Dec. 27, 1960 F. M. KALIS 2,966,226

MUFFLER REPAIR JACKET

Filed Nov. 13, 1959

FIG. 2

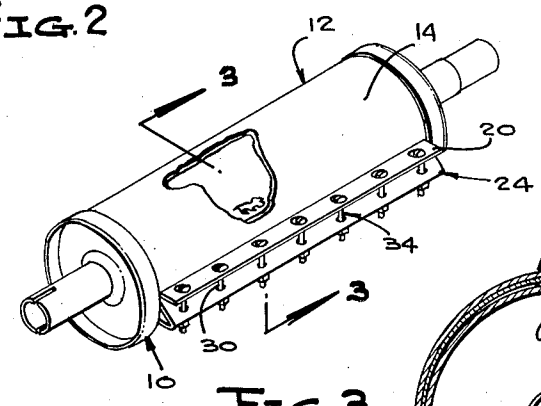


FIG. 3-A

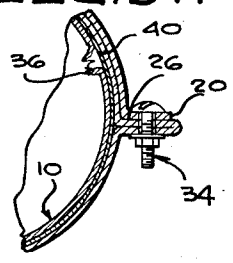


FIG. 3

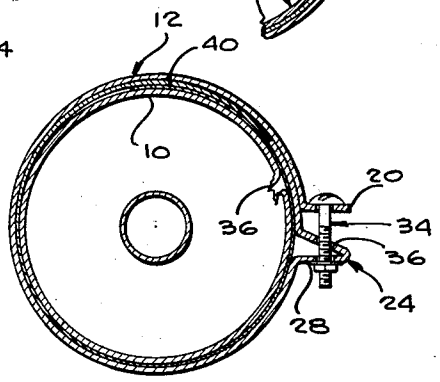


FIG. 1

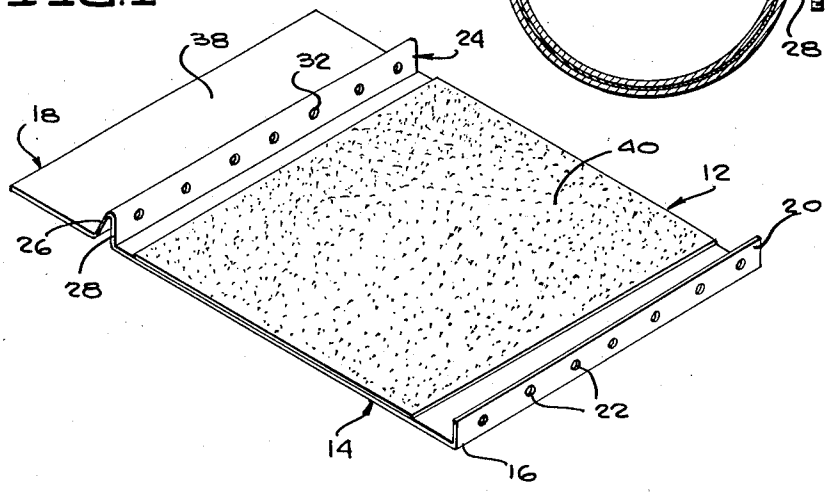
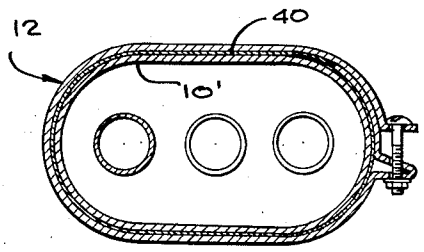


FIG. 4



INVENTOR.
FRANK M. KALIS
BY

McMorrow, Berman & Davidson
ATTORNEYS

United States Patent Office 2,966,226
Patented Dec. 27, 1960

2,966,226

MUFFLER REPAIR JACKET

Frank M. Kalis, 3547 Beaniteau, Detroit 14, Mich.

Filed Nov. 13, 1959, Ser. No. 852,823

3 Claims. (Cl. 181—72)

The present invention relates to a repair jacket for an internal combustion engine muffler.

