H. A. HOUSE.

PAPER RECEPTACLE.

APPLICATION FILED MAY 25, 1914.

1,128,785. Patented Feb. 16, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

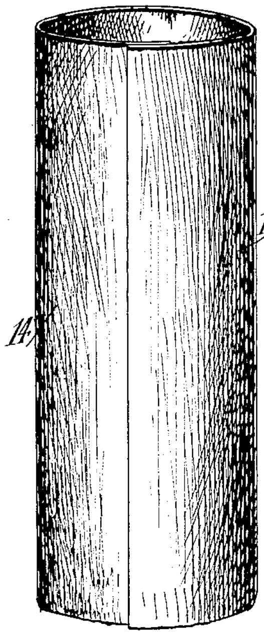


Fig. 2.

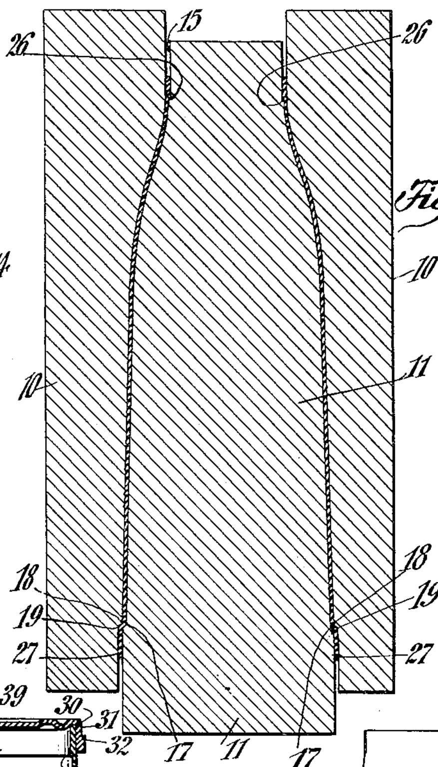


Fig. 3.

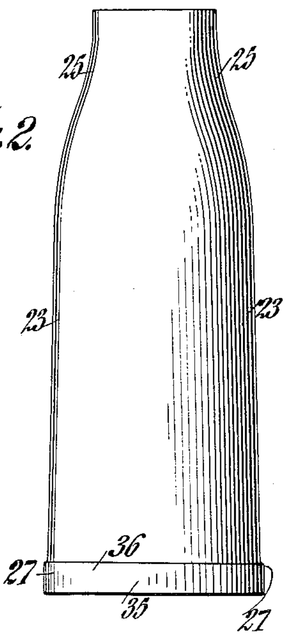


Fig. 4.

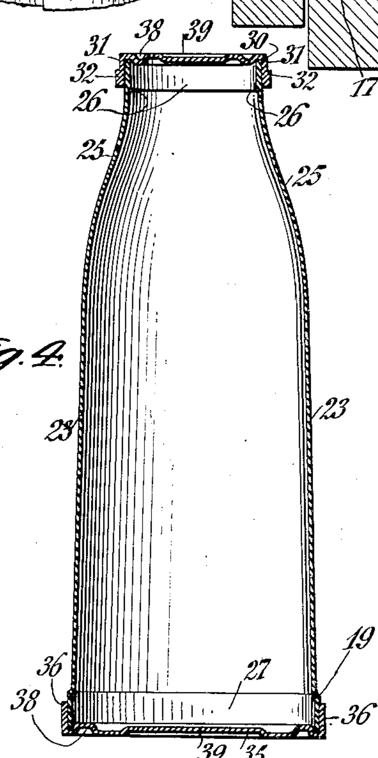
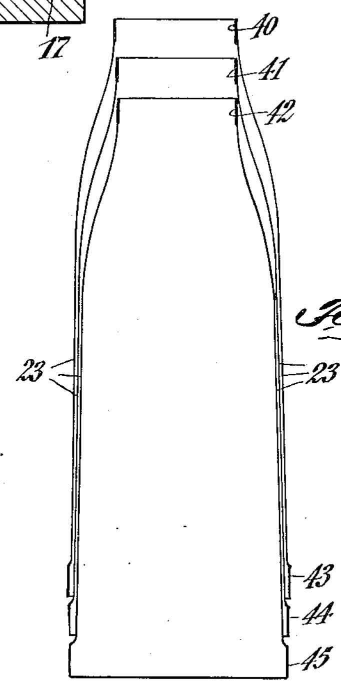


Fig. 5.



