Sept. 15, 1931. W. PAUL 1,823,160

AIR GUN SHELL

Filed Aug. 17, 1929

Fig. 1

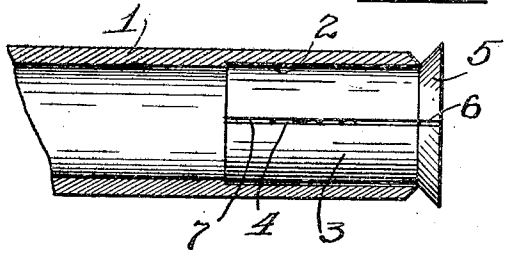


Fig. 2

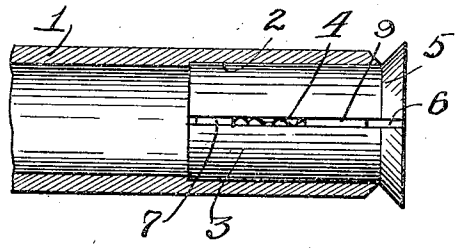


Fig. 3

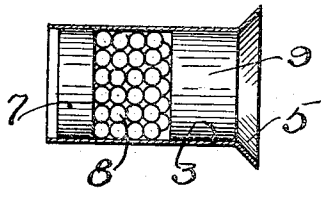


Fig. 4

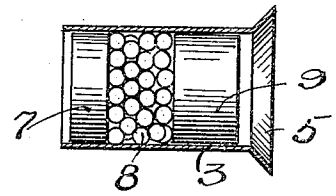
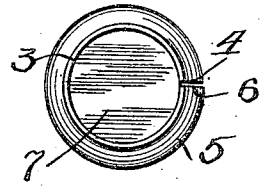


Fig. 5



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Atty.

Patented Sept. 15, 1931 1,823,160

UNITED STATES PATENT OFFICE

WILLIAM PAUL, OF BEECHER, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM E. PRATT MFG. CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

AIR GUN SHELL

Application filed August 17, 1929. Serial No. 386,584.

This invention relates to an improved shell or bullet for use in an air shotgun of the type covered by my Patent No. 1,506,995, dated September 2nd, 1924 for an "air shotgun." The improved bullet is constructed with an expansible shell or housing which is adapted to be expanded into a bullet recess of an air shotgun barrel when a charge of compressed air is discharged against a diametrically expandable shot load to cause expansion of the bullet shell thereby releasing the load and permitting the same to be discharged through the barrel of the air shotgun.

It is an object of this invention to provide an improved air shotgun bullet wherein a charge of shot is disposed between a pair of plugs disposed within a longitudinally split shell or sleeve.

It is also an object of this invention to provide an improved bullet or shell for an air shotgun said bullet being so constructed that the shell is adapted to expand diametrically to release a shot and permit the same to be discharged from the shell when a charge of compressed air is admitted into one end of the bullet.

It is an important object of this invention to provide an improved air shotgun bullet or shell wherein a longitudinally split sleeve provided with a split flange spring is loaded with a quantity of shot disposed between packings or plugs which normally fit tightly within the spring shell spaced from one another and separated by the shot but arranged to permit one of the plugs to approach the other plug to compress and diametrically expand the shot within the shell to spread the shell to tightly fit within a gun barrel so that the charge within the shell may be discharged from the shotgun.

Other and further important objects of this invention will be apparent from the specification and the accompanying drawings.

This invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a fragmentary longitudinally sectioned view of the inner end of an air shotgun barrel having an improved air gun shell or bullet engaged in one end thereof and embodying the priniciples of this invention.

Figure 2 is a similar sectional view of the air gun barrel illustrating the diametrical expansion of the spring shell of the bullet when a charge of compressed air is admitted into the outer end of the bullet.

Figure 3 is a longitudinal sectional view of the improved air gun bullet illustrating the charge in elevation.

Figure 4 is a similar sectional view of an improved air gun bullet when the sleeve or shell is expanded by a charge of compressed air showing the compressed position of the charge permitting the charge together with the plugs on opposite sides thereof to be readily discharged through the sleeve of the bullet.

Figure 5 is a top or front end view of an air gun bullet.

As shown on the drawings:

The reference numeral 1 indicates the barrel of an air shotgun with the inner end of said barrel reamed out to afford a bullet recess 2. The improved air gun bullet or shell of this invention comprises a cylindrical sleeve or cartridge case 3 constructed of sheet metal and provided with a longitudinally disposed slot 4 which extends throughout the length of the sleeve. The margin at one end of the sleeve 3 is deflected outwardly to afford a beveled ring or flange 5 which is also slotted at 6. The slot 6 is a continuation of the slot 4 provided in the sleeve of the bullet. The slotted sleeve or casing 3 is of a spring type and is adapted to be diametrically expanded as hereinafter more fully described. Mounted within the bullet sleeve 3 is a wad or plug 7 constructed of cork fiber or any other suitable material, said plug being in the form of a round disc of a diameter substantially that of the inner diameter of the bullet sleeve 3 to hold said sleeve slightly expanded to partially open the slot 4 as illustrated in Figure 1. Deposited within the sleeve 3 against the primary plug 7 is

a charge of buckshot 8 which is retained within the sleeve by means of a secondary wad or plug 9 which is thicker than the primary plug 7. The diameter of the secondary plug 9 is equal to that of the primary plug 7 or substantially the same as the inner diameter of the shell sleeve when the same is empty. It will thus be noted that the charge within the improved shell consists of the two spaced plugs 7 and 9 between which the charge of buckshot is retained since the two plugs when inserted within the sleeve or shell are frictionally held in a set position due to the spring clamping arrangement afforded by the slot in the sleeve or shell. When the sleeve or shell is loaded the primary plug 7 is disposed at a short distance from the outer end of the shell as illustrated in Figure 3 while the outer end of the secondary plug 9 is substantially flush with the outer end of the sleeve 3 where it joins the beveled or deflected flange 5.

