No. 740,782. PATENTED OCT. 6, 1903.

V. C. TASKER.

GAS CHECK FOR BREECH LOADING GUNS.

APPLICATION FILED JUNE 24, 1903.

NO MODEL.

Fig. 1.

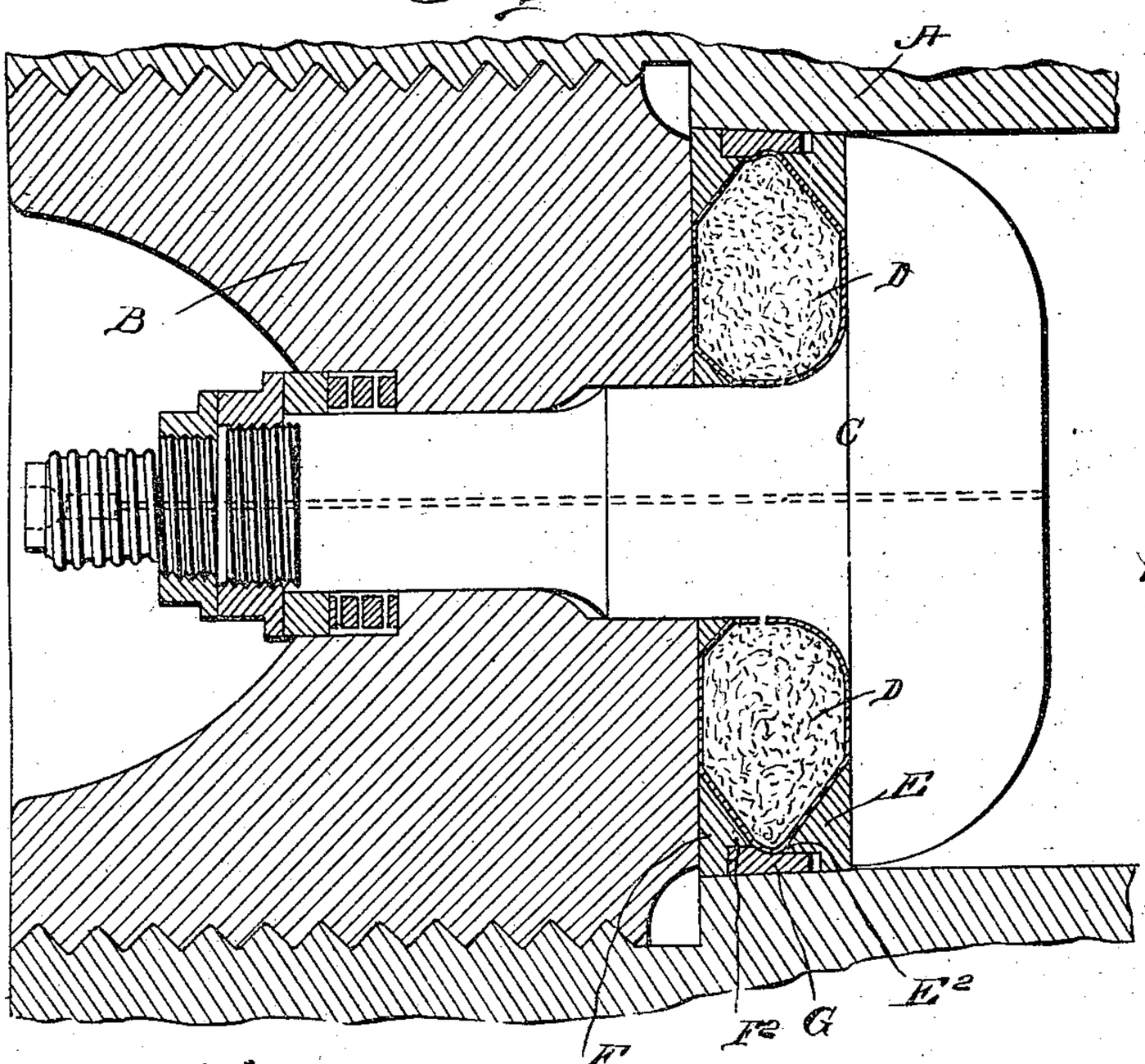


Fig. 2.

