Sept. 3, 1968 R. J. HOUDEK 3,399,622

RELOADABLE SHOTGUN SHELL DEVICE

Filed May 22, 1967

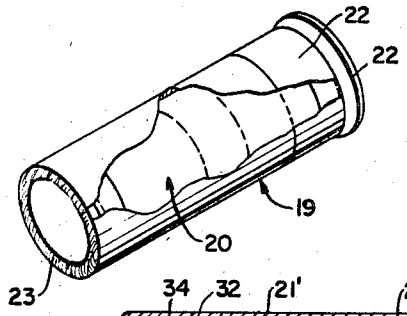


FIG. 1.

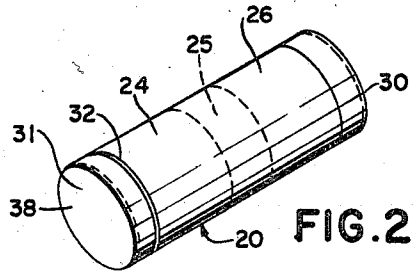


FIG. 2.

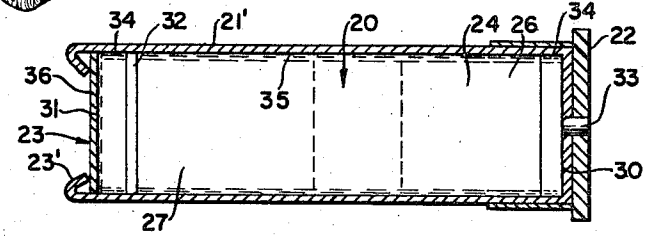


FIG. 3.

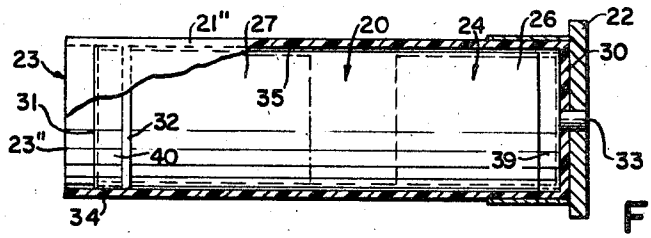


FIG. 4.

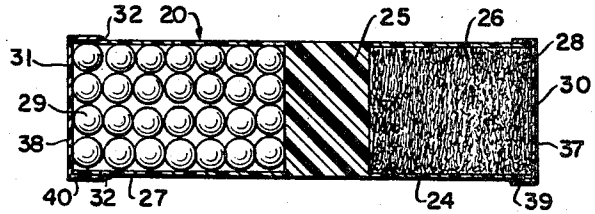


FIG. 5.

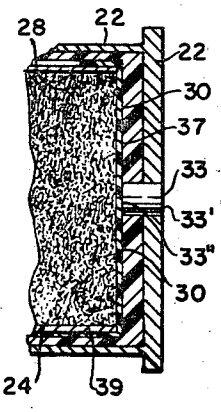


FIG. 6.

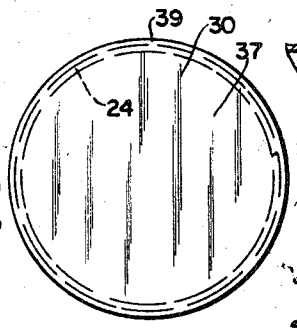


FIG. 7.

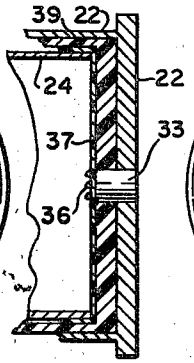
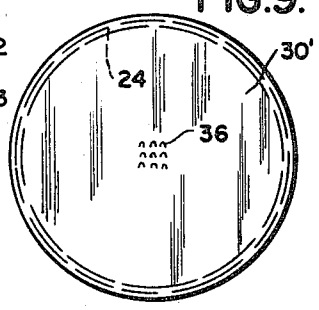


FIG. 8.

FIG. 9.



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RELOADABLE SHOTGUN SHELL DEVICE

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ABSTRACT OF THE DISCLOSURE

A reloading tube for a shotgun shell. The tube contains the conventional elements of a shotgun shell, i.e. shot, wadding and a powder charge. Cap closures are secured to each end of the tube. For reloading, the complete tube is inserted in an empty cartridge casing.

