

No. 864,517.

PATENTED AUG. 27, 1907.

J. W. CRAWFORD.
FLOOR JOINT FOR WATER CLOSETS.
APPLICATION FILED APR. 30, 1906.

Fig. 1.

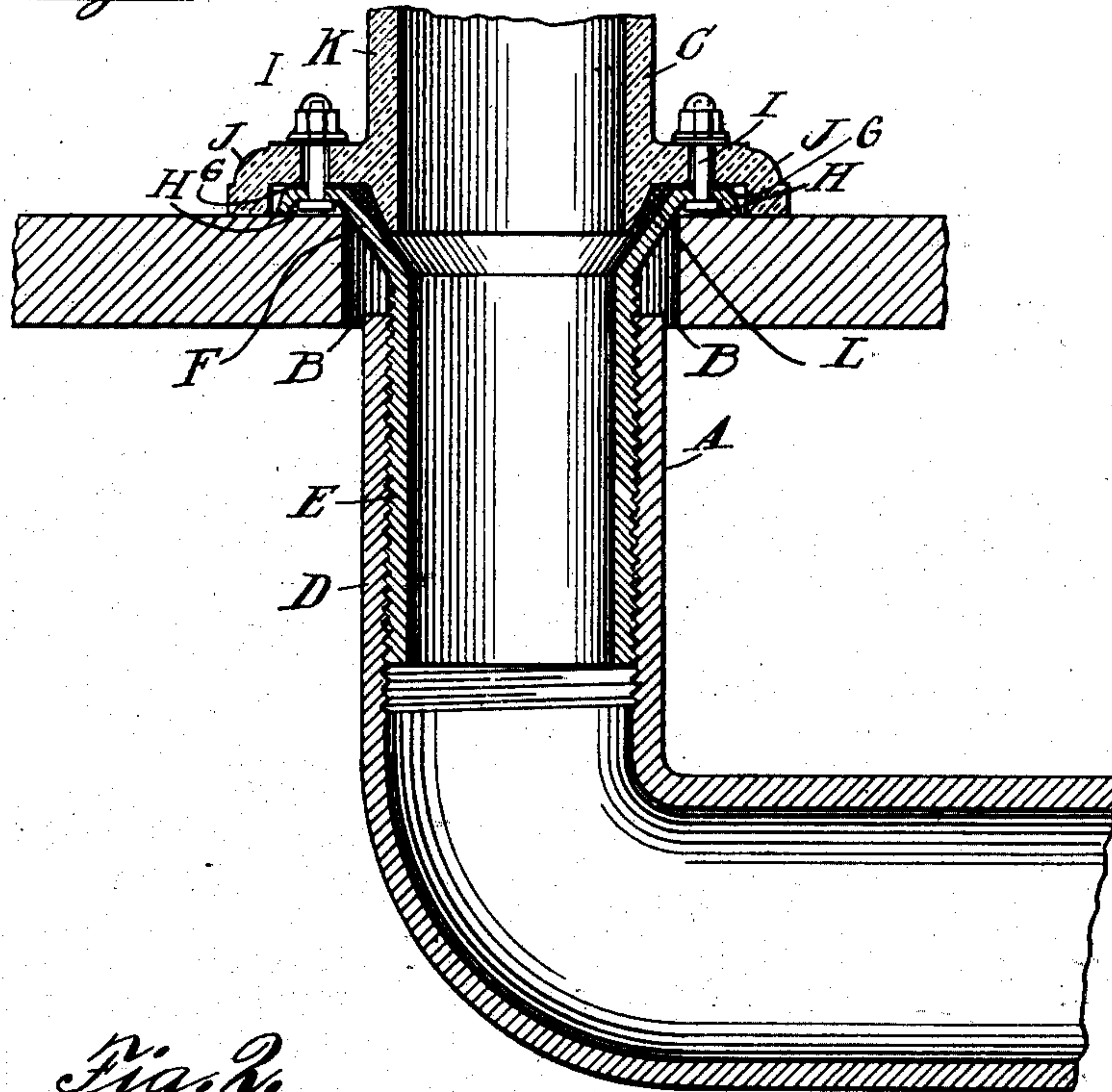
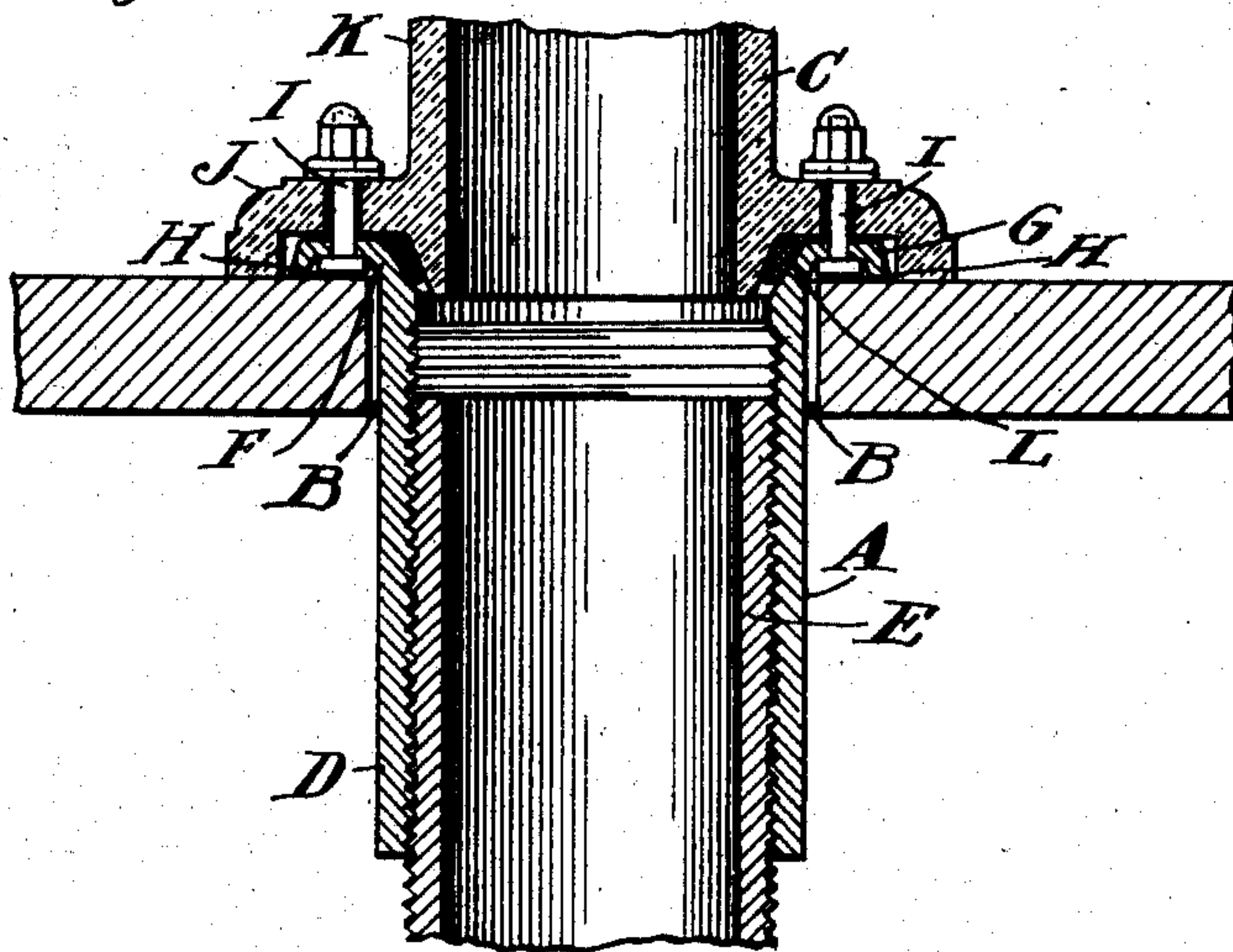


