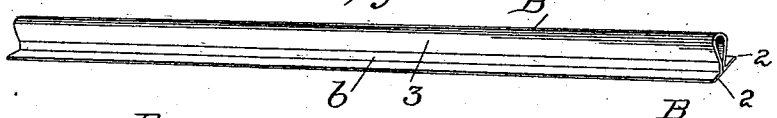
(No Model.) 2 Sheets—Sheet 1.

H. C. HUNTER.

PACKING VESSEL.

No. 492,806. Patented Mar. 7, 1893.

Fig. 2



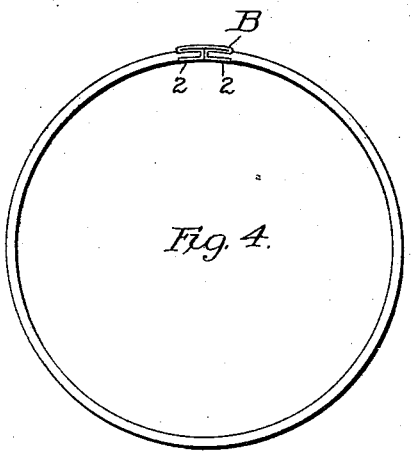


Fig. 4.

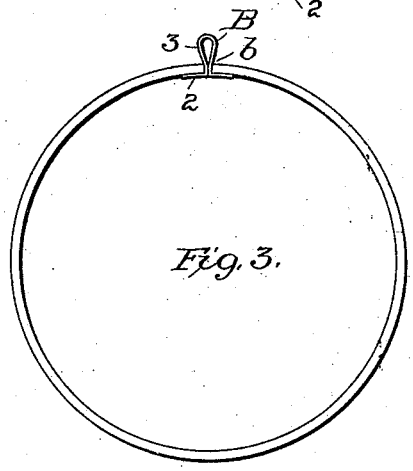
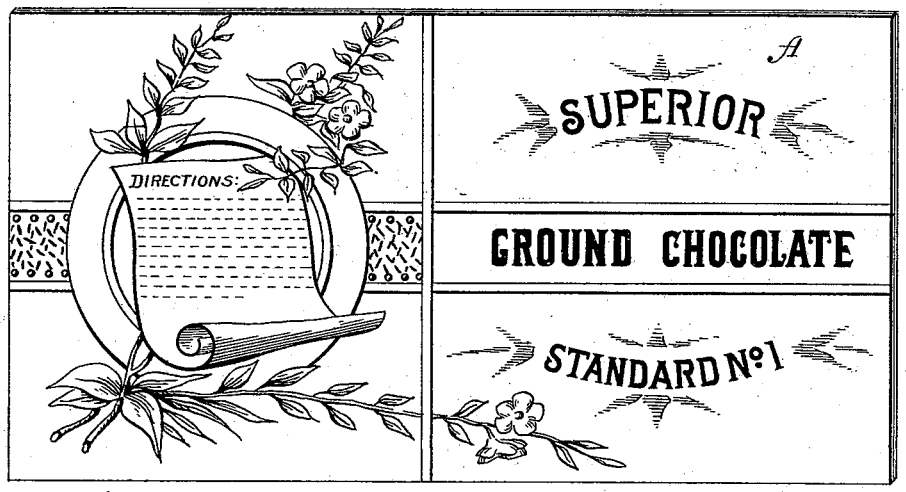


Fig. 3.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 6.

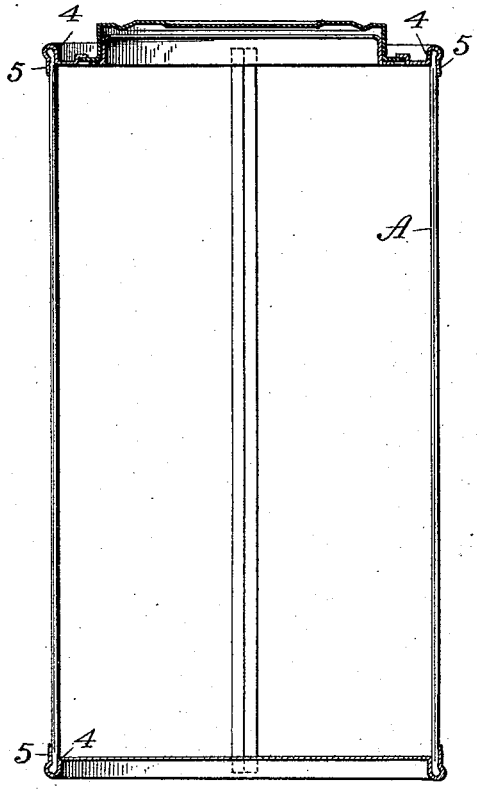


Fig. 5.

