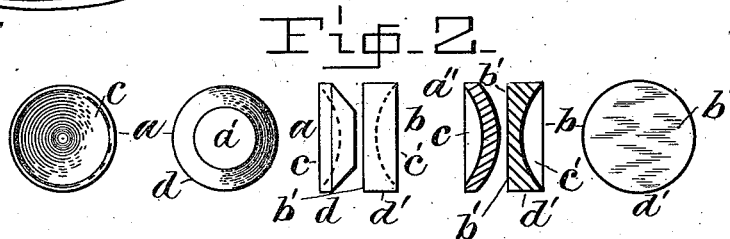
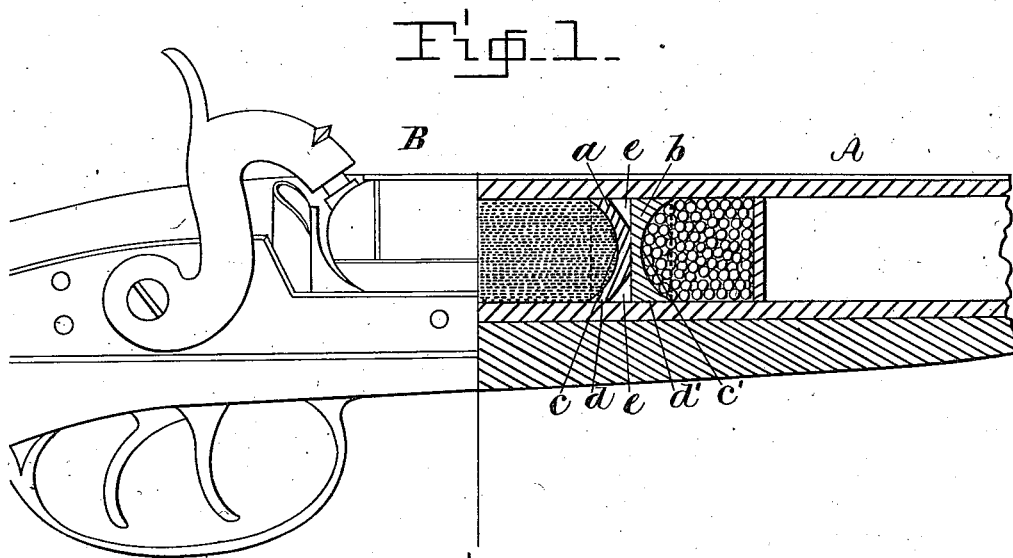


(No Model.)

J. W. SCANLAND.  
WAD FOR SHOTGUNS.

No. 419,220.

Patented Jan. 14, 1890.



Attest.  
W. W. Converse  
Clerk

Inventor.  
John W. Scanland  
B. G. Converse  
Atty

# UNITED STATES PATENT OFFICE.

JOHN W. SCANLAND, OF SELMA, OHIO.

## WAD FOR SHOTGUNS.

SPECIFICATION forming part of Letters Patent No. 419,220, dated January 14, 1890.

Application filed August 9, 1889. Serial No. 320,313. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. SCANLAND, a citizen of the United States, residing at Selma, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Wads for Shotguns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in gun-wads.

My invention relates to that class of gun-wads used in shotguns; and it consists in two wads, formed to effect the purpose designed, which are interposed between the powder-charge and the shot. These wads differ from each other in their construction, each one being adapted to the relation it sustains in carrying out the object of the invention, which is to prevent windage, and to aid in cleaning the gun at each discharge by forcing out the burned powder that may have accumulated in the bore.

Figure 1 represents in elevation a portion of a shotgun, part of the barrel being shown in vertical longitudinal section and having my improved wads therein. Fig. 2 represents different views of the improved wads, one a modified form. Fig. 3 is an edge view of the two wads united in one, as may be used in fixed ammunition.