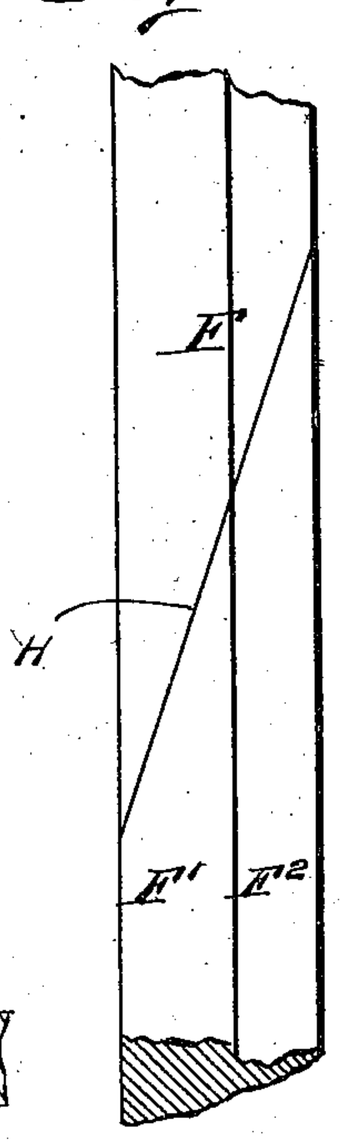


Fig. 3.

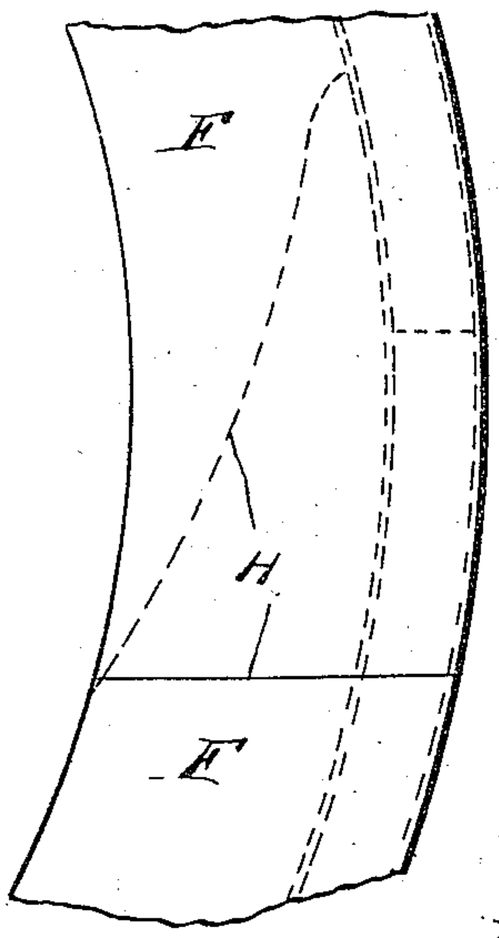


Fig. 4.

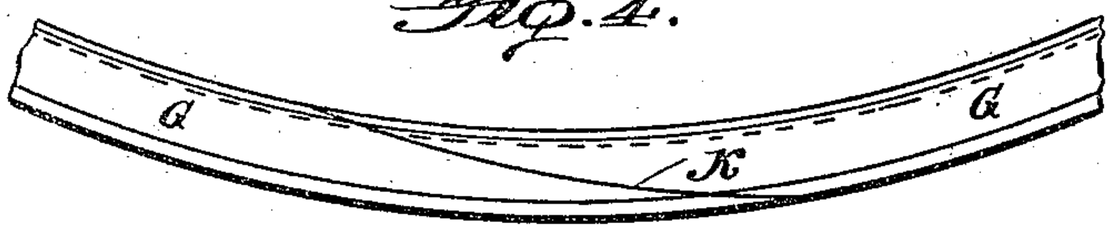


Fig. 5.

