

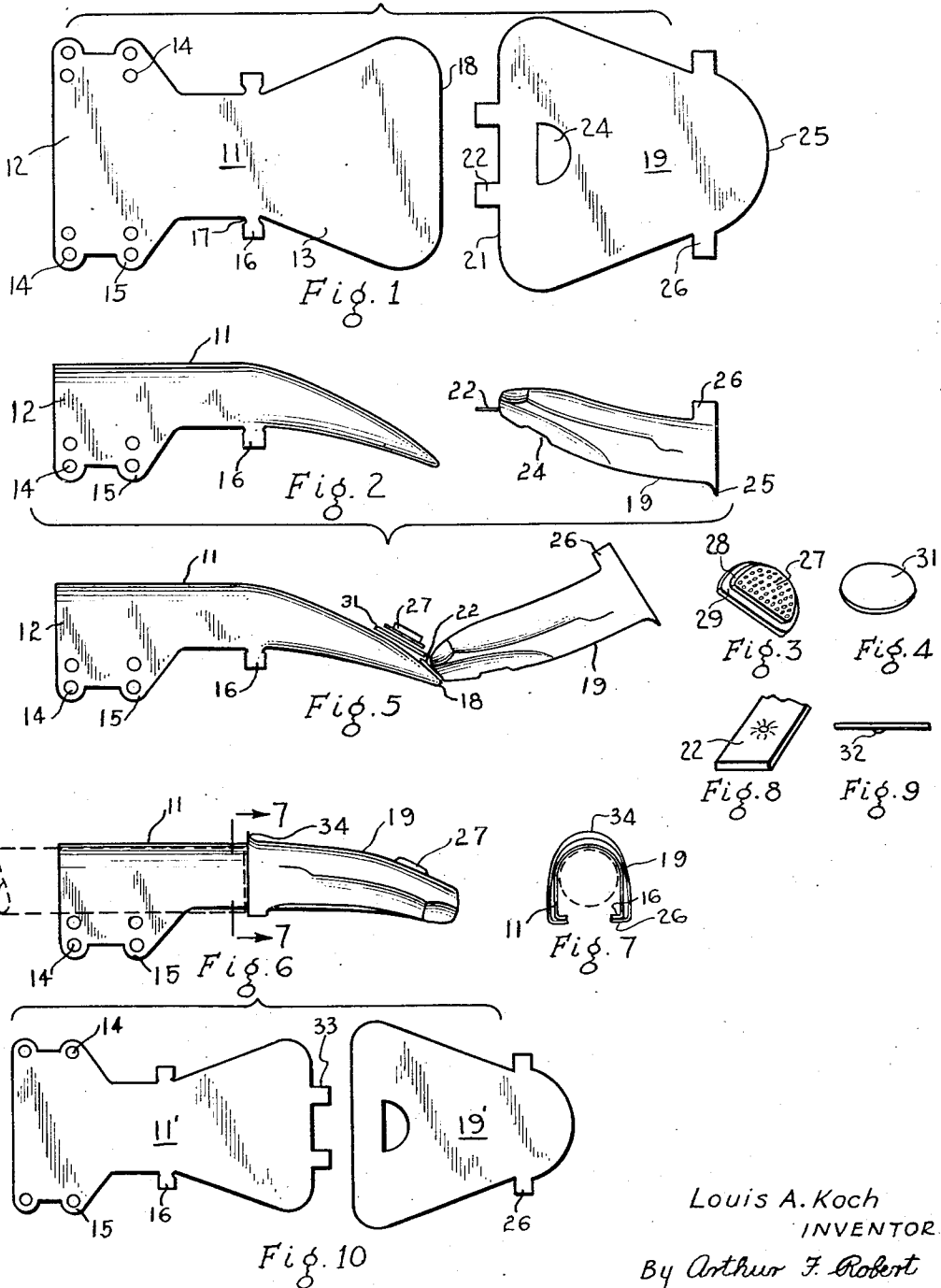
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METHOD OF MANUFACTURING AUTOMOBILE EXHAUST EXTENSION

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METHOD OF MANUFACTURING AUTOMOBILE EXHAUST EXTENSIONS

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4 Claims. (Cl. 113—116)

This invention relates to extensions or shrouds for motor vehicle exhaust pipes and methods of manufacturing the same, and more particularly to extensions of the type embodying a base member of relatively cheap material and a decorative overlay of more expensive material.