Automotive vehicles employing internal combustion engines have mufflers for the purpose of absorbing or deadening the noise of the exhaust gases of the engine. Such mufflers are exposed on the outside to road dirt, mud, and water, and on the inside to the corrosive action of the products of combustion in combination with the water vapor and condensed vapor generally present in the exhaust gases, especially during the interval of time while a cold engine is warming up. Generally, the mufflers have a relatively short period of usefulness and frequently cracks or rusted spots appear in a muffler after a relatively short period of use. Frequently, damage or deterioration to a muffler is not enough to warrant replacement of the muffler but the escape of gases through the damaged or deteriorated portion of the muffler casing creates a hazard to the occupants of the vehicle.

An object of the present invention is to provide a repair jacket for a muffler which lends itself to application to a muffler with ease and facility without disconnecting the muffler from the engine with which it is associated, and one which prolongs the period of usefulness of a muffler when applied thereto.

Another object of the present invention is to provide a repair jacket for an automotive vehicle muffler which may be fitted to mufflers of different sizes in respect to length and width and one which has means for positively securing the same to a muffler.

A further object of the present invention is to provide a repair jacket for a muffler which may be fabricated of various materials having suitable but different characteristics, one which is sturdy in construction and simple in structure, and one which is economically feasible.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in conjunction with the annexed drawing, in which:

Figure 1 is an isometric view of the muffler repair jacket according to the present invention, shown in unformed condition prior to applying to a muffler;

Figure 2 is an isometric view, showing the jacket applied to a muffler, a portion of the jacket being broken away to disclose the shell of the muffler;

Figure 3 is a view on an enlarged scale, taken on the line 3—3 of Figure 2, prior to tightening of the fastening means;

Figure 3*a* is a fragmentary sectional view, showing the fastening means in tightened condition; and

Figure 4 is a sectional view showing the repair jacket attached to another type of muffler.

Referring in greater detail to the drawing in which like numerals indicate like parts throughout the several views, in Figure 2 the reference numeral **10** designates generally a muffler for the internal combustion engine of an automotive vehicle and the numeral **12** designates generally the repair jacket assembled on the exterior of the muffler **10**. It is to be understood that the jacket **12** may be employed with mufflers of other internal combustion engines other than automotive engines.

The jacket **12** comprises an elongated sheet-like cover **14** having opposed ends **16** and **18** and being of a width substantially corresponding to the length of the muffler **10**. The length of the cover **14** is greater than the circumference of the muffler **10**.

A flange **20** extends along the end **16** of the cover **14** from one side to the other side of the cover **14** and is turned perpendicularly toward the upper face, as shown in Figure 1. The flange **20** is provided with a plurality of spaced holes **22**.

An inverted V-shaped protuberance **24** extends from one side of the cover **14** to the other side inwardly of and spaced from the end **18** of the cover. The protuberance **24** is also turned toward the upper face of the cover **14**.

The protuberance **24** has one of the legs **26** longer than the other leg **28**.

The leg **26** is provided with a plurality of holes **30** arranged in spaced relation therealong and the leg **28** is also provided with holes **32** arranged so that each one of the holes **32** is in registry with one of the holes **30**.

Fastening elements in the form of nut and bolt assemblies **34** are employed for securing the jacket **12** around the muffler **10**.

In use, the jacket **12** may be employed to cover the shell of a new or undamaged muffler as desired, although the usefulness of the jacket **12** is most apparent when rolled completely about a muffler, as at **10** in Figures 2 to 3*a*, in which there is a defect or hole, as at **36**.

As shown most clearly in Figures 3 and 3*a*, the portion **38** of the cover **14** between the protuberance **24** and the end **18** of the cover **14** extends over the hole **36** in the shell of the muffler **10** so that there is a double thickness of the cover **14** over the hole **36**. With the cover portion **38** overlying the hole **36**, the longer leg **26** of the protuberance **24** is adjacent to and is in registry with the flange **20** and the shorter leg **28** of the protuberance **24** is remote from the flange **20** and is in registry with the longer leg **26**.

The holes **22**, **32**, and **34**, constitute means formed in flange **20** on the legs **26** and **28** for the reception therein of the bolt and nut assemblies **34**.

