April 27, 1965 O. V. FAULKNER 3,180,128

CRIMPING TOOL

Filed Oct. 24, 1963

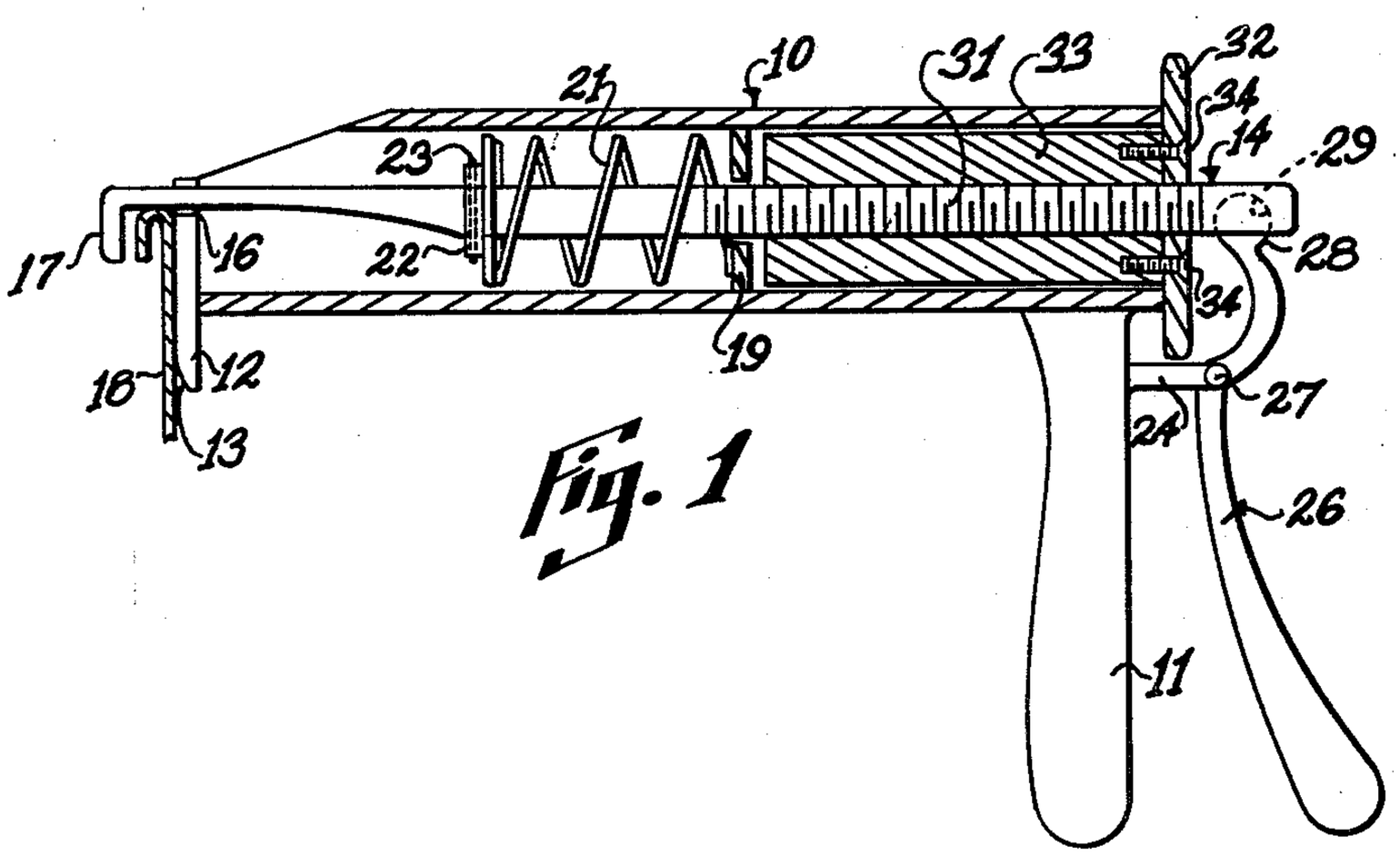

Fig. 1

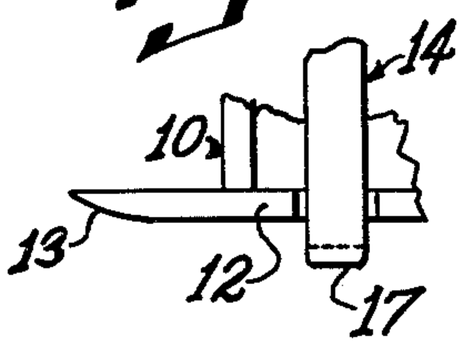

Fig. 3

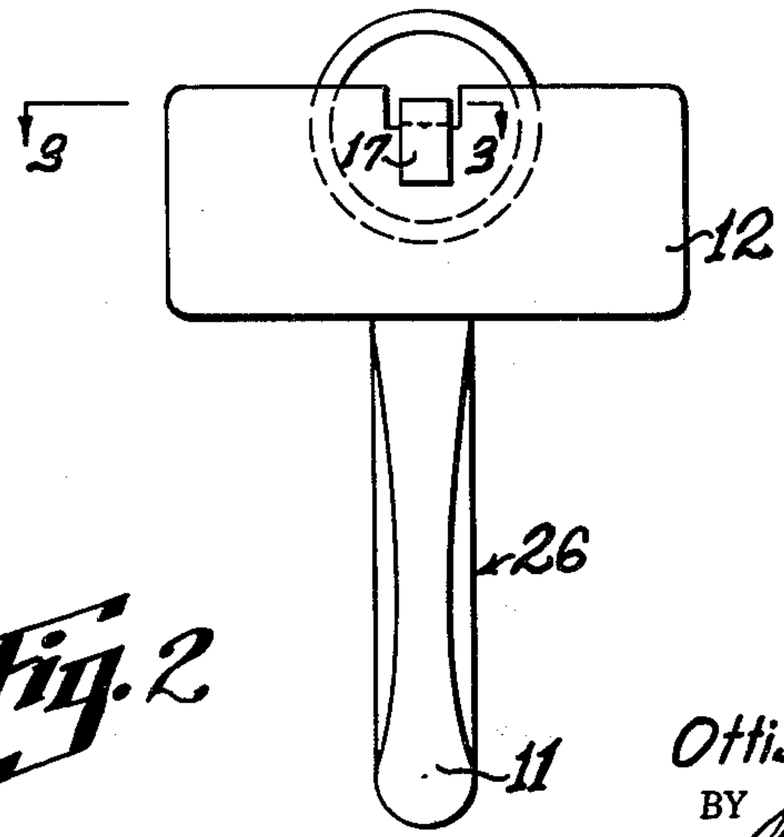

Fig. 2

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CRIMPING TOOL

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1 Claim. (Cl. 72—409)

This invention relates to a crimping tool and more particularly to such a device which shall be adapted for crimping the edges of a panel for an automobile or the like, thereby eliminating the necessity of employing hammers and other impaction tools.

An object of my invention is to provide a crimping device of the character designated which is adapted to receive panels of various thicknesses by a quick adjustment of the tool whereby the reciprocatory motion of the crimping element is reduced to a minimum.

Another object of my invention is to provide a crimping tool of the character designated in which the panel to be crimped is engaged between a relatively small crimping element and a relatively wide holding surface, thereby preventing damage to a finished surface which is placed in contact with the holding surface.

A further object of my invention is to provide a crimping tool of the character designated in which the crimping element is urged away from the relatively flat holding surface whereby the tool is always returned to a position for receiving a panel or the like.

A still further object of my invention is to provide a crimping device of the character designated which shall be simple of construction, economical of manufacture and one which may be operated with a minimum of effort to perform a finished job.

