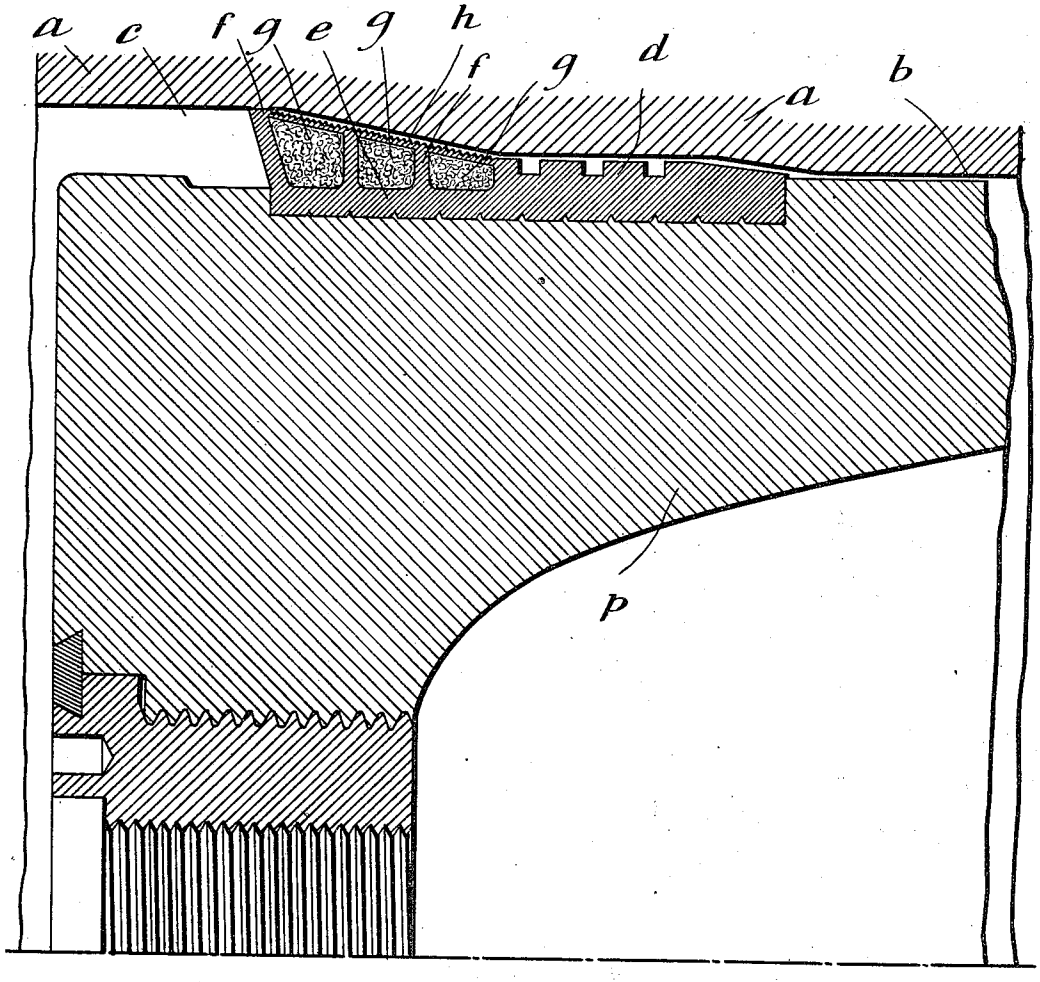
No. 648,243. Patented Apr. 24, 1900.

A. T. DAWSON, G. T. BUCKHAM & L. SILVERMAN.

GAS CHECK FOR PROJECTILES.

(Application filed Dec. 18, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR TREVOR DAWSON, GEORGE T. BUCKHAM, AND LOUIS SILVERMAN, OF LONDON, ENGLAND, ASSIGNORS TO THE VICKERS, SONS & MAXIM, LIMITED, OF SHEFFIELD, ENGLAND.

GAS-CHECK FOR PROJECTILES.

SPECIFICATION forming part of Letters Patent No. 648,243, dated April 24, 1900.

Application filed December 18, 1899. Serial No. 740,778. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR TREVOR DAWSON, GEORGE THOMAS BUCKHAM, and LOUIS SILVERMAN, citizens of England, residing at 28 Victoria street, Westminster, London, England, have invented a certain new and useful Improvement in Gas-Checks for Projectiles, (for which we have applied for a patent in Great Britain, dated April 26, 1899, No. 8,758,) of which the following is a specification.

Our invention relates to the construction of projectiles for heavy guns with gas-checks so arranged as to prevent or diminish the erosive effect produced on the bore by the explosion of heavy charges, this erosive effect being principally due to the passage of the highly-heated explosion-gases between the projectile and the interior surface of the bore.

We construct the gas-check and provide it with plastic packing of a lubricating character, so that it fits the bore like a piston, preventing passage of the hot gases, and also lubricates the bore.

The accompanying drawing is a longitudinal section of the rear part of a shell provided with a gas-check according to our invention.

a is part of the gun, showing the profile of the internal surface of the bore *b* and the charge-chamber *c*. The projectile *p* has on its rear part the driving-band *d*, which is of the usual kind for taking the rifling, but according to our invention is made with a radially-fixed rearward extension *e*, from which project several flanges *f*, extending beyond the circumferential line of the interior wall of the bore of the gun and having their intervals charged with lubricating material *g*, protected by a thin sheet-metal covering-band *h*. The flanges *f* are comparatively thin, so that while they give sufficient support to the packing it requires comparatively little force to make them take the rifling, and any one can fold backward when it meets with excessive resistance, so that none of them is likely to be torn off during the passage of the projectile along the bore. Therefore the flanges *f* are flexible, and it will be seen that when the rear flange is acted upon by the powder-gases on firing it is forced forward and compresses the packing in front of it, forcing the latter outward.

The flanges are preferably of such diameter that when the projectile is pushed home the rearmost flange comes first in contact with the interior surface of the chamber and is bent somewhat back before the flange in front of it meets the surface of the chamber. The rear flange is preferably made in the first instance with an inclination rearward. In this manner there is obtained a perfect piston fit of the flanges and the plastic material between them when the projectile is pushed by the rammer, and when the charge is fired the rear flange is caused to fit still more tightly by the pressure of the explosion-gases.

The packing material placed in the grooves between the flanges consists, preferably, of asbestos saturated with wax, plumbago, or other suitable lubricant.

The covering-band *h* may be dispensed with; but it is useful for protecting the packing and flanges during the handling or storing of the projectiles.

Although we have shown the extension *e* as made in one piece with the driving-band *d*, it might obviously be a separate ring, put on in the same way as the driving-band.

The gas-check is obviously applicable to solid shot as well as shell.

Having thus described the nature of this invention and the best means we know of carrying the same into practical effect, we claim—

The herein-described gas-check for projectiles consisting of a ring arranged on the projectile behind the driving-band, radially fixed throughout its length and provided with a plurality of projecting flexible flanges extending beyond the circumferential line of the interior wall of the bore of the gun and containing in the intervening spaces plastic packing of lubricating character, substantially as and for the purpose set forth.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ARTHUR TREVOR DAWSON.
GEORGE T. BUCKHAM.
LOUIS SILVERMAN.

Witnesses:
WILLIAM WALKER SHARPE,
HENRY KING.