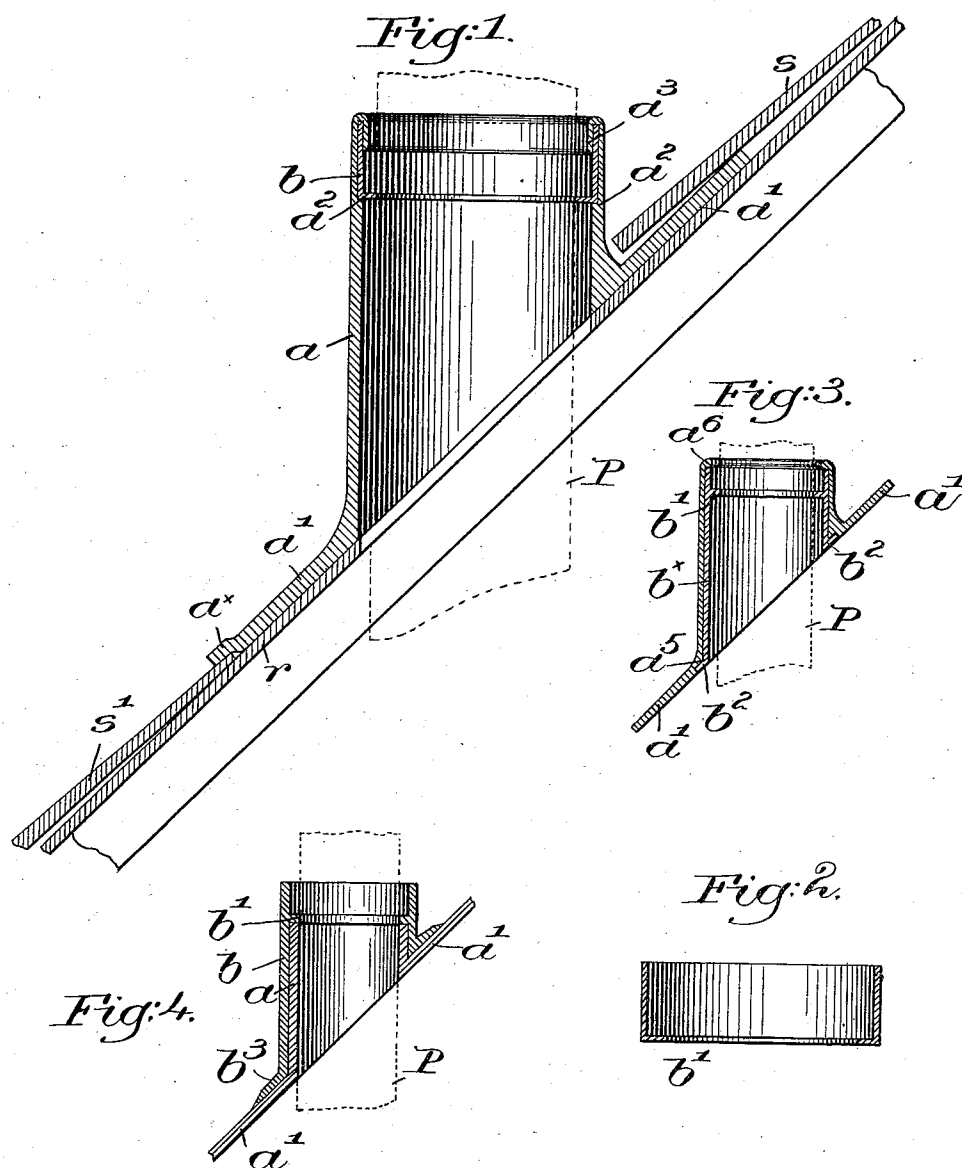


(No Model.)

F. R. NIES & F. J. LINNEHAN.
EXTERNAL JOINT FOR ESCAPE PIPES, &c.

No. 506,930.

Patented Oct. 17, 1893.



Witnesses.

Louis M. Lowell
Fred S. Greenleaf.

Inventors.

Frederick R. Nies.
Francis J. Linnehan.
by Crosby & Longory attys.

UNITED STATES PATENT OFFICE.

FREDERICK R. NIES AND FRANCIS J. LINNEHAN, OF SWAMPSCOTT,
MASSACHUSETTS.

EXTERNAL JOINT FOR ESCAPE-PIPES, &c.

SPECIFICATION forming part of Letters Patent No. 506,930, dated October 17, 1893.

Application filed July 3, 1893. Serial No. 479,458. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK R. NIES and FRANCIS J. LINNEHAN, both of Swampscott, county of Essex, State of Massachusetts, have invented an Improvement in External Joints for Escape-Pipes, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a simple and convenient external joint for escape pipes, &c., whereby the joint is made thoroughly water tight. Such joints are now made, so far as known to us, by forming a cylinder of lead, sheet brass, &c., to the lower end of which a flange is brazed or soldered, the cylinder surrounding the pipe projecting from the roof and having its lower end cut at an angle to correspond with the pitch of the roof, the flange being secured thereto in any suitable manner, or sheet lead is hammered into place around the escape pipe, and the better the job the more nearly will the joint become water tight. These and other devices and methods are cumbersome, expensive, and not satisfactory.

