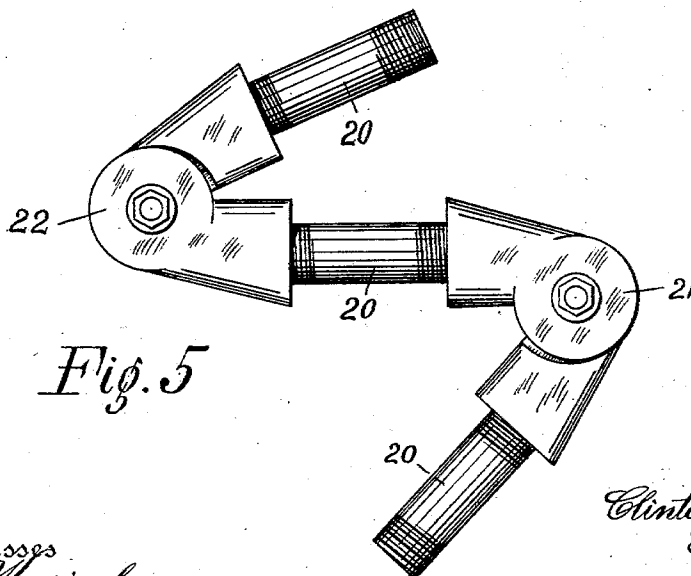
No. 746,828.

PATENTED DEC. 15, 1903.

C. GUYER.
JOINT FOR WATER PIPES OR THE LIKE.
APPLICATION FILED OCT. 9, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses
Ivan Konigsberg
Harry H. Walton

Clinton Guyer
Inventor
By his Attorney
Alexander C. Proudfoot

UNITED STATES PATENT OFFICE.

CLINTON GUYER, OF MUNCY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO
WILLIAM C. CRAWFORD, OF MUNCY, PENNSYLVANIA.

JOINT FOR WATER-PIPES OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 746,828, dated December 15, 1903.

Application filed October 9, 1902. Serial No. 126,375. (No model.)

To all whom it may concern:

Be it known that I, CLINTON GUYER, of Muncy, Pennsylvania, have invented certain Improvements in Joints for Water-Pipes or the Like, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings designating like parts.

This invention relates to conduits for water, steam, and the like, and has for its object the provision of a joint of simple and compact form comprising novelties of construction and functions to be hereinafter fully set forth.

In carrying pipes of relatively large diameter around obstructions it is frequently found desirable that the level of the pipe should be preserved, and instead of using flexible joints, which are usually constructed in such a manner that there is a difference in line between the axes of adjoining sections, it is necessary to put in angles, bends, and short lengths specially made for the particular job, necessitating delay and extra expense both of construction and through loss of use of the conduit.

I have devised a joint having the capability of being bent through an angle of over one hundred and eighty degrees and nearly two hundred and forty degrees and from a straight-line position to a position of parallelism, or one in which the two members of the joint lie side by side, so that the "return" shall insure the fluid being conveyed directly back upon its course, a requirement of importance in diverse situations, this arrangement being made without departing from the general level of the conduit.

My improvements may be utilized in elbows, couplings, unions, or in any field for which they are adapted by reason of their nature with ground or packed joints, and the various features of my invention will be illustrated and described fully in the accompanying drawings and specification and set forth in the claims.

In the drawings, Figure 1 illustrates in plan view an elbow in the construction of which my improvements have been embodied. Fig. 2 is a view in side elevation of the same with the members turned into the "return posi-

tion." Fig. 3 is a front elevation of the elbow with the members in the position shown in Fig. 2, showing their complete parallelism. Fig. 4 is a view of the members separated and shown partly in section and partly in elevation to illustrate details of construction, and Fig. 5 is a view of a union formed in accordance with my invention.

In the embodiment of my invention selected for illustration as a convenient form to enable a ready and complete understanding of my improvements, referring to Figs. 1 to 4, inclusive, the parts designated by the numerals 1 and 2, respectively, are the right and left members of an elbow for a heavy hydraulic conduit, into the open ends 3 and 4 of which may be introduced and secured conduit-pipes in the usual manner. In Fig. 2 the members 1 and 2, lying in a horizontal position, illustrate the feature by which the exact level of the pipe is preserved through the joint. To accomplish the provision for the first of these important features of my invention—the parallel return—I set the chamber portions 5 and 6 of the respective joint members off considerably to one side of the medial line of the pipes, the pipe-receiving members 1 and 2 lying substantially entirely to one side of the diameter of their respective chamber portions, as can be best seen in Fig. 1. The preferred construction by which I provide for the second important feature of my invention—the preservation of the axis of the pipe on a single level—appears best in Fig. 4, where the passages 3 and 4, respectively, open by mouths 7 and 8, respectively, into chambers 9 and 10, respectively, which are preferably hemispherical in shape. These chamber portions may be secured together in any suitable fashion and by any suitable means, but I prefer for the sake of strength and accuracy of fit to provide a spigot 11 on one member to enter snugly an apertured web 12 of the other member. To secure the members in adjusted position, I have illustrated a bolt 13, with nut 14, glands 15 being used, if found desirable, and, if preferred, a packing-ring 16 may be utilized between the members, or the joining surfaces may be ground accurately. The spigot 11 will preferably have a

plurality of apertures 17 to permit free access of fluid from one portion of the joint to the other.

Upon referring to Fig. 4 it is to be noticed that the forward lip of the chamber member 6 enters snugly a deep groove 18 in the member 5, which construction imparts a high degree of rigidity to the joint, a similar construction appearing at the region 19 of the member 2 with respect to the lip of the member 5.

In Fig. 5 I have shown several pipe-sections 20 united by two joints 21 and 22, embodying the essential features already disclosed in the description of Figs. 1 to 4, but slightly different in contour, and it will be understood that other modifications which will readily occur to those skilled in the art may be adopted without departing from the spirit of my invention, nor do I limit myself to specific details of construction nor in general otherwise than as pointed out in the claims read in connection with this specification.

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

1. A conduit-joint of the class described, comprising a plurality of conduit members cooperating to form a joint, said members being rotatable about each other around an axis which is situated outside the longitudinal axes of said members respectively, at all positions of the latter, whereby said members,

lying in a common plane, can be turned therein from extended to return positions of axial parallelism, substantially as described.

2. A conduit-joint of the class described, comprising a plurality of conduit members provided respectively with chambers cooperating to form a joint, said members being rotatable upon each other in a common plane around a transverse axis situated outside the longitudinal axes of said conduit members respectively, in all positions of the latter, and operating substantially in the manner and for the purpose set forth.

3. A conduit-joint of the class described, comprising cooperating hemispherical chamber members rotatable relatively to each other upon their equatorial plane of union, and provided with conduit members the longitudinal axes whereof pass respectively outside the polar axis of the double chamber formed by said members, at all rotative positions of the latter as they are turned in their common plane in the manner and for the purpose substantially as set forth.

Signed at Muncy, in the county of Lycoming and State of Pennsylvania, this 4th day of October, A. D. 1902.

CLINTON GUYER.

Witnesses:

FREDERICK C. PETERMAN,
JOHN BURGETT.