

Aug. 9, 1966

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3,264,996

BUCKSHOT-LOADS FOR SHOTGUN-SHELLS

Filed Oct. 13, 1964

3 Sheets-Sheet 1

FIG. 1.

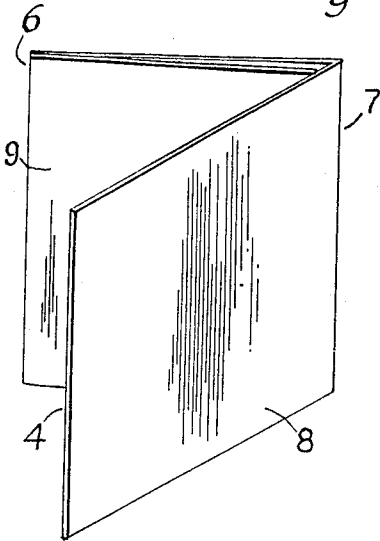
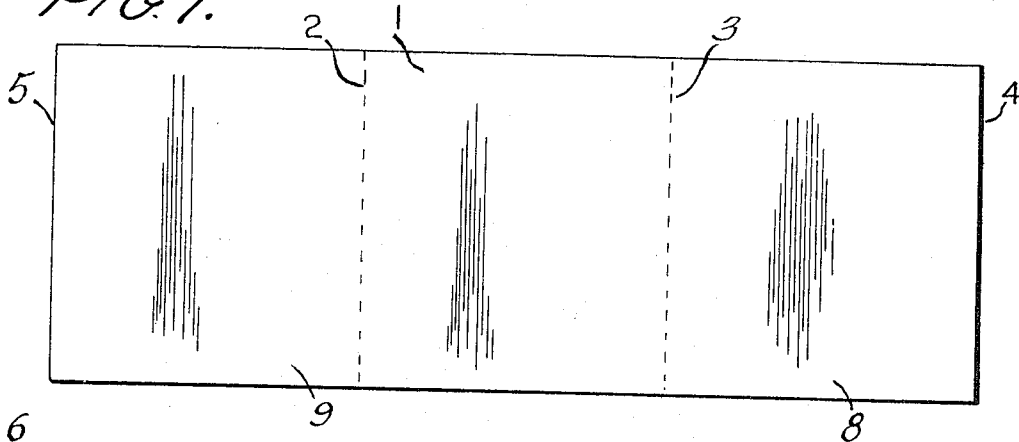


FIG. 2.

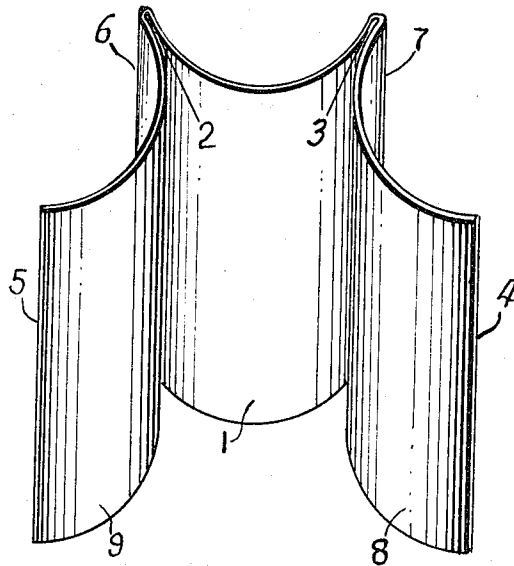


FIG. 3.

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FIG. 5.

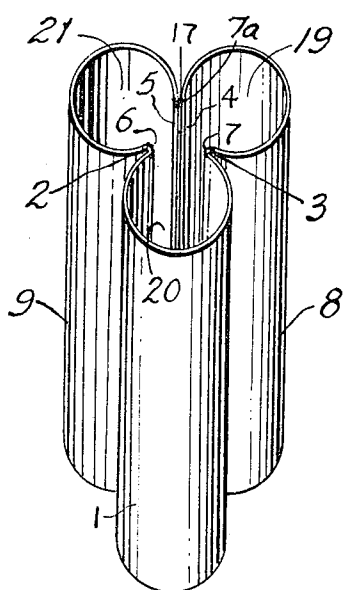


FIG. 6.