In the manufacture of prior types of extensions such as that disclosed in my Patent No. 2,232,395 issued February 18, 1941, considerable expense has been involved because of the steps followed in securing the overlay to the extension. A major object of my invention is to simplify the construction of such extensions and their method of manufacture to reduce the cost thereof and produce an improved product.

A further object of my invention is the provision of a novel method of making an extension wherein the fastening means securing the overlay to the base member is utilized to predetermine the position of the extension on the exhaust pipe.

In the drawing:

Figure 1 is a plan of the blanks employed in forming the base member and the overlay.

Figure 2 is a side elevation of the blanks of Figure 1 after they have been formed in substantially the shapes desired in the final extension.

Figure 3 is a perspective of a jewel or ornament that may be employed in the extension.

Figure 4 is a perspective of an insulating pad of material such as asbestos which is preferably employed to space and insulate the overlay and jewel against the temperature of the base member.

Figure 5 is a side elevation of the various elements making up the extension and illustrating them in partially assembled position.

Figure 6 is a side elevation of the extension in a later stage of manufacture.

Figure 7 is a section taken on the line 7—7 of Figure 6.

Figure 8 is a perspective of a fastening tab employed on the blanks to fasten the overlay to the base member.

Figure 9 is a front elevation of the tab of Figure 8.

Figure 10 is a plan of modified blanks wherein the lugs employed to secure the front edges of the base member and the overlay together are placed on the base member blank instead of the overlay blank as in Figure 1.

In my invention, the base member and the overlay are first formed as flat blanks, fastening lugs being provided on either or both. The blanks are then formed to substantially the

shapes they take in the final product, the front edges of the overlay and the base member secured together by the tabs provided thereon, and the overlay turned about the transverse axis of the fastening tab or tabs to its final position on the base member and secured thereto at some point spaced from the front edges of the two members. The latter securing means is preferably of a character such that it can be also utilized as a stop or abutment for the end of the exhaust pipe to predetermined the position of the extension thereon.

Referring to the drawing, 11 is a blank which is stamped to form the base member. Blank 11 includes a section 12 forming the sleeve section of the base member and a section 13 forming the terminal or extending section. Ears 15 with holes 14 are provided on sleeve section 12 so that when the sleeve section is formed in a U-shape as shown in Figure 7, bolts may be passed through opposing openings 15 to clamp the extension to the exhaust pipe. Terminal section 13 is stamped with extending lugs 16 which are preferably reduced in section adjacent their point of connection to the terminal section at 17 to facilitate their being bent for a purpose later described. Terminal section 13 terminates in a front edge 18.

Overlay blank 19 includes a front edge 21 having tabs or lugs 22 thereon, an aperture 24, a curved rear edge 25 and extending lugs 26 closely adjacent thereto. Lugs 22 and 26 may be similar in shape to lugs 16 if desired.

After blanks 11 and 19 are stamped in the shape illustrated, they are formed in the shape shown in Figure 2, sleeve section 12 being formed in generally U-shape and terminal portion 13 and overlay 19 being bent to correspond with one another in a general fan shape so that the overlay will cover the terminal section.

Prior to the assembly of the formed overlay and base member, the base member may be either enameled, painted, plated or otherwise decorated as desired as can the overlay. Preferably the base member which is formed of relatively cheap material is enameled. As the overlay is preferably formed of a non-corrosive material and highly polished material such as stainless steel, it is preferably left as is.

In the first assembly step shown in Figure 5, tabs 22 on overlay 19 are placed in contact with the upper surface of edge 18 of terminal portion 13 and spot-welded or equivalently fastened thereto. To insure the necessary contact with base member 11 which may have been enameled,

it is preferred to punch small depressions in lugs 22 as shown in Figures 8 and 9 which form points 32 extending from the bottom surfaces. Thus when lugs 22 are pressed against the enameled surface of base member 11, they penetrate the enamel and make contact with the base metal.