In the drawings, A represents a barrel of a shotgun B. It is shown as being charged with powder and shot, and having between the two latter the improved wads *a b*. The wad *a* consists of an inverted dish-shaped piece, concaved on the under side *c* next to the powder, having edge *d*, next to the barrel, thick; and from thence inclined to the middle smaller top side *a'*, which is flat and about half the diameter of the wad. When turned down on the concave side *c*, the wad *a* is in form like a low conic frustum, having parallel edges *d*. The wad *b* is entirely flat and plain on the under side *b'*, and is concave

on the top side *c'*, as seen in the several figures. These wads are formed of paper or paper-pulp and pressed or punched into shape, the edges *d d'* being left thick enough in each to cause them to retain their position in loading.

In using my improved wads, the first one *a* (after inserting the charge of powder) is placed in the bore of the gun with its concave side *c* downward and pushed down upon the powder. The wad *b* is placed in the bore with its flat side *b'* downward, and when pushed down the latter side rests firmly on the top *a'* of wad *a*, while the concave side *c'* of *b* is upward to form a bed for the shot, and a plain wad placed on the top of the latter.

In Fig. 2 a modified form of wad *a''* of wad *a* is seen. This is spherical on the top side, while its under side is in all respects like that of wad *a*. Both wads *a* and *a''* expand from the force of the charge of powder.

In exploding the charge, the expansion of powder-gases force the inclined sides of wad *a* forward into space *e*, Fig. 1, having a tendency to spread edge *d* against the wall of the bore of barrel A, causing the wad to carry out any deposit of burned powder, and thus cleaning the barrel at each discharge, the gases being retained by the wad *a* until their full force is acquired, thus causing greater penetration of the shot. The wad *b* being formed with a concave seat for the shot, the latter are prevented from spreading over too much space, as lines drawn perpendicular from the concave face *c'* would converge to the axial line of the bore and the shot be forced toward said axial line and necessarily be more concentrated. The air in space *e* around the cone of *a* would be compressed therein in loading, and upon the discharge would add its expanded volume to the powder-gases, and necessarily to the force of the discharge.

It is obvious that a common disk-wad could be used with the wad *a* in place of wad *b*, and the advantages of wad *a* secured therewith, if desired, to scatter the shot more than if *b* were used.

In the modified form *a''*, (shown in Fig. 2,) I do not find as effective results as with the

wad *a*, and have shown this form simply as such modification, it being concavo-convex in form.

I claim as my invention—

5 1. In wads for shotguns, two wads between the powder and shot, the lower one consisting of a frustum-shaped wad, concave on its under surface, adapted to rest on the powder, and a wad resting upon said lower wad, hav-  
10 ing a flat under surface abutting upon the flat top of said frustum-shaped wad, substantially as set forth.

2. In wads for shotguns, a dish-shaped lower wad, covering the powder-charge, hav-  
15 ing a concave under surface next the latter, conical or inclined sides and a flat top concentric with its edge, a wad having a flat under surface resting upon said lower wad and having its upper side, concaved to receive the  
20 shot, substantially as and for the purpose hereinbefore set forth.

3. In a shotgun-charge, the combined wad between the powder and shot, consisting of a conic frustum-shaped wad, concave on the  
25 under side next the powder, and a wad of plano-concave form resting on said conic

frustum and having its plane surface next the latter, and its concave surface next the shot, substantially as and for the purpose set forth.

4. In a powder-charge, the combination, 30 with a concavo-convex wad, of a wad having a plane surface adapted to abut against or lie upon the convex side of said concavo-convex wad, the concave side of the latter being 35 adapted to cover said powder-charge, whereby the deposit of burned powder may be carried out of the bore of the gun, substantially as set forth.

5. In shotgun-wads, the two wads between 40 the powder and shot, the lower being concave on its under surface and having its upper surface elevated at the center, and the upper wad being flat on its under surface and concave above, as set forth.

45 In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. SCANLAND.

Witnesses:

C. F. TINDALL,  
A. V. WOLFORD.