

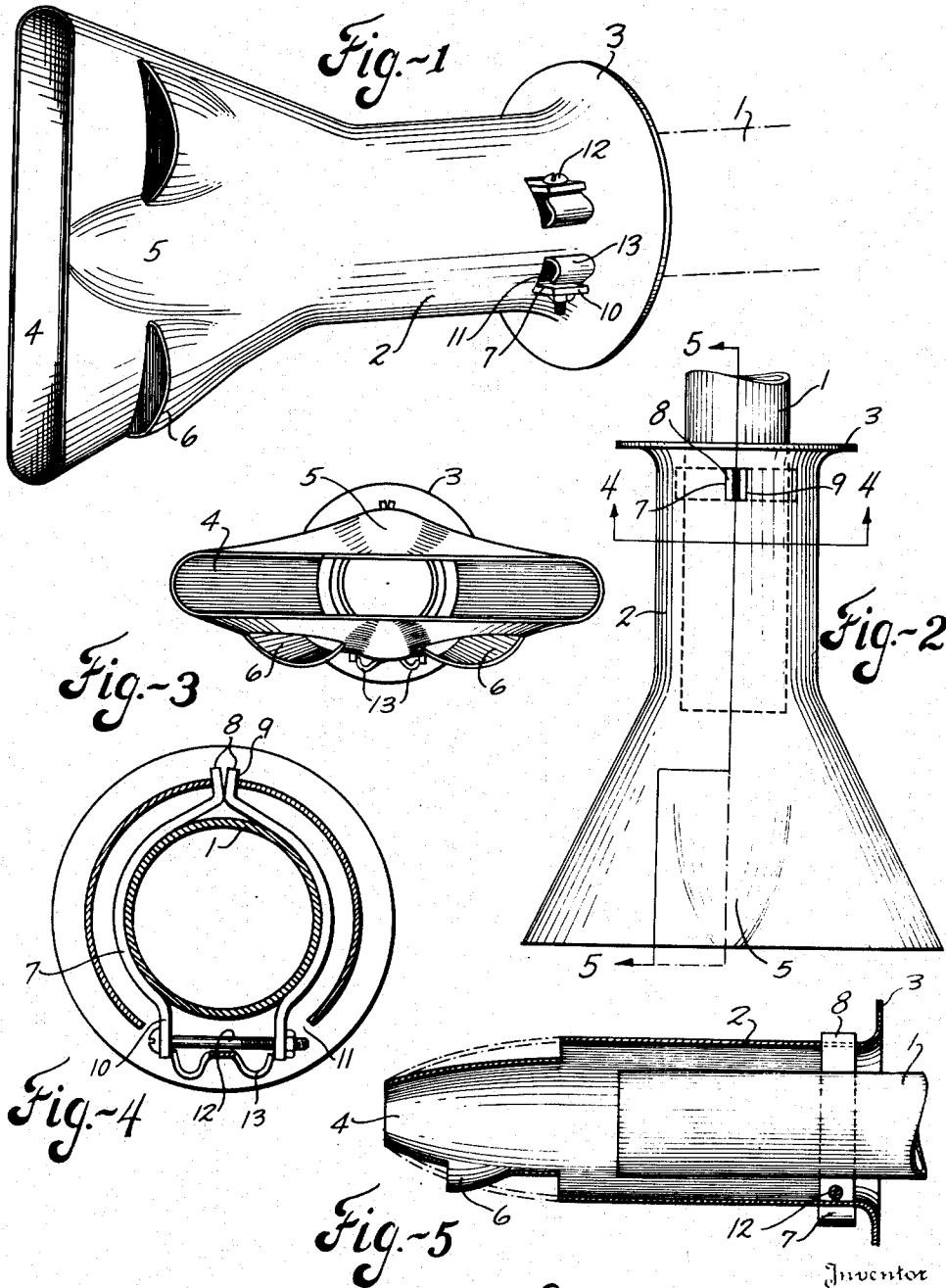
March 16, 1943.

