P. J. KRUEGER.

RECOIL PAD.

APPLICATION FILED DEC. 1, 1916.

1,246,117.

Patented Nov. 13, 1917.

2 SHEETS—SHEET 1.

FIG. 2.

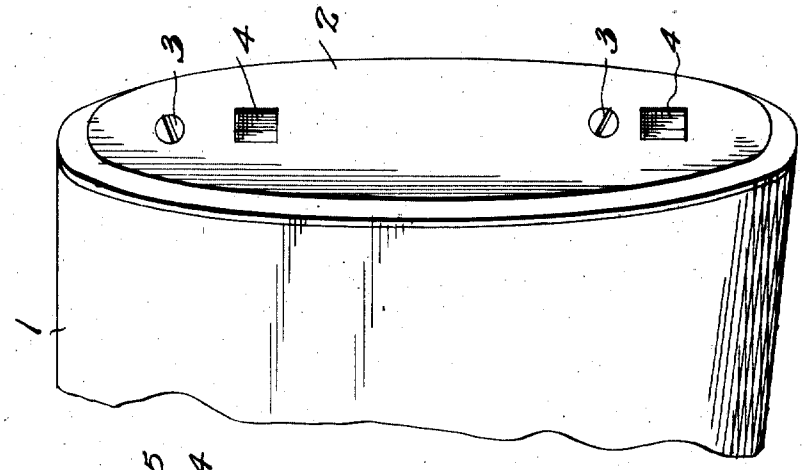


FIG. 1.

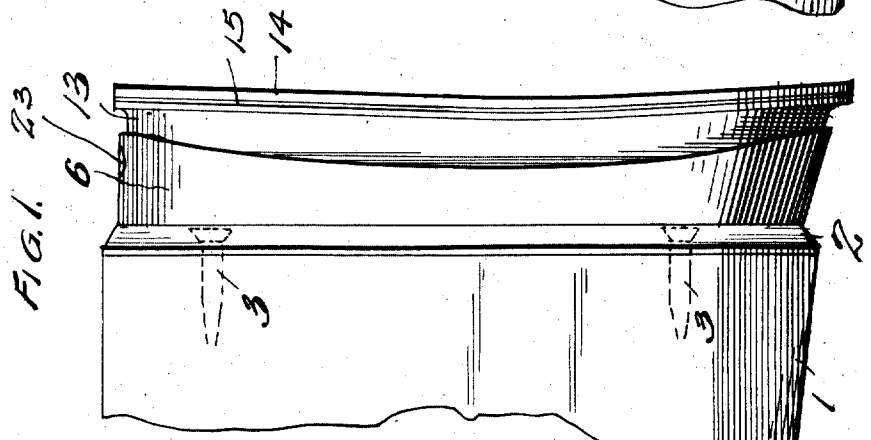
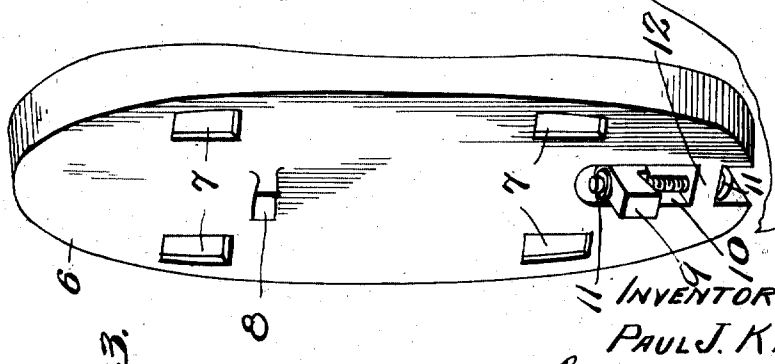


FIG. 3.



