

C. S. BIRD.
WAD FOR SHOT SHELLS OR CARTRIDGES.
APPLICATION FILED SEPT. 16, 1918.

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Patented Apr. 27, 1920.

Fig. 1.

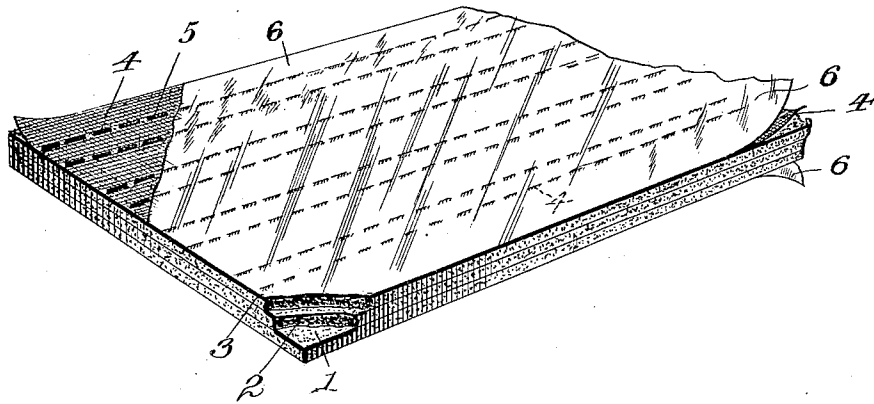


Fig. 2.

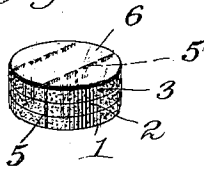
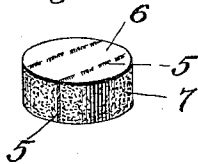


Fig. 3.



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WAD FOR SHOT SHELLS OR CARTRIDGES.

1,337,993.

Specification of Letters Patent.

Patented Apr. 27, 1920.

Refiled for (abandoned) application Serial No. 51,185, filed September 17, 1915. Renewed February 7, 1918, Serial No. 215,924. This application filed September 16, 1918. Serial No. 254,580.

To all whom it may concern:

Be it known that I, CHARLES S. BIRD, a citizen of the United States, residing at Walpole, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Wads for Shot Shells or Cartridges, of which the following is a specification.

My present invention pertains to an improved wad for shot shells or cartridges.

Wads as commonly made for shot shells are produced from paper or fibrous stock of various characters, being, as a rule, more or less elastic in their nature.

When leaving a gun they tend to fly to pieces, the pieces being frequently carried back, under the action of the wind, into the face of the shooter, and likewise littering up the field. Such disintegration of the wad is, of course, objectionable and is particularly liable to occur when it is formed or produced from laminated stock.

One object of the present invention is to produce a wad in which the plies or laminations are positively held together against the destructive discharge of the weapon.

A further object is to so construct the wad that cheaper or relatively inferior stock may be employed in producing the same and yet the wad which results will be superior to the ordinary commercial wad of today.

Broadly stated, the invention may be said to comprise a laminated wad, the laminations or plies being mechanically (as contrasted from merely gluing or cementing) held together, and specifically the invention comprises a wad in which the plies or laminations of the body are stitched or sewed through and through.

The stock or body from which the wads are preferably produced is shown in perspective in Figure 1, and a wad formed therefrom is illustrated in Fig. 2.

Fig. 3 illustrates another wad falling within the scope of my invention.

In producing the stock or body from which the wads are died out, in the form illustrated in Figs. 1 and 2, ordinary felt paper or other suitable paper is employed, three layers, 1, 2 and 3, being illustrated, though, of course, a greater or less number may be employed. These layers are imposed one upon another, a suitable adhesive, such as glue or paste, being placed between the same. Upon the outer surfaces of the stock

thus formed there is secured, by a suitable adhesive, a sheet of tough material, as 4, preferably cloth, though tough paper, or any other material which will prevent stitches being pulled therethrough may be employed. The stock is then cut into sheets and run through a sewing machine, producing a plurality of rows of stitches, indicated by 5, the rows being preferably arranged in pairs, and the sheets 4 preventing the stitches from pulling through. If desired, the distance between each pair of rows of stitches may be greater than that between the rows of each pair, in which case, in dieing out the wads a pair, or two rows, of stitches will appear in each wad, as indicated in Fig. 2.

