

(No Model.)

F. R. NIES.

ADJUSTABLE EXTERNAL JOINT FOR ESCAPE PIPES.

No. 559,305.

Patented Apr. 28, 1896.

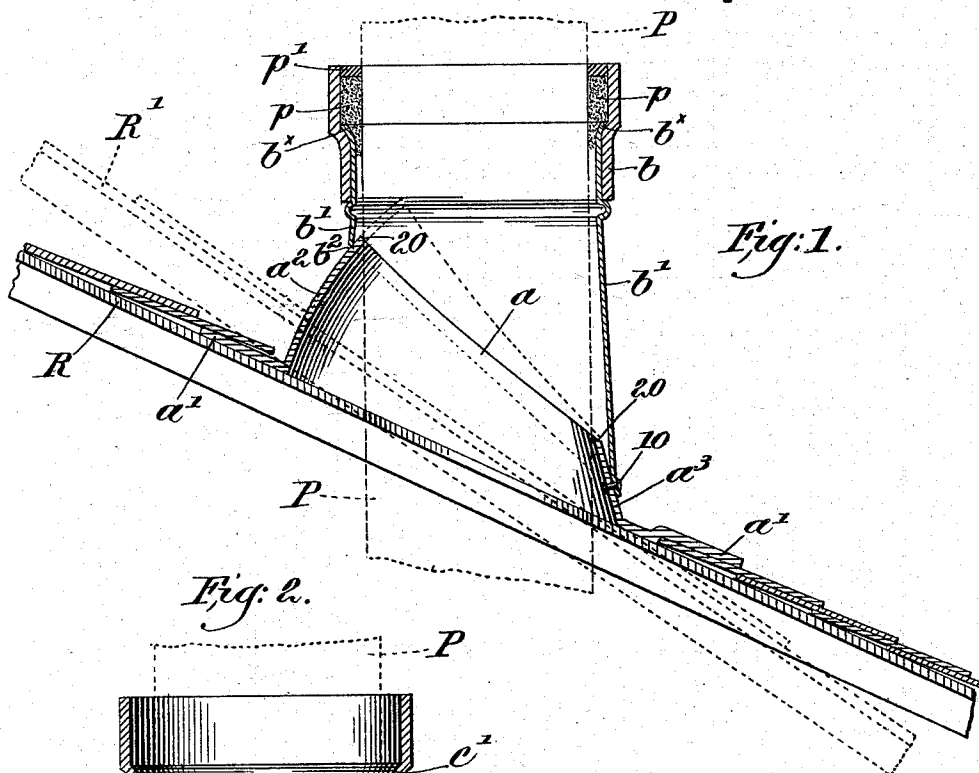


Fig. 1.

Fig. 2.

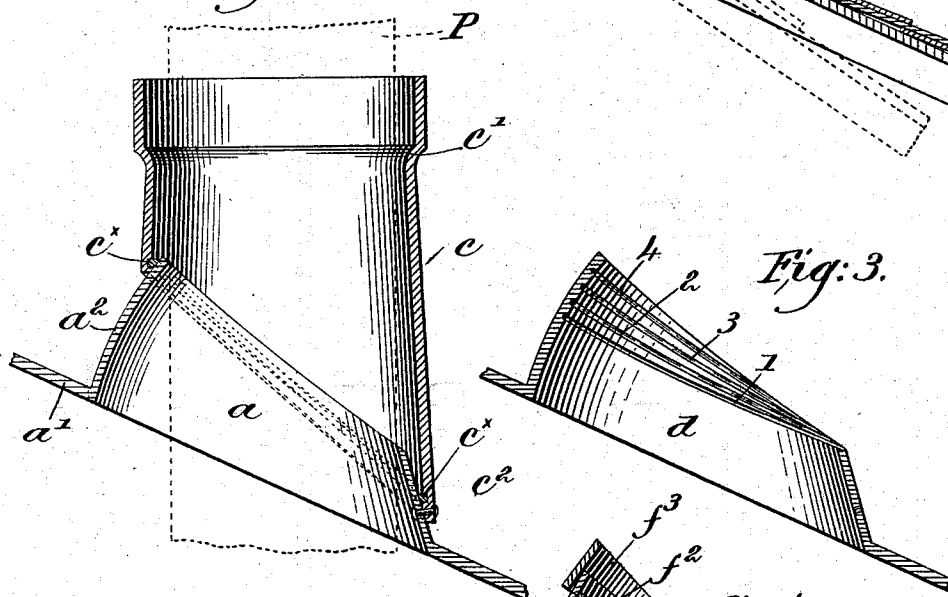
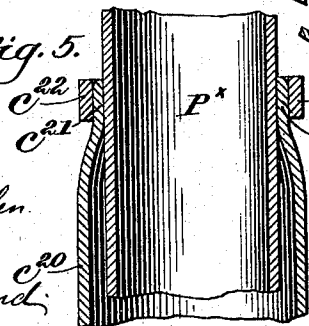


Fig. 3.

