

1,325,982.

Fig. 1

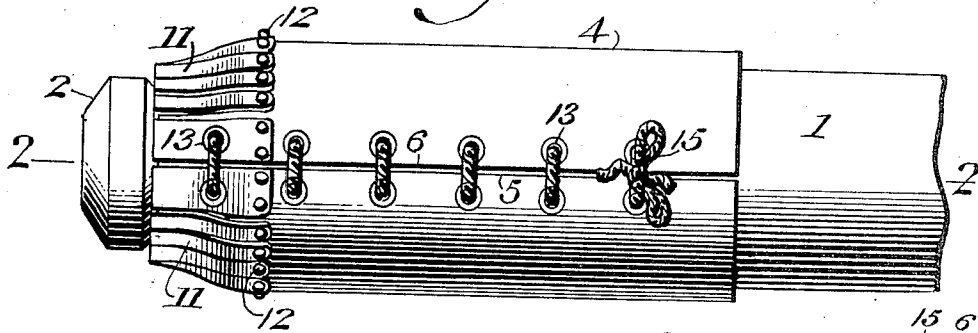


Fig. 2.

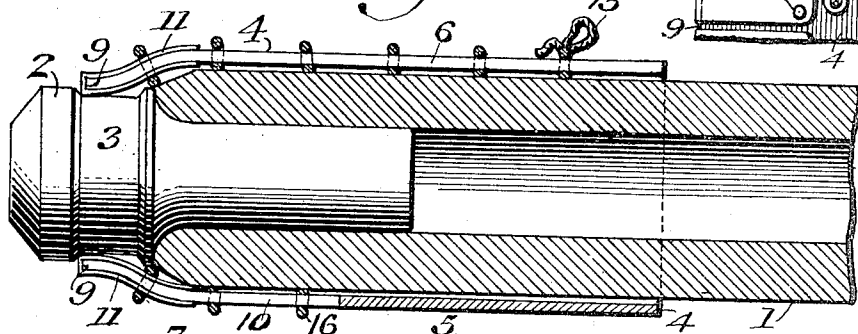


Fig. 3.

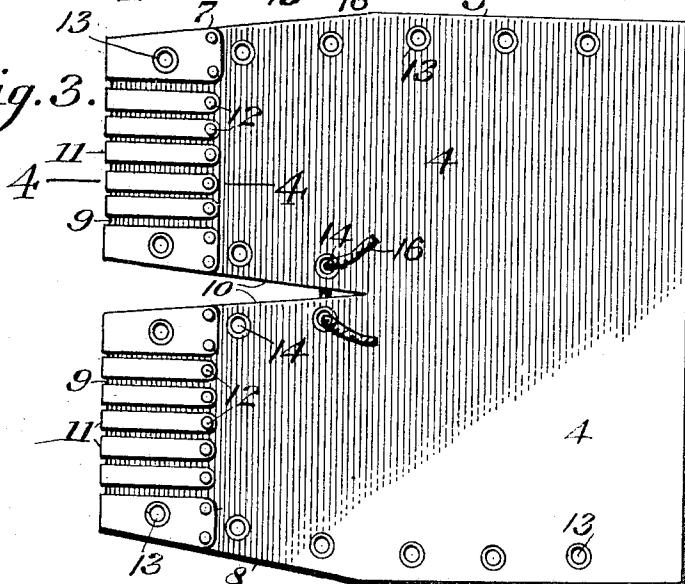
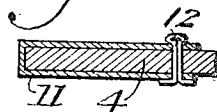


Fig. 4.



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RODGER J. DOUGHERTY, OF PHILADELPHIA, PENNSYLVANIA.

PROTECTOR AND TOOL-RETAINER FOR PORTABLE RIVETERS.

1,325,982.

Specification of Letters Patent.

Patented Dec. 23, 1919.

Application filed September 27, 1918. Serial No. 255,989.

To all whom it may concern:

Be it known that I, RODGER J. DOUGHERTY, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Protector and Tool-Retainer for Portable Riveters, of which the following is a specification.

In the driving of rivets with pneumatic riveters, the workman takes hold of the grasping handle with one hand and with his other he grasps the cylinder of the pneumatic riveter in order to properly guide it during the riveting operation. The workman usually has a glove on the hand which grasps the cylinder, but such glove does not give sufficient protection, as the rivet set is hammering upon a red-hot rivet and soon becomes very much heated, and this heat is imparted to the cylinder of the pneumatic riveter.

