Feb. 17, 1970 R. L. LANDON 3,495,431

EASY-ON DOOR CLAMPS

Filed April 11, 1967

Fig. 1

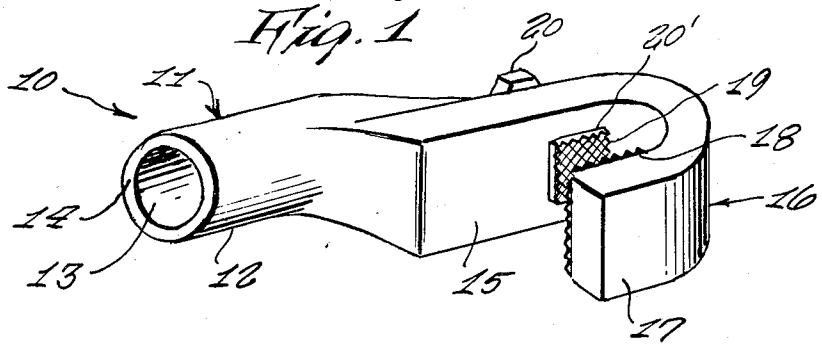


Fig. 2

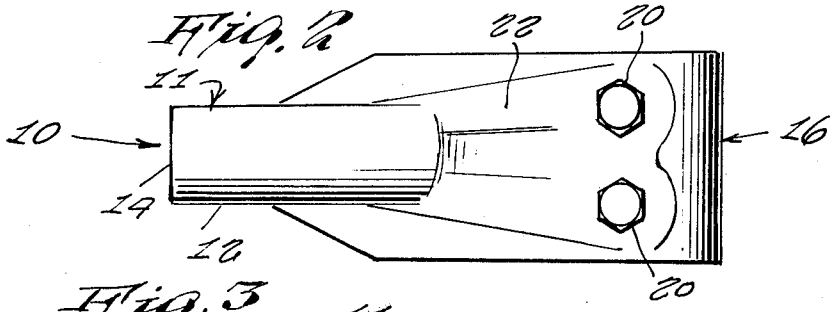


Fig. 3

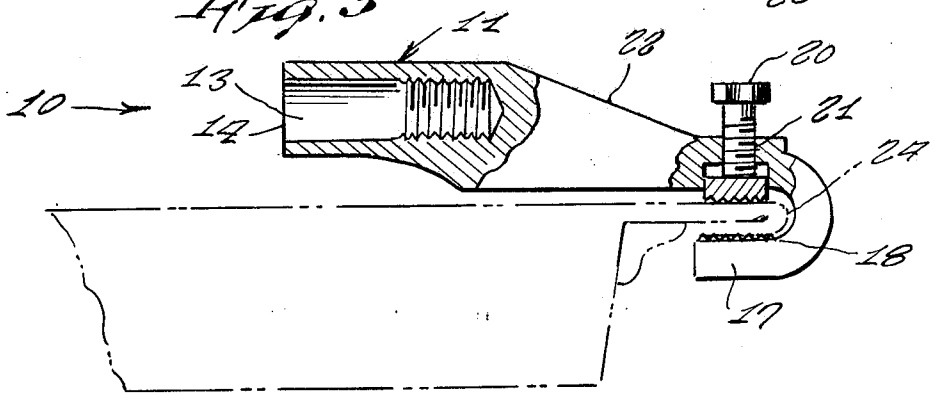
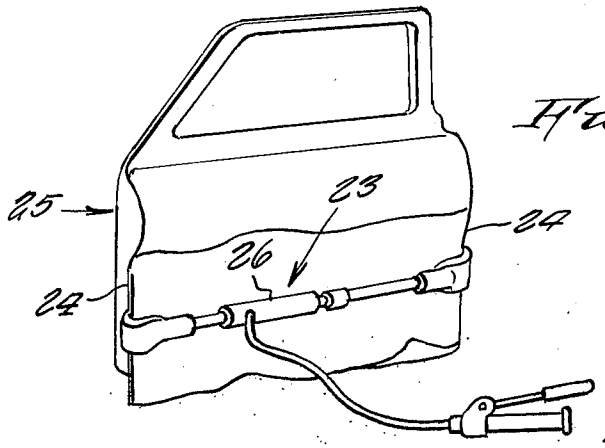


Fig. 4



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EASY-ON DOOR CLAMPS

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U.S. Cl. 72—302 1 Claim

ABSTRACT OF THE DISCLOSURE

A pair of clamps used in straightening out badly bent automobile doors, each clamp being threadingly secured to opposite ends of Porto Power jack equipment and having a frictionally locking hook.