After the layers of material have been stitched together as set forth, I preferably apply to the outer face of the stock a relatively thin finishing sheet, indicated by 6, which is secured to the body of stock by any suitable adhesive. These outside sheets give a finish and in addition thereto tend, in a measure, to secure the stitches in place, for, as will be readily appreciated, when the stock is cut into wads the threads or stitches are cut at the edges of the wad, but these finishing sheets or layers hold the stitches against raveling, or otherwise becoming loose. Wire or any other suitable material may be employed to produce the stitching.

While it is not essential to the formation of a commercial and highly effective wad, the stitches may be so proportioned that in dieing out the wads the vertically-disposed threads or stitch portions will not be cut or severed, so that the edge of the wad will present a continuous, unbroken surface. As above stated, it is not necessary, however, that this be done, and wads have been produced by me in which the vertical portions of the stitches appear upon the edges of the wad.

In Fig. 3 I have sought to illustrate a wad in which the body instead of being formed from a series of superimposed layers or sheets is produced from a single sheet 7 of sufficient thickness composed of a series of plies produced in the so-called wet machine. A wad produced from such stock will also fly to pieces under discharge, but when stitched such objectionable action is overcome.

For reasons of economy the wad first set

forth and described is preferred, but in its broad aspect the invention includes any laminated body whether the plies or layers be separately formed and then imposed upon each other, or whether such body is produced from a series of plies inherently present by reason of the initial formation of the body.

No claim is made herein to the method of producing the wad, the same being reserved for a separate application.

This application is filed as a refiling of my prior application Serial No. 215,924, filed February 7, 1918, which was a renewal of my application filed on or about the 17th of September, 1915, Serial No. 51,185, the said application Serial No. 215,924 being abandoned in favor of this application.

Having thus described my invention, what I claim is:

1. As a new article of manufacture, a fibrous shot-shell or gun-wad having the layers or plies thereof stitched together.
2. As a new article of manufacture, a shot-shell or gun-wad composed of a plurality of plies of paper stitched together.
3. A wad for shells or guns, comprising a plurality of layers of paper secured by a suitable adhesive and stitched together.
4. As a new article of manufacture, a wad for shells or guns, comprising a plurality of layers or plies of paper stitched together and having a relatively thin finishing sheet overlying the outer faces of the wad and the stitches.
5. As a new article of manufacture, a wad for shells or guns, comprising a plurality of layers of paper secured together by a suitable adhesive and stitched through and through, with a finishing sheet secured upon the outer faces of the wads, overlying the stitches.
6. As a new article of manufacture, a wad for shells or guns formed of laminated paper with a plurality of rows of stitches extend-

ing across the wad and permanently securing the laminations together.

7. As a new article of manufacture, a wad for shells or guns, comprising a plurality of sheets of paper, more or less yielding, secured together by a suitable adhesive and by stitching extending through and through the sheets; and a finishing sheet secured upon the outer faces of the wad and overlying the stitches.

8. As a new article of manufacture, a wad for shells or guns, comprising a plurality of plies or sheets of paper, and outer sheets of stitch-tearing resisting material, the various sheets being secured together by stitching extending through and through the same.

9. As a new article of manufacture, a wad for shells or guns, comprising a plurality of sheets of paper, and outer stitch-resisting sheets, secured together by a suitable adhesive and by stitching extending through and through the sheets.

10. As a new article of manufacture, a wad for shells or guns, comprising a plurality of sheets of paper, and outer stitch-resisting sheets, secured together by a suitable adhesive and by stitching extending through and through the sheets; and a finishing sheet secured upon the outer faces of the wad and overlying the stitches.

11. As a new article of manufacture, a wad for shells or guns, comprising a plurality of sheets of paper, more or less yielding, and with a sheet of cloth upon the outer faces of the outermost sheets, all of said sheets being secured together by a suitable adhesive and by stitching extending through and through the same; and a finishing sheet secured upon the outer faces of the wad and overlying the stitches.

In testimony whereof I have signed my name to this specification.

CHARLES S. BIRD.