

May 2, 1944.

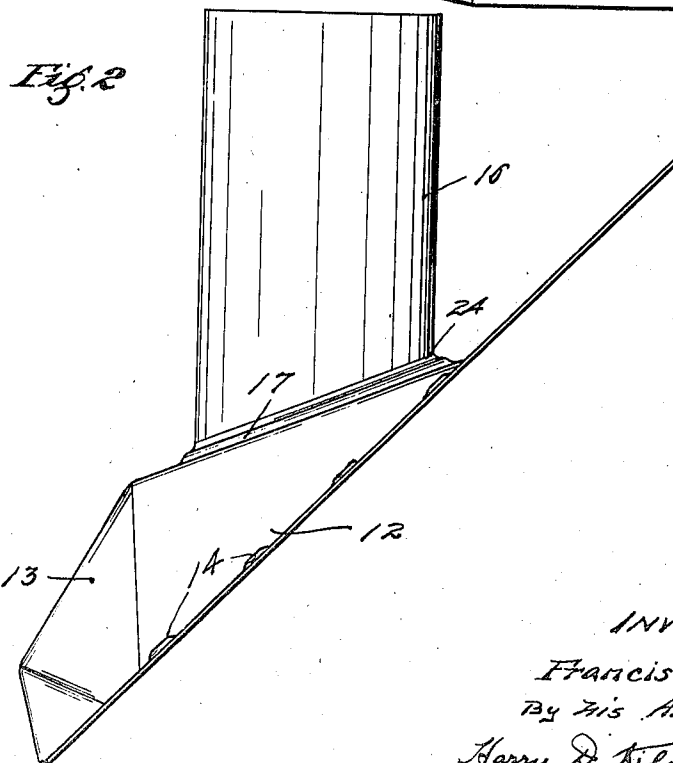
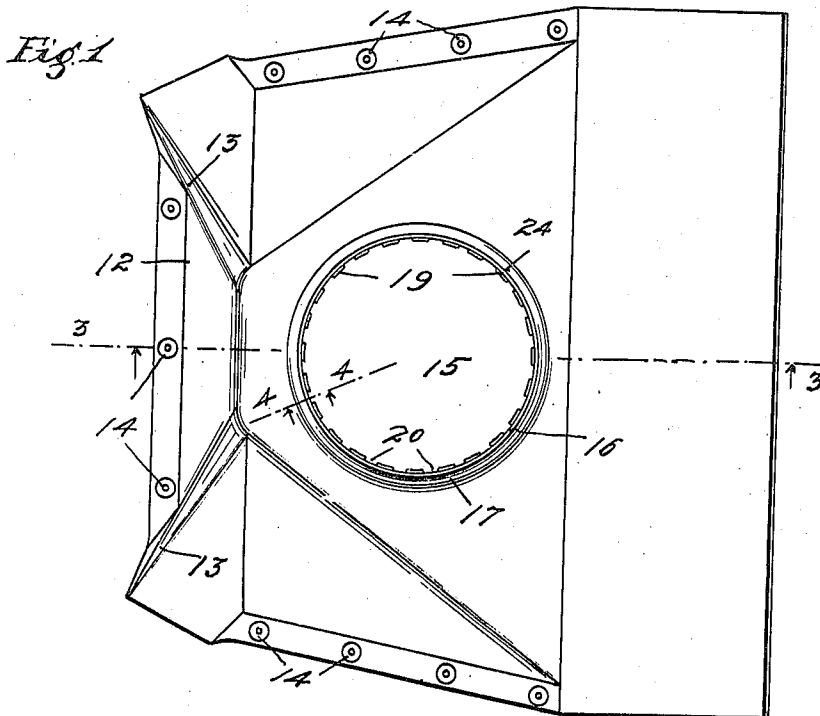
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2,347,836

