

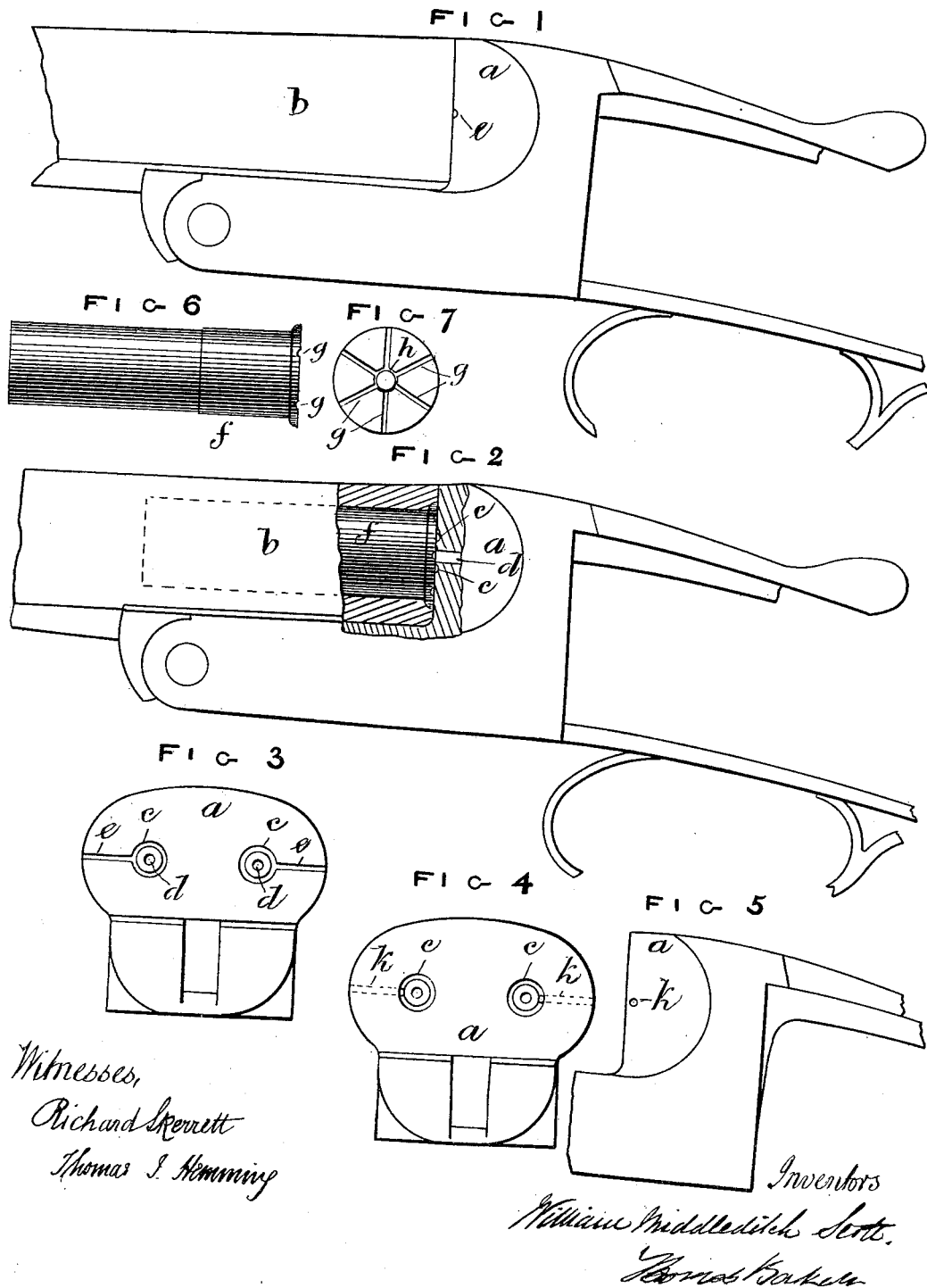
(No Model.)

W. M. SCOTT & T. BAKER.

BREECH LOADING FIRE ARM.

No. 264,772.

Patented Sept. 19, 1882.



# UNITED STATES PATENT OFFICE.

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NEAR BIRMINGHAM, COUNTY OF WARWICK, ENGLAND; SAID BAKER  
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## BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 264,772, dated September 19, 1882.

Application filed May 13, 1882. (No model.) Patented in England February 8, 1882, No. 617.

*To all whom it may concern:*

Be it known that we, WILLIAM MIDDLE-  
DITCH SCOTT, of the firm of W. and C. Scott &  
Son, of Birmingham, in the county of Warwick,  
England, gun-manufacturers, and THOMAS BA-  
KER, of Aston, near Birmingham, aforesaid, gun-  
action maker, subjects of the Queen of Great  
Britain, have invented certain new and useful  
Improvements in certain kinds of Breech-  
Loading Small-Arms, (for which we have re-  
ceived Letters Patent in Great Britain No. 617,  
dated 8th February, 1882,) of which the fol-  
lowing is a specification.

Our invention relates to breech-loading small-  
arms having internal or concealed hammers,  
and has for its object to prevent the corrosion  
of the lock mechanism by the gases produced  
by the detonation of the percussion-cap.

