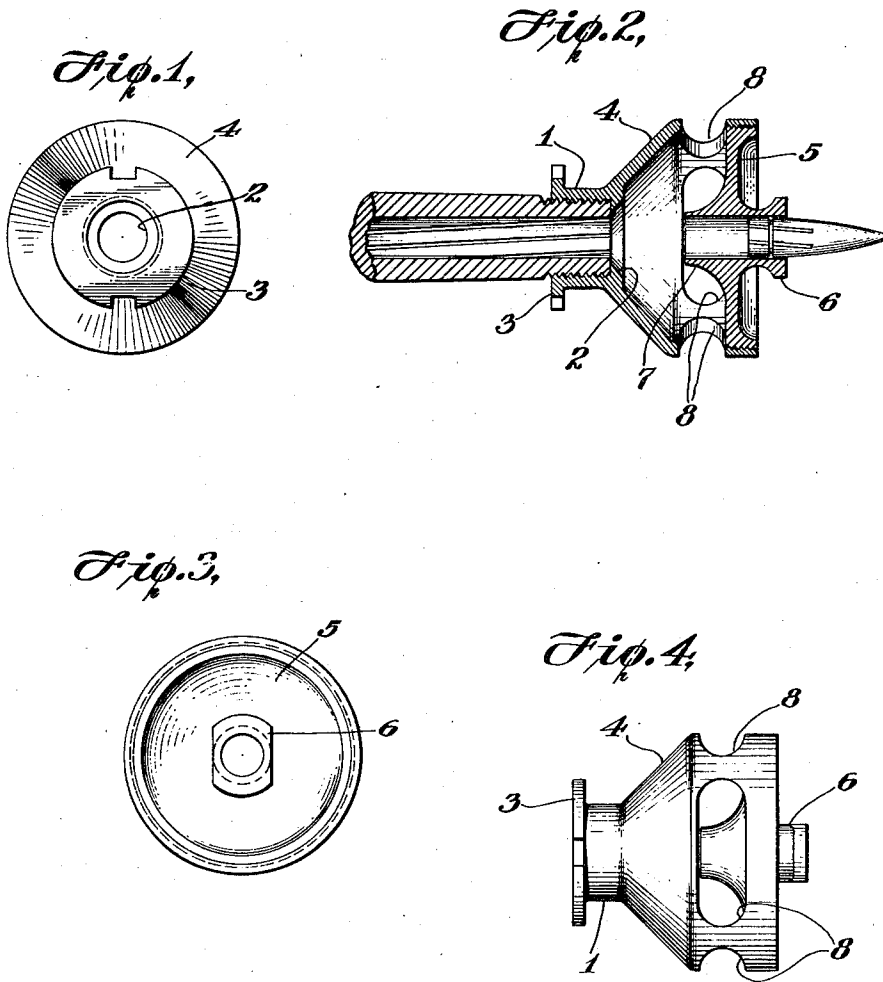


C. A. NELSON.
RECOIL CHECK.
APPLICATION FILED SEPT. 21, 1918.

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Charles A. Nelson Inventor
By His Attorney *H. E. Kimball*

UNITED STATES PATENT OFFICE.

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RECOIL CHECK.

Application filed September 21, 1918. Serial No. 255,059.

To all whom it may concern:

Be it known that I, CHARLES A. NELSON, United States citizen, residing at Utica, New York, have invented the following described Improvements in Recoil Checks.

The invention is a simplified form of recoil checks for fire-arms and consists in the special shape and structural organization of the expansion case, gas passages and impact surface as herein below more fully explained whereby a maximum checking effect is obtained from an extremely small attachment on the muzzle of the gun and without causing the muzzle gases to be blown back into the operator's face. I am aware that there have been many attempts to utilize the velocity of the muzzle gases to aid in checking the recoil of guns and that many of the forms heretofore proposed are more or less effective for the purpose stated but none of them however, so far as I know, are capable of the relative efficiency obtained by the organized combination of elements employed in the recoil check herein disclosed. I have succeeded for example in eliminating more than 60% of the recoil effect by the use of a muzzle attachment no larger, in proportion to the calibre, than the check herein shown and without rearward discharge of the gases. The new device moreover is specially adapted to be manufactured cheaply but with a high degree of accuracy and of light weight and moderate suction, the least likely to become deformed by subjection to high temperatures.

