Dec. 26, 1933. G. R. ANDERSON 1,940,738

SMOOTHING MACHINE

Filed Oct. 25, 1932

Fig. 1

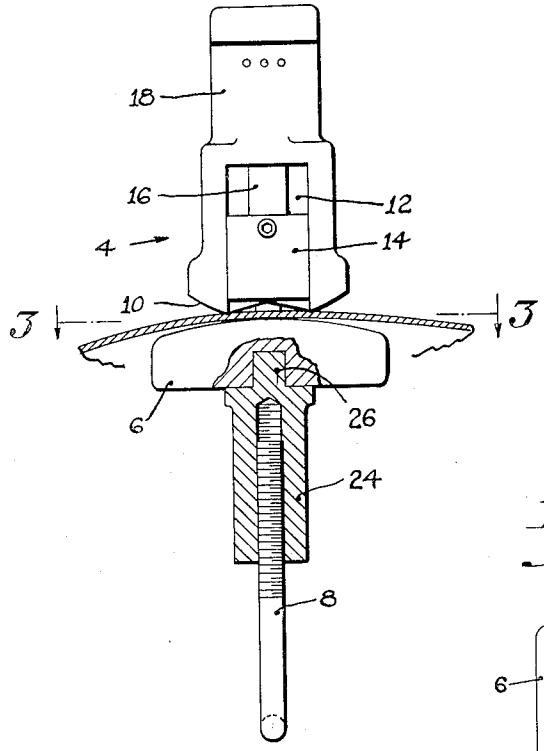


Fig. 3

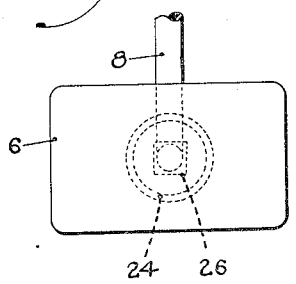
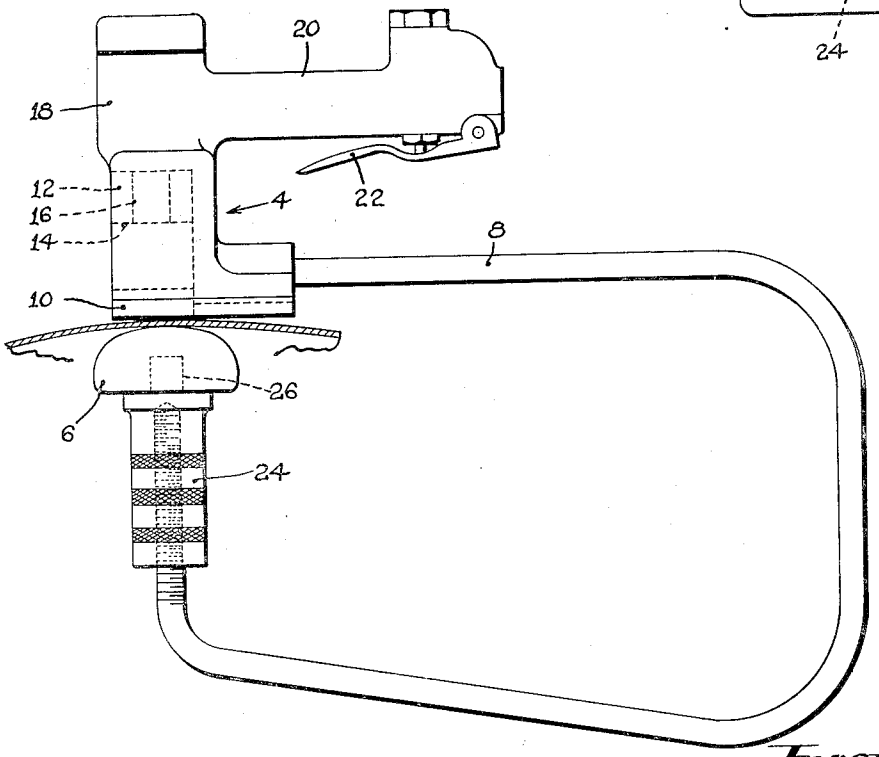


Fig. 2



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SMOOTHING MACHINE

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2 Claims. (Cl. 153—32)

The present invention relates to smoothing machines and more particularly to machines for smoothing sheet metal parts such as automobile fenders.

