(No Model.)

P. J. BURKE.

CLOSET SAFE PIPE JUNCTION.

No. 506,842. Patented Oct. 17, 1893.

Fig. 1.

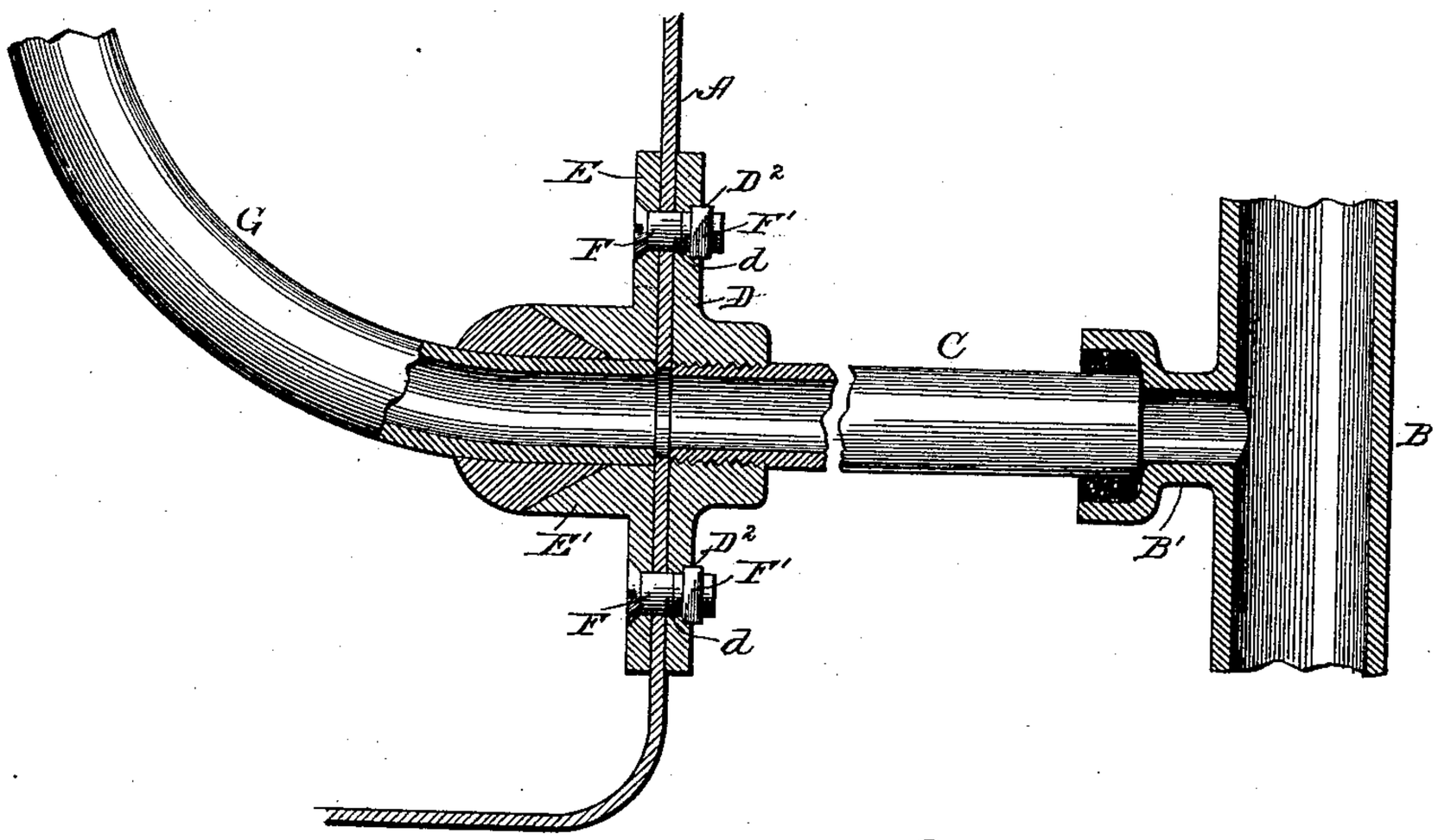
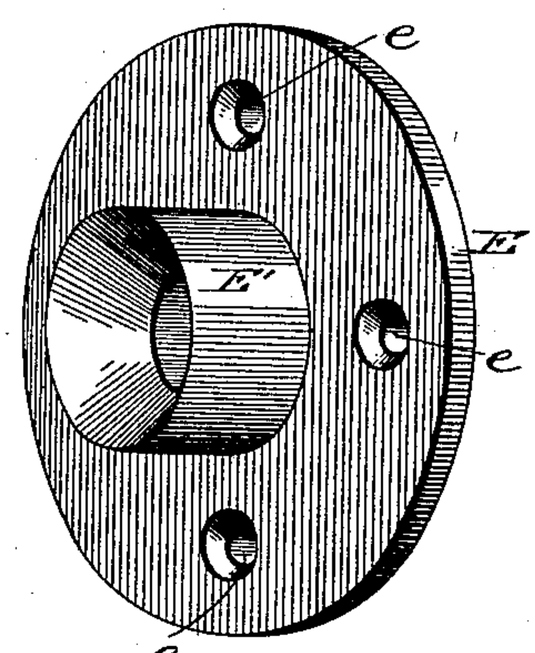


