

No. 871,714.

PATENTED NOV. 19, 1907.

H. J. LUFF.
JOINT FOR WASTE PIPES.
APPLICATION FILED MAR. 10, 1906.

FIG. 1.

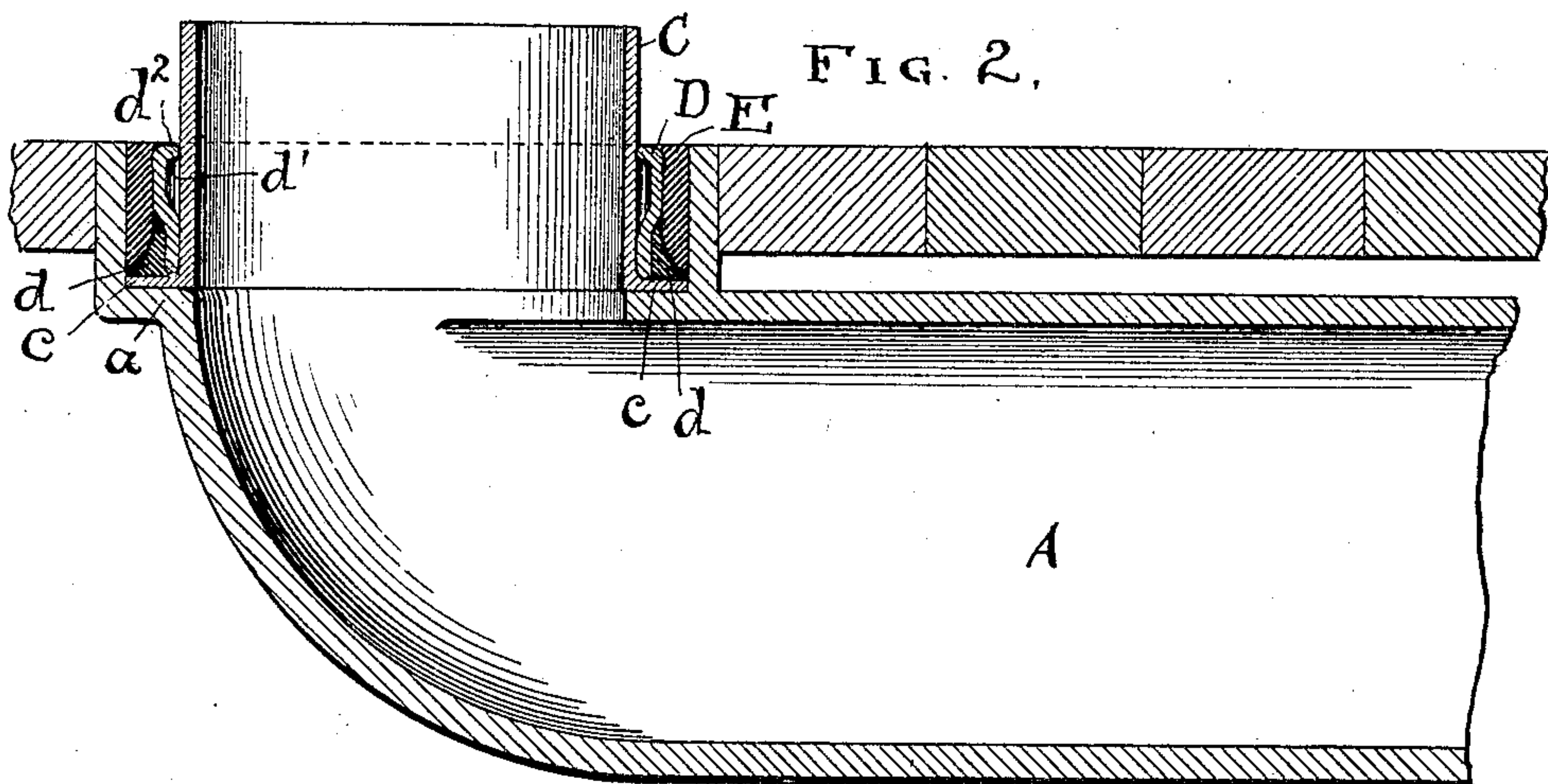
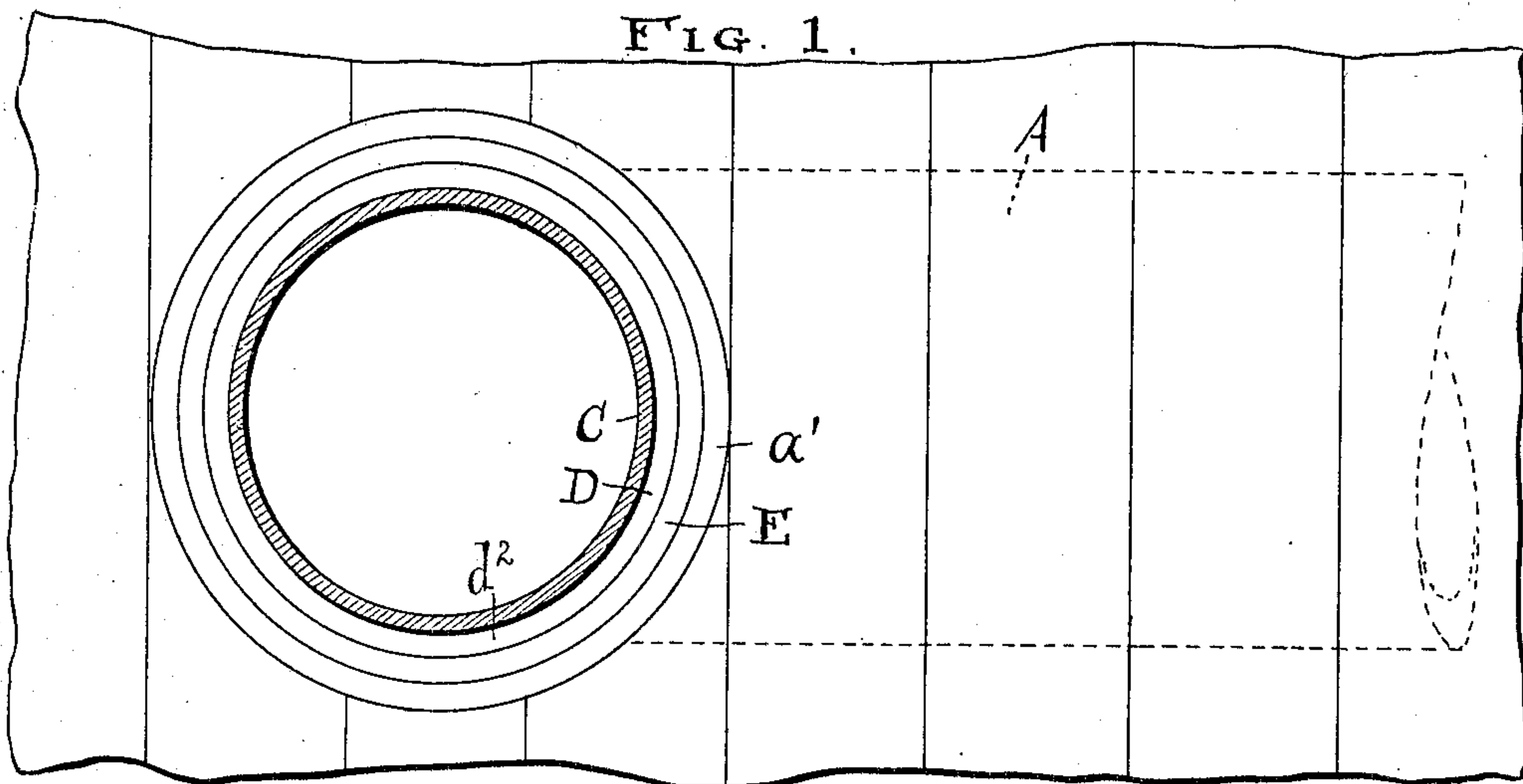
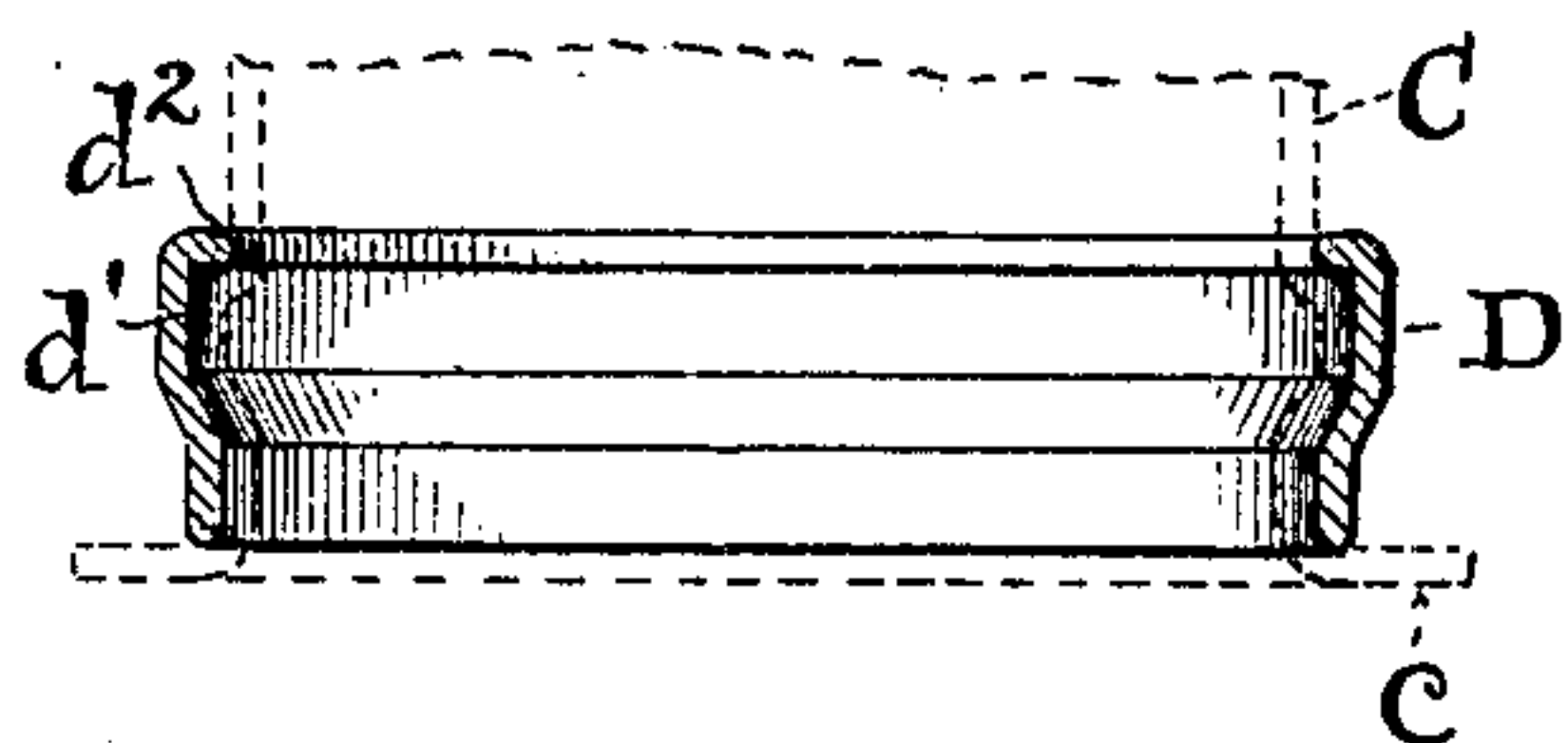


