

O. L. PARMENTER.
PAPER PACKAGE.
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904,083.

Patented Nov. 17, 1908.

Fig. 1.

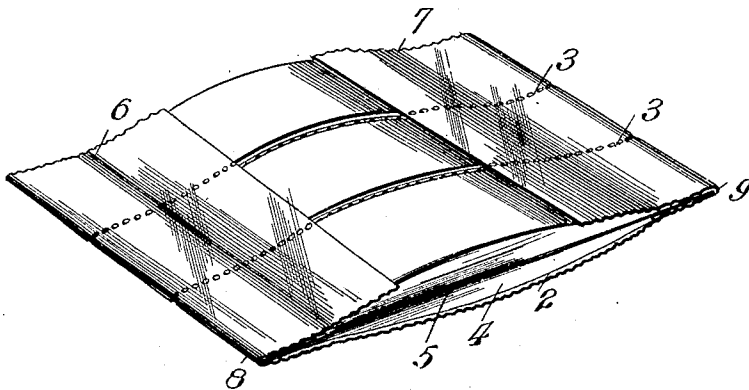


Fig. 2.

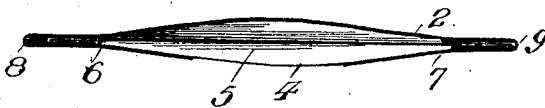


Fig. 3.

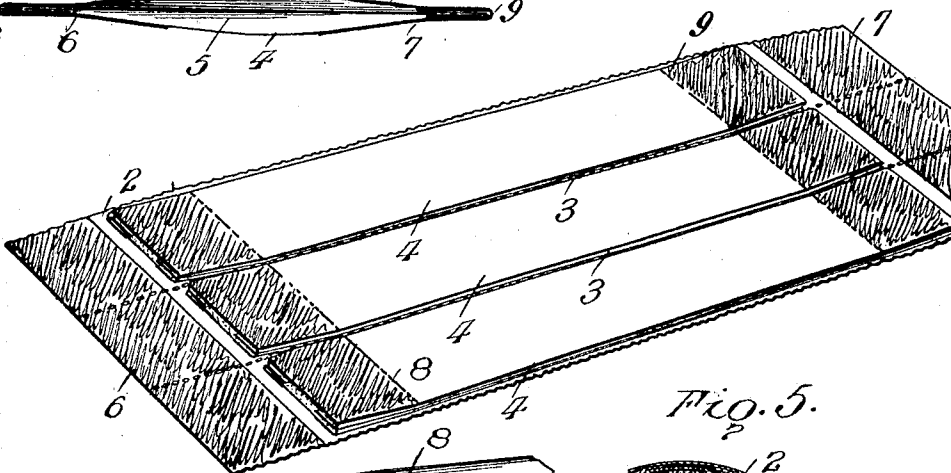


Fig. 4.

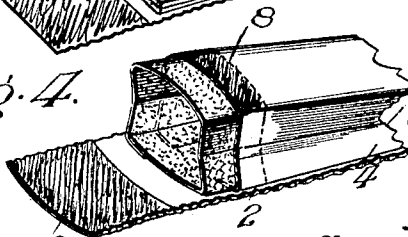
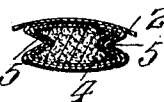


Fig. 5.



Witnesses

For Invention
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UNITED STATES PATENT OFFICE.

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PAPER PACKAGE.

No. 904,083.

Specification of Letters Patent.

Patented Nov. 17, 1908.

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To all whom it may concern:

Be it known that I, ORVILLE L. PARMENTER, a citizen of the United States, residing at Racine, Racine county, Wisconsin, have invented certain new and useful Improvements in Paper Packages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in paper packages, and relates more particularly to approximately air tight packages of effervescent powders, or the like, preferably detachably connected into sheets or series.

