July 20, 1948. A. W. BARRY 2,445,551

RIVET SET RETAINER SPRING

Filed Nov. 24, 1944

Fig. 1.

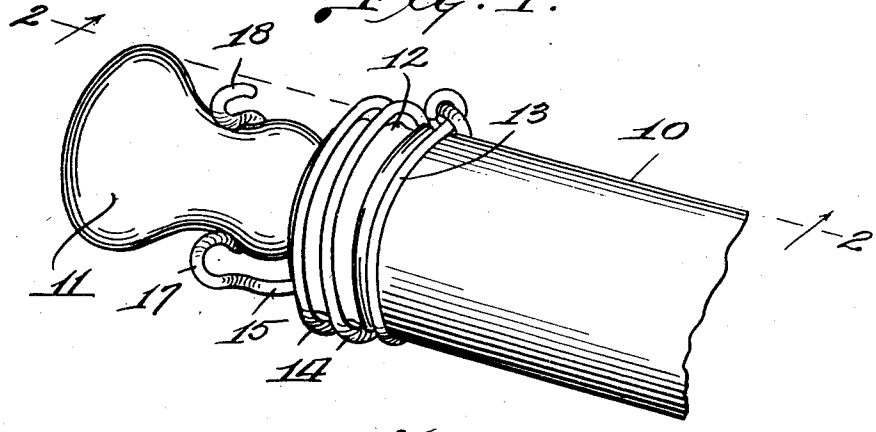


Fig. 2.

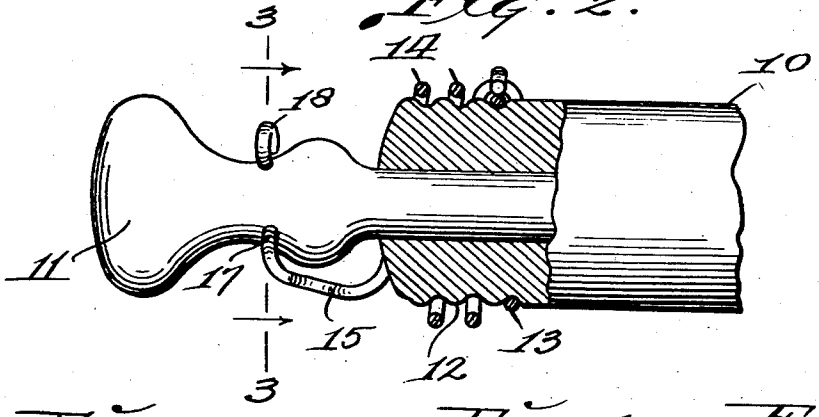


Fig. 4.

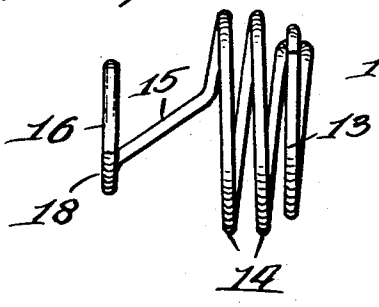


Fig. 3.

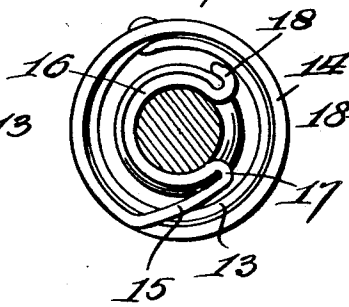
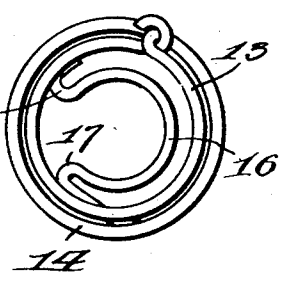


Fig. 5.



INVENTOR.
ARTHUR W. BARRY.
BY
Martin P. Smith
ATTY.

Patented July 20, 1948

2,445,551

UNITED STATES PATENT OFFICE

2,445,551

RIVET SET RETAINER SPRING

Arthur W. Barry, Los Angeles, Calif.

Application November 24, 1944, Serial No. 564,965

1 Claim. (Cl. 279—19.6)

1

My invention relates to a rivet set retaining spring and has for its principal object, to provide a simple, practical, inexpensive and highly efficient one piece resilient member which is capable of being readily applied to or removed from the nose portions of percussive tools such as pneumatic riveting hammers, for the purpose of engaging the rivet set or like tool and maintaining same in proper operative position on the hammer.