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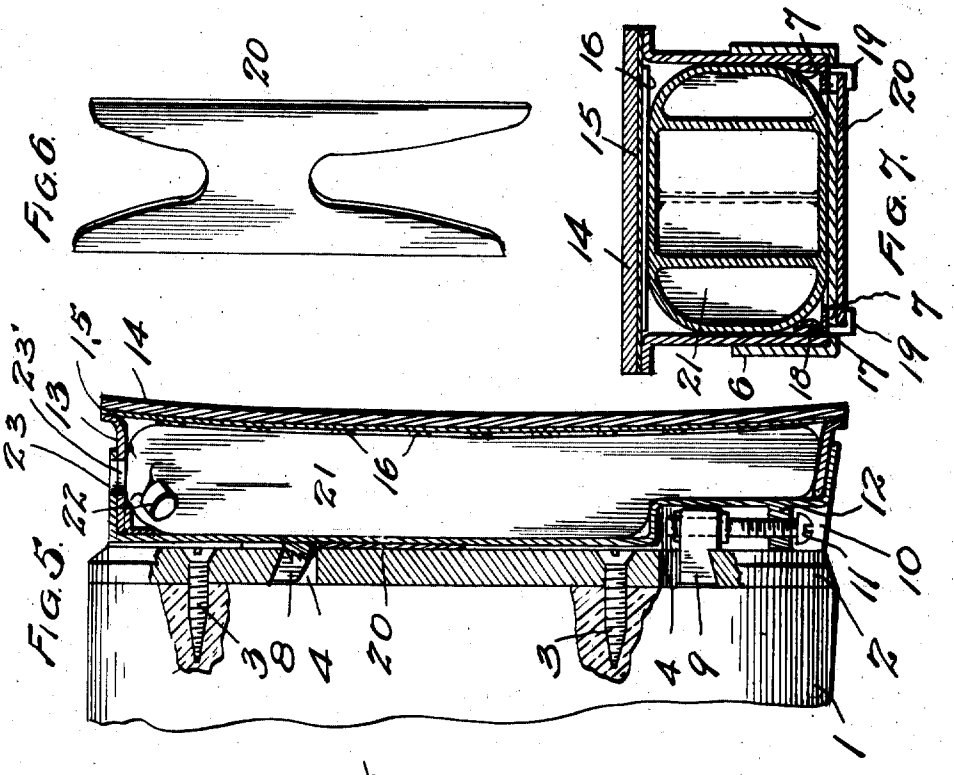
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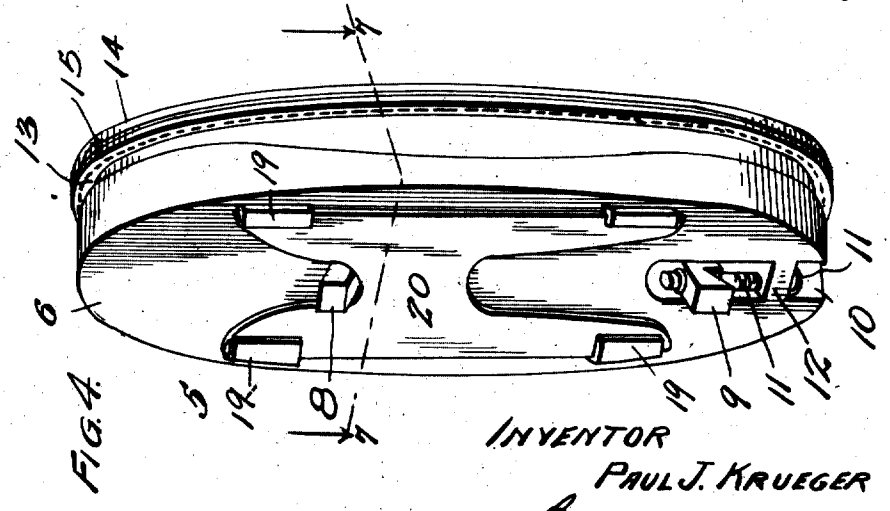
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2 SHEETS—SHEET 2.





