

(No Model.)

F. DOHERTY, Dec'd.

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PIPE COUPLING FOR WATER AND GAS PIPES AND MAINS.

No. 284,285.

Patented Sept. 4, 1883.

Fig. 1.

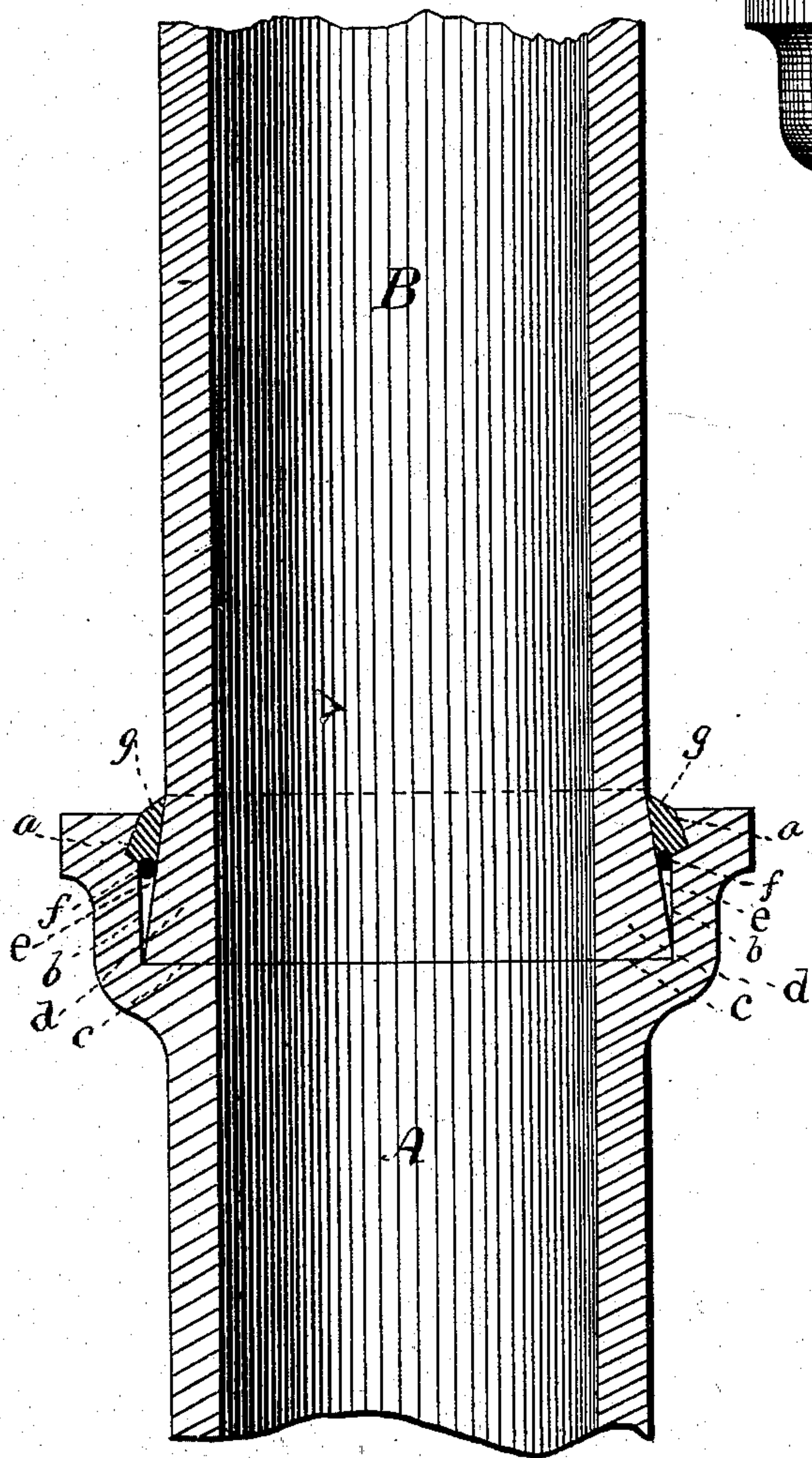


Fig. 4.

