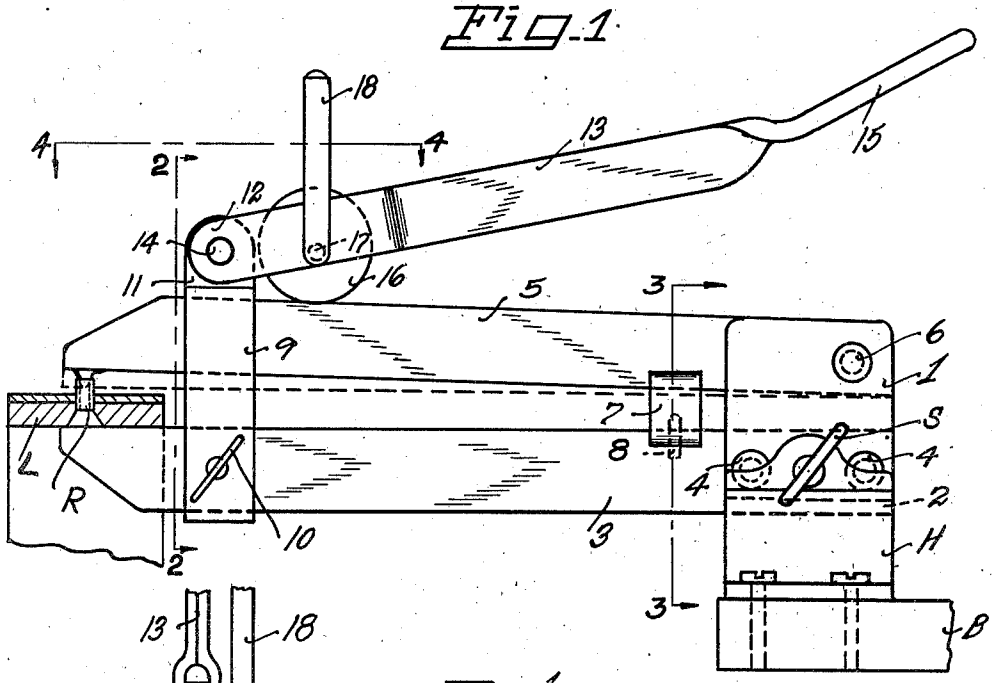
Nov. 4, 1947. H. J. YAGER 2,430,383

RIVETING TOOL

Filed Nov. 10, 1944

Fig. 1



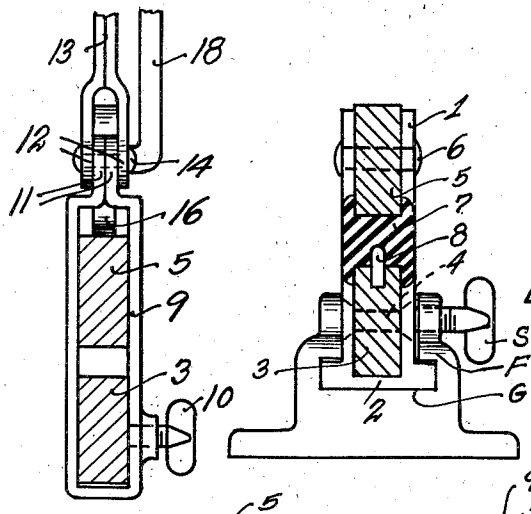
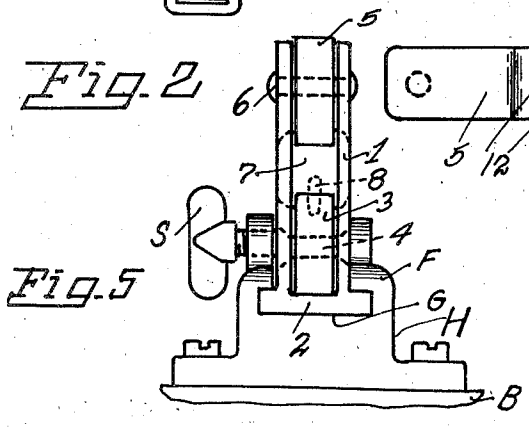