ROOF FLASHING AND JACKET

Filed Oct. 19, 1942

2 Sheets-Sheet 1



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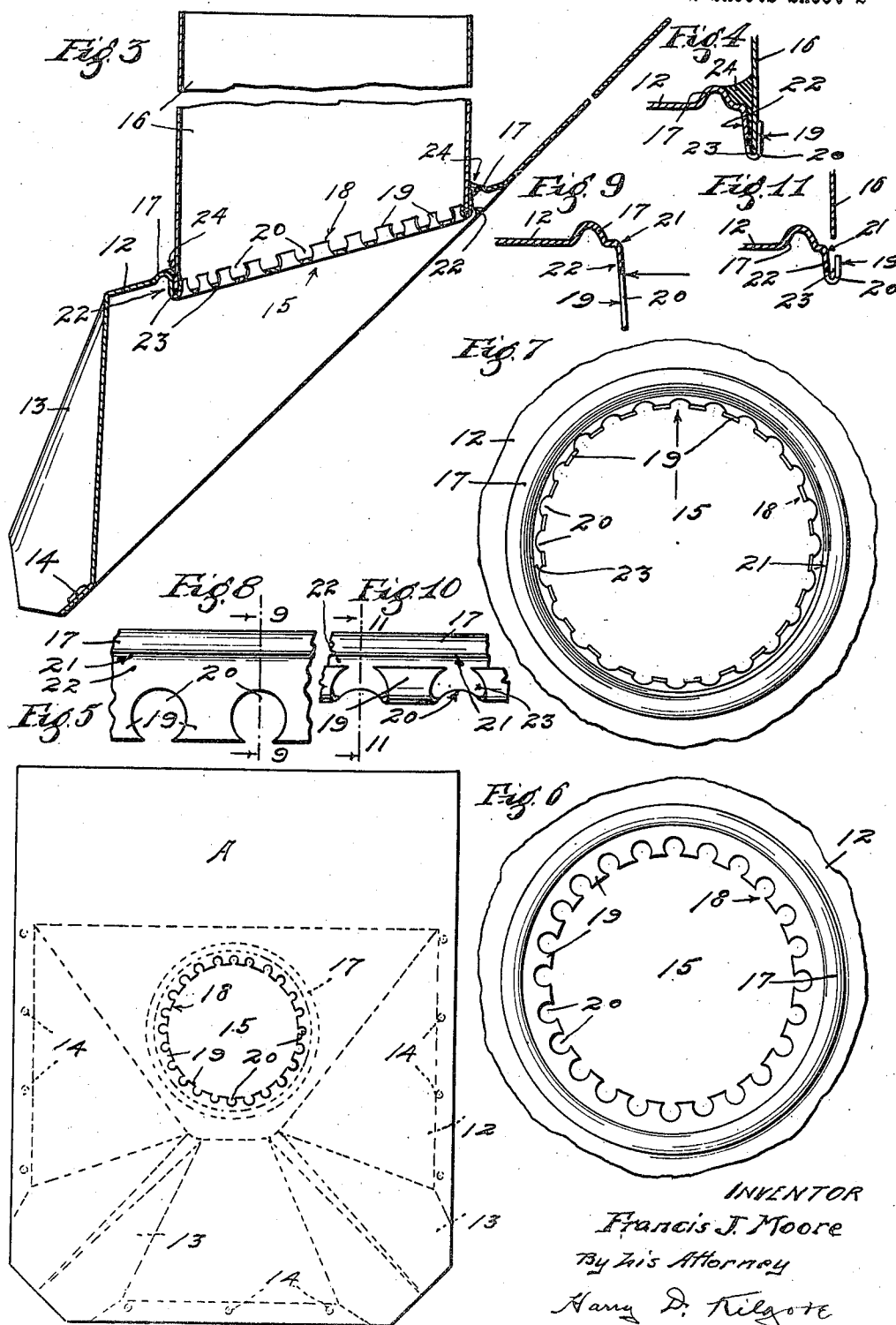
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UNITED STATES PATENT OFFICE

2,347,836

ROOF FLASHING AND JACKET

Francis J. Moore, Minneapolis, Minn.