This invention relates generally to equipment for straightening out bent automobile bodies. More specifically it relates to equipment for straightening out bent automobile doors.

A principal object of the present invention is to provide a pair of clamps that are specifically adapted for straightening out badly damaged and bent automobile doors having self-contained means for accomplishing the straightening out action in approximately one-half the time of other conventional straightening equipment.

Another object of the present invention is to provide a pair of clamps for straightening out automobile doors wherein each of the clamps is provided with a hook portion that is rigidly securable to opposite edges of an automobile door so that the door held therebetween may be stretched into a straight place.

Other objects of the present invention are to provide an easy-on pair of door clamps which are simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation. These and other objects will be readily evident upon a study of the following specifications and the accompanying drawing wherein:

FIGURE 1 is a perspective view of one of the clamp members,

FIGURE 2 is a side elevation view thereof,

FIGURE 3 is an end elevation view thereof shown partly in cross-section, and shown in operative use,

FIGURE 4 is a perspective view of the present invention shown in operative use upon a bent automobile door.

Referring now to the drawing in detail, the reference numeral **10** represents an easy-on door clamp according to the present invention wherein there is a main body member **11** having a cylindrical portion **12** at one end, a portion **12** having a threaded opening **13** in the end of **14** thereof.

Adjacent one side of the cylindrical portion **12**, there is integrally formed a rectangular pad **15** that forms one side of a U-shaped hook **16**. The inner side of the terminal end **17** of the hook is provided with a plurality of teeth **18**, as shown in FIGURES 1 and 3. The opposite side of the hook **16** with a recessed plate **19** having a front surface provided with teeth **20** for frictionally grasping one side of a work held therebetween and the teeth **18** on the opposite of the hook. A pair of set screws **20** are engaged within threaded openings **21** of the main body member and engage the rear side of the plate **19** for the purpose of forcibly bearing the plate against the side of the work held therebetween and the teeth **18**.

It is to be noted that the opening **13** is threaded approximately one-half its length and only at its inner end so as to be able to accommodate snap in type connectors. As is shown in FIGURE 3 of the drawing, it is to be further noted that the cylindrical portion **11** of the main body member is offset to one side by at least 3/8 of an inch so as to clear any irregularities in the damaged metal of a bent automobile door and so as to allow any obtrusions of the jack being used upon the same. The portion **22** of the main body member should be raised and possibly channeled for purpose of greater strength, with the raised portion thereof extending forwardly through the area of the set screws **20**.

In operative use, each easy-on door clamp **10** is secured to opposite pipe ends of a Porto Power jack **23** and each clamp is fitted around an edge **24** of a badly bent automobile door **25**. Thus the edge **24** is received between the teeth **18** of one side of the hook portion **16** and the teeth **20** of the plate **19**. The set screws **20** are then turned so that the door edge is very firmly held by the clamp. The Porto Power jack is then operated in a conventional manner so as to provide a stretching action between the clamps thus straightening out the metal of the door therebetween. The hydraulic jack **26** provides the stretching action and the workmen then may use a hammer and dolly out the wrinkles of the door and then remove the jack. The remaining damage left in the door will then be only of minor character.

Thus a simple and relative faster method of straightening out bent automobile doors is shown and which will in many cases eliminate the necessity of replacing a door which with the present equipment may be straightened out.

While various changes may be made in the detailed description it is understood that such changes will be within the spirit and scope of the present invention as is defined by the appended claim.

I claim:

1. In an easy-on-door clamp, the combination of a main body member, said main body member having a cylindrically configurated portion at one end, and a hook configurated clamp portion at its opposite end, said cylindrical portion having self-contained means for being secured to one end of a pipe of a Porto Power jack, and the opposite hook configurated clamp end having self-contained means for being rigidly affixed to an edge of a bent automobile door for the purpose of stretching out the door between said clamp and a similar clamp secured upon an opposite pipe end on the other side of said Porto Power jack, said cylindrical portion having a rectangular pad integrally formed along one side thereof, said pad having said hook configurated clamp portion formed at its opposite end, said pad being offset to one side of said cylindrical portion for clearance of any irregularities in the damaged metal of the bent door and so to avoid any protrusions of the jack being used, said cylindrical portion having an opening in the end thereof, said opening being threaded only at the interior end portion thereof, said hook configurated clamp portion being of generally U-shaped configuration, said U-shaped portion having a terminal end that is toothed on its inner side, the opposite of said hook configurated clamp portion having a recessed plate, said plate having a toothed front side, a pair of set screws threadingly carried on said main body mem-

ber, said set screws bearing against the rear side of said plate for forcibly locking said plate rigidly against one side of said door held therebetween and said toothed side of said clamp portion.

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