In accordance with my present invention, I have devised a novel construction and arrangement of a protector which acts as an insulator to prevent the hand of the workman from becoming heated or burned. The protector is constructed in such a manner that it can be readily assembled with respect to the cylinder of a riveter and can also be removed in a minimum amount of time.

It is well-known that it is customary to employ in conjunction with pneumatic riveters, a retainer for the working tool, which ordinarily consists of a split, spring clip, which interlocks with a groove at the forward end of the cylinder, and is also provided with means which is seated in a wider groove located in the periphery of the rivet set. This serves to hold the rivet set loosely associated with respect to the end of the cylinder and permits its relative movement, such as occurs during the riveting operation. It also serves to prevent the rivet set and the piston of the pneumatic riveter from dropping out when the pneumatic riveter is being carried by the workman from one place to another.

In accordance with my present invention, my novel protector is constructed in such a manner that the ordinary tool retainer may be dispensed with, and, at the same time, the rivet set is held with respect to the cylinder in such a manner that relative movement of such parts is permitted.

To the above ends my invention consists

of a novel protector and tool retainer which is adapted to be employed in conjunction with any desired or conventional type of portable pneumatic riveter.

It further consists of a novel construction of a protector and tool retaining device wherein the protector comprises a sheet of material having its forward end reinforced, the protector being made in such a manner that it will closely fit around the forward end of the cylinder of a pneumatic riveter, and have its reinforcement seated in the groove of the working tool such as, for example, the rivet set.

Other novel features of construction and advantage will hereinafter more clearly appear.

For the purpose of illustrating my invention, I have shown in the accompanying drawings a typical embodiment of it which is at present preferred by me. It is, however, to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that the invention is not limited to the exact arrangement and organization of these instrumentalities as herein set forth.

Figure 1 represents, in perspective, the forward end of a riveting device, in conjunction with which a protector and tool retainer embodying my invention is employed.

Fig. 2 represents a section on line 2—2 of Fig. 1.

Fig. 3 represents a plan view of my device, in detached position.

Fig. 4 represents a section on line 4—4 of Fig. 3.

Fig. 5 represents a plan view of another embodiment of my invention.

Similar numerals of reference indicate corresponding parts.

Referring to the drawings:—

1 designates the cylinder of a portable pneumatic riveter, which may be of any desired or conventional design. 2 designates the working tool or rivet set, the shank of which extends into the end of the cylinder 1 in the usual manner, and the head of the rivet set 2 is provided on its periphery with an annular groove 3.

4 designates a protector embodying my invention, which consists of a sheet of material, preferably of an insulating character, and in practice I have found that leather is a suitable material of which to make the protector. The sheet is cut out in such a

manner that it will have at opposite sides the straight edges 5 and 6, which merge into the converging edges 7 and 8, while the forward edges 9 are substantially straight.

10 10 designates a slit which may be straight or V-shaped as shown, and for the purpose of illustration, I have preferred to show it as formed of a V-shaped cut, so that when the protector is assembled with respect to the tool, it will closely engage the forward end of the cylinder 1, and assume the contour of a truncated cone. The forward edge 9 is reinforced by means of a desired number of U-shaped strips 11, the free ends 15 of which have means to be clamped as at 12 to the protector.

I preferably employ a number of these protecting members 11 in order that the forward end will be armored in the proper manner in the annular groove 3 when the parts are assembled. The sides of the protector are provided with the eyelets or eyes 13, and the sides of the slot 3 are also provided with similar eyelets or eyes 14.

15 15 designates a lacing which passes through the eyelets 13 in order to secure the protector with respect to the cylinder 1, and 16 designates a lacing which passes through the eyelets 14 in order that the forward end of the protector will be seated in the groove 3 and be retained in such position.

In the embodiment seen in Fig. 5, I employ a metal reinforcement 17, which covers the joint formed by the juxtaposed edges of the protector, and the rivet 18 is employed on each side of the joint to secure the reinforcing member 17 in position.

It will be understood that a similar member 17 is employed where the slit 10 is formed, so that the forward end of my device is riveted together instead of being laced, the eyelets 13 being formed in rear of the reinforcement 17.

45 It will be apparent that when my device is cut in the proper shape and securely laced together, that it serves as a safety device to prevent the rivet set being accidentally ejected from the forward end of the cylinder. It also serves to prevent the rivet set and the piston of the pneumatic riveter from falling out when the tool is being carried around from one place to another by the workman.