Briefly, my improved crimping tool comprises an elongated cylindrical body member having an elongated actuating member extending therethrough and adapted for longitudinal movement. A laterally projecting crimping element is carried by the actuating member in position to extend in spaced, parallel relation to a transverse plate which is carried by the cylindrical body member. The crimping element is urged by spring means away from the transverse plate whereby the crimping element always returns to a position to receive a member to be crimped. The actuating member is held in selected positions relative to the cylindrical body by adjustable stop means whereby the tool is adapted to receive panels or the like of various thicknesses.

A crimping tool embodying features of my invention is illustrated in the accompanying drawing, forming a part of this application, in which:

FIG. 1 is a vertical sectional view through the crimping tool;

FIG. 2 is a front elevational view of the crimping tool; and,

FIG. 3 is a fragmental view taken generally along the line 3—3 of FIG. 2.

Referring now to the drawing for a better understanding of my invention, I show an elongated, cylindrical body 10 having a depending handle 11 mounted adjacent one end thereof, as shown in FIG. 1. A transverse holding plate 12 is secured to the end of the cylindrical body 10 opposite the end thereof carrying the handle 11. Preferably, the edges of the holding member 12 are curved as at 13 whereby there are no sharp edges to engage a finished surface which might be placed thereagainst.

Extending through the cylindrical body 10 and adapted for axial movement relative thereto is an elongated actuating member indicated generally at 14. A suitable opening 16 is provided in the holding plate 12 for receiving the end of the actuating member 14, as shown. The end of the actuating member 14 adjacent the holding plate 12 extends laterally as at 17 to provide a crimping element which extends in parallel, spaced relation to the holding

plate 12. Accordingly, the crimping element 17 is spaced from the holding plate 12 a distance to receive a panel or the like to be crimped which is indicated generally at 18.