After lugs 22 have been spot-welded or otherwise fastened to member 11, jewel 27 is inserted in opening 24 and asbestos pad 31 placed there beneath. As jewel 27 includes a section 28 of smaller size than aperture 24 and a section 29 of large size, overlay 19 will engage section 29 to hold the jewel securely in position atop pad 31. Overlay 19 is then turned about the transverse axes of tabs 22 to the position shown in Figure 6. In this position, asbestos pad 31 will be in engagement with the upper surface of the base member and the lower surface of the jewel and overlay. It thus operates to space the overlay from the base member, provides a thermal insulator therebetween, and maintains the jewel in position. As will be noted in Figure 6, when the overlay is turned to its final position, tabs 26 of the overlay and tabs 16 of the base member come into registration. These tabs are preferably spot-welded or similarly fastened together and bent inwardly as shown in Figure 7 whereby they operate as stops or abutments for the end of the exhaust pipe when the extension is mounted thereon, thus predetermining the position of the extension.

It will be understood that in the event either the base member or the overlay member is coated with insulating material or painted, tabs 16 and 26 will be formed as shown in Figures 8 and 9 to insure the necessary contact for spot-welding.

Figure 10 illustrates an overlay blank and a base member blank of the same general shape as shown in Figure 1 except that the end tabs are omitted from the overlay blank 19'. In lieu of tabs 22, tabs or lugs 33 are stamped integrally with base member blank 11'. In the assembly of these blanks, after they are formed, they are joined in a manner similar to that shown in Figure 5 except that tabs 33 are placed in contact and secured to the surface of the overlay blank that becomes the lower surface in the final assembled extension.

In forming overlay blanks 19 and 19', section 25 is curved generally as shown in Figures 6 and 7 so that the rear end of the overlay which is spaced from the base member forms an air scoop 34 which operates to collect air and conduct it into the space between the overlay and the base member to effect cooling thereof and further prevent any damage or discoloration of the overlay by reason of the high temperature of the exhaust gases.

Having described my invention, I claim:

1. In a process of manufacturing an extension 60

for a motor vehicle exhaust pipe, said extension being of the type including a base member and an overlay member of a size to cover a portion of the base member, comprising the steps of; blanking the base member and the overlay member, the front end of one of said members being formed with at least one projecting tab; shaping the blanks to substantially the forms required in the final extension; placing the base member and the overlay member in inverted relation relative to one another with the tab on the front edge of the one member in contact with the front edge of the other member; permanently connecting the front ends of both members together by securing the tab to the other member; folding the tab about a transverse fold line while turning the overlay member about such fold line to its final permanent position on the base member; and securing the overlay member to the base member at a point spaced from the front edges of said members to retain the overlay in its final permanent position on the base member.

2. The process of claim 1 wherein the base member and the overlay member are blanked with side tabs on their side edges adapted to register when the overlay is turned to its final position, and the side tabs are secured together.

3. The process of claim 1 wherein the base member and the overlay are blanked with side tabs on their side edges adapted to register when the overlay is turned to its final position, and the side tabs are secured together and bent inwardly to form a stop arranged to abut the end of a motor vehicle exhaust pipe when installed thereon to predetermine the position of the extension.

4. In a process of manufacturing an extension for a motor vehicle exhaust pipe, said extension being of the type including a base member and an overlay member of a size to cover a portion of the base member, comprising the steps of; blanking the base member and the overlay member, the front end of the latter being formed with at least one projecting tab; shaping the blanks to substantially the form required in the final extension; placing the base member and the overlay member in inverted relation relative to one another with the tab in contact with one edge of the base member; permanently connecting the front ends of both members together by securing the tab to the base member; bending the tab about a transverse line while rotating the overlay member about such transverse line to its final permanent position on the base member; and securing a portion of the overlay spaced from the tab to the base member to retain the overlay in its final permanent position on the base member.

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