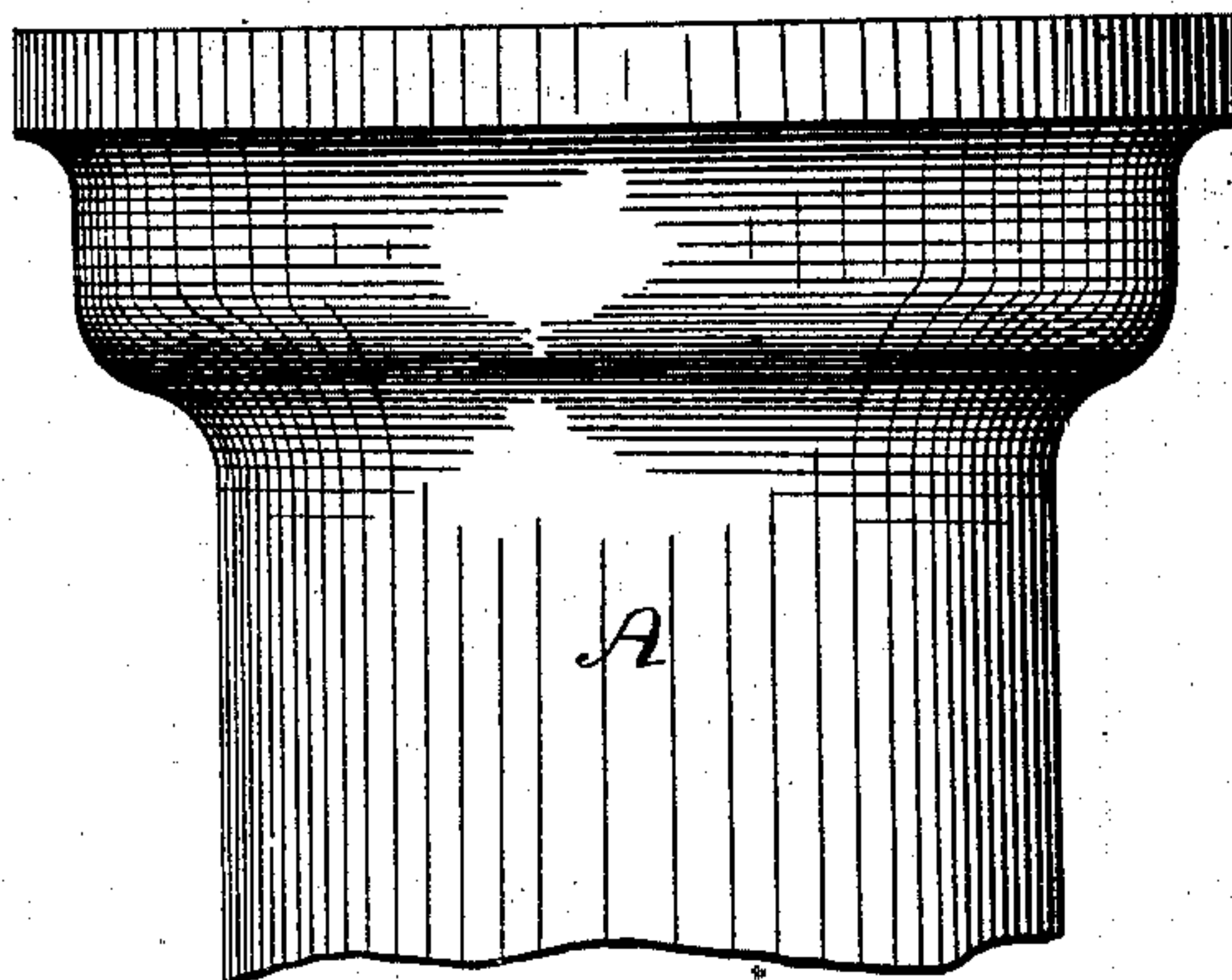


Fig. 2.

