HAMMER MECHANISM FOR USE IN
STRAIGHTENING AUTOMOBILE
BODES AND FENDERS

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This invention relates to a method of and apparatus for use in removing dents from automobile bodies and fenders.

The removal of body or fender dents is accomplished by pulling the metal against an anvil of the desired contour held against the under or inner surface of the damaged area. This operation is greatly facilitated by the use of a tool consisting of a yoke to straddle the work with an anvil supported by one of its arms and a pneumatic hammer mounted on the other. With such a tool, the workman may easily and accurately guide the tool relative to the damaged area with assurance that the anvil is properly located with reference to the rapidly acting hammer.

In accordance with my invention, I provide anvils for use in such an operation which enable better results to be attained. Such anvils have their work contacting surface formed to establish one or a plurality of spaced projections, the work contacting surface of each of which is of the desired contour. Where an anvil in accordance with my invention has a plurality of such projections, the intermediate channels provide passages extending from end to end thereof and preferably my anvils are elongated and the projections are in the form of parallel ridges, the width of each of which is substantially less than the width of the hammer.

With such an anvil, not only do the grooves or passages receive dirt and other matter with which the under surface of a fender is commonly encrusted and which would prevent the anvil from providing its intended support, but also they accommodate metal stock worked therein by the hammer as adjacent portions of the metal are hammered against the ridges. In accordance with my invention, therefore, it will be apparent that while narrow sections of the metal are hammered against the ridges, an important function of the ridges is to serve as gauges limiting the effect of the hammer where the metal is unsupported so that the metal in a damaged area is shaped to its proper contour with materially decreased chance of the metal in wrinkles or folds being cramped by the action of the hammer.

In the accompanying drawings, I have shown illustrative embodiments of my invention from which its novel features and advantages will be readily apparent.

In the drawings:

Fig. 1 is a side view of a tool for use in straightening fenders with an anvil in accordance with my invention supported by one of the arms.

Fig. 2 is a perspective view of one of my anvils, and

Fig. 3 is a similar view of a modified form of anvil.

An anvil in accordance with my invention may be used with a manually yieldable hammer or it may be used as a replaceable part of a tool such as that indicated generally at 5 in Fig. 1. Such a tool has an air operated hammer 6 mounted on its arm 7 and one of my anvils 8 supported by its other arm 9 to engage with the under surface of a fender in the zone of the hammer's contact therewith when the tool is in use.

An anvil 8 may vary considerably as to its construction provided that it has on its upper surface at least one projection of less width than the diameter of the hammer and establishing the desired anvil contour. Preferably, I form my anvils into a plurality of such projections establishing channels extending from end to end thereof. In Figs. 2 and 3, I have shown two forms of anvils that have proved satisfactory in use.

The anvil 8 of Fig. 2 is an elongated block 10 having the projections in the form of four substantially flat surfaced ribs 11 and the passages in the form of grooves 12 with the ribs and grooves extending from end to end of the block 10. In the embodiment of my invention shown in Fig. 3, the block 13 is somewhat narrower than the block 10 and has a pair of substantially flat surfaced ribs 14 wider than the ribs 11 and a single groove 15. In practice, I have obtained good results by spacing the ribs a distance substantially equal to their width and by having the depth of the grooves substantially equal to their width.

In use, my anvils 8 provide for a novel method of removing dents for in accordance with my invention part of the metal in the path of the hammer is supported on the ribs while the remainder of the metal in that zone is unsupported. Thus, while part of the metal contacted by the hammer is pounded against the ribs of the anvil, the ribs serve as gauges limiting the extent to which the unsupported metal may be affected by the action of the hammer. As the hammer and the anvil are moved in cooperative relation in the damaged zone, the metal between the hammer and the anvil is not entirely restricted and is relatively free to be worked into its desired contour. At the same time, any dirt or other matter encrusted on the under surface of the fender that becomes dislodged works into the passage
or passages and thus does not become a factor interfering with the function of the projections.

What I therefore claim and desire to secure is:

1. Fender or like metal straightening equipment comprising a pair of interconnected arms spaced to receive between them the metal to be straightened, an air operated hammer carried by one of said arms and having a flat work engaging surface, and an anvil carried by the other of said arms, said anvil comprising a block of greater length than the maximum cross sectional dimension of said hammer and including on its upper surface a plurality of spaced projections, the work contacting surface of which establish the desired contour of the anvil and which establish a plurality of grooves, the width of any pair of projections and the intermediate groove being less than the maximum cross sectional dimension of said hammer.

EUGENE UBERTI.

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