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

PATRICK J. BURKE, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO JAMES J. WADE, OF SAME PLACE.

CLOSET-SAFE-PIPE JUNCTION.

SPECIFICATION forming part of Letters Patent No. 506,842, dated October 17, 1893.

Application filed December 19, 1892. Serial No. 455,850. (No model.)

To all whom it may concern:

Be it known that I, PATRICK J. BURKE, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in a Closet-Safe-Pipe Junction, which is fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

In the drawings Figure 1. is a vertical section longitudinally with respect to the pipe, which is joined to the safe wall in a manner embodying my invention. Fig. 2 is a perspective of a flange designed to be united by soldered or wiped joint to the discharge pipe from a closet bowl or other fixture, in the manner which distinguishes my invention specifically.

The purpose of this invention is to overcome defects which exist in the customary forms of junction which are employed in connecting to the sewer pipe the discharge pipes from water closets or other fixtures, which are mounted over a lead safety box, or lead safe as it is more commonly termed, which is intended to receive any accidental drainage or leakage from the fixture or its connections. The customary method to which I refer consists in turning an outwardly projecting flange about the aperture through the lead safe wall and calking this flange, together with a brass ferrule which protrudes through the aperture, into the hub or intake of the sewer pipe, the ferrule projecting thus inwardly into the safe serving to make a wiped joint with the lead discharge pipe of the fixture within the area of the safe. The defect in this construction which I wish to overcome is the great danger of leakage occurring at the calked joint, which it is impossible to make reliably tight, which leakage, if it occurs, is fully as liable to occur outside of the safe as inside of it. Another defect of this construction is that it affords no opportunity for testing the joint which may be made at the intake of the sewer pipe; that the joint is difficult to repair, and is necessarily destroyed whenever it is necessary to detach the fixture. These defects I seek to overcome by my present invention.

In the drawings A represents the wall of the safe, which is of lead or other soft metal.

B is the sewer pipe having the horizontally projecting hub B′ forming the intake from the fixture.

C is an iron pipe nipple adapted to be calked into the hub B′.

D is an iron flange screwed on to the threaded outer end of the nipple C. The length of the nipple C will be such as the situation of the fixture with respect to the sewer pipe requires.