L. E. RUSSELL

2,313,772

EXHAUST PIPE SHROUD

Filed Dec. 17, 1940



Inventor

Linus E. Russell

By *J. L. Walker*
Attorney

UNITED STATES PATENT OFFICE

2,313,772

EXHAUST PIPE SHROUD

Linus E. Russell, Springfield, Ohio, assignor to
Peters & Russell, Inc., Springfield, Ohio, a corporation of Ohio

Application December 17, 1940, Serial No. 370,522

8 Claims. (Cl. 138—37)

This invention pertains to exhaust pipe nozzles or extension units for automobile tail pipes.

Exhaust pipe extensions are commonly made of many shapes and sizes, some practical only and some merely ornamental. The present purpose is to provide an exhaust pipe extension of special form and character which will effectively dissipate the exhaust gases and products of combustion and direct them away from the adjacent parts of the vehicle and rear bumper guard, in diluted form by admixture therewith of atmospheric air, but which will also be of distinctive appearance and design.

A primary object of the invention is to provide an exhaust distributor and tail pipe extension, which is not only of simple construction and capable of being economically manufactured, but which will be efficient in use and automatically mix air with the discharged gases and be capable of breaking up the discharge stream into separate parts and effect greater distribution of the discharged gases.

A further and important object of the invention is to provide an improved means for mounting the exhaust extension unit upon an automobile tail pipe in concentric axially aligned relation therewith.

A further object of the invention is to provide an exhaust nozzle unit of improved form.

A further object of the invention is to provide an improved clamp means especially adapted to the present use.

A further object is to provide a mounting device which will automatically center the unit relative to the exhaust pipe.

A further object of the invention is to provide an exhaust pipe extension and mounting therefor having the advantageous structural features and inherent meritorious characteristics herein mentioned.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention intended to be protected by Letters Patent consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described or illustrated in the accompanying drawing.

Referring to the accompanying drawing, wherein is shown the preferred, but obviously not necessarily the only form of embodiment of the invention,

Fig. 1 is a perspective view of an exhaust pipe extension unit embodying the present invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a rear end elevation.

Fig. 4 is a transverse sectional view on line 4—4 of Fig. 2.

Fig. 5 is a longitudinal sectional view on line 5—5 of Fig. 2.

Like parts are indicated by similar character of reference throughout the several views.

In the drawing, 1 indicates the exhaust or tail pipe of a motor vehicle, upon which is mounted in telescopic, concentrically spaced relation, the extension unit or exhaust deflector, forming the subject matter hereof.

The extension unit comprises a cylindrical neck portion 2 of greater diameter than the tail pipe 1 disposed in concentric relation therewith. At its forward end the unit neck is flared into a bell mouth 3. At its rear the unit is vertically flattened and laterally expanded into a flaring head, affording a transversely elongated comparatively narrow rearwardly directed discharge orifice 4. The top of the flaring head is contoured to form a continuing convex comb or rib 5 aligned with the neck 2 and gradually merging into the top of the head. The under side of the flaring head is formed with relatively spaced, rearwardly directed louvers 6—6 which communicate with the interior of the unit and afford supplemental discharge outlets.

For the purpose of clamping the unit in adjusted position upon the tail pipe, there is provided a pair of reversely disposed substantially semi-circular clamp arms 7—7 arranged within the neck portion of the unit about opposite sides of the tail pipe 1. At their upper ends the arms 7 are out turned at 8 and projected through an opening 9 in the neck portion 2 of the unit within which the clamp arms are fulcrumed. At their lower ends the clamp arms are extended at 10 in proximate parallel relation through two relatively spaced openings 11 in the under side of the neck 2 of the deflector or extension unit. The extended ends 10 of the clamp arms are interconnected by an adjusting bolt 12, by which the arms 7 may be tightly contracted about the tail pipe 1 to support the extension unit in concentric position thereon. The material displaced from the holes 11 in the under side of the unit neck is left integral therewith and is formed into two reversely bent tongues 13 which engage with the inner faces of the clamp arm terminals 10. The inturned tongues 13 by their engagement with the clamp arms serve as stops to prevent to and fro vibration of the unit. The ends of the spacer tongues 13 being interposed between the ends of the clamp arms yield to compression

as the clamp arms are tightened by the bolt 13, thus maintaining contact engagement therewith under compression.