To urge the crimping element 17 away from the holding plate 12, I secure a spring abutment 19 to the inner surface of the cylindrical body 10 in position to engage one end of a compression spring 21. The other end of the spring 21 is engaged by a spring abutment 22 which is secured to the actuating member 14, by suitable means, such as a pin 23. The compression spring 21 thus urges the actuating member 14 and the crimping element 17 carried thereby toward the left, as viewed in FIG. 1, whereby the crimping element 17 always returns to a position for receiving a member to be crimped.

As shown in FIG. 1, the depending handle 11 carries an outwardly projecting support bracket 24. A lever arm 26 is pivotally connected intermediate its ends by a pivot pin 27 to the outwardly projecting support bracket 24. The upper end of the lever arm 26 is provided with a ball-like member 28 which is adapted to engage a socket 29 carried by the actuating member 14 whereby upon pivotal movement of the lever arm 26, the actuating member 14 is reciprocated. The lower depending end of the lever arm 26 along with the depending handle 11 are grasped by the operator to thereby force the lower end of the lever arm 26 toward the depending handle 11 whereupon the upper end of the lever arm and the actuating member 14 connected thereto are moved axially to force the crimping elements 17 into engagement with the member to be crimped.

To limit axial movement of the actuating member 14, I provide threads 31 on the actuating member 14, as shown. A disc-like member 32 is mounted in threaded engagement with the threads 31 adjacent the end of the cylindrical body 10 nearest the socket 29 whereby the disc-like member 32 engages the end of the cylindrical body 10 to thereby limit axial movement of the actuating member 14 toward the end thereof carrying the crimping element 17. A guide member 33 is also in threaded engagement with the threaded portion 31 of the actuating member 14 whereby the actuating member 14 is held in axial alignment with the cylindrical body 10. The guide member 33 may be connected to the disc-like member 32 by suitable means, such as screws 34 or the guide member 33 may be formed integrally with the disc-like member 32.

From the foregoing description, the operation of my improved crimping device will be readily understood. The compression spring 21 urges the crimping element 17 away from the holding plate 12 whereby a panel 18 or the like to be crimped may be inserted between the crimping element and the holding plate, as shown in FIG. 1. To crimp the panel 18, the operator grasps the depending end of the lever arm 26 and the handle member 11 whereby the depending end of the lever arm is moved toward the handle 11 to thereby move the upper end of the lever arm and the actuating member 44 in a direction to force the crimping element 17 into engagement with the panel to be crimped. After the panel 18 has been crimped, the lever arm 26 is released whereupon the compression spring 21 returns the crimping element 17 to the position shown in FIG. 1. To adjust the effective length of the actuating member 14, the disc-like member 32 is rotated in the proper direction to move the crimping element 17 either toward or away from the holding plate 12. By providing a ball and socket connection between the lever arm 26 and the actuating member 14, ample movement is provided between the connected parts to permit free pivotal movement of the lever arm about the pivot pin 27.

From the foregoing, it will be seen that I have devised an improved crimping tool which is adapted to crimp a panel or the like with a minimum of effort. By provid-

ing adjustable stop means for varying the effective length of the actuating member 14, the device is adapted for crimping panels of various thicknesses by merely rotating the disc-like member 32 in the proper direction. Also, by providing a compression spring between the actuating member 14 and the cylindrical body 10, the crimping element 17 is always urged in a direction to receive a member to be crimped. Furthermore, by providing rounded edges for the holding plate 12, any finished surface placed thereagainst is not marred or damaged during the crimping operation.

While I have shown my invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claim.

What I claim is:

A crimping tool comprising:

(*a*) an elongated cylindrical body,

(*b*) an elongated rod-like member extending longitudinally through said cylindrical body and adapted for longitudinal rectilinear movement relative thereto,

(*c*) a transverse plate mounted at one end of said cylindrical body and extending generally normal thereto with the edges of said transverse plate being curved toward said cylindrical body,

(*d*) a laterally projecting crimping element carried by said rod-like member in position to extend in spaced parallel relation to said transverse plate for receiving a member to be crimped therebetween,

(*e*) spring means interposed between said cylindrical body and said rod-like member and disposed to urge said rod-like member in a direction to move said crimping element away from said transverse plate,

(*f*) a depending handle carried by said cylindrical body,

(*g*) a lever arm pivotally supported intermediate its ends by said handle and having a depending portion disposed to extend alongside said handle,

(*h*) means pivotally connecting the end of said lever arm opposite said depending portion to said rod-like member whereby said rod-like member is reciprocated in response to pivotal movement of said lever arm,

(*i*) an adjustable stop member carried by said rod-like member in position to engage said cylindrical body and thereby limit axial movement of said rod-like member, and

(*j*) there being a passageway in said transverse plate for receiving said rod-like member to restrain lateral movement of said rod-like member relative to said transverse plate.

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