Application October 19, 1942, Serial No. 462,647

4 Claims. (Cl. 285—31)

My present invention relates to improvements in joints for connecting a body member having an aperture and a tubular member. While this invention is intended for general use, it is especially well adapted to connect a vent pipe jacket to a roof flashing of the type disclosed and fully described in my United States Letters Patent No. 1,279,572 wherein the flashing is adjustable to roofs of different pitch.

A roof flashing of the type disclosed in the above identified patent has an aperture for a vent pipe and it is an object of this invention to provide a novel joint for connecting a jacket for said pipe to the flashing, and which joint includes a relatively deep channel formed by upsetting the edge portion of the flashing surrounding the aperture.

In forming the channel I serrate the edge portion of the flashing that forms the bottom and inner side of the channel to remove surplus stock and thereby permit the folding of the inner side of the channel flat against the jacket.

Another object of the invention is to incline the outer side of the channel so that when the inner end portion of the jacket is inserted into the channel it has a beveled fit therewith and forms a relatively tight joint between the jacket and the flashing.

Primarily, the members formed by serrating the flashing are positioned so that when the inner end portion of the jacket is telescoped into the channel, they are engaged by said jacket and pressed outwardly so that said members lie flat and tight against the jacket.

Solder is used to rigidly secure the jacket to the flashing and either a soldering iron or a torch may be used for melting the solder and flowing the same in the channel between its outer side and the jacket. When a torch is used in soldering the joint the heat therefrom, which is much more intense than the heat from a soldering iron, makes the solder flux sufficiently fluid so that part thereof will flow through the joint in the channel and around the members of the inner side of the channel and thereby secures said members to the jacket by means of a sweat joint.

To the above end, generally stated, the invention consists of the novel construction and arrangement of parts hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate one embodiment of the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a plan view of a roof flashing and jacket for a vent pipe having the invention embodied therein;

Fig. 2 is a side elevation of the same;

Fig. 3 is a fragmentary view in section taken on the line 3—3 of Fig. 1, on an enlarged scale;

Fig. 4 is a fragmentary detail view in section taken on the line 4—4 of Fig. 1, on an enlarged scale;

Fig. 5 is a plan view of a blank sheet of metal from which the adjustable roof flashing is formed, the folding lines being indicated by broken lines, and the first step in the process having been performed wherein a central aperture is formed in the sheet for a vent pipe and said sheet serrated;

Fig. 6 is a fragmentary view, on the same scale as Fig. 3, showing a further step in the process in which the annular bead has been pressed from the blank;

Fig. 7 is a view corresponding to Fig. 6, but showing another step in the process in which the sheet and its serrated edge portion have been upset to form a channel surrounding the aperture in the sheet;

Fig. 8 is a fragmentary view in elevation, looking at the part shown in Fig. 9 in the direction of the arrow marked thereon;

Fig. 9 is a fragmentary detail view, in section, taken on the line 9—9 of Fig. 8;

Fig. 10 is a fragmentary detail view looking at the parts shown in Fig. 7 in the direction of the arrow marked thereon, on an enlarged scale; and

Fig. 11 is a detailed view in section taken on the line 11—11 of Fig. 10 and further showing in section a fragment of the jacket positioned to be inserted into the channel of the improved joint.

The numeral 12 indicates an adjustable roof flashing having a pair of expansible and contractable gussets 13 which make said flashing adjustable for roofs of different pitch. This roof flashing 12 is fully described in the patent heretofore referred to. Said roof flashing is formed from a single sheet of metal A by folding the same on the broken lines as shown in Fig. 5, and is secured to a roof by nails, not shown, driven through positioning bosses 14 pressed from said sheet. A central annular aperture 15 is formed in the roof flashing 12 through which a vent pipe, not shown, extends.

