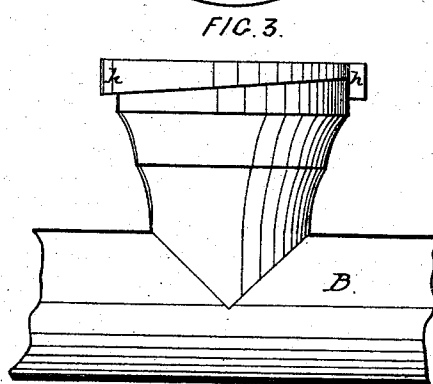
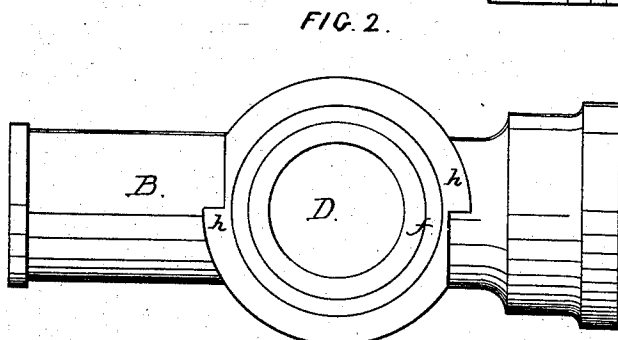
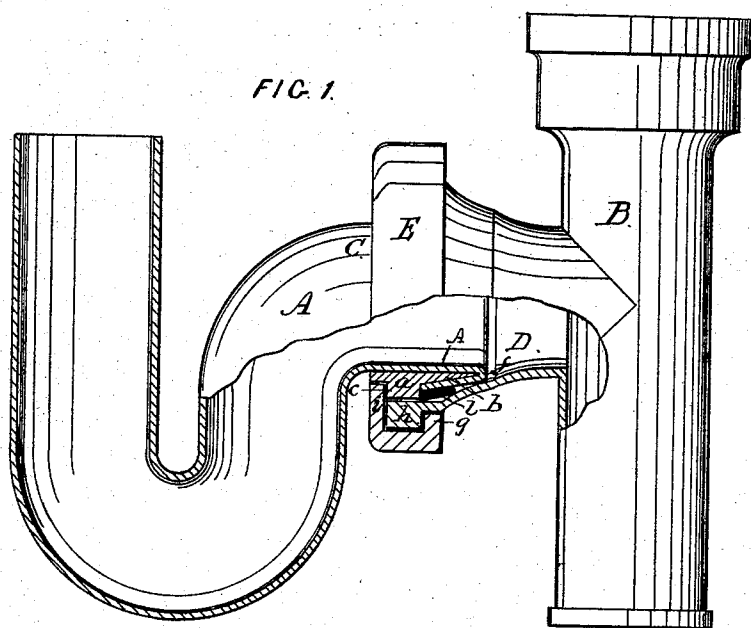


M. C. RYAN.
Pipe-Couplings.

No. 156,597.

Patented Nov. 3, 1874.



WITNESSES.

J. A. Pease
J. J. Hutchinson

INVENTOR.

M. C. Ryan
Per Brown Brothers
Attorneys

UNITED STATES PATENT OFFICE.

MICHAEL C. RYAN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PIPE-COUPPLINGS.

Specification forming part of Letters Patent No. **156,597**, dated November 3, 1874; application filed October 7, 1874.

To all whom it may concern:

Be it known that I, MICHAEL C. RYAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Pipe-Couplings, of which the following is a specification:

This invention more especially relates to coupling the lead trap-pipe of water-closets to the iron pipe through which the soil and waste-water are carried off. In this improved coupling the lead pipe is provided with an iron collar, which in a peculiar manner is attached to its end to be coupled to the iron pipe, and which gives a shoulder and also a taper to such end; and the iron pipe is provided with an inwardly-tapering opening for the reception of the taper end of the lead pipe, and outwardly it is adapted for the screwing of a ring thereon. This ring is constructed interiorly to abut against the shoulder on the lead pipe, so that with the taper end of lead pipe in the taper opening of iron pipe, if then the ring be screwed on the iron pipe, the taper end of the lead pipe will be forced into the taper opening of the iron pipe, and thereby make, with the interposition of a suitable packing material at the bearing of the tapered lead pipe within the tapered opening of iron pipe, a close and tight joint between the two pipes.

In the accompanying plate of drawings, Figure 1 is a view, in part section and in part elevation, of a lead trap-pipe, and of an iron waste-pipe to water-closet, coupled together in accordance with this invention. Fig. 2 is a face view of the opening in iron pipe for the reception of the tapered end of the lead pipe, and Fig. 3 is a side view of that part of the pipe which receives the screw-ring.

In the drawings, A represents the lead trap-pipe, and B the iron waste-pipe of the water-closet. The end C of lead pipe A is coupled to the iron pipe B, and this end C is provided with an iron collar, *a*. This iron collar *a* is on the outside of lead pipe, and it is secured in place by bending the end of the lead pipe over and against the outside face of the taper por-

tion *b* of the iron collar *a*, as plainly shown in Fig. 1, giving a taper to the end of the lead pipe, and also this collar *a* makes a shoulder at *c* on the lead pipe. The opening D of the iron pipe B receives the end C of lead pipe A, and this opening D tapers inwardly, as shown at *f*, to receive and wedge the taper end of lead pipe. About the opening D of iron pipe the pipe is adapted for the iron ring E to be screwed onto it, and this adaptation of the iron pipe B and ring E may be of any of the ordinary forms—as, for instance, male and female screw-threads or lugs *g* in the ring, and ribs *h* on the pipe, as shown in the drawings. The screw-ring E is provided with a flange, *i*, to abut against the shoulder *c* of the iron collar to lead pipe. *l*, a packing of rubber surrounding a portion of the taper end of lead pipe.

Placing the screw-ring E on the lead pipe, insert the taper end C of lead pipe A in the taper opening D of iron pipe, and then screw the ring E on the iron pipe. As the screw-ring is screwed on the iron pipe its flange *i* presses on the shoulder *c* of the lead pipe, and thereby forces the lead pipe into the opening of the iron pipe, and therein it finally wedges itself, so that the joint between it and the said opening of iron pipe will be closely and tightly sealed against the escape of water, &c., at such joint.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the taper end C and shoulder *c* of lead pipe A, the taper opening D of iron pipe B, and ring E, all substantially as herein described, for the purpose specified.

The above specification of my invention signed by me this 30th day of June, A. D. 1874.

MICHAEL C. RYAN.

Witnesses:

EDWIN W. BROWN,
ALBERT W. BROWN.