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UNITED STATES PATENT OFFICE.

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RECOIL-PAD.

1,246,117. Specification of Letters Patent. Patented Nov. 13, 1917.

Application filed December 1, 1916. Serial No. 134,315.

To all whom it may concern:

Be it known that I, PAUL J. KEUNECKE, a citizen of the United States of America, residing at Blue Island, in the county of Cook and State of Illinois, have invented new and useful Improvements in Recoil-Pads, of which the following is a specification.

My present invention relates to improvements in recoil pads for use in connection with fire arms of the shoulder type, and is designed to provide a device to be attached to the butt end of the stock of the gun to act as a cushion for absorbing shocks of recoil when the gun is fired, thereby preventing injury or discomfort to the gunner. This pad is also applicable for use in other connections as a cushion, for instance, with crutches, and the device may be put to a variety of uses, as will readily be understood.

The primary object of the invention is the provision of a device of this character, which is comparatively inexpensive in production, but which is efficient and durable in the performance of its required functions, and which is simple in construction and is applicable with facility for attachment, not only to specially prepared guns, but may readily be used in connection with existing shoulder arms.

The invention consists in certain novel combinations and arrangements of the butt plate of the stock of the gun by which a pneumatic cushion is retained thereon to absorb the shocks of recoil.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention, constructed according to the best mode I have so far devised for the practical application of the principles of the invention.

Figure 1 is a side elevation of the rear end of the gun stock with my recoil pad attached thereto.

Fig. 2 is a view in perspective of the butt end of the gun, showing the butt plate.

Fig. 3 is a perspective view of the metallic casing which is attached directly to the butt plate of the gun, and forms a portion of the recoil pad.

Fig. 4 is a perspective view of the recoil pad.

Fig. 5 is a view in section of the recoil pad, showing also by broken parts, its attachment to the butt plate of the gun stock.

Fig. 6 is a perspective view of a locking plate forming part of the pad.

Fig. 7 is an enlarged transverse sectional view on line 7—7 of Fig. 4.

In order to exemplify the construction and operation of my improved pad, I have illustrated the butt end of the stock 1 of a shoulder arm, and the butt plate 2 of metal is attached at the rear end of the stock by screws 3—3, and this plate is provided with a pair of centrally alined slots 4—4. The pad as a whole is indicated by the numeral 5, and is designed to be detachably fixed to the butt plate of the stock 1.

The recoil pad is made up of several elements, the casing 6 being fashioned with metal which may be stamped or pressed into shape, to conform generally to the outline of the butt end of the gun. This metal casing, as best seen in Fig. 3, is formed with two pairs of alined slots 7—7 which are located near the edges of the casing, and near the upper end of the casing a lug 8 is centrally located, and rigidly fixed to the bottom face of the casing. In connection with the fixed lug 8, an additional movable block 9 is employed in connection with the slots 4—4 in the butt plate 2, to secure the pad to the gun. The opposite faces of lug 8 and block 9 are inclined in order to engage the inclined faces of the slots 4 in the butt plate, as best seen in Fig. 5. The movable block 9 is located in a groove or depression 10 formed in the casing 6, and a screw 11 which is threaded in the bridge 12 in the groove or recess 10, is utilized to move the block 9 in order to lock or unlock the pad in relation to the butt of the gun. Reference to Fig. 5 will readily indicate the manner of attaching and detaching the cushion or pad 5. The lug 8 is first inserted in its slot 4, and then the movable block 9 is inserted in its slot 4, and then the screw 11 which is revoluble in the block 9 is turned, to draw the block against the inclined wall of the slot 4, and the pad is locked to the body of the gun, as shown in Fig. 5. To unlock the pad and detach it from the gun, the screw 11 is given a reverse movement, withdrawing the block from its engagement with the wall of the slot 4, and then the pad may be detached, by first removing the lower end of the pad and then swinging the pad away from the butt of the gun with the upper end of the pad as the pivot point.