FIG. 3.



ATTEST.

A. M. Moser
W. B. Moser

INVENTOR

Henry J. Luff

By *H. J. Fisher* ATTY

UNITED STATES PATENT OFFICE.

HENRY J. LUFF, OF CLEVELAND, OHIO.

JOINT FOR WASTE-PIPES.

No. 871,714.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed March 10, 1906. Serial No. 305,207.

To all whom it may concern:

Be it known that I, HENRY J. LUFF, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Joints for Waste-Pipes, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to joints for waste pipes in drainage fixtures, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a plan view, and Fig. 2 is a vertical sectional elevation of the invention. Fig. 3 shows a cross section of the thimble or collar with a lead pipe in dotted lines buckled in said collar, as hereinafter described.

A represents a section of cast iron pipe which is provided with an upturned or elbow shaped end having a horizontal seat *a* about its top on a plane with floor B, in this instance, and a flange or wall *a'* surrounding said seat.

C is a lead pipe, having a right angled flange *c* resting flat down upon seat *a* and preferably the full width thereof so that the edge of said flange extends out to flange or wall *a'* all around. A brass ferrule or collar D engages about said pipe C and rests down over or upon flange *c*, and soldering *d* fills the angle about the bottom of said ferrule and flange *c*, so as to hermetically seal the joint at this point and fixedly unite the ferrule with said flange.