Fig. 3

Fig. 2



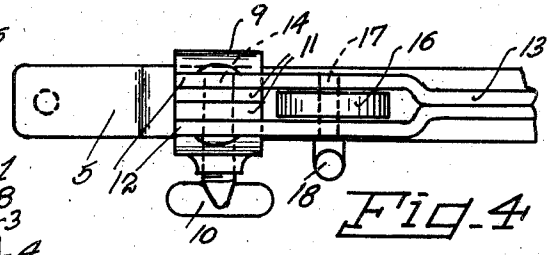


Fig. 4

Fig. 5

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RIVETING TOOL

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2 Claims. (Cl. 218—19)

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The present invention relates to an improved riveting tool of the manually operated, lever actuated, pressure type, that is readily portable for carrying to a repair job, and which also may with facility be attached or fastened to a work bench for shop use. While the tool or implement is especially designed for use in setting tubular rivets, as in brake linings for automotive wheels, it may be employed with other types of fastening devices; and as it is light in weight, simple in construction and operation, it may be handled and manipulated with convenience in the performance of its functions.

Due to the use of a minimum number of parts, they may be manufactured in quantities at low cost of production, and assembled with facility to provide a quick-acting and rugged implement for bench work or a light-weight and convenient portable tool for field work.

The invention consists in certain novel combinations and arrangements of parts involving a fixed jaw and a lever-operated pressing jaw, together with means for adjusting the fulcrum of the operating lever, and for varying the movement of the pressing jaw, as will be set forth and claimed. In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention in which the parts are combined according to one mode I have thus far devised for the practical application of the principles of my invention, but it will be understood that changes may be made in this exemplifying disclosure of my invention, within the scope of my appended claims, without departing from the principles of the invention.

In the drawings, where the invention is embodied in a stationary implement, or bench-tool—

Figure 1 is a side elevation of the manually operated tool in position to set a tubular rivet in a brake lining.

Figure 2 is a sectional view at line 2—2 of Figure 1 showing the yoke or clasp about the jaws and the end of the lever pivoted thereto.

Figure 3 is a sectional view at line 3—3 of Figure 1 showing the resilient cushion or pad for the movable jaw, and the toolholder.

Figure 4 is a top plan view, as at line 4—4 of Figure 1 illustrating the adjustable fulcrum of the lever; and Figure 5 is a view in elevation at the right end of Figure 1 showing the relation of the tool head to the stationary holder for the tool.

In the assembly view Figure 1 the tool is supported from a work bench B by the holder H, and

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the tubular rivet R is to be set in the brake lining L. As seen in Figures 3 and 5, the holder H is grooved at G, and fashioned at F with opposed flanges that cooperate with the groove in rigidly supporting the tool, and a set screw S is threaded through an upstanding ear portion on one of the flanges F and engaged against the head 1 to clamp the tool in the holder.

The tool may readily be detached from the holder, when screw S is loosed, and employed as a portable hand-tool, one hand being employed to support the implement while the other hand is used to operate it.

In assembling the parts of the tool a head 1, of general U-shape is employed, and to detachably support the tool in its holder H, the head is fashioned with a dovetail flange or base 2 that slips into the holder as indicated, to provide a rigid joint between the tool and holder.

The head is provided with a jaw 3 that is fixed thereto at one end by spaced rivets 4, 4, or other suitable fasteners, and a movable, or presser, jaw 5 is pivoted in the head at 6 for cooperation with this fixed jaw. To provide a resilient cushion or pad for the movable jaw a rubber block 7 is fastened, as by pin 8 to the fixed jaw, in the path of movement of the movable jaw, and located adjacent the pivoted end of the latter jaw.

The pressing device, or presser assembly, for the rivet, which co-acts with the two jaws, is adjustable toward and from the pivoted end of the movable jaw to vary the size of the mouth of the jaws in adapting the tool to different sizes of work; and the lever mechanism of the presser assembly is also adjustable to different lengths of rivets by the use of a variable presser 16.