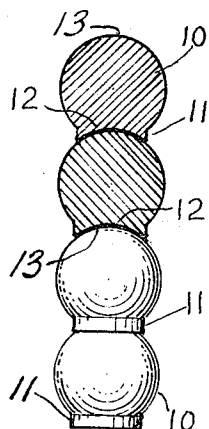


FIG. 7.

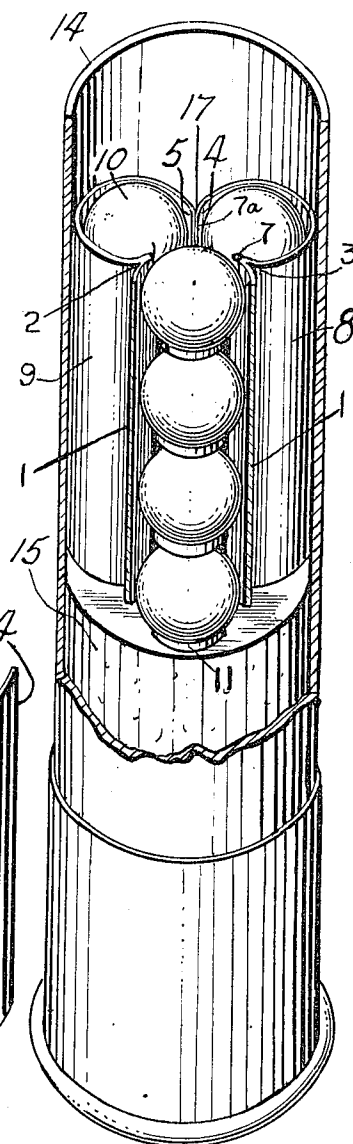


FIG. 4.

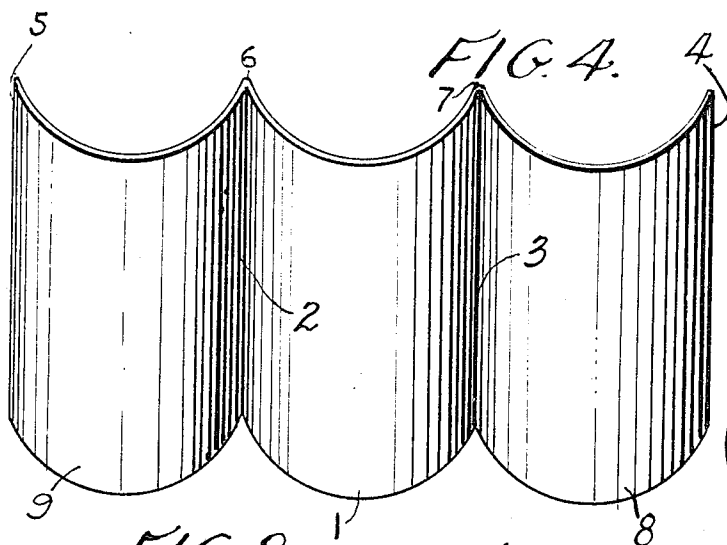


FIG. 8.

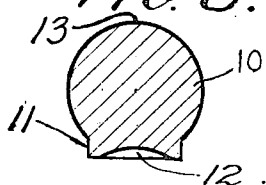
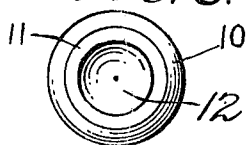


FIG. 9.