In accordance with our invention we surround the pipe with preferably a cast lead hub provided with an integral supporting flange set at the proper angle to correspond with the pitch of the roof, and with said hub we combine a flanged sleeve or collar to support the packing above the roof, substantially as will be described.

Figure 1 in vertical section represents a portion of a roof with our invention applied thereto, the escape pipe being shown in dotted lines. Fig. 2 is a sectional detail of the flanged sleeve or collar, and Figs. 3 and 4 are sectional views of modifications to be referred to.

In carrying out our invention we preferably cast a cylindrical hub *a* upon a base or flange *a'*, of lead or other suitable metal, lead being preferred because of its cheapness and facility to be worked, the base being at an angle with relation to the hub *a* determined by the pitch of the roof to which it is to be applied. A sleeve or collar *b*, shown separately in Fig. 2, having an inturned flange *b'*,

and preferably of cast iron, is inserted in the upper end of the hub, reduced in thickness thereat to leave a shoulder *a²* upon which the sleeve rests, and the upper end of the hub is bent down over the top of the sleeve, as at *a³*, effectually preventing the entrance of any moisture between the hub and sleeve. If desired the sleeve may be placed in the mold and the cylindrical hub *a* cast about it. The projecting end of the pipe *P*, see dotted lines, passes snugly through the annular flange *b'*, which sustains the packing, not shown, after which molten lead is poured into the space between the pipe *P* and the hub, in well known manner. The necessity for a temporary stop or dam of putty or other material is thus obviated, for the opening of the joint is horizontal, and the molten lead can be poured directly upon the packing sustained by the flange *b'*, and the sleeve strengthens the hub at the point where the joint is made. A perfectly tight joint is thus possible, for the hardened lead makes a solid water-tight entirely around the pipe and between it and the cylindrical hub *a*.

The shingles or slates *s* overlap the base or flange *a'* upon the upper side of the joint, and at the lower side the flange is bent as at *a^x* to cover or lap over the upper edges of the first tier of slates or shingles *s'*, so that water or moisture cannot find its way in between the flange and roof at the base of the cylinder.

In Fig. 3 we have shown a modified form of our invention, in which the sleeve is extended below the flange, as at *b^x*, and has an outwardly turned flange *b²* adapted to fit in a suitable recess *a⁵* in the base *a'*. The hub and flange in this instance of our invention may be either cast around the sleeve as a core, or the sleeve may be inserted therein from the bottom, the top of the hub being bent over as at *a⁶*. As shown in this modification the sleeve stiffens the hub and joint, and is very useful where the pipes are large.

Yet another modification is shown in Fig. 4, wherein the sleeve *b*, having the usual flange *b'*, and an outwardly turned base *b³*, incloses the cylindrical hub *a*, the base *b³* resting on the cast base *a'*. The hub *a* extends up to and is covered at the top by the

flange *b'* of the sleeve, the sleeve being substantially the same as that shown in Fig 3.

By referring to the various figures of the drawings it will be observed that in all cases the outer wall surrounding the joint is formed or strengthened by the sleeve, the ductility of the hub and its base flange readily adapting it to be tightly and easily secured to the roof or other portion of the building to which it is applied.

Our invention is not limited to the exact construction and arrangement herein shown, nor to any particular metal or metals, the sleeve, however, being sufficiently stiff to give the desired support to the joint.

We claim—

1. In an external joint for escape pipes, &c., a surrounding upwardly extended hub and a flanged base to rest upon the roof, combined with a sleeve having an intumed flange adapted to surround the pipe and support the packing and joint at the upper end of said hub, and above the roof, substantially as described.

2. An external joint for escape pipes, &c., consisting of a cylindrical upwardly extended hub having a base integral therewith, combined with a concentric metallic sleeve pro-

vided with an intumed flange to surround the pipe at the upper end of said hub and sustain the packing and joint between the pipe and sleeve at such point above the roof, substantially as described.

3. An external joint for escape pipes, &c., consisting of a cylindrical hub and base of malleable metal, combined with a rigid concentric metallic sleeve having an intumed flange and an upwardly extended portion to surround the pipe, to form the bottom and outer wall for the joint, substantially as described.

4. An external joint for escape pipes, &c., consisting of a recessed cylindrical hub and an extended base, combined with a rigid metallic sleeve having an annular flange to surround the pipe, and an outwardly turned flange to enter the recessed hub, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK R. NIES.

FRANCIS J. LINNEHAN.

Witnesses:

JAMES H. SISK,

RICHARD L. SISK.