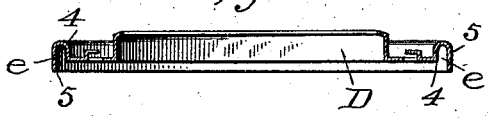
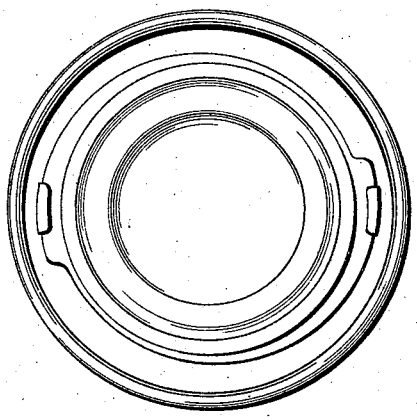


Fig. 8.



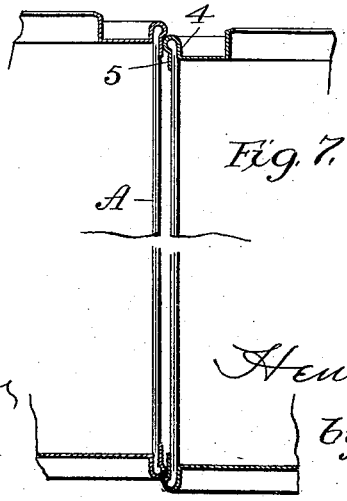


Fig. 7.

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UNITED STATES PATENT OFFICE.

HENRY C. HUNTER, OF ALAMEDA, CALIFORNIA.

PACKING-VESSEL.

SPECIFICATION forming part of Letters Patent No. 492,806, dated March 7, 1893.

Application filed January 17, 1893. Serial No. 458,705. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. HUNTER, a citizen of the United States of America, residing at Alameda, in the county of Alameda and State of California, have invented certain new and useful Improvements in Packing-Vessels, of which the following is a specification.

My invention relates to packing cans of that class used for putting up dry substances, such for example as grocery supplies of many kinds. The primary requisites for cans designed for such goods are first, the exclusion of air and moisture, and secondly, resistance to the pressure and concussions necessarily incident to handling and transportation. Following there is the matter of cost; of weight; adaptability to labeling; appearance; greater adaptability to variation in size; security of packing in cases; convenience in filling and opening; facility in manufacture. Further there is another very important point had in view in this, my invention, and never so far as I am aware heretofore accomplished. This point relates to the features of construction of the can, whereby its constituent parts may be put together in a manner adapted to fulfill all the requirements above stated, by the packer himself, when the goods are put up, thus combining the permanent qualities of a can with the facility in packing of a "knock-down" or folding box or other temporary and slight envelope. In the soldered tin can the aforesaid two prime qualities are supplied, but not the others. To meet all these requirements I have adopted, as the basis of my invention, a body of paper board or equivalent material (in place of the ordinary sheet metal body) and sheet metal heads permanently fixed thereto. Such a can is shown in the United States patent of Somers No. 345,931, of July 20, 1886. For the purposes intended, however, the construction shown in said patent, as well as all the other forms of paper board cans prior to my invention herein, and known to me, are materially defective.

My invention consists essentially of a packing can formed of a body of paper board or like fibrous material, having a side seaming strip clamping the abutting edges of said body, and metallic heads, having flanges which clamp the edges of the body.

The particular points of my improvement, and the differences in structure and result, in comparison with the prior state of the art heretofore known to me, are explained in detail hereinafter. I have also illustrated my invention in the accompanying drawings, in which—

Figure 1, represents a body blank in plan. Fig. 2, shows in perspective the side seaming strip. Fig. 3, shows the can body and the strip in cross section, illustrating the mode of putting the parts together. Fig. 4, is a like section of the completed seam. Fig. 5, shows a cross section of the head before it is fixed upon the body. Fig. 6, shows a central longitudinal section of the complete can. Fig. 7, illustrates the packing of the cans in cases for transportation, and Fig. 8, is a plan view of the top.

The body A, is a rectangular piece of paper board. I use the term paper board as including fibrous sheets, whether homogeneous or composite, and whether of paper or similar or other fibrous stock. I make these blanks of an exact size, the width equaling the circumference of the complete can, less the thickness of the web of the interposed strip; of rectangular shape; in length required for the height of the can; and preferably with a labeled surface. In making these cans according to the method of packing above referred to, that is to say, in the manner of putting up goods in "knock-down" boxes or paper bags or packets, I use the blank having the labeled surface as the label covers the whole surface, its edges are covered and held by the flanges of the ends or heads, and thus a neat finish is secured.