In connection with the casing 6, the pad 5, also includes a leather casing 13 which fits within the metal casing 6. This leather casing is formed with a cap piece 14, preferably of leather, or other flexible material, and a reinforcing plate 15 of metal and the metallic strips 16 attached thereto, are utilized to strengthen the leather portion of the pad. The outer edge of the casing 13 is turned out, and the cap piece 14 and reinforcing plate 15 are stitched together in order to form a rigid end portion for the leather inner casing. Around the inner open end of the leather casing is extended a metallic angle plate or reinforcing strip 17, which is riveted to the leather casing 13 at 18, and this reinforcing strip is provided with two pairs of flanged lugs 19 designed to pass through slots 7, and coact with the locking spring plate 20, to hold the inner leather casing to the outer metallic casing of the pad. Within the recoil pad is retained a pneumatic cushion 21 which may be inflated at one end by removing the cap 22 and attaching an ordinary bicycle pneumatic pump thereto through the registered openings 23—23′ in the upper end of the pad.

The pneumatic cushion, of course, may be inflated before the pad is assembled, or it may be inflated after the pad is assembled and attached to the gun, and of course should the cushion become deflated because of leaks, a pump may be used to properly inflate the cushion so that it will perform its functions.

The leather inner casing is attached to the metallic outer casing by passing the flanged lugs 19 through their corresponding slots 7, and then the spring locking plate 20 is positioned, as shown clearly in Fig. 4, with its edges engaging under the flanged locking lugs 19, to hold the parts in position.

From the above description taken in connection with my drawings, it is apparent that I have provided a device of this character which is comparatively simple in construction and operation, which may be attached or detached with facility, and which is highly efficient in performing its functions. With the cap piece 14 placed against the shoulder of the gunner, when the gun is fired, the "kick" or recoil caused by the explosion is absorbed by the pneumatic cushion 21, which is located between the shoulder of the gunner and the butt end of the gun, and in this manner the shock of recoil is absorbed instead of being conveyed directly to the shoulder of the gunner, thus eliminationg the possibility of injury or discomfort from the shock of recoil. The cushion or pad might well be applied to the upper end of the crutch or other surgical implement, or the gun with the recoil pad thereon could very well be used as a crutch, in an emergency, and the recoil pad would perform the functions of a pneumatic cushion as the weight of the body is placed thereon. Numerous other uses may be found for the device and, of course, it will be understood that I contemplate using the device wherever it is applicable.

What I claim is:

1. The combination with the butt plate of a gun having spaced slots, of a detachable recoil pad formed with a fixed lug to engage one of the slots, a movable locking block carried by the pad and adapted to engage the other slot, and means for operating said locking block to engage the slotted plate for attaching the pad, or disengaging the block from the slot to detach the pad.

2. The combination with the slotted butt plate, of a pad having a fixed lug, a movable block to engage the slotted plate, and a screw threaded in a portion of the pad and operating the block to lock or unlock the pad with relation to the plate.

3. The combination in a device as described with an outer casing formed with locking slots, of an inner flexible casing and a cushion within the inner casing, a rigid extension to the flexible casing, locking members on said rigid portion adapted to pass through the slotted casing, and a locking element adapted to engage said locking members to hold the two casings together.

4. In a recoil pad the combination with a metal slotted casing, of an inner leather casing formed with a metallic reinforcing strip, flanged lugs projecting from said strip adapted to pass through the slotted casing, and a locking plate adapted to engage said flanged lugs to hold the two casings together.

5. The combination with a metallic casing, of an inner flexible casing and means for locking the two casings together, a cushion within the flexible casing, an outer cap piece to the flexible casing, and a reinforcing metallic plate within the flexible casing, substantially as described.

In testimony whereof I affix my signature.

PAUL J. KRUEGER.