The presser assembly for operating the movable jaw includes a U-shaped yoke or clasp 9 that encloses the two jaws and is slidable thereon toward and from the pivoted end of the movable jaw, a set screw 10 being mounted in the yoke to engage the fixed jaw and hold the yoke in adjusted position. The two arms of the yoke terminate in perforated ears 11 above the movable jaw to provide a pivotal support for the bifurcated or forked end 12 of the presser lever 13, that extends rearwardly from the supporting yoke toward the head of the tool. The lever is pivoted to the yoke by means of a stud pin 14, and it terminates in a handle 15 above the head of the tool, as indicated in Figure 1.

Within the bifurcated end of the lever, and between the two pivots 14 and 6, a variable presser disk or cam 16 is eccentrically pivoted at 17, and

a cam lever 18 rigid with the cam and its pivot, is provided for adjusting this variable presser.

The cam 16 bears on the outer face or edge of the movable jaw 5 to form the presser of the lever 13. The pad 7 normally holds the jaw 5 raised high enough to permit insertion of the rivets beneath it.

The yoke 9 limits the spread of the jaws so that there is no excess opening thereof, for the particular length of rivet used, to be needlessly taken up during the setting operation. The lever 13 must be at a sufficient angle to the jaw 5, when the jaw 5 is seated on the rivet, to give clearance between it and the head 1 for sufficient angular movement of the lever 13 to set the rivet without contact between the lever 13 and the head 1. When there is not sufficient clearance, as just indicated, the lever 18 is used to turn the cam 16 enough to cause the lever 13 to rise to increase this clearance. This rise is due to the opposition of the resilient pad 7 to any downward movement of the jaw 5. Also the operator may by holding the lever 13 stationary, set the jaw 5 firmly down on the rivet, at which point further turning of the cam will greatly increase the upward lift on the end of the lever 13 to signal that the jaw 5 is thus firmly set down on the rivet. When the cam is properly set for the rivet in the manner just described, the lever 13 is forced down to fully set the rivet. For rivets longer than may be inserted between the jaws as just set, the yoke 9 may be moved toward the head 1 to increase the spread of the jaws.

The movement of the jaw is indicated by the dotted line in Figure 1, and as the rivet is compressed, the resilient pad or cushion is also compressed. When the lever is released and pressure is thereby withdrawn from the jaw 5 the resilient cushion disengages the jaw from the rivet, and the tool may be withdrawn from the work, or the work withdrawn from the tool as the case may be.

By slidably adjusting the supporting yoke, the throw or movement of the lever may be varied, and the tool may be adapted for use with different sizes of rivets.

Having thus fully described my invention, what

I claim as new and desire to secure by Letters Patent is:

1. In a riveting tool including a head and a fixed jaw, and a presser jaw pivoted in the head, the combination therewith of a U-shaped yoke enclosing the jaws and movable lengthwise of the jaws, means on the yoke for rigidly fixing it to one jaw, an operating lever pivoted on the yoke, a presser device mounted on the lever and laterally spaced from the pivot of the lever for engagement with the movable jaw and adjustable on the lever to project more or less from the lever toward the jaw, and means operating normally to hold the movable jaw away from the fixed jaw to the full extent permitted by the yoke.

2. In a riveting tool including a head and a jaw fixed to the head, and a presser jaw pivoted to the head to move toward and away from the fixed jaw, the combination therewith of a U-shaped yoke enclosing the jaws and slidable lengthwise of the jaws toward and away from the head to control the amount of spread of the jaws, means for securing the yoke to the fixed jaw at any desired point between the ends of said fixed jaw and the head, an operating lever having one end pivoted on the yoke, a cam disk eccentrically pivoted to the lever intermediate its ends and projecting from the lever to engage the presser jaw, and a hand lever affixed to said disk for turning it to vary the amount it projects from the presser jaw.

HARVEY J. YAGER.

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