Witnesses:
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2 SHEETS—SHEET 2.

Fig. 6.

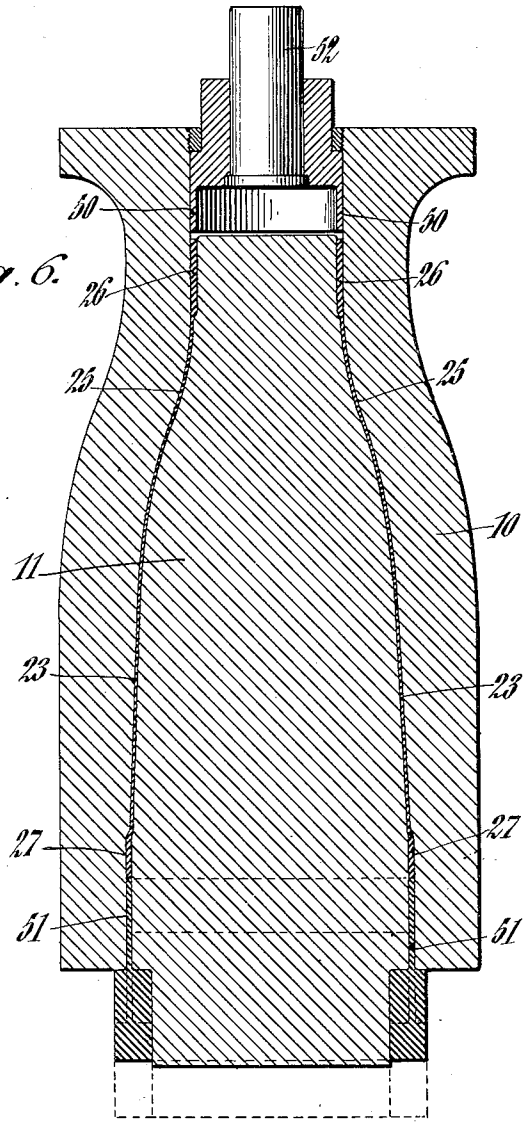
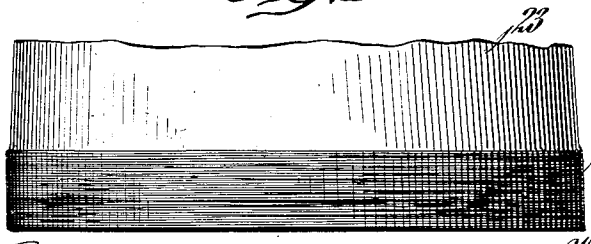


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PAPER RECEPTACLE.

1,128,785. Specification of Letters Patent. Patented Feb. 16, 1915.

Application filed May 25, 1914. Serial No. 840,840.

To all whom it may concern:

Be it known that I, HENRY A. HOUSE, a citizen of the United States of America, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Paper Receptacles, of which the following is a specification.

The object of this invention is to provide a receptacle or carton made of paper, which is inexpensive in construction, yet strong and durable and able to withstand, for instance, the shocks ordinarily received by a milk bottle.

A further object is to provide an economical process of making the same.

The body of the receptacle for these purposes is made of moistened, heated and compressed crimped paper, and is provided at top and bottom with reinforced flanges, which are formed in a special die giving longitudinal compression to the flanges.

In the accompanying drawing, Figure 1 is a perspective view of the paper blank from which the carton shown is formed, Fig. 2 is a vertical section, showing the paper in compressed condition between the punch and the die proper, Fig. 3 is a side-view of the carton, Fig. 4 is a vertical section through the carton, Fig. 5 is a vertical section through three of the cartons when nested, Fig. 6 is a section of the die on a larger scale, showing the means for forming the reinforced flanges, and Fig. 7 is a side-view, showing the structure of the flanges.

Similar reference characters indicate the same parts in all the figures of the drawing.