E is a brass flange which is adapted to be joined to the iron flange, having bolt holes *e* in position to match the bolt holes *d* of the iron flange. The brass flange is applied to the inside of the safe wall A while the iron flange is applied outside the safe wall, the bolts F F F binding the two flanges as tightly as desired against the opposite surfaces of the safe wall, and pinching the latter tightly between them, so that said wall acts as a gasket to make a water-tight joint between the two flanges. The flange E has projecting from its inner surface around the central aperture the annular flange E′. This flange E′ is flaring as to its inner surface. If the entire flange E is cast, the annular flange E′ will preferably be formed as a hub with its outer wall cylindrical. The height of the flange E′ is preferably about one inch, and it is flared to the extent of about a half or five-eighths of an inch. The opening through the center of the flange E′, which is concentric with the entire flange E, is of the diameter of the lead pipe G which leads from the fixture, the outer surface of the latter making contact with the margin of said central opening when it is inserted as shown in the drawings, and forming an annular cup space, V-shaped in radial section between the flaring wall of the annular flange E and the cylindrical outer surface of the pipe G. This annular cup space affords the plumber facility for making the necessary soldered joint between the lead pipe G and the flange E. It will be noticed that when the lead pipe is thus soldered to the flange E, and when the nipple C is calked into the sewer pipe hub B′, the fixture carrying its discharge pipe and the brass flange, is without connection to the sewer pipe. The soldered joint, therefore, between the lead pipe and the brass flange can be made before the fixture is set

in place, and with the parts in the most convenient position for that purpose. The safe being now brought to its position with its wall in contact with the face of the iron flange, and being provided with a simple unflanged aperture matching the central aperture through the iron flange, and with bolt apertures matching the bolt apertures of the flange, all of which apertures the plumber will readily make after the parts are in position, and will therefore have no difficulty in making it to match the flange, the fixture will be placed and properly supported above the safe, and the lead discharge pipe bent to bring the brass flange against the inner surface of the wall of the safe directly opposite, and with its bolt apertures matching those of the iron flange; and the bolts F F F being inserted and drawn tight, a perfect water-tight joint is made by reason of the clamping of the lead wall of the safe between the two flanges. All danger of leakage such as is experienced with the joint made by calking the lead flange of the safe wall into the iron pipe, and all the difficulty of making such a joint in such a position is avoided, and a joint is produced which can be dismembered by merely withdrawing the clamping bolts, and reunited by applying them again, and which may be tightened, if by any possibility it should leak, by drawing up the bolts a little tighter. In order to render the securing and disconnecting of this joint as easy as possible, I prefer to form on the outer side of the iron flange, sockets D^2 D^2, &c., in which the nuts F′ F′, &c., of the bolts F F, &c., may lodge, stove bolts being employed for that purpose, which are tightened with screw driver engaging the slotted head on the inside of the safe, the brass flange having the bolt apertures countersunk to receive the head.

The joint which I form between the brass flange and the lead pipe, and the particular form of the brass flange adapting it for the formation of such a joint, are applicable to many other situations beside the one in which I have shown it, and I do not limit myself to the combination of that joint with a lead safe.

I claim—

1. A flange for a soldered pipe joint having an annular hub E′, encompassing the aperture through the flange and having a conical inner surface merging at its smaller end with the surface of the flange aperture: substantially as set forth.

2. In combination, substantially as set forth, the flange E, having an annular hub E′ with the tapering or flaring aperture at the center, and the pipe G inserted in said aperture and fitting it at its smallest diameter, and secured by solder in the annular tapering cavity intervening between the pipe and the flared wall of the hub.

3. In combination, substantially as set forth, the lead safe, the exterior iron flange and the pipe joined to its hub, the interior brass flange, the central apertures of said flanges coinciding, the brass flange having the hub with its central aperture flared inwardly, and the pipe G protruding into and fitting in the aperture of the brass flange and joined thereto by solder in the flaring annular cavity of the hub, said brass and iron flanges being bound together by bolts which penetrate them and the wall of the safe between them whereby a water-tight joint is made between the pipe within the safe wall and the pipe without, the wall of the safe serving as packing between the flanges.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 9th day of December, 1892.

PATRICK J. BURKE.

Witnesses:
CHAS. S. BURTON,
JEAN ELLIOTT.