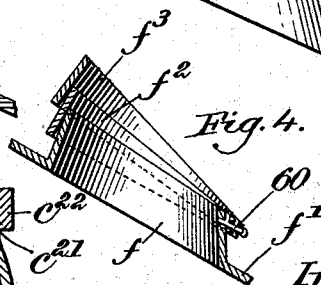
Fig. 5.



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Fig. 4.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE EXTERNAL JOINT FOR ESCAPE-PIPES.

SPECIFICATION forming part of Letters Patent No. 559,305, dated April 28, 1896.

Application filed January 23, 1896. Serial No. 576,502. (No model.)

To all whom it may concern:

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

This invention has for its object the production of an adjustable external joint for escape-pipes, whereby the same is conveniently adapted for use on roofs of different pitch.

Figure 1, in vertical section, represents a portion of a roof with my invention applied thereto, the dotted lines illustrating the adjustable feature of the invention. Fig. 2 is a similar sectional view showing a modified form of packing-retaining member or sleeve. Fig. 3 is a like view of another form of the supporting-hub. Fig. 4 is a sectional view of yet another modification of the supporting-hub, and Fig. 5 is a sectional view showing a modified form of sleeve.

In carrying out my invention I prefer to make the supporting-hub *a* and its base or flange *a'* of lead, copper, or other suitable metal, the hub *a* being herein shown as having its rear wall *a²* curved from base to top and higher than its front wall *a³*, the base being at an angle with relation to the hub, so that the hub is obliquely truncated, as it were, for a purpose to be described. The base or flange *a'* is overlapped by the slates or shingles at the upper side, and at the lower side may lap over the upper ends of the first tier of slates or shingles in usual manner to prevent entrance of moisture thereat.

A sleeve or collar (shown in Fig. 1 as two-part) is adapted to surround the escape-pipe *P*, (see dotted lines, Fig. 1,) the upper part *b* of the sleeve, preferably of cast-iron or other rigid metal, having preferably an internal shoulder *b^x* to sustain the packing *p*, molten lead being thereafter poured into the space above the packing between the pipe *P* and the sleeve in well-known manner, as at *p'*,

and as the opening of the joint is horizontal the lead can be poured directly. The hardened lead thus makes a solid water-tight joint entirely around the escape-pipe and between it and the strengthening part *b* of the sleeve.

The portion *b'* of the sleeve may be made of copper, lead, or other similar metal, having its lower end beveled at *b²* and resting on the hub *a*, and preferably pivotally secured to the front wall *a³* thereof by a suitable rivet 10, so that the sleeve may be adjusted on and relative to the hub according to the pitch of the roof, the curvature of the wall *a²* of the hub being struck substantially with 10 as its center.

In Fig. 1 a roof *R* having one pitch is shown in full lines, and it will be seen that the back part of the sleeve rests on the curved rear wall *a²* of the hub very near its top, the packing and lead joint tending to retain the hub and sleeve relatively fixed. If desired, the part *b'* may be bent or squeezed in more tightly about the hub for greater protection against entrance of moisture. The dotted lines in said figure show a roof *R'* of much steeper pitch, so that the rear wall of the hub is raised, and supposing the pipe *P* to remain in the same position the top of the hub would be cut off in about the line 20 20, so that the two parts, hub and sleeve, would cooperate with each other on the steeper pitched roof just as they did on the roof shown in full lines. For a still steeper roof the hub would be trimmed off still more at the top, while for one having an intermediate or a less steep pitch the amount taken from the top of the hub would be less.

Should it be desirable to make the sleeve in one piece—as, for instance, of cast-iron—it would be preferably made as shown in Fig. 2, the sleeve *c* having preferably a packing-sustaining shoulder or support *c'*, and an internal annular groove *c²* near its beveled bottom end, into which a gasket *c^x* of rubber or other suitable material could be inserted to maintain the junction between the sleeve and the hub *a* water-tight, as the sleeve could not be altered in size if made of cast-iron.

The adjustable feature of the device is not

changed in the least by this latter construction, the sleeve *c* being preferably connected to the hub *a* by a rivet 10.