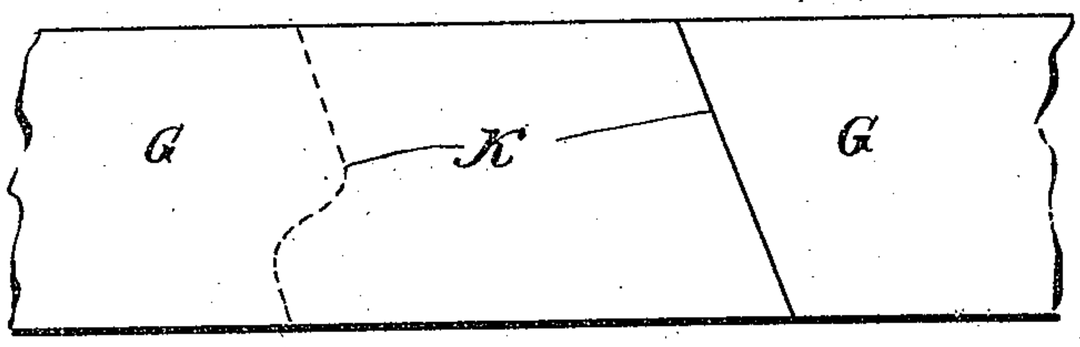
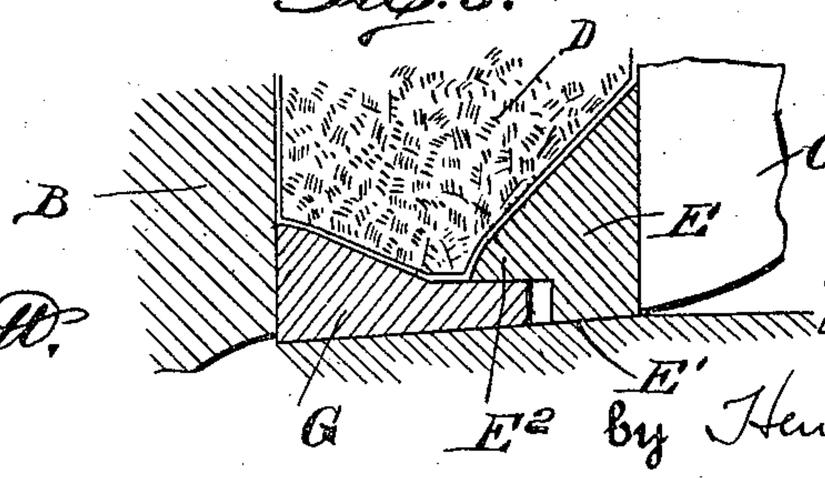


Fig. 6.



Witnesses

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No. 740,782. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

VERNON C. TASKER, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO UNITED STATES ORDNANCE COMPANY, OF WASHINGTON, DISTRICT OF COLUMBIA, A CORPORATION OF VIRGINIA.

GAS-CHECK FOR BREECH-LOADING GUNS.

SPECIFICATION forming part of Letters Patent No. 740,782, dated October 6, 1903.

Application filed June 24, 1903. Serial No. 162,874. (No model.)

To all whom it may concern.

Be it known that I, VERNON C. TASKER, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Gas-Checks for Breech-Loading Guns, of which the following is a specification when taken in connection with the accompanying drawings.

In all the views similar reference-letters indicate similar parts.

My invention applies to guns having a so-called "mushroom," which transmits the powder-pressure to a plastic pad, the latter acting radially on elastic rings to produce a gas-tight joint with the gun, as is well known in the art. It is found in service use that under severe conditions the pad in the usual constructions is liable to protrude when the breech is opened by reason of having become overheated or by abnormal absorption of moisture and that it is then especially liable to injury and to become frayed and worn, that a portion of the plastic material may from this or from other causes escape and be lost, that the pad is liable to become scorched at its periphery, and that all these conditions tend to prevent perfect seating of the metallic split rings against the gun.

The object of my invention is to so form the split rings and so protect the periphery of the pad as to overcome the above-mentioned objections and in general to provide an efficient, durable, and simple gas-check.