The body of the can is formed by bending the blank into tubular form and bringing the edges to abut against the web *b*, of the strip B. While these edges are so held (as shown in Fig. 3) the strip is flattened into the form shown in cross section in Fig. 4, the flanges of the strip being pressed into the yielding body, and thus forming a tight and strong joint. Several objects are gained by this construction. First, I avoid the pasted lap, heretofore shown in connection with such can bodies, such laps requiring time to dry, while the joint is instantly completed in my can, by the compression of the strip. Further there is no wet glue to penetrate through the seam,

which if employed in a can completed as required for this use would pass to the interior and impair the flavor or quality of the contents. The wetting necessarily accompanying the use of glue is also injurious to the paper board. The metal of the side seaming strip is thin and is formed as shown in the cross section in Fig. 2, that is, with the flanges 2, 2, both in the same plane, and at right angles to the plane of the bead 3, there being, between the bead and flanges, and next to the flanges, a web where the two thicknesses of tin are in contact. In putting the can body together the edges of the blank are brought to bear on the flanges 2, and against the web, and when in this position the bead is flattened down. The side seam adds nothing appreciable to the thickness of the wall, and bright metal being used, gives a finished appearance. In the condition into which it is ultimately formed, shown in Fig. 3, it also acts as a strengthening strut or rib, in the can. This form of joint, however, requires especially to be held at the ends. If used in connection with a slip joint cover, it might be pressed in or out and away from the flange according to the position of the cover flange, whether inside or out. It affords no material resistance at the ends to transverse pressure and is also weak against a spreading strain. In order to supply the strength required at this point, I combine therewith the form of end, or head having a double flange and groove, as shown in Fig. 5. This head or end D, is formed with a groove *e*, between a double flange 4, 5, into which groove the edges of the can body fit, as in Fig. 5. The double flange 4, 5, is then closed firmly upon the edge of the body and grips the same. This serves to hold the head upon the body. It also forms a peripheral connection, and prevents the abutting edges of the body from pulling apart out of the grip of the side seaming strip. At the same time the head or end thus held to the can body edge, braces the end against any crushing in or expanding out of the walls. Thus the head or end, fixed permanently to the edge of the can body, supplements the side seaming strip. These two parts have further co-operation. The convenient way in making these cans, is to cut the strip of a length equal to that of the can body, the strip being thus more easily and accurately adjusted in place. This brings the ends of the strip under the head flanges. But the thickness of the metal and the compression in closing the flanges upon the somewhat yielding paper material of the can body, leaves the joint practically no thicker than the other parts of the body, and the double flange of the head makes at all points the same joint. I thus avoid the tendency to leak when such a double flange is applied to a lap jointed paper board body, since in any lap joint, there will be holes in each edge of the laps, under the double flange. The heads engage with and hold the ends of the side seaming strip and thus tend to keep the can throughout in symmetrical form. In this form of head or end, the outer face is counter-sunk below the crown of the bead formed by the double flange, and I extend the outer flange 5, downward, as shown in Figs. 5 and 6, instead of turning it inward. The downward extension is made wide enough to allow, when packed in cases, the bead (turned slightly outward) of the adjacent can, to rest upon the flange, as shown in Fig. 7. This prevents the edges of the adjacent cans from damaging each other, as they would if such edges should bear upon the paper board, and also holds the labeled surfaces apart.

It will be understood that both ends of the can are permanently fixed to the body and that the head has an ordinary orifice and cap. By the words permanently fixed, I wish to be understood as referring to a construction such as that shown herein, in which the edge of the body is positively gripped or fixed to the edge of the end, so as not to be free to move either in or out without rupture at the edge, which would dislocate and permanently sever the parts. I do not include a slip joint cover.

It will be observed that my can may be varied in size simply by varying the dimensions of the parts, and in this quality differs from the rolled paper can bodies, which require for each variation in diameter or length, a different machine.

In respect to the mode of putting up goods in my improved cans, I say briefly, (since the method is described and claimed in another application Serial No. 405,080, filed September 8, 1891,) that the blanks properly labeled are kept in flat form, easily stored; that the side seam is added and the bottom; then the can is filled more conveniently than through the cap opening, and the top or head put on, and this, by simple or ordinary tools, may be done by comparatively unskilled workmen, quickly and perfectly, in the warehouse where the goods are put up.

I do not claim the particular form of completed side seaming strip, as I am aware that it is old in other combinations, nor do I claim the grooved form of the ends or heads, as these are also old; nor do I limit myself to these particular forms in my combinations.

I do not claim herein either the details or the mode of putting up these cans, these matters being the subject of other applications now in the United States Patent Office.

I do not herein claim the side seaming strip, nor the labeled body blank, these being shown and claimed in other applications filed by me in the United States Patent Office, having the serial numbers, respectively, 447,002 and 447,003.

I claim—

1. A packing can, consisting of a body composed of a sheet of paper board or fibrous material having a side seam formed by a metallic strip clamping the abutting edges of said

body, and metallic heads permanently fixed to the said body, substantially as described.

2. A packing can, consisting of a body of paper board, or like fibrous material, having a labeled finishing surface and permanently attached metallic ends, the flanges of which overlap the said finished label surface, substantially as and for the purpose explained.

3. A packing can, consisting of a body of paper board or like fibrous or vegetable material, a side seaming strip which clamps and unites the edges of the body, and extends the entire length, and permanently attached ends, engaging with the side seaming strip, substantially as described.

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

HENRY C. HUNTER.

Witnesses:
HENRY E. COOPER,
F. L. MIDDLETON.