In Fig. 3 I have shown a convenient form of hub when made of cast-iron, as is very desirable at times, the hub *d* in such case having formed therein a series of grooves or thin portions 1 2 3 4 around its upper end, converging toward the front wall, so that by chipping a portion may be removed from the top of the hub according to the pitch of the roof. When the hub and sleeve or lower portion of the latter are made of a soft metal, no packing or gasket is usually required between them at the lower end of the sleeve; but if the sleeve be made of rigid hard metal such a packing may be found desirable, or when both sleeve and hub are of non-malleable metal.

Instead of cutting off the top of the hub, as hereinbefore described, I may make it, as shown in Fig. 4, in several sections, the lowermost one *f* having a flange or laterally-extended base *f'* to rest upon the roof. Other sections *f*² and *f*³ are adapted to fit over the main portion *f*, said sections having inclined tops and pivotally connected to the portion *f* by a suitable rivet 60.

If the roof is very flat, the parts would be pulled out more or less into the position shown in Fig. 4, and the more the roof was inclined the farther down the parts would be telescoped, it being obvious that the slope of the top of the hub may be varied by the means described.

In Fig. 5 I have shown means for making a tight, moisture-proof joint between the escape-pipe *P*^x and the surrounding sleeve member *c*²⁰. The said member is made of lead or other suitable compressible metal, and after it is placed over the pipe *P*^x and in proper position its upper end is contracted, as at *c*²¹, to fit tightly about the pipe, and a clamping-ring *c*²² is forced over or drawn up tightly about the contracted portion *c*²¹ of the sleeve, to maintain the joint tight and moisture-proof. The base of the sleeve *c*²¹ may be mounted on the hub in the manner hereinbefore described.

My invention is not restricted to the precise construction herein shown nor to any particular metal or metals.

From the foregoing it will be obvious that the adjustment of the roof-joint to roofs of different pitch is an easy matter, requiring but a short time, the adjustability obviating the manufacture of a series of hubs having their bases or flanges at different angles thereto to correspond to different roof-pitches.

The pivot connection or rivet 10 is not essential, but it is a great convenience in shipping the joints and also in setting them up. After the packing and poured joint the sleeve will usually be held in place by the escape-pipe without other aid.

Having fully described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. An adjustable external joint for escape-pipes, &c., consisting of an obliquely-truncated upturned hub having a laterally-extended base to rest upon the roof, and a sleeve adapted to support a packing between it and the pipe above the roof, said sleeve being telescopically connected at its lower end to the hub, whereby the joint may be adjusted to the pitch of the roof, substantially as described.

2. An adjustable external joint for escape-pipes, &c., consisting of an upturned hub having an inclined upper end and provided with a laterally-extended base to rest upon the roof, and a rigid metallic sleeve having an annular packing-support surrounding the pipe, said sleeve being beveled at its lower end and telescopically connected to the hub thereat, substantially as described.

3. An adjustable external joint for escape-pipes, &c., consisting of an upturned hub to rest upon the roof and having its rear wall higher than its front wall and convexed vertically, and a packing-supporting metallic sleeve having an oblique lower end, telescopically connected to said hub, the hub being reduced in height at its side and rear walls to correspond with the pitch of the roof to which it is applied, substantially as described.

4. An adjustable external joint for escape-pipes, &c., comprising a hub-like supporting member having an inclined upper end and adapted to rest upon the roof, and a sleeve member beveled at its lower end and telescopically adjustable upon said hub-like member, to compensate for the roof-pitch, said sleeve member sustaining a packing surrounding the pipe at the upper end of the sleeve member, substantially as described.

5. An adjustable external joint for escape-pipes, &c., comprising a cast-iron hub-like member having one or more grooves therein, whereat it may be reduced in height and a sleeve member adjustable upon the hub-like member, to compensate for the roof-pitch, said sleeve member sustaining a packing and poured joint, about the pipe, substantially as described.

6. An adjustable external joint for escape-pipes, &c., comprising a hub having a laterally-extended base to rest upon the roof, and a sleeve member telescopically connected to and adjustable upon the hub, to vary the angle between them according to the roof-pitch, said sleeve member sustaining a packing between it and the pipe, and a gasket or packing between its lower end and the hub, substantially as described.

7. An adjustable external joint for escape-pipes, &c., consisting of a hub-like supporting member adapted to rest upon the roof, and having an inclined upper end a sleeve-like member beveled and telescopically con-

nected at its lower end to the hub, to compensate for the roof-pitch, said sleeve surrounding the pipe above the roof, and means to prevent the entrance of moisture between
5 the pipe and sleeve, substantially as described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

FREDERICK R. NIES.

Witnesses:

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