The stream of spent gases and products of combustion being forceably discharged from the tail pipe is broken up and part thereof diverted through the bottom louvers while the remainder is distributed through the wide main discharge opening 4. However before discharge the gases and products of combustion are diluted with atmospheric air drawn into the unit through its forward bell mount 3 by the venturi or injector effect of the discharged stream of hot gases.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute, the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the same means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention I claim:

1. An extension unit for automobile exhaust pipes, including a cylindrical neck of greater diameter than that of the exhaust pipe, a laterally flaring vertically flattened head having a transverse elongated discharge opening, plural discharge louvers on the under side of the flaring head, a flaring bell mouth on the end of said neck opposite the flaring head, substantially diametrically opposite openings in the neck, a pair of curved segmental clamp arms engageable about the exhaust pipe of an automobile within the neck of the extension unit, and fulcrumed at one end, in one of the openings in the neck, an adjusting member connecting the opposite ends of the clamp arms for contractile engagement about the exhaust pipe and stops on the unit with which the clamp arms engage to prevent lateral movement of the unit relative thereto.

2. An exhaust pipe extension unit including a cylindrical neck portion of greater diameter than that of the exhaust pipe, a continuing deflector portion for exhaust gases extending beyond the end of the exhaust pipe and a pair of clamp arms disposed transversely of the neck interiorly thereof for clamping engagement with the exhaust pipe the clamp arms extending exteriorly of the neck, for adjustment thereof.

3. An exhaust pipe extension including a neck having openings in its opposite sides, a pair of clamp arms disposed interiorly of the neck, one end of each arm being fulcrumed in an opening in one side of the neck and the opposite end of each arm being accessible through an opening in

the opposite side of the neck, and adjusting member interconnecting the accessible ends of the arms to effect clamping engagement thereof with the exhaust pipe interiorly of the neck.

4. An exhaust pipe extension unit including a neck telescopically engageable about an exhaust pipe terminal, and a head portion extending therebeyond, a pair of substantially rigid clamp arms mounted interiorly of the neck for engagement about the exhaust pipe, a fulcrum bearing for said arms upon the neck at one side of the exhaust pipe, an adjusting member interconnecting the clamp arms at the opposite side of the exhaust pipe and stop means on the neck intermediate the clamp arms and engageable therewith to prevent relative movement of the unit relative to the arms when the latter are engaged upon an exhaust pipe.

5. An exhaust pipe extension including a neck telescopically engageable about an exhaust pipe and a head portion extending therebeyond, the neck having a single hole in one side thereof and having a pair of closely spaced holes in the opposite side thereof the holes being all in a common transverse plane, and a pair of clamp arms having their ends projected through the holes in opposite sides of the neck and extending on opposite sides of an exhaust pipe disposed therein, and adjusting means connecting the clamp arms to effect their contraction upon the exhaust pipe.

6. An exhaust pipe extension including a cylindrical neck telescopically engageable about an automobile exhaust pipe, and a head portion extending therebeyond, a pair of clamp arms located within said neck, a fulcrum therefor at one side of the inserted exhaust pipe, the arms extending on opposite sides of the exhaust pipe through the side of the neck opposite the fulcrum and an adjusting member exteriorly of the neck interconnecting the clamp arms to effect contractile engagement of the arms about the exhaust pipe, and stop means on the neck engaged by the clamp arms to limit relative transverse movement of the unit relative thereto.

7. An exhaust pipe extension unit including a tubular neck portion engageable about an automobile exhaust pipe in concentric spaced relation therewith and a head portion extending therebeyond, an adjustable clamp located interiorly of the neck portion for engagement with an exhaust pipe therein, adjusting means therefor and an integral tongue struck from the material of the exhaust unit extending into engagement with the clamp for limiting the movement of the unit relative to the clamp.

8. An exhaust pipe extension unit including a neck portion engageable about an automobile exhaust pipe, a head portion extending therebeyond, a pair of relatively adjustable clamp members for engaging the unit with an exhaust pipe, adjusting means for said members, and a pair of stop tongues upon the unit extending intermediate the clamp members and yieldingly resisting the adjustment thereof, to subsequently limit movement of the unit relative to the clamp members.

LINUS E. RUSSELL.