The object of the present invention is to provide a simple and inexpensive machine for smoothing sheet metal parts capable of removing dents and the like in a small fraction of the time required in the usual hand operation.

With this object in view, the principal feature of the present invention comprises a body member adapted to rest in contact with the surface to be smoothed, an anvil or dolly engaging the opposite side of the work, and a reciprocating member received in the body and adapted to engage the work immediately adjacent the points of support of the body portion on the work. In its preferred form, the body portion and the dolly are mounted in an integral frame in a manner to permit convenient manipulation over the work surface.

In the accompanying drawing, Fig. 1 is an end elevation, partly in section, of the preferred form of the invention; Fig. 2 is a side elevation; and Fig. 3 is a detail plan view of the dolly, looking from a plane indicated by the line 3—3 in Fig. 1.

The illustrated embodiment of the invention comprises a body portion consisting of a casting indicated generally at 4 which is adapted to engage the upper surface of the work, an anvil or dolly 6 to engage the under surface of the work, and a connecting frame 8 of sufficient dimensions to embrace the work. The frame is preferably of rod stock bent into the desired loop shape.

The body portion 4, as shown in Fig. 1, has inclined bottom surfaces 10 terminating in angular edges which are supported in contact with the work. As shown in Fig. 2, these edges extend backward a considerable distance from the dolly to assure that the body portion is maintained in substantially upright position with respect to the work surface. Immediately adjacent to the edge supports, the body portion is provided with a longitudinal recess 12 to receive a reciprocating hammer 14 mounted on a plunger 16. The hammer is actuated pneumatically through compressed air introduced into the head 18 through the grip portion 20, the actuating mechanism being of any suitable form. Conveniently disposed to the grip portion 20 is an operating trigger 22.

The frame 8, which is preferably formed of a heavy rod, is attached at one end to the body portion 4 and carries at the other end an adjustable dolly support 24, the dimensions of the frame being sufficient to clear the edge of the fender. The support 24 is internally threaded to be received on the frame. The support is provided at the top with a projection 26 of square or other non-circular shape to be received in a hole of similar shape in the dolly 6. To place the parts in position, the support is backed off on the threads sufficiently to clear the edge of the fender. The body portion is then moved adjacent to the part to be smoothed and the dolly is then mounted on the support and advanced into light contact with the work.

In operation, after the parts are set over the surface to be smoothed, the operator engages the support 24 with the left hand and operates the hammer with the right hand. The dolly is not tightened sufficiently to prevent free movement of the parts of the machine with relation to the work surface. A succession of rapid blows is imparted to the hammer and this results in rapid smoothing of the surface. The work can be accomplished in much less time than with the usual hand operations. Moreover, it is more satisfactory in that a smoother job of finishing is obtained and in many cases where the dents are not prominent, the operation may be performed without damage to the finish. The succession of blows imparted to the surface by the hammer accomplishes a sufficient metal flow to smooth the surface without diminution of strength, a result that can rarely be accomplished in the usual hand method.

The apparatus may be furnished with a number of dollies of different shapes for finishing of various types of surfaces, and with frames of different dimensions to accommodate work of various sizes.

Having thus described the invention, what is claimed is:

1. A smoothing machine comprising a body having a longitudinal parallel-wall recess acting as a hammer guide, the body having inclined bottom surfaces meeting the walls of the recess to form thin edges immediately adjacent the recess, said edges being unyieldingly supported on the work, a dolly to engage the other side of the work, a frame connecting the body portion and the dolly, and a hammer reciprocable in the recess.

2. A smoothing machine comprising a body having a longitudinal parallel-wall recess acting as a hammer guide, a hammer reciprocable in the recess, the body having inclined bottom surfaces meeting the walls of the recess to form thin edges immediately adjacent the recess, said edges being unyieldingly supported on the work, the body having a rearwardly extended portion with bottom surfaces formed as a continuation of said inclined surfaces, a dolly to engage the other side of the work, and a frame connecting the body and the dolly.

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