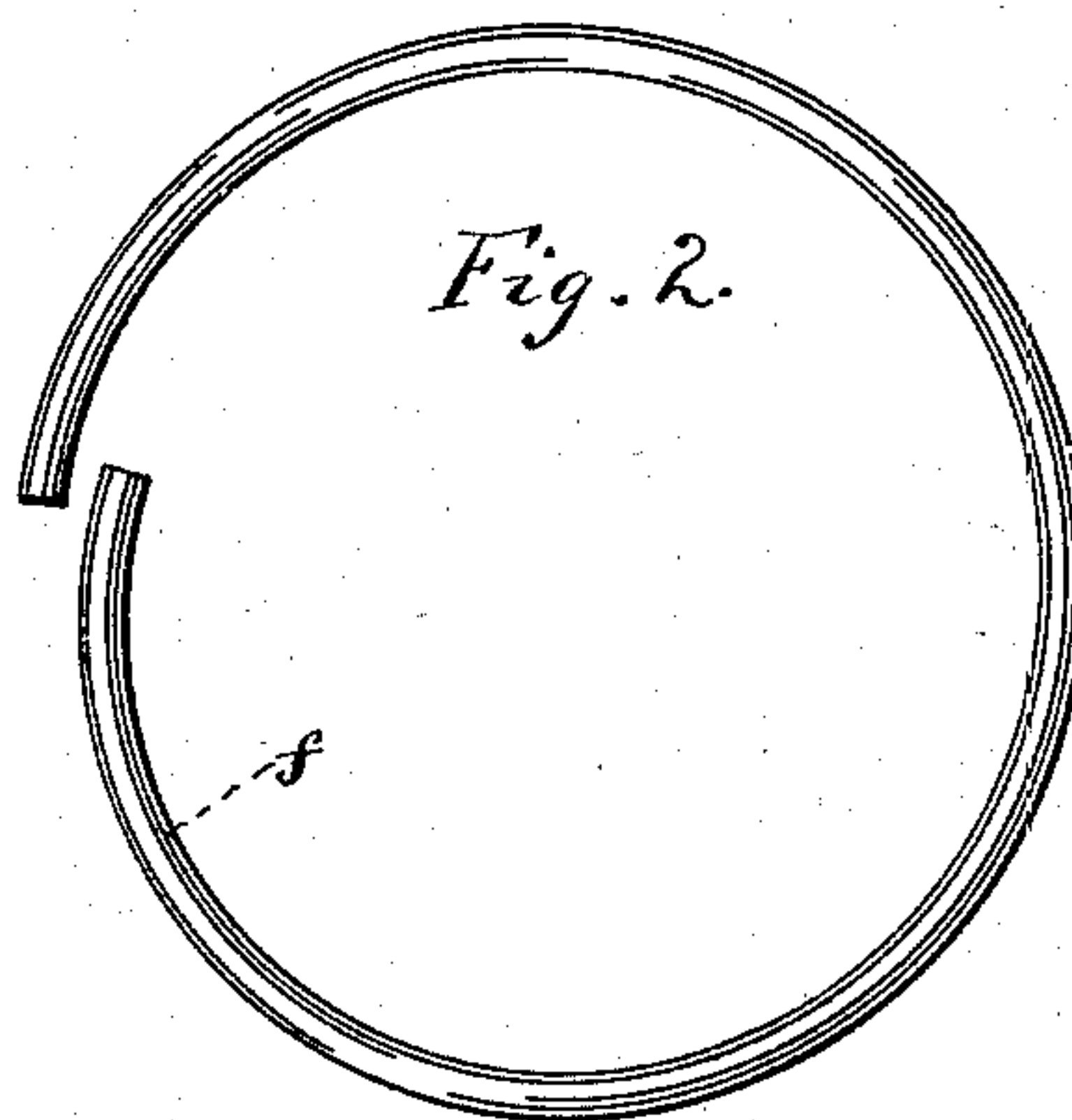