A jacket 16, in the form of an annular pipe, surrounds the vent pipe above the roof flashing

12 and is spaced to leave an air space between said jacket and vent pipe. The upper end portion of the jacket 16 may be folded over the upper end of the vent pipe and turned downwardly therein as shown in the patent heretofore referred to, or a cap of the type shown in my United States Patent 1,647,414 may be applied to the jacket 16.

The roof flashing 12 and the jacket 16 are rigidly connected by a novel joint which is the subject matter of my present invention. It is thought that the invention can be best understood by describing the process by which it is produced. For the purpose of this case it will not be necessary to describe the folding of the sheet A to form the roof flashing 12 except that at the time the roof flashing 12 is formed, an annular upstanding bead 17 is pressed from said sheet. The bead 17 is concentric with the annular aperture 15 and is spaced outwardly thereof.

At the time the aperture 15 is cut in the sheet A, and before said sheet is folded to form the roof flashing, the edge portion of said sheet surrounding the aperture 15 is serrated as indicated at 18, to remove sufficient stock in the sheet A to remove surplus stock and permit the same to be folded, as will hereinafter appear. The serrated edge portion 18 of the sheet A affords circumferentially and edgewise spaced members 19. As shown, the members 19 are formed by cutting and punching circumferentially spaced round holes 20 in the sheet. These holes 20 extend into the aperture 15 and thereby remove all of the stock between the members 19.

The next step in the process of forming the improved joint is to bend the sheet A just inside of the bead 17, as indicated at 21, downwardly through the aperture 15 and thereby position the section 22 of the sheet A between the holes 20 and the bend 21 and the members 19 downwardly and inwardly inclined, as shown in Figs. 8 and 9. Continuing this step in the process, the members 19 are bent inwardly and upwardly into positions shown in Figs. 10 and 11 to form a narrow and relatively deep annular channel 23 to receive the lower end portion of the jacket 16. Obviously, the section 22 of the sheet A forms the outer side of the channel 23 which is downwardly and inwardly inclined and the members 19 form the bottom of the inner side of said channel.

The final step in the process is to insert the lower end portion of the jacket 16 into the channel 23 and at which time the outer edge of its

lower end engages the inclined side of the channel 23 and as the jacket 16 is pressed downwardly in said channel, a relatively tight joint is formed between the jacket 16 and the flashing 12.

While the jacket is thus held, solder 23 is fluxed by heat from a soldering iron or a torch and flowed in the channel 23 between the bead 17 and the jacket 16 and built up around the jacket and the bead 17 to afford a baffle that prevents the solder from flowing outwardly onto the flashing 12. By making the solder flux sufficiently fluid part thereof will flow through the joint between the jacket 16 and the inner side of the channel 23 and around the members 19 and thereby form a sweat joint between said members and the jacket 16. From the above description it is evident that the above described joint rigidly secures the jacket 16 to the flashing and at the same time the work may be performed very quickly and efficiently. The improved joint gives the work a neat and finished appearance.

The drawings illustrate a commercial form of the invention, but it will be understood that the same is capable of certain modifications as to details of construction, arrangement and combination of parts within the scope of the invention herein disclosed.

What I claim is:

1. The combination with a roof flashing and a vent pipe jacket, of a joint connecting said flashing and jacket, said flashing having an aperture and a channel surrounding the aperture and into which channel the lower end portion of the jacket is inserted, and solder rigidly securing the jacket in the channel, the inner side of the channel being serrated, said channel being formed by bending a portion of the flashing surrounding the aperture downwardly and then folding the same upon itself.
2. The structure defined in claim 1 further including an upstanding bead pressed from the flashing and surrounding the channel and affording a baffle for the solder.
3. The structure defined in claim 1 in which the outer side of the channel is downwardly and inwardly inclined and engaged by the outer edge of the jacket at its lower end and further including an upstanding bead pressed from the flashing and affording a baffle for the solder.
4. The structure defined in claim 1 in which the serrated portion of the body member extends across the bottom of the channel.

FRANCIS J. MOORE.