55 The preferred manner of assembling the tool when used in conjunction with my novel protector and tool retainer is to insert the rivet set into the protector from the rear, and then push the sleeve portion 60 of the protector on to the front end of the cylinder and cause the shank of the rivet set to pass into the cylinder. The protector is then secured together in assembled position, preferably by lacing, although, as is 65 apparent, other securing means may be em-

ployed and still be within the scope of my invention.

I prefer, however, in practice, to employ a lacing, since it is customary in devices of this character for the workman each 70 night when the day's work is finished, to turn in to the tool-room or to the boss riveter, the pneumatic riveter which he has been using, and the protector would preferably be removed from the tool at such 75 time and be assembled with respect to the tool when the workman started to work the next morning.

In many types of riveting, it is necessary for the workman to hold the tool at the 80 front end of the cylinder near the rivet set, and when a device constructed in accordance with my invention is employed, his hand is insulated in the proper manner so that there is no likelihood of the workman burning his 85 hand due to the heat from the rivet set and the cylinder.

It will of course be understood that the length of the reinforcing members 11 may vary, in accordance with the conditions and 90 requirements met with in practice, and the manner in which these reinforcing members have been shown in the drawing is only for purposes of illustration.

It will be apparent from the foregoing, 95 that when my novel protector and tool retainer is applied to a pneumatic riveter, that the hand of the workman will be properly insulated, and at the same time the protector serves to retain the working tool 100 loosely associated with the cylinder, and the spring clip ordinarily employed may be dispensed with.

My device can be economically manufactured, and has been found in practice to 105 materially facilitate the proper handling of the riveter.

The forward end which extends into the shoulder forming groove of the rivet set is preferably armored or reinforced with metal 110 or other suitable material, in order to increase its durability, but in some instances such reinforcement may be dispensed with, if desired.

My device can also be employed in cases 115 wherein the forward shoulder on the rivet set is omitted, and the cooperation of the protector and the rear shoulder will prevent the accidental removal of the rivet set from the cylinder. 120

It will now be apparent that I have devised a novel and useful construction of a protector and tool retainer for portable riveters, which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present 125 instance, shown and described a preferred embodiment of it which will be found in practice to give satisfactory and reliable re- 130

sults, it is to be understood that such embodiment is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

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

1. In a device of the character stated, a sheet of flexible heat insulating material adapted to engage the end of a pneumatic riveter and having its outer walls converging forwardly and provided at a point intermediate said outer converging walls with a V-shaped slit, whose walls diverge forwardly, the edges of said outer walls and said slit having eyes and a lacing passed through said eyes, so that when said sheet is laced upon the forward end of said riveter, it will assume the form of a flexible truncated cone.

2. A protector and tool retainer for pneumatic riveters, comprising a sheet of flexible heat insulating material having eyes at the juxtaposed sides, and having a centrally located V-shaped slit at its forward end the edges of which are provided with eyes.

3. A protector and tool retainer for pneumatic riveters, comprising a sheet of material having eyes at the juxtaposed sides, and having a centrally located V-shaped slit at its forward end the edges of which are provided with eyes, and armor reinforcing the forward end of said sheet.

4. The combination with the cylinder, and the grooved rivet set of a pneumatic riveter, of a protector and tool retainer composed

of flexible heat insulating material having oppositely located juxtaposed converging walls laced together to form a truncated cone adapted to cover the forward end of the cylinder and having its forward end converging to extend into the groove of the rivet set and retain it loosely in association with the cylinder.

5. The combination with the cylinder of a pneumatic riveter and a rivet set having a shoulder, of a protector and tool retainer comprising a sheet of flexible heat insulating material having oppositely located juxtaposed converging edges adapted to surround the forward end of the cylinder, and means to lace the juxtaposed edges of the sheet together to cause the front portion to assume the shape of a flexible truncated cone and to be deflected inwardly to pass inwardly beyond said shoulder.

6. The combination with the cylinder of a pneumatic riveter and a rivet set having a shoulder, of a protector and tool retainer comprising a sheet of flexible heat insulating material to surround the forward end of the cylinder, means to lace the juxtaposed edges of the sheet together to cause the front portion to be drawn into the shape of a flexible truncated cone whose forward end is adapted to be deflected inwardly to pass inwardly beyond said shoulder, and means to reinforce the portion of the protector which is next to the rivet set.

RODGER J. DOUGHERTY.

Witnesses:

Mrs. H. POLENZ,
Mrs. W. POHLE.