Feb. 8, 1938. J. L. SMITH 2,107,588

MUFFLER REPAIR JACKET

Filed April 30, 1937

Fig. 1.

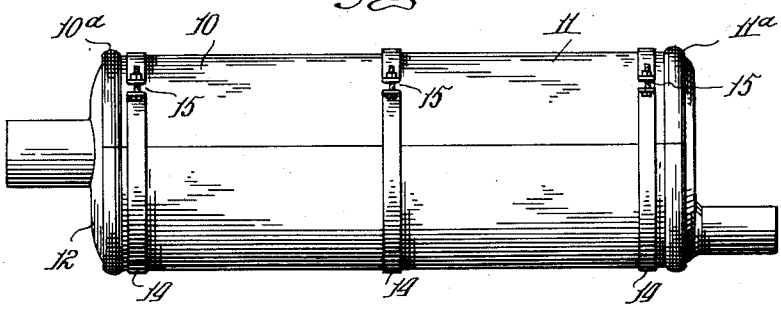


Fig. 2.

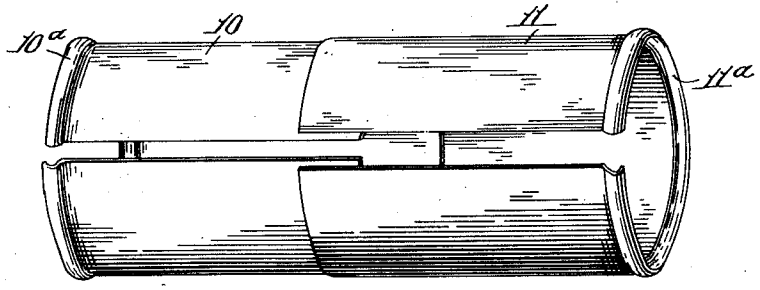


Fig. 3.

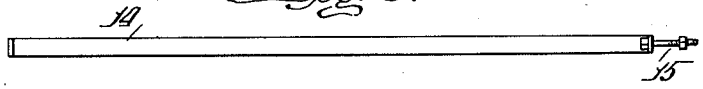


Fig. 4.

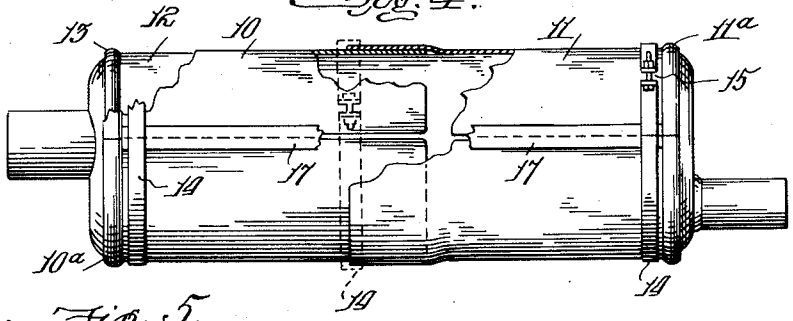
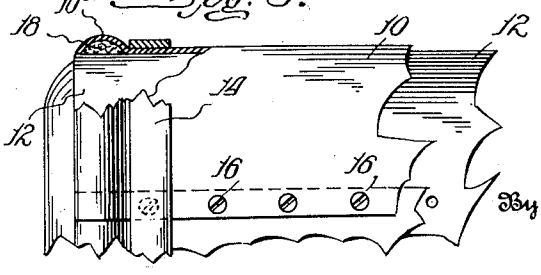


Fig. 5.



Inventor:

Joseph L. Smith.

By Horace D. Beall

Attorney

Patented Feb. 8, 1938 2,107,588

UNITED STATES PATENT OFFICE

2,107,588

MUFFLER REPAIR JACKET

Joseph Leigh Smith, Glen Ellyn, Ill.

Application April 30, 1937, Serial No. 140,018

5 Claims. (Cl. 181—61)

My invention relates to improvements in outer casings or jackets for the repair of mufflers of the type commonly used in connection with automobiles.

In the operation of automobiles the exploded gases which are discharged through the muffler tend to disintegrate the metal of the muffler casing, and the wear is increased by corrosion due to exposure to moisture in the atmosphere. In these circumstances the muffler becomes damaged to such an extent as to not only impair its effectiveness in muffling sounds but presents a hazard by the escape of gases through the fractured or broken portions of the casing, and as the damage to the muffler may be of such proportions as not to require the installation of a new muffler it has been suggested to repair the casing by means of a jacket.

It is the primary object of my invention therefore to provide a repair jacket which may be easily applied to a muffler without disconnecting the same, and of such construction that it will reinstate the effectiveness of the muffler at comparatively small expense.

A further object of my invention is to provide a repair jacket that may be fitted to mufflers of different sizes, in respect to length and width, and when applied will be securely held in place as well as give a neat finish to the muffler.

With these principal objects in view my invention contemplates the formation of a repair jacket in two sections slidable one on the other and each split longitudinally, whereby the said sections or parts may be adjusted to exactly fit the muffler, including the beads at the ends of the casing, in connection with means for securing the jacket in place.

In the following specifications I have set forth the construction and application of my improved form of muffler repair jacket, and what I desire to claim as new and protect by Letters Patent is more specifically set forth in the appended claims.

In the drawing:—

Figure 1 is a side elevation illustrating the application of my improved form of repair jacket to a muffler.

Fig. 2 is a detail perspective view of the pair of sections constituting the jacket.

Fig. 3 is a detail view of one of the clamping bands for securing the sections of the jacket to the muffler.

Fig. 4 is a side elevation showing a modification of the jacket, and

Fig. 5 is a fragmental view illustrating a further modification.

Like numerals of reference indicate like parts in the several views of the drawing.