This invention relates to shotgun shell equipment, more particularly, the invention relates to shotgun shell equipment and to the structure and method of reloading of shotgun shells.

It is an object of this invention to provide a novel inexpensive reloading unit for shotgun shells.

It is a further object of the invention to provide a novel inexpensive reloading unit for shotgun shell casings which can rapidly reload a shotgun shell casing with the pellets, wad and powder charge.

It is a further object of the invention to provide a novel shotgun shell having a novel casing and interior construction for rapid assembly.

Further objects and advantages of the invention will become apparent as the description proceeds and when taken in conjunction with the accompanying drawing wherein:

FIGURE 1 is a perspective view of the novel shotgun shell invention with portions broken away revealing the interior reloading unit.

FIGURE 2 is a perspective view of the interior reloading unit of the invention.

FIGURE 3 is a cross-section of one modification of a shotgun shell housing the reloading unit of FIGURE 2.

FIGURE 4 is a cross-section of a second modification of a shotgun shell housing the reloading unit of FIGURE 2.

FIGURE 5 is a cross-section of the reloading unit of FIGURE 2.

FIGURE 6 is an enlarged view of one modification of the reloading unit closure which is adjacent the shotgun shell primer.

FIGURE 7 is an end view of the reloading unit closure of FIGURE 6.

FIGURE 8 is an enlarged view of a second embodiment of the reloading unit closure which is adjacent the shotgun shell primer.

FIGURE 9 is an end view of the reloading unit closure of FIGURE 8.

Briefly stated, the invention comprises a shotgun shell having a casing with a primer at one end, a reloading unit comprising an elongated plastic sleeve with a center plastic plug formed integrally with the sleeve and acting as wadding, a powder charge filling one end of the sleeve adjacent the primer, and a first plastic cover covering the one end of the sleeve to retain the powder therein; shotgun pellets filling the other end of the sleeve and a plastic cover covering the other end of the sleeve, said reloading unit being telescoped into said casing and frictionally retained therein with said first cover adjacent said primer whereby when said casing with the reloading unit installed, is placed in the firing chamber and the primer is struck the ignition of the powder in the primer will burn through the first cover and ignite the powder and fire the shell.

Referring more particularly to the drawings in FIGURES 1 and 3, the shotgun shell invention **19** is shown with the reloading unit **20** operatively installed in a shotgun shell casing **21**. The casing has a conventional brass end piece **22**. The outer end **23** of the casing may have a conventional folded outer edge **23'** as shown in FIGURES 1 and 3, or may have an open end **23"** as illustrated in the modified form of casing shown in FIGURE 2.

The reloading unit **20** is installed in the casing **21** as illustrated in FIGURES 1, 3, and 4. The reloading unit **23** has a cylindrical plastic sleeve **24** with a center plastic plug **25** formed integrally with the sleeve **23** and acting as wadding. The inner end **26** of the sleeve **24** is filled with shotgun powder **28** and the outer end **27** is filled with shotgun pellets **29**.

The inner end of the plastic sleeve **24** has a thin plastic end cover **30** which covers the end of the sleeve and retains the gun powder **28** therein under pressure. The outer end of the plastic sleeve **27** is covered with a thin plastic end cover **31** which retains the shotgun pellets **29** therein. The covers **30** and **31** may be glued to the plastic sleeve **27**. A tapered plastic coating **32** is placed annularly along the outer edge of the cover **31** to facilitate introduction of the unit **23** into the casing **21**.

The covers **30** and **31** have disc portions **37** and **38** and annular flange portions **39** and **40** which flanges are formed integrally with the disc portions **37** and **38** respectively.

The primer **33** is mounted in the hole **22'** of the brass end piece **22** of the casing **21**. The primer **33** is of a conventional type having an outer end **33'** which struck by a firing pin and a hole in its inner end **33"** through which its charge explodes or ignites. The disc portion **37** of the cover **30**, when the reloading unit is operatively installed, as illustrated in FIGURES 3, 4, 6 and 8, will abut the primer end **33"** and its hole and be flush with the plastic disc portion **40** surrounding the primer so that there will be no significant amount of air space between primer end and the cover **30**. The primer **33** when struck will cause its charge to ignite. Its ignited charge will readily and quickly and practically instantaneously burn through the abutting disc portion **37** of the plastic cover **30** and ignite the powder **28** therein without an appreciable delay.