The loaded shell, cartridge or bullet with the slot slightly expanded as shown in Figure 1 is adapted to be inserted into the inner end of a shotgun barrel within the bullet recess 2 as clearly illustrated in Figure 1 with the deflected or flanged portion 5 of the bullet or shell projecting beyond the inner end of the barrel 1 to permit the sleeve or shell to be easily engaged and removed from the barrel after a shell or bullet has been shot. It will be noted that the diameter of the bullet is slightly less than the diameter of the bullet recess 2 in the barrel 1 as clearly illustrated in Figure 1 of the drawings. When the air shotgun is fired a charge of compressed air is admitted against the outer face of the secondary plug 9 which is thereby moved from the position illustrated in Figure 3 into the position illustrated in Figure 4 thereby causing the buckshot or balls within the sleeve to be compressed longitudinally between the plugs 7 and 9 thereby causing the charge of buckshot to expand diametrically within the bullet sleeve or shell 3 to expand said shell so that the same will fit tightly within the bullet recess 2 of the air shotgun barrel 1 as illustrated in Figure 2. As this expansion of the sleeve or shell 3 takes place when a charge of compressed air is admitted into the flanged end of a shell or bullet the two plugs 7 and 9 which normally are frictionally engaged in the spring sleeve 3 are accordingly released permitting the charge of compressed air to be shot out through the gun barrel while the sleeve is retained within the barrel. After a bullet has been shot as described the person shooting the gun may readily engage the flanged portion 5 of the sleeve to pull the sleeve out of the bullet recess of the shotgun barrel. It will thus be noted that the improved bullet or cartridge merely comprises a split shell containing a load of shot disposed between a pair of spaced plugs which are of a diameter to slightly hold the split sleeve stretched so that the sleeve will frictionally hold the plugs and the shot disposed therebetween in a set position within the sleeve.

When an improved air gun bullet of the type described is engaged in an air shotgun barrel 1 and the gun is fired the charge of compressed air entering the flanged end of the bullet first causes the secondary plug 9 to slidably move within the bullet sleeve 3 so that the shot is compressed and requires a larger diametrical area to cause the split bullet sleeve to expand an amount sufficient to release the clamping action on the peripheral surfaces of the two spaced plugs 7 and 9. This expansion of the bullet sleeve 3 permits the charge of compressed air to shoot the plugs 7 and 9 together with the shot 8 out of the end of the air shotgun barrel 1. After the bullet has been shot the expanded sleeve 3 is permitted to contract to loosen the sleeve within the barrel bullet recess 2 so that the sleeve may be readily removed from the barrel.

It will of course be understood that many details of construction may be varied through a wide range without departing from the principles of this invention, and it is therefore not purposed limiting the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. An air gun shell comprising a longitudinally split external sleeve, plugs frictionally engaged in said sleeve and separated from one another, and a charge of shot between said plugs adapted to be expanded diametrically when the shell is fired to release the plugs to permit discharge of the charge of shot.

2. An air gun shell comprising an expansible external sleeve, plug members frictionally engaged therein in spaced relation, and a charge of ammunition in said sleeve between said plug members, said charge of ammunition adapted to be expanded laterally to expand the sleeve and release said plug members when a charge of compressed air is admitted into one end of the shell.

3. An air gun shell comprising a flanged sleeve having a slot therein, a primary plug frictionally engaged in one end of said sleeve, a charge of ammunition in said sleeve adjacent said primary plug, and a larger secondary plug frictionally engaged in the opposite end of said sleeve to hold the charge of ammunition in position and adapted to compress the charge of ammunition to expand the same transversely when a charge of compressed air is admitted against the secondary plug to cause expansion of the slotted sleeve and release of both the pri-

mary and secondary plugs together with the charge of ammunition.

4. An air gun shell comprising a longitudinally split external sleeve having a flange formed on one end thereof to facilitate removal of the sleeve from a gun after the shell has been fired, a pair of spaced plugs frictionally engaged in said split sleeve, and a charge of shot positioned in said split sleeve between said plugs and adapted to expand the sleeve to release said plugs when a charge of compressed air is admitted into one end of the sleeve.

5. An air gun shell comprising a split external housing having a charge of ammunition frictionally engaged therein and adapted to be compressed to expand diametrically to cause the sleeve to expand to permit the charge of ammunition to be discharged from one end of the shell when a charge of compressed air is admitted against the opposite end of the shell.

6. An air gun shell comprising an expansible sleeve to be retained in the barrel of an air gun while the contents of the sleeve are being discharged, a charge of shot in the sleeve, a pair of slidable plug members normally retaining the shot in position in the sleeve and normally held in position within the sleeve by frictional contact therewith, the said plugs being arranged to initially compel the shot to expand the sleeve, and to then be released and ejected from the expanded sleeve together with the shot when the gun is discharged.

7. An air gun shell comprising an expansible sleeve adapted to be retained in the barrel of an air gun while the contents of the sleeve are being discharged, transversely expandible shot means positioned in the sleeve, slidable shot retaining means in the sleeve and normally held in position therein by frictional engagement therewith, the said shot retaining means being arranged to initially compel the shot to expand the said sleeve and to be then released and ejected from the sleeve together with the shot when the gun is fired.

In testimony whereof I have hereunto subscribed my name at Chicago, Cook County, Illinois.

WILLIAM PAUL.