Our said invention consists of the construc-  
tion, hereinafter described, of the face of the  
break-off, whereby a means of ready escape is  
provided for the gases produced by the deto-  
nation of the percussion-cap. In small-arms  
and cartridges as ordinarily constructed the  
said gases have no means of escape except be-  
tween the striker and the tubular guide in  
which it works, and in taking this course they  
come into contact with and corrode the lock  
mechanism.

In constructing according to our invention  
a breech-loading small-arm having internal  
hammers, we make in the face of the break-off  
an annular depression immediately surround-  
ing the hole through which the striker is pro-  
jected to discharge the gun. We also make  
one or more grooves or channels in the face of  
the break-off, the said grooves or channels open-  
ing at their inner ends into the said annular  
depression, their outer ends opening into the  
atmosphere. The head of the cartridge-case  
may also be provided with a series of grooves  
or channels opening at their inner ends into  
the small chamber in which the percussion-cap  
is situated, their outer ends opening at the  
edge of the head. By means of the annular  
depression in the face of the break-off and the  
grooves or channels in the break-off and head  
of the cartridge a free passage for the escape

of the gases produced by the detonation of the  
percussion-cap is provided.

Instead of the grooves in the face of the  
break-off and in the head of the cartridge-case,  
holes or covered grooves may be drilled or  
made immediately below the face of the break-  
off and below the surface of the cartridge-  
case, the said holes opening into the annular  
depression of the break-off and the percussion-  
cap chamber in the manner described with  
respect to grooves. We prefer, however, open  
grooves, as first explained.

Figure 1 of the accompanying drawings rep-  
resents in side elevation, and Fig. 2 partly in  
side elevation and partly in longitudinal sec-  
tion, a portion of the breech end of an internal  
hammer drop-down gun, together with a car-  
tridge constructed according to our invention.  
Fig. 3 is an elevation of the face of the break-  
off of the gun, and Figs. 4 and 5 represent a  
modification of the same. Fig. 6 represents in  
side elevation, and Fig. 7 in end elevation, the  
cartridge detached from the gun.

*a* is the break-off of the gun, against which  
the face of the barrels *b* shuts down. The gas-  
escape channels or passages in the face of the  
break-off *a* are best seen in the end elevation,  
Fig. 3. The said gas-escape channels or pas-  
sages consist of the annular depression *c*, sur-  
rounding the hole *d*, through which the striker  
is projected to discharge the gun, the said hole  
*d* opening at its back into the chamber in which  
the internal hammers and cocking mechanism  
are situated. Opening at its inner end into  
the annular depression *c* is a straight groove  
or channel, *e*, the said channel *e* passing across  
the break-off and opening at the edge of the  
break-off. Instead of the single straight chan-  
nel *e*, two or more radial channels may be used.

*f* is the cartridge, in the face of the metallic  
head of which the gas-escape passages or chan-  
nels are made. They consist of the radial pas-  
sages or channels *g g*, opening at their inner  
ends into the small chamber *h*, in which the  
percussion-cap is situated, their outer ends  
opening at the edge of the cartridge-head, as  
will be understood by an examination of the  
end elevation, Fig. 7.

Instead of making open channels or passages *b* in the face of the break-off, covered channels or holes may be made—that is to say, a passage or channel may be drilled from the edge of the break-off into the annular depression *c* in the face of the break-off, as illustrated in Figs. 4 and 5, where the covered channels or holes are marked *k*. The head of the cartridge may also be provided with covered passages or holes, instead of the open passages or channels represented in the drawings; and instead of straight passages or channels, curved passages or grooves may be employed. We believe, however, that straight grooves or passages are best.

When the gun is discharged the gases produced by the explosion of the percussion-caps readily escape by the passages described and represented in the face of the break-off and in the head of the cartridge to the edge of the break-off, instead of between the strikers and the holes or guides in which they work, as usual. The corrosion of the lock mechanism is thereby effectually prevented.

Small fire-arms with concealed hammers made according to our invention may be used with ordinary cartridges, and cartridges made according to our invention may be used with small fire-arms having break-offs with plain or ungrooved faces.

When our grooved-headed cartridges are used with fire-arms having plain break-offs the gas-escape passages which are provided in the head of the cartridge-case cause the gases generated at the percussion-cap chambers to rapidly escape from the said cap-

chambers through the said passages and to be diffused between the face of the break-off and the face of the barrels, and from thence the said gases escape into the atmosphere.

We are aware that heretofore means have been devised for preventing the gases of explosion penetrating the lock mechanism of the gun, such as providing an annular space around the firing-pin or concealed hammer for conducting off such gases; but the present invention differs materially from such devices, and has the advantage over them of greater simplicity in construction and efficiency in operation.

We lay no specific claim herein to the grooved cartridge.

Having now described the nature of our invention and the manner in which the same is to be performed, we wish it to be understood that we claim as our invention—

1. A breech-loading fire-arm of the character described, having a grooved break-off for diffusing the gases generated by the explosion of the percussion-cap, substantially as described.

2. In a breech-loading fire-arm, the combination, with the grooves for the diffusion of gases generated by explosion of the cap, of passages communicating with the outside air, substantially as described.

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THOMAS BAKER. [L. S.]

Witnesses:

RICHARD SKERRETT,  
THOMAS I. HEMMING.