In the accompanying drawing illustrating the preferred form of the invention—

Fig. 1 is a rear elevation of the detached recoil check;

Fig. 2 is a longitudinal section of the same as applied to a gun barrel and illustrates also the bullet in flight;

Fig. 3 is a front elevation of the check; and

Fig. 4 a side view.

The check is made of two simple members permanently assembled prior to attachment to the gun. The cage member is formed with a tubular threaded ferrule 1 provided with an internal shoulder 2 and an external notched terminal flange 3 affording a rim grip by which the check can be screwed to the muzzle of the gun as indicated in Fig. 2 with the internal shoulder 2 firmly seated

on the end surface of the barrel. The edge of the shoulder 2 is coned at a substantially 45° angle to permit immediate expansion of the gas blast from the bore. From this shoulder the body wall of the case member extends forwardly as an imperforate cone 4 preferably at an angle of 45° or less and thence forwardly as an apertured cylindrical wall, the extreme forward end of which is internally shouldered and threaded to receive the baffle plate or impact member 5. The latter is formed as a circular disc with thickened periphery to be screwed into the cylindrical end of the expansion wall 4 and with a double bossed formation at its centre through which the passage for the bullet is bored and the rearward end 7 is taper-curved to a fairly thin edge representing the entrance to the bullet passage, the curvature being according to a circle of a radius about equal to the gun's caliber which brings the plane of the entrance to the bullet passage into substantial coincidence with the rear edges of the apertures 8 in the expansion case. The bullet passage in this double opposed bosses is thus elongated with respect to the baffle plate and nearly as long as the bullet and longer than the distance between the muzzle end and its own entrance orifice. It is of course slightly wider than the bore of the barrel. The escape apertures 8 are oblong and designed to give the maximum escape for the muzzle gases consistent with the mechanical connection between the baffle plate and the expansion wall. Such escape, it will be observed occurs divergently forward and at substantially right angles to the barrel axis and none of the gas is directed rearwardly or toward the operator of the gun because the forward exit of the apertures 8 are even with the rear flat face of the baffle. A slight rearward direction of the escape holes 8 is not objectionable and does not require the use of a deflector to protect the operator's face.

Claims:

1. A two-part recoil check comprising a flanged ferrule with an internal shoulder adapted to be screwed against the end of the barrel and having a conical expansion wall extending imperforate forwardly from the barrel and apertured at its extreme forward end and a separately formed baffle plate rigidly secured to said wall beyond

the apertures and formed with a bullet passage.

2. A recoil check comprising an imperforate expansion wall rigidly secured to and
 5 extending forwardly from the barrel end, gas escape apertures at the extreme end of said wall and a separately formed baffle plate having double opposed bosses surrounding the bullet passage therethrough
 10 and rigidly secured to said expansion wall.

3. A recoil check comprising an expansion wall extending forwardly from the gun barrel and provided with gas escape apertures and a baffle plate at the forward end having
 15 double opposed bosses surrounding the bullet passage, the rearward boss being tapered, to bring the baffle plate to a desired transverse position and provide an elongated bullet passage.

4. A recoil check comprising an expansion wall extending forwardly from the gun barrel and provided with gas escape apertures, a baffle plate at its forward end having a thickened rim in threaded engagement with
 20 said wall and double opposed bosses forming an elongated bullet passage.

5. A recoil check comprising a cage rigidly and directly attached to the gun barrel and extending forwardly therefrom as an
 30 imperforate conical wall provided with

apertures beyond said conical wall, and an immovable baffle plate at the apertured end of said cage, said baffle plate being provided with an elongated bullet passage and its inner wall being sloped forwardly from the
 35 inner end of said elongated bullet passage and extending radially, or transversely to the axis of the gun, at the front of the said apertures, so that the gases are directed toward the said apertures and out of the check
 40 in a radial direction.

6. A recoil check comprising a hollow imperforate portion rigidly and directly secured to the gun barrel and projecting divergently therefrom and provided with gas
 45 escape apertures at its extremity, and a baffle plate having an elongated bullet passage, the outer edge of the inner wall of the baffle plate being substantially coincident with the front of said apertures and the inner end of the bullet passage being
 50 substantially coincident with the rear of said apertures and the said inner wall of the baffle plate sloping from said inner end of the bullet passage to the said outer edge of the plate to direct the gases through the
 55 apertures.

In testimony whereof, I have signed this specification.

CHARLES A. NELSON.