An object of the invention is to provide a simple and comparatively inexpensive paper package for effervescent powders which is so formed, folded and constructed as to prevent, for a long period of time, deterioration of the powdered or granular anhydrous or other contents of the package, and yet permitting easy filling and closing of the packages, handling thereof during shipment and when placed on sale, and easy opening of the packages and discharge of the contents thereof by inexperienced persons.

Another object of the invention is the economical production of paper packages detachably connected in sheets or series and of such construction and formation that a series of the packages can be easily closed approximately air tight at one end, that all packages of the series can be then easily and simultaneously filled through their opposite ends, that said ends can then be simultaneously closed approximately air tight, and whereby the packages will keep the contents air tight and against deterioration, and yet can be easily handled and torn open.

The invention consists in certain novel features in construction and in combination of parts as more fully and particularly described and pointed out hereinafter.

Referring to the accompanying drawings, which show for purposes of explanation the preferred embodiment of my invention;—Figure 1, is a perspective view of a sheet of the detachably connected air tight anhydrous or effervescent powder paper packages. Fig. 2, is an enlarged side elevation of one of the packages detached. Fig. 3, is a perspective view of the sheet of packages before being closed at either end, dotted lines indicating

the fold lines at both ends. Figs. 4 and 5, are detail views.

Various effervescent and anhydrous materials in powdered, granular or other forms are found on the market, usually packed in small bottles. The selling price is usually comparatively low and hence the cost of the package is perhaps the largest item to be considered in determining the selling price. For instance, among the effervescent materials referred to, might be mentioned, what are termed "soda water powders", immense quantities of which are sold during the summer season. These powders are variously flavored and are usually sold to children at a very low price. It is desirable to put up these soda water powders in small packages, with a sufficient quantity of powder in each package to flavor and charge one glass of water. It is necessary that the packages possess the qualities of durability, and of preserving the powders against deterioration, and that the packages be produced at a minimum cost and be capable of ready and easy opening by children. Extensive practical use has demonstrated that the package of this invention meets the foregoing requirements by reason of its peculiar formation and arrangement.

In the drawings, I show a series of packages detachably connected together in sheet like form and comprising a backing sheet 2, having parallel transverse lines 3, of weakness or separation extending usually from edge to edge of the sheet. These lines of weakness can be formed in any suitable manner, as by perforations, cuts, or scoring.

Paper tubes 4, are pasted on the backing sheet between and parallel with said lines 3, of separation and are arranged in parallelism and closely adjacent to each other so that the tubes are separated by the lines of weakness.

Each paper tube is composed of two or more sheets of thin flexible paper loosely folded together to form the tube with a flat outer wall and longitudinally creased collapsible or bellows like side walls 5. The ends of the outer sheet of the tube are arranged at the inner side thereof and are pasted to the backing sheet. The inner sheet of the tube preferably consists of paper treated to render the same impervious, and said inner sheet forms the inner surface or lining of the tube from end to end thereof,

and said inner sheet usually has its ends lapped or meeting at the inner wall of the tube to approximately leave no break in the lining. The tubes of a series are all of approximately the same length and are shorter than the backing sheet, but each is of greater length than the completed package formed therefrom. The tubes are pasted on the central or intermediate portion of the length of the sheet so that the end 7, of the sheet is left projecting a considerable distance beyond the upper open ends of the tubes, and the lower end 6, of the sheet is left projecting a considerable distance beyond the lower open ends of the tubes.

8, is the transverse line on which the lower ends of the sheet and tubes are folded in completing the sheet of packages, and 9, is the line or crease, parallel with the line 8, on which the upper ends of the tubes and sheet are folded in finally completing the sheet of filled or loaded packages.

Paste is applied to the upper surface of the projecting sheet end 6, and to the upper surfaces of the tubes below the fold line 8, and the sheet and tubes are then folded up on the line 8, and pasted down on the front walls of the tubes, so that the lower ends of the tubes are doubled over and pasted down on the intermediate portions of the tubes and the sheet end 6, is pasted down on the front walls of the tubes beyond or above the doubled ends of the tubes. As soon as the tubes and sheet are thus doubled over, heavy pressure is applied thereto for the purpose of very tightly compressing and flattening out the doubled ends of the tubes, and causing the paste to dry maintaining the tubes thus tightly folded and compressed. I usually employ rotary cooperating spring pressed rollers for thus completing the fold and tightly compressing the doubled ends.