Fig. 2.



Witness

E. F. Wilson
H. P. Fisher

Inventor

John W. Crawford
By Rudolph L. [Signature]

UNITED STATES PATENT OFFICE.

JOHN W. CRAWFORD, OF CHICAGO, ILLINOIS.

FLOOR-JOINT FOR WATER-CLOSETS.

No. 864,517.

Specification of Letters Patent.

Patented Aug. 27, 1907.

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To all whom it may concern:

Be it known that I, JOHN W. CRAWFORD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Floor-Joints for Water-Closets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-

10 My invention relates to a novel construction in a floor-joint for water-closets, the object being to provide means for coupling the water closet with the soil pipe through the floor adjustably and by means of a relatively unbreakable joint, and consists in the features
15 of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating my invention: Figure 1 is a central vertical section of a coupling constructed in accordance with my invention showing
20 its connection with the horn of the closet and with the soil pipe. Fig. 2 is a similar section showing a slightly modified construction.

In coupling water-closets with the soil pipe, which latter is generally disposed in the wall behind the
25 closet, an L-shaped pipe A is employed, one end of which is suitably connected with the soil pipe and the other end of which is disposed below an opening in the floor B at the point where the water-closet is to be located. So far as I am informed, this connection of said
30 pipe A with the water-closet C has generally been made by means of a short length of lead pipe secured at one end to said pipe A and at its other end to a metal ring supported upon the floor and to which the horn or discharge end of the water-closet is suitably secured.

35 The lead-pipe connection has been found to be undesirable by reason of the fact that it cannot withstand the strains to which it is subjected by settling of the building, warping of floors and other causes and breaks, thereby establishing a leak through which water finds
40 its way and ruins the ceiling of the floor below and is otherwise objectionable and unsanitary.

My present invention is designed to overcome these objections and at the same time provide a floor connection which is more readily and easily effected, will
45 readily withstand all strains without breaking and which will readily permit of readjustment if this should be at any time rendered necessary by any cause affecting such connections. To this end the vertical arm D of the pipe A is preferably internally threaded and an
50 externally threaded sleeve E mounted therein, the latter being provided at its upper end with a flaring mouth

F and with an annular flange G, the latter being adapted to rest upon the floor and being provided in its lower face with an annular recess H in which the heads of bolts I passing through openings in said flange and in the flange J on the horn K of the closet, are adapted to be received. The delivery end of said horn K is externally beveled, and the angle of the flaring mouth F of said sleeve differs from the angle of bevel of said delivery end of said horn so that the annular space between the inner wall of said flaring mouth and the outer beveled wall of the delivery end of said horn will converge at its lower end. In the said annular space a suitable packing ring L is adapted to be compressed to effect a fluid-tight joint and by rendering the annular space receiving said packing-ring smaller at its lower than at its upper end, the said packing ring will obviously be prevented from dropping into the soil-pipe and clogging or obstructing the latter. It will be noted that said sleeve E may be screwed down until the flange thereof rests firmly upon the floor and the closet thus also held firmly in position. If by settling of the building shrinking of the floor, or other causes the said sleeve should be sprung upwardly off the floor, the closet may readily be disconnected and the said sleeve readjusted.

75 The sleeve is preferably disposed inwardly of the pipe A, but may, as shown in Fig. 2 be externally disposed on said pipe A by externally threading the latter and internally threading the former. In either case, however, a suitable substance such as red-lead, white-lead, litharge or the like is smeared on the threads before connecting so that a fluid-tight joint is effected. It is also essential that said sleeve be made of brass or similar metal so that it will not become practically inseparable from said pipe A.

85 The disposition of the sleeve internally of the pipe A is far more advantageous than the external disposition of the same and, in fact, the latter is so objectionable by reason of the annular shoulder presented thereby upon which sewage may lodge, that its use is entirely precluded. By internally disposing said sleeve no means for lodgment of sewage is afforded and the construction is rendered far cheaper for the reason that the operation of internally threading the vertical arm D of the pipe A is considerably easier and cheaper than externally threading the same and the saving in brass or similar metal effected by making the sleeve E of smaller diameter is very considerable.

I claim as my invention:

A device of the kind specified, comprising a soil pipe connection, a sleeve having threaded connection therewith, and adapted to pass through an opening in the floor,

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an annular flange on the upper end of said sleeve integral therewith and provided with openings and having an annular recess in its lower face, bolts having their heads disposed in said recess and passing through said openings
5 and through openings in a flange on the closet, to secure the latter, said sleeve having a flaring mouth and said closet having a tapered discharge horn, the taper of the latter and said mouth of said sleeve being differential to provide an annular space convergent at its lower end be-

tween the same, and packing disposed in said annular 10 space.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

JOHN W. CRAWFORD.

Witnesses:

RUDOLPH WM. LOTZ,
E. F. WILSON.