The ferrule or collar D is peculiar in its construction in that it has an annular internal recess or space *d'* about its upper portion and a bead *d''* above this space which engages all around against pipe C on a plane with the lower portion of the ferrule, which also closely engages the side of the said pipe. Thus the annular inner space *d'* affords accommodation for possible buckling of pipe C under conditions as hereinafter set forth and as seen in dotted lines Fig. 3, while a filling E is placed about the ferrule and between the same and cast metal flange *a'* which completes the joint.

In the use of a brass ferrule or collar with a lead waste pipe by means of a soldered joint as heretofore made, the solder on the lead reinforces the lead to such an extent that in the continual expansion and contraction due

to the alternating discharge of hot and cold water within the waste pipe, there was an inequality that gradually drew the lead apart at the end of the soldered joint or portion. Also, where lead waste pipes were placed between joists to connect drainage fixtures to the cast iron soil-pipe, and the joists for any reason were caused to shrink, there was more or less buckling of the lead and consequent breakage and leakage. Now, it is chiefly to remedy these two material defects in the old construction that my new and original construction of brass ferrule and combined with a lead pipe by means of soldered joint is designed. By providing the pipe C with an outwardly or right angled flange *c*, and sleeving the brass collar D over or upon the said pipe and soldering them together in the manner shown and described, I am able to reduce to a minimum the damaging effect of alternations of heat and cold on the lead, because the lead at the point where the solder is attached to it is lying on the cast iron base which protects it from the extremes of change in temperature. This remedies the first defect above noted. The other is remedied by annular recess *d'* within the ferrule whereby provision is made for shrinkage of the joists to allow the lead pipe to settle in such a manner that it is supported by the brass collar or ferrule and thus prevented from breaking, the said collar providing an outer wall against which the pipe may bend or buckle but cannot break away as formerly.

The collar or ferrule D is made as an article of manufacture for the trade generally, and may be applied by any plumber having the parts with which it is employed, and which include soil pipe A and lead pipe C constructed substantially as shown and described. Any equivalent construction of collar with an internal buckling space or annular enlargement for the lead pipe may be used. In this case the collar has the same cross section at both edges and the annular enlargement *d'* comes next to the beaded edge *d''*, but said enlargement might be differently disposed and still serve my purpose and has the characteristic of being of greater cross section than the other portions of the collar.

In the matter of sealing the joint there may be more or less change without departing from my invention, as, for example, solder might be used for the lead if it were

not too expensive, and any suitable substitute or equivalent for either or both solder and lead may be employed. However, the term solder or sealing material is understood as including all such materials and their equivalents or substitutes.

What I claim is:—

1. In waste pipe connections, a lower pipe having a horizontal seat, a vertical flange about said seat, and an upper pipe having a flange at its bottom resting on said seat, a collar about said upper pipe over the flange thereon, a solder joint in the angle between the bottom of said collar and the flange on said upper pipe, and a filling of non-absorbent material over said solder joint and between said collar and the said vertical flange of the lower pipe.

2. In waste pipe connections, a joint comprising a lower pipe having a flat seat about its upper end and an upper pipe having a flange on its lower end resting upon said seat, in combination with a collar about said upper pipe over said flange and a soldered joint filling the angle about the bottom of the said collar and the flange on which it rests, said collar standing apart from said upper pipe near its upper portion.

3. The combination of a pipe having a horizontal flanged seat, a lead pipe with a lateral flange resting upon said seat and a

collar about said lead pipe resting on said flange and having an annular space inside adapted to accommodate buckling in the lead pipe.

4. A pipe having a horizontal seat with a flange about the same and a lead pipe having a flange resting upon said seat, in combination with a collar about said lead pipe having an annular space inside to provide for buckling in said pipe, and sealing material filling the space between said collar and the flange about said horizontal seat.

5. As a new article of manufacture, a collar for lead waste-pipes having an annular enlargement inside in its upper half and a plain band shape in its lower half below said enlargement and of the same cross section in said lower half.

6. In waste pipe connections, a lead pipe having a right angled flange at one end, a collar about said pipe resting against said flange and solder uniting the lower portion of said collar with said flange outside the collar, whereby said parts are adapted to be inserted together in working position.

In testimony whereof I sign this specification in the presence of two witnesses.

HENRY J. LUFF.

Witnesses:

R. B. MOSER,

C. A. SELL.