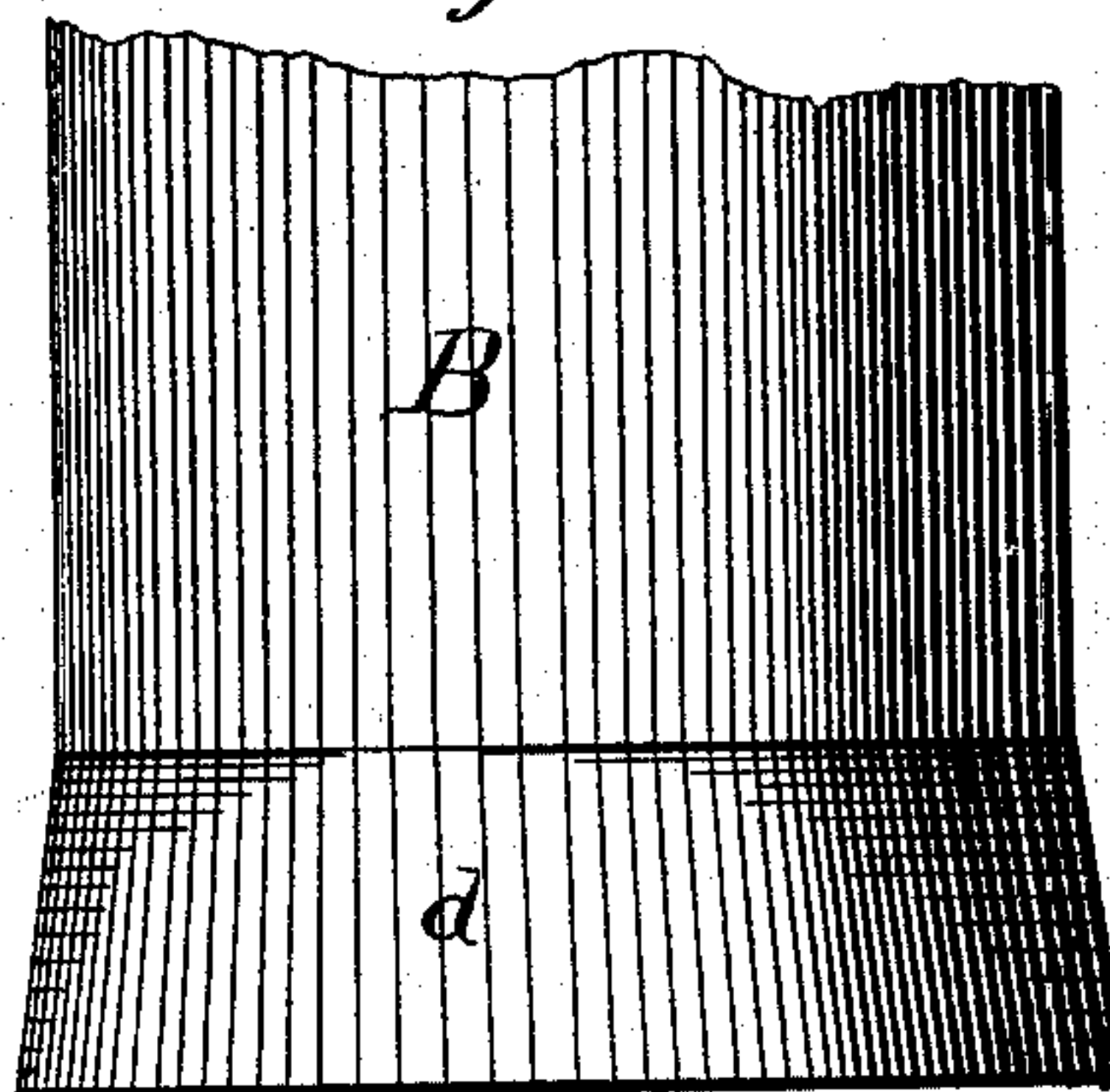