The paper, which is of the crimped type or kind, is arranged in the form of a cylinder 14, with overlapping edges. This cylinder is treated in the manner described in my copending application, Serial No. 774,768, namely, the cylinder is moistened with water, or with any suitable size or other liquid adapted to penetrate the paper and cause the same to readily yield and adapt itself to the mold, and to form a substantially homogeneous mass after compression. Thereupon it is placed upon the forming-punch 11. The punch, with the paper thereon, is forced under great pressure into the female member 10 of the die. Thereby the paper is given the tapering shape, as indicated in Fig. 2, and at the same time the inwardly-curved shape, as indicated by 25. Coöperating projections and recesses 17 and 18 at the lower part of the die cause a shoulder 19 to be formed in the carton, which is clearly seen in Fig. 4. At its upper part the punch 11 is slightly reduced in diameter, as shown at 15, whereby the space between the punch and the die 10 is increased, for forming a thickened or reinforced flange 26 at the top of the carton. The space between the punch 11 and die 10 is also increased below the shoulder 19, for forming a lower flange 27. After the punch has been pressed into the die, the paper at the ends of the punch and die is longitudinally compressed together by inwardly-moved compression-sleeves 50, 51, respectively, and thereby the reinforced flanges are given permanent shape and rendered hard and strong. The compression of the paper endwise of the die gives to the flange the stratified appearance shown in Fig. 7. After the carton has thus been dried and hardened in the die under the heat and pressure of the same, an ejector 52 removes the punch, with the carton thereon, from the female die. The bottle is then paraffined to render it waterproof.

Both ends of the form 23 are open, one end being adapted to be closed by the cap 30, which has a flange 31 and a strengthening projection 32, and the other end is adapted to be closed by the cap 35 which has the flange 36. Both the top-cap 30 and the bottom-cap 35 have circular depressions 38 and 39, by means of which strength is given to the same.

The cartons are so shaped that one may be inserted into the other and in such manner that the exterior flanges 43, 44 and 45, of the successive cartons contact with each other. By this telescopic insertion large quantities of the cartons may be conveniently shipped without great expense. When it is desired to use the same, the necessary number are taken and the bottom-caps are placed thereon, which requires some little force, as the fit is a tight one, and thereupon a certain amount of paraffin is added, whereby a tight, hermetical seal is provided. The bottle thus formed is then filled with liquid, and thereafter the top-cap is placed thereon, and this is also hermetically sealed by the tight friction hold and the paraffin or other sealing mixture that is applied at the joint.

It is obvious that the invention is not limited to cartons of the exact form shown,

but that the same is applicable also to paper receptacles of many other forms and for numerous purposes.

I claim:

1. A receptacle made from crimped compressible material, comprising a tubular body portion, and flanged portions formed by superposed transverse layers longitudinally compressed against each other.

2. A receptacle made from crimped compressible material, comprising a tubular body portion, and flanged portions integral with and at each end of said body portion, formed by superposed layers transversely of the axis of the receptacle longitudinally compressed against each other.

3. A receptacle made from crimped compressible material, comprising a tapered tubular body portion, flanged integral with and at each end of said body portion of a greater compressed structure than said body portion, the inner diameter of the body portion at its lower end being equal to the outer diameter of that part of the body portion adjacent the innermost part of the flange at that end, and the exterior diameter of the upper end being equal to the interior diameter of the upper end adjacent the flange.

4. A receptacle made from crimped compressible material, comprising a tubular body portion, one end being of smaller diameter than the other, a flange extending inwardly at the smaller end, and a flange extending outwardly at the larger end, said flanges being integral with and of a greater compressed structure than said body portion, the inner diameter of the larger end being equal to the outer diameter of that part of the larger end adjacent the innermost part of the flange, and the exterior diameter of the smaller end being equal to the interior diameter of the smaller end adjacent the flange.

5. A receptacle, made from crimped compressible material, comprising a tubular body portion, one end being of smaller diameter than the other, a flange extending inwardly at the smaller end, and a flange extending outwardly at the larger ends, said flanges being integral with and of a greater compressed structure than said body portion, the inner diameter of the larger end being equal to the outer diameter of that part of the larger end adjacent the innermost part of the flange, the exterior diameter of the smaller end being equal to the interior diameter of the smaller end adjacent the flange, a bottom fixedly secured to the larger end, and a top detachably secured to the smaller end of the receptacle.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

HENRY A. HOUSE.

Witnesses:
F. HOGG,
JOS. BISBAND.