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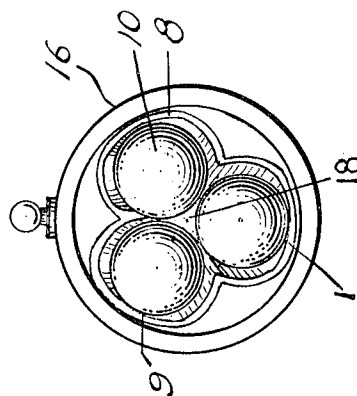
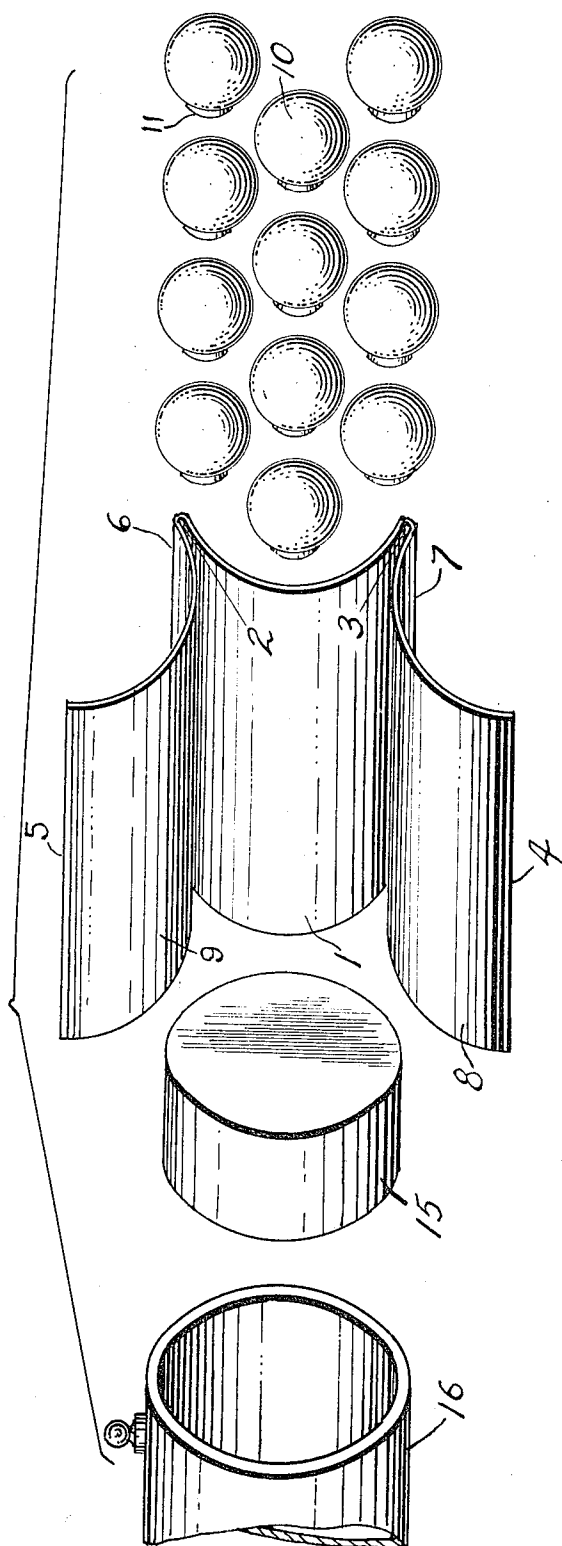


Fig. 11.

FIG. 10.

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BUCKSHOT-LOADS FOR SHOTGUN-SHELLS
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1 Claim. (Cl. 102—91)

This invention relates to improvements in split-sleeve casings for holding buckshot or spheroidal projectiles within shotgun shells, and in projectiles used in combination with such a device. Since the buckshot in a conventional buckshot-load is deposited into a shotgun shell in a wedged or staggered arrangement, it is obvious that when said shell is fired, the setback force of the discharge is not communicated in a straight line to each individual buckshot or projectile contained therein. The projectiles in the first lower layer are forced to wedge themselves into the spaces between the projectiles of the superposed layer, exerting pressure on each of these projectiles obliquely, said pressure being communicated to each successive layer of projectiles in a somewhat similar manner, forcing said projectiles not only upwards, but also outwards hard against the inner wall of a shotgun barrel during their passage therethrough. This oblique force causes their deformation by friction, and contributes to their radial dispersion on leaving the barrel, causing widely scattered group patterns on the target.

In view of the disadvantages of conventional buckshot-loads described above, I have invented a device incorporating features to overcome these disadvantages. The primary object of my invention is to provide the means for holding the buckshot or spheroidal projectiles within a shotgun shell in a plurality of separate upright columns so as to allow the full setback force of the discharge to be communicated to each individual projectile in a straight line, and to conduct said projectiles in the said columnar arrangement through the barrel of a shotgun and, at the same time protect them from being deformed through friction during their passage therethrough.