Fig. 3.



WITNESSES

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FRANK DOHERTY, OF COLUMBUS, OHIO; ANNIE M. DOHERTY ADMINISTRATRIX OF SAID DOHERTY, DECEASED.

PIPE-COUPLING FOR WATER AND GAS PIPES AND MAINS.

SPECIFICATION forming part of Letters Patent No. 284,285, dated September 4, 1883.

Application filed February 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK DOHERTY, of the city of Columbus, in the county of Franklin and State of Ohio, have invented new and useful Improvements in Pipe-Couplings for Water and Gas Pipes and Mains, of which the following is a specification.

In the drawings, Figure 1 is a longitudinal section of my coupling complete; Fig. 2, a view of the split ring, shown also in section at *f*, Fig. 1. Fig. 3 is an end elevation of the spigot end of the coupling, and Fig. 4 a similar view of the bowl end of the coupling.

A represents the bowl, and B the spigot end of the pipe. I show but one split ring; but additional ones may be used of different sectional diameters when extra strength of coupling is required.

In carrying out my invention I make the inside of the bowl with a beveled recess, *a*, at the mouth, into which the lead is to be driven, said recess expanding from the mouth toward the bottom of the bowl, forming an acute angle with the line of the side of the bowl, and terminating at about one-third of the depth of the bowl in a shoulder, which forms a somewhat greater angle with the side of the bowl. Below this recess the sides *b* of the bowl are parallel with the axis of the pipe, and terminate in a shoulder, *c*, at right angles to the axis of the pipe, and forming the bottom of the bowl.

The outside of the spigot *d* is shaped like a truncated cone, having its base at the end of the pipe, the face of the spigot fitting the shoulder or bottom of the bowl. When inserted in the bowl the spigot forms, with the sides of the bowl, a wedge-shaped space, *e*, which tapers to the bottom of the bowl. Into this wedge-shaped space the hard-metal ring is tightly driven, sealing the joint and keying the bowl and spigot together securely. This ring takes the place of the usual packing of yarn or felt, which is objectionable, not only on account of its uncleanness, being liable to decay, but also, from its yielding nature, preventing the proper upsetting of the lead when driven against it, and requiring an excessive amount of lead. Having driven the ring down tightly into place, a packing of

lead, *g*, or other soft metal, is driven against it, filling the recess *a* at the mouth of the bowl, and serving to still further seal and key the joint.

I have found by experiment that the hard-metal ring alone will form a tight joint, and is sufficient to resist the heavy pressure of the Holly water system; but it is preferable to use the lead packing in addition, as greater security is thereby obtained.

Having thus described my invention, I claim—

1. The combination, with a pipe having a spigot end shaped like a truncated cone, with its base at the end of the pipe, of a pipe having a bowl the interior surface of which is parallel with the axis of the pipe, and a hard-metal ring adapted to be driven into the wedge-shaped space formed by the union of the two pipe ends, substantially as and for the purpose set forth.

2. The combination, with a pipe having a spigot end shaped like a truncated cone, with its base at the end of the pipe, of a pipe having a bowl the interior surface of which is parallel with the axis of the pipe, a hard-metal ring adapted to be driven into the wedge-shaped space formed by the union of the two pipe ends, and a soft-metal packing on top of the hard-metal ring, substantially as and for the purpose set forth.

3. A pipe having a spigot end shaped like a truncated cone, with its base at the end of the pipe, combined with a pipe having a bowl the interior surface of which is parallel with the axis of the pipe, whereby a wedge-shaped recess is provided, and means whereby the joint between the two pipe ends is packed, substantially as set forth.

4. A pipe having a spigot end shaped like a truncated cone, with its base at the end of the pipe, combined with a pipe having a bowl the lower portion of the interior surface of which is parallel with the axis of the pipe, while the upper portion thereof is beveled from its mouth toward the bottom, whereby a shoulder is formed, and a packing material adapted to be supported in part by said shoulder, substantially as set forth.

5. A pipe having a spigot end shaped like

a truncated cone, with its base at the end of the pipe, combined with a pipe having a bowl, the lower portion of the interior surface of which is parallel with the axis of the pipe, 5 while the upper portion thereof is beveled from its mouth toward the bottom, a hard-metal ring, *f*, and a soft-metal packing, *g*, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses. 10

FRANK DOHERTY.

Witnesses:

FREEMAN R. WILLSON, Jr.,
FRANK BARCUS.