P. BUTLER.

METHOD OF CONSTRUCTING PACKAGES.

APPLICATION FILED NOV. 20, 1913.

1,152,598. Patented Sept. 7, 1915.

Fig. 1,

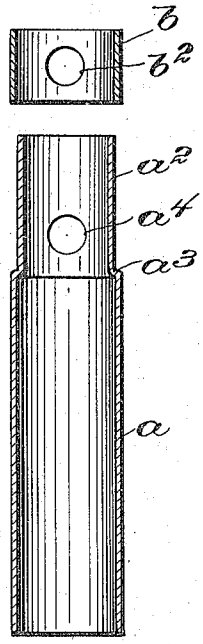


Fig. 2,

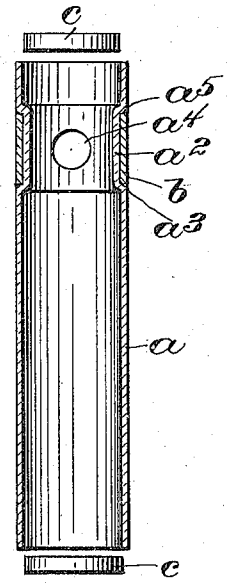


Fig. 3,

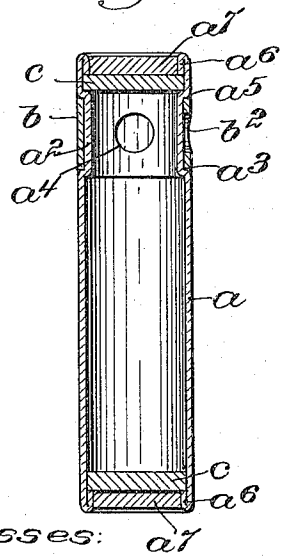
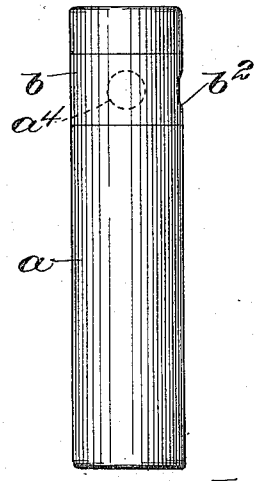


Fig. 4,



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UNITED STATES PATENT OFFICE.

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METHOD OF CONSTRUCTING PACKAGES.

1,152,598. Specification of Letters Patent. Patented Sept. 7, 1915.

Original application filed April 14, 1913, Serial No. 760,934. Divided and this application filed November 20, 1913. Serial No. 802,109.

To all whom it may concern:

Be it known that I, PAUL BUTLER, a citizen of the United States, residing in Lowell, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Methods of Constructing Packages, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts, this being a divisional application covering an invention originally set forth in application Serial No. 760,934, filed April 14, 1913.

The present invention relates to a method of constructing a package composed mainly of paper tubing such as is used in the construction of paper cartridge shells, the ends of the package being of material having similar characteristics, it being practicable to use for the ends, wads, such as are commonly used in loading cartridge shells. It is obvious that any other material having similar characteristics, such for example, as fiber, may be used in accordance with the method which constitutes the invention, but the most practical application of the invention is to utilize the tubing and the wads which are commonly employed in the manufacture of cartridge shells.

For a complete understanding of the method involving the invention, reference will be made in the description, to the accompanying drawings, in which—

Figure 1 shows in longitudinal section a tube and collar as they appear after the first step of the method has been carried out; Fig. 2 shows in longitudinal section the tube after the second step of the method has been completed; Fig. 3 shows in longitudinal section the package complete; and Fig. 4 shows an elevation of the package complete.

In carrying out the invention a tube a of suitable material, preferably a piece of paper tubing such as is commonly used in the manufacture of cartridge shells, is reduced in diameter at one end as shown at a^2 thus forming a shoulder a^3. Through the portion of smaller diameter a lateral opening a^4 is formed in the tube, this opening being for the purpose of emptying the contents of the package when complete. A collar b, formed of a piece of tubing of the same diameter as the main portion of the tube a and provided with an opening b^2, equal, or approximately equal, in size to the opening a^4, is then slipped over the portion a^2 of the tube, the position of the openings b^2 and a^4 with relation to the shoulders a^3 being such that the openings can be brought into alinement with each other as shown in Fig. 2; the collar b, however, being free to turn upon the portion a^2 of the tube a and thus be utilized to close the opening a^4 by turning the collar around the said portion a^2. After the collar b has been placed in the position above described, the tube a is expanded to form a shoulder a^5 at the opposite end of the collar b, so that the said collar is prevented from endwise movement by the shoulders a^3 and a^5. The package is then completed by inserting at opposite ends the wads c, which are of such diameter as to fit closely in the ends of the tube, the said ends being crimped over on the wads as shown at a^6, Fig. 3.

In practice the package will be filled prior to completion; the contents being inserted after one of the wads has been put in position to close one end of the tube, the other end being closed after the tube has been filled. The contents of the tube, when packed, will hold the ends of the package against inward displacement while the crimped edges of the tube will prevent the said ends from coming out. For greater security the ends of the package may be further reinforced by wads a^7 slightly smaller in diameter than the wads c; the said wads a^7 being inserted in the space afforded by the annular crimped ends of the body portion a.

In accordance with this method a neat and durable package can be inexpensively made, the package being especially adapted for use with small shot, such as is sold to be used in air guns. The package can be opened and the contents removed by merely turning the sleeve b around the axis of the package; the said sleeve, moreover, constituting a tight and efficient closure, if only a portion of the contents of the package is to be removed at a time.

What I claim is:

The herein described method of forming a package which consists in reducing one end of a paper tube to a diameter smaller

than the original diameter of the tube; forming a lateral opening through the reduced portion of the tube; fitting upon the said reduced portion, a sleeve of the same material and diameter as the main portion of the tube; expanding the reduced portion of the tube beyond said sleeve to its original diameter; and finally inserting into the open ends of said tube disks which fit tightly therein, and crimping the ends of said tubes over said disks to complete the closed package.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL BUTLER.

Witnesses:
JAS. J. MALONEY,
M. E. MALONEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."