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E. FREY

RIVETING PUNCH

Filed April 24, 1923

Fig. 1.

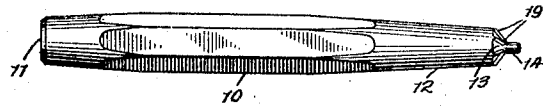


Fig. 2.

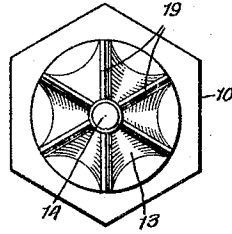


Fig. 3.

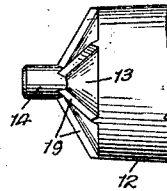


Fig. 4.

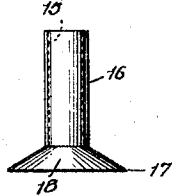
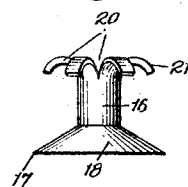


Fig. 5.



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EUGENE FREY, OF MOUNT VERNON, NEW YORK.

RIVETING PUNCH.

Application filed April 24, 1923. Serial No. 634,317.

To all whom it may concern:

Be it known that I, EUGENE FREY, a citizen of the United States, and a resident of Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in a Riveting Punch, of which the following is a full, clear, and exact specification.

This invention relates more particularly to a class of tools adapted to be used in conjunction with a class of rivets.

My invention has for its object primarily to provide a tool or punch designed to be employed for facilitating the work of fastening articles together by rivets especially of kinds made of pliable metal of commonly known types having heads with hollow shanks, and which is of a form adapted to permit a second head to be provided on the shank by slitting its free end and then bending the slitted portions in a manner to form the head for clamping the articles on the shank between the heads. The invention consists essentially of an elongated body having a tapered or substantially cone-shaped end, and protruding from the apex of this end of the body is a lug for removable insertion in the open end of a pliable hollow rivet. On the cone-shaped end of the body surrounding the lug are radially disposed cutting blades so that when it is desired to rivet together two articles the hollow rivet is passed through registered holes provided in the articles. In the free end of the shank of the rivet is inserted the lug of the tool, and by striking the other end of the body with sufficient force the cutting blades will split spaced parts of the shank, while the tapered end of the body bends the slitted portions of the shank to outward flared positions for forming on the rivet a second head so that the articles will be clamped between both heads.

A further object of the invention is to provide a riveting punch of a simple, efficient and durable construction which may be made in any appropriate size and shape.

With these and other objects in view, the invention will be hereinafter more fully described with reference to the accompanying drawing forming a part of this specifica-

tion in which similar characters of reference indicate corresponding parts in all the views, and will then be pointed out in the claim at the end of the description.

In the drawing, Figure 1 is an elevation of one form of riveting punch embodying my invention.

Fig. 2 is an enlarged view of the driving end of the tool.

Fig. 3 is an enlarged fragmentary view showing a side elevation of the driving end portion of the tool.

Fig. 4 is an elevation of one form of hollow rivet adapted to be driven by the tool, and

Fig. 5 is an elevation of the rivet showing the second head when formed thereon by the use of the tool.

The punch or tool has a body portion which may be of any desired size and shape, though the body portion illustrated is of an elongated substantially cylindrical shape, and the entire tool is preferably made of hard tempered steel.

One end, as 11, of the body portion serves as a striking surface to receive the blows of a hammer or other suitable implement when the tool is employed, as will be hereinafter more fully explained, and the other end part of the body may be tapered, as at 12. The second end of the body portion 10 is preferably tapered in approximately a cone-shape, as at 13, and protruding from the apex of this cone-shaped end is a substantially cylindrical lug as 14, which may be of a suitable length and diameter adapted to be removably inserted in the open free end, as 15, of the shank 16 of a hollow pliable metal rivet 17 which may be of a commonly known class used for riveting together various articles, the rivet having on one of the ends of its shank a head, as 18.

The cone-shaped end 13 of the body portion 10 is of considerably larger diameter than the diameter of the lug 14, and on this cone-shaped end surrounding the lug are radially disposed spaced cutting blades 19. These cutting blades may be of similar formations as well as being of lengths so that they extend from the lug 14 to the outer marginal edge of the cone-shaped end 13 of the body portion. Viewed crosswise

each of the cutting blades 19 is also substantially cone-shaped, and the blades are of shapes so that their cutting edges taper similarly to the taper of the face of the cone-shaped end.

When it is desired to rivet together a number of articles after providing the usual holes in the article one of the hollow rivets is then passed through each hole so that the free end portions of the shanks of the rivets protrude sufficient distances beyond the holes. In the open end of the shank of each rivet is then inserted the lug 14 of the tool, and the end 11 of the body portion 10 of the tool is struck by a hammer or other implement to cause the blades 19 to slit spaced parts of the edge of the open end of the shank of the rivet, as indicated at 20 Fig. 5. By continuing the driving of the tool the portions of the shank of the rivet will be curled by the cone-shaped end of the tool to form a second head, as 21, on the rivet, and in turn the articles will be clamped on the shank between both heads of the rivet. Thus a simple and efficient tool is provided for facilitating the work of driving hollow rivets without requiring the use of riveting machines, especially when occasion requires the use of a limited number of rivets and when the articles to be riveted are of kinds wherein

the work of using riveting machines would be impractical.

While in the foregoing description, I have embodied the preferred form of my invention, I do not wish to be understood as limiting myself thereto, as I am aware that modifications may be made therein without departing from the principle or sacrificing any of the advantages of this invention, therefore, I reserve to myself the right to make such changes as fairly fall within the scope thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patents:—

A riveting punch comprising an elongated body having a blunt end adapted to receive a blow from a striking implement and terminating at its other end in a conical face, an approximately cylindrical lug extending from the apex of the conical face for insertion into the open end of a hollow rivet, and radially disposed V-shaped cutting blades on the conical face, the cross section of each of the cutting blades being substantially uniform from the periphery of the body to that of said lug.

This specification signed this 23 day of April A. D. 1923.

EUGENE FREY.