The sheet of packages is now in condition to be filled or loaded. The sheet of packages is arranged on a suitable holder and a special implement is employed to project into and simultaneously expand or open the upper ends of all the tubes of the sheet and simultaneously discharge into each package, the desired quantity of the powder or other material. The projecting sheet end 7, is of material assistance in properly guiding the mouths or nozzles of the implement into the tube ends during the initial expanding or opening operation. The sheet of filled packages, is then by a suitable machine, paste having been previously applied to the projecting end 7, folded up on the transverse line 9, and then pasted down on the intermediate portions of the front walls of the tubes, so that the upper ends of the tubes are doubled back and down and the sheet end 7, is pasted down on the central portions of the tubes below their doubled upper ends. The upper doubled ends of the packages are

then subjected to the heavy flattening and compressing pressure, as hereinbefore described, to tightly compress and flatten the doubled upper ends of the packages, as well as the lower ends.

The arrangement is such that the powder or other material occupies the central portion of each package between the doubled tube ends and the sheet ends 6 and 7, and this central part of each package is the weakest portion thereof, whereby the package can be easily torn across at its central portion to separate the package into two sections or halves from which the powder can be easily dropped and shaken into the glass of water.

The tubes are formed with the collapsible or folded side walls to permit the expansion of the central portion of each package to receive the necessary charge of powder, and thereby avoid expansion of the tightly folded and compressed doubled ends of the package, as such expansion at the ends might tend to break the approximately air tight end seals or cause leakage at the package ends.

I have discovered by extensive practical use and tests that the effervescent powders can be kept for long periods of time without deterioration in the package described, and that the air tight end seals are attained because of the formation of the tubes from a plurality of sheets, that is two or more folded together, and by tightly compressing and flattening the doubled ends of tubes thus formed.

The packages are usually put on the market in sheet form, each sheet being usually composed of say about five packages filled with powders of the same flavor and each containing a sufficient quantity for one dose. Each package can be torn from the sheet before the package is torn across, so as to leave the remaining packages sealed and intact. Such a sheet of packages of soda water powders are sold for a few cents and immense quantities of such packages of my invention have been sold. The packages can be used for other effervescent powders, and materials, and are peculiarly adapted for such materials where it is desired to sell the same in one dose packages, individually, or connected in sheets.

It is evident that various modifications might be resorted to without departing from the spirit and scope of my invention, hence I do not wish to limit myself to the exact construction shown.

What I claim is:—

1. A sealed approximately air tight paper package of anhydrous material, or the like, comprising an elongated collapsible paper tube having projecting flaps at its opposite ends, both end portions of the tube being doubled over toward each other on fold lines

transverse intermediate portions of the tube and compressed and pasted down on the intermediate portion of the front wall of the tube, said projecting flaps being also pasted down on said front wall of the tube between the doubled and pasted ends of the tube, whereby the contained material is confined in the tube between said doubled compressed portions, for the purposes described.

2. A sheet or series of detachably connected approximately air-tight packages comprising a sheet and a series of closely arranged parallel collapsible paper tubes pasted thereon with both ends of the sheet projecting beyond the opposite tube ends, the sheet having lines of separation between the tubes and across its opposite projecting

ends, the lower ends of all the tubes being doubled over on fold lines 8, and pasted down on the front walls of the tubes and compressed and flattened, the opposite ends of the tubes having a transverse fold line or crease 9, on which the tubes are doubled back and sealed down on the front walls of the tubes, said projecting sheet ends having the lines of separation being secured on the front walls of the tubes intermediate said doubled-back tube ends.

In testimony whereof I affix my signature, in presence of two witnesses.

ORVILLE L. PARMENTER.

Witnesses:

ELBERT B. HAND,
MAUDE WILD.