Referring to the drawings, Figure 1 is a longitudinal section through the breech of a gun having my improved gas-check. Fig. 2 is a view of the periphery of a detached portion of the ring F, Fig. 1, showing the helical split H. Fig. 3 is a rear view of the same. Fig. 4 is a front view of a fragment of the ring G, showing the spiral split K. Fig. 5 is a view of the periphery of the same. Fig. 6 shows a modification of protecting-ring G.

A represents the gun; B, the breech-block; C, the mushroom; D, the pad; E, the front checking-ring, and F the rear checking-ring.

Referring to Figs. 2 to 5, inclusive, I cut away the checking-rings E and F, as shown, to accommodate the additional ring G, which engages the rings E and F telescopically and incases the periphery of the pad D. A gap is left at L to compensate for variation in the volume of the pad. This gap incidentally provides an expansion-chamber for any possible slight leakage of gas past the checking-ring E. The rings E, F, and G, preferably of hard steel, are each split diagonally at one part of their circumference, the checking-rings E and F in the usual way, as shown in Fig. 2. The ring G is split spirally, as shown in Fig. 4, so that it will always present an unbroken surface to the pad D. The checking-rings E and F are made of a diameter very slightly larger than that which they assume when seated in the conical orifice of the gun-chamber, while the ring G is so constructed that its elasticity causes it to spring inwardly against the checking-rings E and F. To insure perfect seating of the checking-rings E and F in the conical orifice of the gun-chamber, the ring G may be very slightly thinner at its parallel ends than its recess in the checking-rings E and F. The inner and outer surfaces of the ring G are parallel at front and rear, as shown. This ring is thicker at the rear, principally in order to prevent distortion from a plane when the ring is expanded or compressed, as would occur if the ring were of uniform thickness and conical. This form also presents a surface acted upon rearwardly by the pad, which tends to keep the ring in rearward position.

The surfaces E′ and F′ of the checking-rings E and F, respectively, are equivalent to the usual gas-tight joint.

The pad D is additionally protected against gases and other sources of injury by reason of the lips E^2 and F^2 of the rings E and F, respectively, being exposed in action to the pressure of the pad D, which pressure is necessarily greater per square inch than the chamber-pressure, because all rearward pressure on the mushroom-head is transmitted to the pad, and the latter is of smaller area than the former. A tight joint at E^2 F^2 is thus assured at all times.

If found desirable, the rear checking-ring F may be dispensed with or formed solid with the spirally-split ring G, which then comes completely to the rear. Such a modification is illustrated in Fig. 6.

Having thus described the general features of my invention, which may be modified and improved in design, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a gas-check for breech-loading guns, the combination with the pad of one or more helically-split checking-rings and a spirally-split protecting-ring for the pad.

2. In a gas-check for breech-loading guns, the combination with the pad of one or more helically-split checking-rings and a spirally-split protecting-ring, said rings completely incasing the periphery of the pad.

3. In a gas-check for breech-loading guns, the combination with the pad of front and rear split checking-rings, and an intermediate split protecting-ring covering a portion of the periphery of the pad.

4. In a gas-check for breech-loading guns, the combination with the pad of front and rear split checking-rings at the outer circumference thereof and an intermediate split protecting-ring covering a portion of the periphery of the pad, said rings completely incasing the periphery of the pad.

5. In a gas-check for breech-loading guns, the combination with the pad of front and rear checking-rings, and an intermediate protecting-ring, said rings completely incasing the periphery of the pad; said checking-rings being helically, and said protecting-ring spirally, split; substantially as and for the purposes described.

6. In a gas-check for breech-loading guns, the combination with the pad of front and rear checking-rings and an intermediate protecting-ring telescopically engaging the same.

7. In a gas-check for breech-loading guns, the combination with the pad of front and rear checking-rings and an intermediate protecting-ring telescopically engaging the same, said rings having limited freedom of longitudinal movement.

8. In a gas-check for breech-loading guns, the combination with the pad of front and rear checking-rings, an intermediate protecting-ring encircling the same and lips on said checking-rings adapted to be sprung outwardly against said protecting-ring by pressure of the pad when the gun is discharged.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VERNON C. TASKER.

Witnesses:
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C. S. LEECH.