A further object of my invention is, to provide a device of the character referred to which serves as a highly effective resilient connection between the rivet set or like tool, so that the latter can only be removed from said gun or hammer, by manual manipulation of a portion of said device.

A further object of my invention is to minimize the possibility of accidents resulting from the rivet sets or the like tools being forcibly driven from the guns or hammers when the fluid pressure is turned on therein, to actuate the reciprocating plunger.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which:

Fig. 1 is a perspective view of the nose portion of a percussive tool or hammer with a rivet set engaged and held in operative position thereon by my improved retaining device.

Fig. 2 is a sectional view taken approximately on the line 2—2 of Fig. 1.

Fig. 3 is a cross section taken on the line 3—3 of Fig. 2.

Fig. 4 is a side elevation view of the device.

Fig. 5 is a rear elevational view of the device.

Referring by numerals to the accompanying drawings, which illustrate a preferred embodiment of my invention, 10 designates the nose portion of a percussive tool or pneumatic riveting hammer, 11 a conventional rivet set and 12 the thread formed on the periphery of the forward end of said hammer.

My resilient retaining device is formed from a single piece of resilient wire, one end portion of which is formed into a closed ring or loop 13 adapted to screw into and fit snugly within thread 12, thus securely anchoring the device on the nose portion or the tool and enabling said device to be screwed on said nose portion so as to accommodate different lengths and shapes of rivet sets.

The intermediate portion of the wire forming

2

the retainer, forwardly of the ring 13, is bent to form a short coil spring having two, three or more convolutions 14, the internal diameter thereof being slightly greater than the diameter of the threaded portion of the tool or hammer 10 and thus said convolutions are free to expand and contract lengthwise over the thread 12.

From the lower portion of the forward convolution, the wire is extended forwardly, laterally and inwardly toward the axis of the coils 14 to form a short arm 15 and the terminal portion of the wire in front of said arm is bent to form an open ring or C-shaped member 16.

This member 16, which is concentric with and disposed at right angles to the axis of the coils 14, is adapted to receive the rivet set 11 at a point between its head and a bulbous portion on the shank of said set, a short distance to the rear of said head.

One end of member 16 is connected to arm 15 by a U-shaped portion 17 of the wire and on the opposite end of said member 16 the wire terminates in a small loop 18.

After ring 13 has been screwed onto thread 14, the set may be readily placed in the end of the gun by pressing member 16 laterally a sufficient distance to enable the shank of the set to be inserted in the gun bore after which, said member 16 is pulled toward the set until it is engaged upon the body of said set rearwardly from the head thereof, as illustrated in Figs. 1 and 2.

Thus the set is flexibly secured upon the gun and the coils 14 permit said set to move outward when struck by the plunger and to retract said set after each blow struck by said plunger.

To remove the set from the gun, it is only necessary to exert sufficient pressure against U-shaped member 17 and loop 18 to shift member 16 laterally and thereby free the set from said member.

On each outward movement of the rivet set, member 16 which practically encircles said set will be canted slightly out of its normal transverse position at right angles to the axis of the set, thus producing a gripping effect on the set and thereby enhance the connection between the parts.

Likewise when the coils 14 flex outwardly, following the outward strokes of the set, ring 13 will be canted slightly so as to more firmly grip the thread on the gun, thereby materially increasing the resistance of strains tending to pull said ring out of the thread groove in which it is seated.

Thus it will be seen that I have provided a rivet

set retainer spring which is simple in structure, inexpensive of manufacture and very effective in performing the functions for which it is intended.

It will be understood that minor changes in the size, form and construction of the various parts of my improved rivet set retainer spring may be made and substituted for those herein shown and described without departing from the spirit of the invention, the scope of which is set forth in the appended claim.

I claim as my invention:

A rivet set retaining device formed of resilient wire and comprising a plurality of convolutions, the rear one of which is smaller in diameter than the others, an arm projecting from the forward one of said convolutions and a transversely disposed C-shaped member on the forward end of said arm.

ARTHUR W. BARRY.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,110,063	Koroknay	Sept. 8, 1914
1,208,141	Greve	Dec. 12, 1916
1,211,219	Peck	Jan. 2, 1917
1,796,487	Stevens	Mar. 17, 1931
2,257,267	Lundgren et al.	Sept. 30, 1941