A further object of my invention of the character described is in providing a multi-alcoved open-ended split-sleeve projectile spacer receptacle adaptable to shotgun shot shell casings yieldably compressible circumferentially when passing through the choke or constricted part of the muzzle of a shotgun barrel without disrupting the columns of projectiles being carried within, and still retaining enough resiliency to spring open on leaving the barrel without disturbing the tight group of said projectiles on their way to target.

A still further object of my invention of the character described is in providing the means for preventing wide radial dispersion of projectiles on leaving the barrel of a shotgun regardless of the conventional degree of choke or constriction in the muzzle of said barrel.

With the aforesaid and other objects in view which will appear as the description proceeds, my invention resides in the combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described and claimed, it being understood that changes in the methods of its manufacture and the materials used herein disclosed may be made without departing from the spirit of the invention.

FIGURE 1 is a frontal vertical view of a rectangular pre-cut blank of a flat pliable, resilient material ready to be folded. FIGURES 2, 3, and 4 show sequential steps in forming the said receptacle.

FIGURE 2 is a perspective view of the pre-cut blank of pliable but resilient material seen in FIGURE 1, showing its two ends having been folded in two places parallel to one side of the rectangular sheet stock to provide three equally sized rectangles in said sheet stock.

FIGURE 3 is a perspective view of the said pre-cut

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blank after having been unfolded from its previously folded position appearing in FIGURE 2.

FIGURE 4 is a perspective view of the said pre-cut blank shown to have been still further unfolded from its previous position, in FIGURE 3.

FIGURE 5 is a perspective view of the completely formed multi-alcoved open-ended split-sleeve projectile spacer receptacle (being held under restraint circumferentially).

FIGURE 6 is a vertical view partly in section of a column of disconnectedly superimposed semi-spherical projectiles.

FIGURE 7 is a perspective partly sectional view of a shotshell, showing partly in section the multi-alcoved open-ended split-sleeve projectile spacer receptacle containing the columns of the semi-spherical projectiles resting on top of a powder wad.

FIGURE 8 is an enlarged vertical sectional view of one of the semi-spherical projectiles.

FIGURE 9 is an enlarged horizontally disposed bottom view of one of the semi-spherical projectiles showing the concavity in the base of its cylindrical protuberance.

FIGURE 10 is a perspective showing the multi-alcoved open-ended split-sleeve projectile spacer receptacle, having sprung open on leaving the muzzle of a shotgun barrel, fall behind the columns of the semi-spherical projectiles it enveloped. The said projectiles are now seen in a diametrically tight group on their way to their destination.

FIGURE 11 is a frontal horizontal view of the muzzle of a shotgun barrel having a full choke, showing the multi-alcoved open-ended split-sleeve projectile spacer receptacle, containing the columns of the semi-spherical projectiles, being circumferentially compressed by the constriction of said choke, at the moment of being engaged therein, with the columns of said projectiles being pressed closer to the medial space centrally located therein.

As shown in the drawings, the invention comprises an elongated multi-alcoved open-ended split-sleeve projectile spacer receptacle, including semi-spherical projectiles. It is essential that the body of said projectile spacer receptacle is formed of pliable but resilient material (such as polyethylene) which will have the capacity to stay flexedly resilient even after the circumferentially restraining means or pressure is removed from the completely formed device.

The consecutive steps of a simple method in the forming of said casing are fully illustrated in FIGS. 1, 2, 3, 4, and 5. As shown in FIG. 2, the two opposite end-sections 8 and 9 of the pre-cut blank have been folded sharply inwards (along the two dotted lines shown in FIG. 1, indicating the future location of folds 2 and 3) over the mid-section 1, so that when the said sections 8 and 9 are unfolded, and their ends 4 and 5 are flexed divergently outwards in a downwardly direction, and held in this position, the said pre-cut blank would assume the form shown in FIG. 3, having an arcuated mid-section 1, and two arcuated parallelly disposed end-sections 8 and 9 projecting upwards perpendicularly to said mid-section 1. By keeping said mid-section 1 in an arcuate position, and by moving the arcuately held sections 8 and 9 downwards to laterally adjacent positions with the said mid-section 1, the pre-cut blank would assume a corrugated surface as shown in FIG. 4. By further compressing said pre-cut blank laterally, and by keeping its mid-section 1 in its arcuate form, the arcuately held sections 8 and 9 are swung convergently towards each other, so that the outer surfaces of their inwardly dipping wall-ends 4 and 5 are finally brought into a disconnected contiguity with each other, as shown at 17, thereby completing the forming of said projectile spacer receptacle. FIG. 5 shows the completely formed device, comprising an elongated multi-alc-