The end cap or cover **30** may be made of any thin material which the primer when ignited will burn through. However, it is preferable that the cover **30**, particularly the end disc portion **37**, be formed of any thin flammable material such as cellophane, cellulose acetate or nitrate of approximately one or two mils thickness or less, or any material of sufficient strength to hold the gun powder **28** in position in the sleeve **24** and sufficiently flammable to burn itself up quickly.

The outer cover **31** may also be made of any thin plastic material such as conventional plastic adhesive tape and it has been found that when the primer **33** is struck and ignited thereby igniting the powder **28**, and the powder exploded the pellets will readily break through the cover **31** and form a satisfactory pattern and have satisfactory speed.

The outer diameter of the end covers **30** and **31** along the area indicated by numeral **34** is slightly larger than the inner diameter **35** of the casing **21** so that when the reloading unit **19** is pressed into the casing **21** it will be frictionally retained therein in position.

Operation

The shotgun shell invention **20** is loaded by taking a plastic casing **21** with a conventional brass end piece **22** and inserting the primer **33**. Thereafter the reloading unit is inserted into the end **23** and if a conventional casing **21'**

is employed, then a paper end disc **36** will be placed in front of the cover **31** and the ends will be crimped as shown by numeral **23**.

If the modified form of shell casing **21''** is employed, the end **23'** will be left open after the reloading unit **20** has been inserted therein.

The shell invention **20** is now ready to be fired. The shell invention **20** will be placed in the firing chamber, and upon triggering the gun, the firing pin will strike the end **33'** of the primer which will ignite the charge in the primer and its explosion or firing will pass out the hole at the end **33''** and burn through the cover **30** and ignite the powder charge **28**. The ignition of the powder charge will force the reloading unit out of the open end **23'** of the casing and out of the barrel of the gun. The reloading unit being relatively light will travel only a short distance and fall off to the ground, while the pellets being relatively heavy will break through the cover **31** and travel on their normal course and form their normal pattern.

The casing **21''** may be reused time and time again by simply replacing the primer and inserting a new reloading unit.

Since the reloading unit **20** is frictionally fit into the casing **21''**, a crimped out end would not have to be crimped over as the cover **31** will hold the pellets in place.

In the modified form of powder cap or cover **30'**, shown in FIGURES 8 and 9, the cover is perforated with small holes **36**, to facilitate the ignition from the primer reaching the powder charge **28**. The perforations **36** will be smaller than the size of powder grains employed so that the powder will not fall out.

The reloading unit sleeve **24**, and plug portion **25**, may be made of inexpensive plastic. The annular covers **30** and **31** have end disc portions **37** and **38** and annular flanges **39** and **40** formed integrally with their respective disc portions **37** and **38**. The plug **25** serves the same purpose as wadding and it may be made integrally with the plastic sleeve **25** or may be separate and of different material.

Thus, it will be seen that a novel rapid reloadable shell invention has been provided.

It will be obvious from the foregoing that various

changes and departures in the invention may be made without departing from the spirit and scope thereof and accordingly it is not intended that the invention be limited to that specifically described in the specification or illustrated in the drawing but only as set forth in the appended claims.

What is claimed is:

1. A shotgun shell having a casing with an end piece over one end of the casing, a primer mounted to said end piece, a reloading unit frictionally retained in said casing, said reloading unit comprising a sleeve, a plug mounted centrally in said sleeve, shotgun powder in one end of said sleeve, a first thin cover covering said one end of said sleeve and holding said powder in said sleeve under compression, said first thin cover being adjacent said primer, pellets in the other end of said sleeve and a thin second cover covering said pellets, said shell adapted to be placed in the firing chamber of a gun and upon the striking of the primer the powder charge will explode, burn through the first thin cover, and ignite the gun powder in the one end of the sleeve and fire the pellets out of the sleeve casing and gun, and fire the reloading unit out of the casing and gun.

2. A shotgun shell invention according to claim **1** wherein said casing has a crimped end opposite said primer for firing.

3. A shotgun shell invention according to claim **1** wherein said casing has an open end opposite primer.

4. A shotgun shell invention according to claim **1** wherein said first thin cover has small perforations in the area of said primer.

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