In the construction of my improved form of muffler jacket it comprises two sections, 10, 11, and each section is split longitudinally for convenience in slipping said sections over the muffler 12, for fitting them to mufflers of different diameters, and by providing a pair of split sections they are capable of being telescoped so that one may overlap the other for longitudinal adjustment in accordance with the length of the muffler. Another important feature of the jacket is the formation of raised beads 10*a*, 11*a* at the outer end of each section adapted to fit over the usual beads 13 at the ends of the muffler for intimate engagement therewith in rigidly connecting the jacket to the muffler and preventing longitudinal movement thereof with respect to the muffler.

The two-part jacket may be secured on the muffler in any suitable manner, as for instance by means of metal straps or bands 14 having outturned ends to receive bolts 15 by which the said straps or bands can be drawn tightly over the jacket in clamping it in place, or when the longitudinal edges overlap, as illustrated in Fig. 5, said sections may be secured to the muffler by means of screws 16 passing through the overlapping edges into the muffler casing. However, when secured in place in the manner last mentioned, that is, with the edges overlapping and secured to each other and to the muffler casing by screws, a closer joint is provided to prevent the escape of the exploded gases, and in this instance also the circumferential straps or bands may be used as an additional securing means, it being understood that it is desirable to have the two-part jacket closely fit the muffler casing at every point so as to seal any holes or cracks in the muffler casing which have resulted from any cause. Furthermore, in those instances where the diameter of the muffler is such that the longitudinal edges of the sections of the jacket meet, or are slightly separated, the joint may be covered by a metal strip 17 (Fig. 4), preferably terminating at the raised beads of the jacket, and in like manner when the length of the two-part jacket is such that the inner ends of the sections meet or overlap the joint is covered and made tight by one of the circumferential clamping bands 14.

In the application of the two-part jacket to a muffler having plain ends (Fig. 5) the space below the raised beads at the outer ends of the sections of the jacket are packed with asbestos, indicated by the reference numeral 18, and this asbestos packing may be in the usual form of rope for

convenience in applying the same, with the parts rigidly secured to the muffler by the clamping bands 14 at the center and ends of the jacket, and the end bands located contiguous to the beads 10a, 11a, respectively.

It will be apparent from the foregoing description that in attaching the repair jacket one of the sections is slipped over that end of the muffler from which the discharge pipe projects and is placed in position with the bead on the jacket engaging the bead on the muffler at the opposite end of the latter from the discharge pipe, and then the other section is likewise sprung over the muffler so as to either join or overlap the other section with the bead of the last mentioned section in engagement with the other bead on the muffler. In this manner the sections of the jacket can be readily applied without disconnecting the muffler from the pipe leading from the exhaust of the engine. If the jacket exactly fits the muffler the inner ends of the sections will meet and the longitudinal edges will also meet, but by providing two sections split longitudinally it not only provides for springing them over the muffler and adjusting them longitudinally but also provides for fitting mufflers of less diameter by overlapping the longitudinal edges of the sections of the jacket. The two sections are then fixedly secured to the muffler by the clamping bands either alone or in addition to the screws at the longitudinal joint, and it will be obvious that the beads 10a, 11a, will be sprung or spread over the corresponding beads on the muffler to form tight joints, while in the case of a plain muffler, or one without beads, the aforementioned beads on the repair jacket form pockets for the asbestos packing to likewise provide tight joints to prevent the escape of exploded gases.

I claim:—

1. A repair jacket for mufflers comprising two sections each split longitudinally so as to adapt said sections for overlapping engagement with each other at their inner ends for longitudinal adjustment and each section adapted to overlap at their contiguous longitudinal edges for lateral adjustment, whereby said sections can be fitted to mufflers of different sizes, and means for securing the sections of the repair jacket in close engagement with the muffler casing.

2. A repair jacket for mufflers comprising two sections each split longitudinally so as to adapt said sections for overlapping engagement with each other at their inner ends for longitudinal adjustment and each section adapted to overlap at their contiguous longitudinal edges for lateral adjustment, whereby said sections can be fitted to mufflers of different sizes, beads at the outer ends of the sections of the repair jacket to provide tight joints at the ends of the jacket and muffler casing, and means for securing the sections of the repair jacket in close engagement with the muffler casing.

3. A repair jacket for mufflers comprising two sections each split longitudinally so as to adapt said sections for overlapping engagement with each other at their inner ends for longitudinal adjustment and each section adapted to overlap at their contiguous longitudinal edges for lateral adjustment, whereby said sections can be fitted to mufflers of different sizes, strips covering the joints at the center and longitudinal edges of the repair jacket, and means for securing the sections of the repair jacket in close engagement with the muffler casing.

4. A repair jacket for mufflers comprising two sections each split longitudinally so as to adapt said sections for overlapping engagement with each other at their inner ends for longitudinal adjustment and each section adapted to overlap at their contiguous longitudinal edges for lateral adjustment, whereby said sections can be fitted to mufflers of different sizes, beads at the outer ends of the sections of the repair jacket adapted to be sprung over the beads at the outer ends of the muffler casing, and clamping bands extending around the sections of the jacket, said bands having outturned ends with which clamping bolts engage for tightening the bands on the jacket.

5. A repair jacket for mufflers comprising two sections each split longitudinally so as to adapt said sections for overlapping engagement with each other at their inner ends for longitudinal adjustment and each section adapted to overlap at their contiguous longitudinal edges for lateral adjustment, whereby said sections can be fitted to mufflers of different sizes, beads at the outer ends of the sections of the repair jacket, asbestos packings between the beads and casing of the muffler, means for sealing the joints between the sections at the center and longitudinal edges thereof, and clamping bands extending around the sections of the jacket to secure them in close engagement with the muffler casing.

JOSEPH LEIGH SMITH.