coved open-ended split-sleeve projectile spacer receptacle of a trilaterally disposed configuration (held under tension circumferentially), its outer wall surface being alternately arcuated and deeply folded parallel to one side of the rectangular flat sheet stock, said deep folds 2, 3, and 17 being peripherally disposed and dipping inwards convergently towards each other, to form interiorly by their intrusive terminal projections a plurality of cusps 6, 7, 7a radially disposed around a medial space 18 therein, and thereby dividing the interior of said projectile spacer receptacle into a number of radially disposed rounded uniform alcoves 19, 20, 21 forming a generally 3 leafed clover leaf pattern in cross section. Held under tension circumferentially, the completely formed projectile spacer receptacle is introduced into a conventional shot shell casing 14 having a suitable propellant such as gun powder retained by wadding 15, as shown in FIG. 7, to receive in a superimposed manner into each of its three alcoves 19, 20, 21, the semi-spherical projectiles 10 shown in FIG. 6. FIGS. 8 and 9 show the general configuration of the projectiles, each of which comprises a spherical body having a short cylindrical protuberance 11 at its lower end with a concavity 12 in its base, the interior of said concavity 12 being of the same configuration as the outwardly configuration of the dome 13 of the projectile 10 itself, so that the dome 13 of any of said projectiles 10 of equal dimension, may fit interchangeably into the concavity 12 of any of the said projectiles 10. It is also desirable that the diameter of the cylindrical protuberance 11 on the lower end of said projectile 10 is equal to half the diameter of its spherical body, and that said protuberance 11 does not protrude beyond the apex of the projected curvature of its spherical body. This specification is desirable, so that the dome of one projectile by intruding into the concavity of the one above, results in slightly telescoped or shorter columns. The concavity in the said projectiles provides the said projectiles with an enlarged area for contact with each other, and also provides the means of preventing their glancing off each other while being expelled by the setback force of the discharge when the shotgun is fired. The full setback force of the discharge is communicated to each individual projectile in a straight line, while the encircling rounded wall portions of the said casing provide not only the means of upright support to their columnar arrangement within while conducting them through the barrel of a shotgun, but also prevent any ro-

tary motion to be imparted to them through friction, during their passage therethrough.

Having thus described my invention, what I claim is:

In combination, a plurality of columns of shot projectiles and a projectile spacer receptacle therefor, said projectiles having a portion which is generally spherical, a short cylindrical column integral with said spherical portion and extending therefrom, said cylindrical column having a concavity at the end thereof opposite the spherical portion, the curvature of said concavity being equal to the curvature of said spherical portion, said projectiles being aligned in three substantially contiguous columns with the spherical surface of one of said spherical portions engaging the concavity of said cylindrical portions of another projectile, said columns of projectiles forming a generally three-leafed clover leafed pattern in cross-section defining a central axis extending longitudinally of the columns of projectiles, said receptacle having a generally three-leafed clover leafed pattern in cross-section with each leaf substantially surrounding each of said three columns, said receptacle initially formed from a flat rectangular pliable, resilient sheet stock, said sheet stock folded in two places parallel to one side of the rectangular sheet stock to provide three equally sized rectangles in said sheet stock, said folds and the ends of the rectangular sheet stock parallel to said folds extending inwardly toward said longitudinal axis of said columns of said projectiles, each of said equally sized rectangles of said sheet stock being arcuated to substantially surround one of said columns of said projectiles, said receptacle being constrained in said three-leafed clover leaf shape so as to develop a spring action which has a tendency to release itself from said clover-leaf shape to the shape of said equally folded rectangular sheet stock.

References Cited by the Examiner

UNITED STATES PATENTS

40 3,132,588 5/1964 Schafer ----- 102-42

FOREIGN PATENTS

8,928 1887 Great Britain.

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