Upon tightening of the bolt and nut assembly **34** when inserted throuhg the hole in the flange **20**, through the hole in the long leg **26** and through the hole in the shorter leg **28**, the protuberance **24** is flattened to the position shown in Figure 3*a* with the longer leg **26** insuring that a tight snug fit of that portion **38** of the cover **14** over the hole **36** is obtained. With all of the bolt and nut assemblies **34** turned down tightly, the cover **14** is held in sealing securement about the muffler **10**.

In a preferred form of the invention, a sheet of asbestos or other non-combustible material is interposed, as at **40**, between the muffler **10**, of Figures 1 to 3, and the repair jacket **12**, or between the muffler **10'** of Figure 4, and the jacket **12**.

What is claimed is:

1. The combination with a muffler having a hole therein, of a repair jacket comprising an elongated sheet-like cover having opposed ends and being of a width substantially corresponding to the length of said muffler and of a length greater than the circumference of said muffler, a flange extending along one end of said cover from one side to the other side of said cover and turned perpendicularly toward one face of said cover, an inverted V-shaped protuberance extending from one side to the other side of said cover inwardly of and spaced from the other end of said cover and turned perpendicularly toward said one face of said cover, said protuberance having one of the legs longer than the other leg, said cover being rolled completely about and covering the

hole in said muffler with the longer leg of the protuberance adjacent to and in registry with said flange and with the shorter leg of the protuberance remote from said flange and in registry with the longer leg, means formed in said flange and in the legs of said protuberance for the reception therein of a fastening element, and a fastening element extending through said means on said flange, and said longer and shorter legs of said protuberance for sealingly securing said cover about said muffler.

2. The combination with a muffler having a hole therein, of a repair jacket comprising an elongated sheet-like cover having opposed ends and being of a width substantially corresponding to the length of said muffler and of a length greater than the circumference of said muffler, a flange extending along one end of said cover from one side to the other side of said cover and turned perpendicularly toward one face of said cover, said flange being provided with a plurality of spaced holes, an inverted V-shaped protuberance extending from one side to the other side of said cover inwardly of and spaced from the other end of said cover and turned perpendicularly toward said one face of said cover, said protuberance having one of the legs longer than the other leg, the longer and shorter legs of said protuberance being each provided with a plurality of spaced holes, the holes of said longer and shorter legs being in registry, said cover being rolled completely about and covering the hole in said muffler with the longer leg of the protuberance adjacent to said flange with the holes of said longer and shorter legs in registry with the holes of said flange and with the shorter leg remote from said flange, and a fastening element extending through each of the holes of said flange, the adjacent hole in said protuberance longer leg, and the adjacent hole in said protuberance shorter leg, sealingly securing said cover about said muffler.

3. The combination with a muffler having a hole

therein, of a repair jacket comprising an elongated sheet-like cover having opposed ends and being of a width substantially corresponding to the length of said muffler and of a length greater than the circumference of said muffler, a flange extending along one end of said cover from one side to the other side of said cover and turned perpendicularly toward one face of said cover, said flange being provided with a plurality of spaced holes, an inverted V-shaped protuberance extending from one side to the other side of said cover inwardly of and spaced from the other end of said cover and turned perpendicularly toward said one face of said cover, sai protuberance having one of the legs longer than the other leg, the longer and shorter legs of said protuberance being each provided with a plurality of spaced holes, the holes of said longer and shorter legs being in registry, said cover being rolled completely about and covering the hole in said muffler with the longer leg of the protuberance adjacent to said flange with the holes of said longer and shorter legs in registry with the holes of said flange and with the shorter leg remote from said flange, and a fastening element embodying a bolt and nut assembly extending through each of the holes of said flange, the adjacent hole in said protuberance longer leg, and the adjacent hole in said protuberance shorter leg, sealingly securing said cover about said muffler.

References Cited in the file of this patent

UNITED STATES PATENTS

2,107,558	Smith	Feb. 8, 1938
2,423,195	Longden	July 1, 1947
2,834,427	Powers	May 13, 1958

FOREIGN PATENTS

741,251	Great Britain	Nov. 30, 1955