Jan. 1, 1929.

1,697,709

H. R. BLISS

REENFORCED SHIPPING CASE

Filed Jan. 10, 1924

2 Sheets-Sheet 1

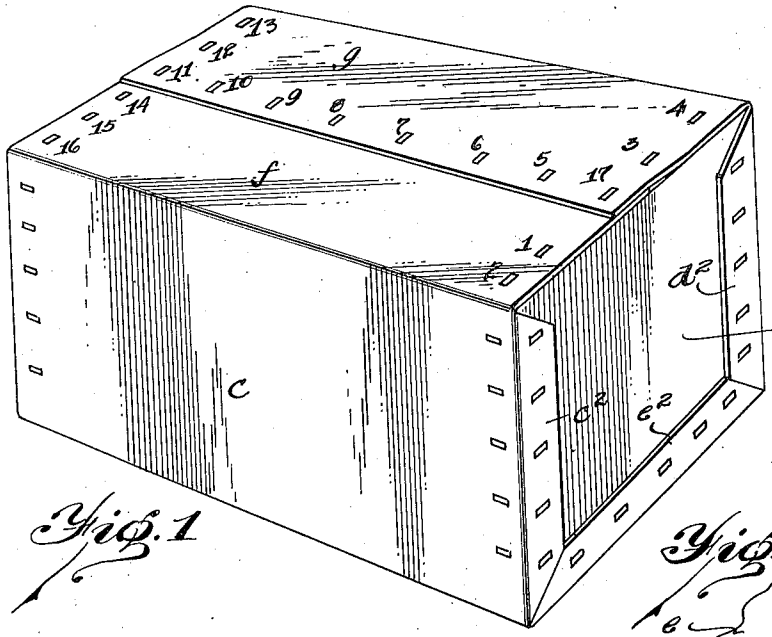


Fig. 1

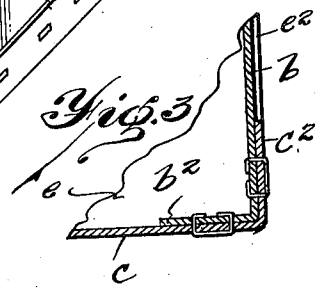


Fig. 3

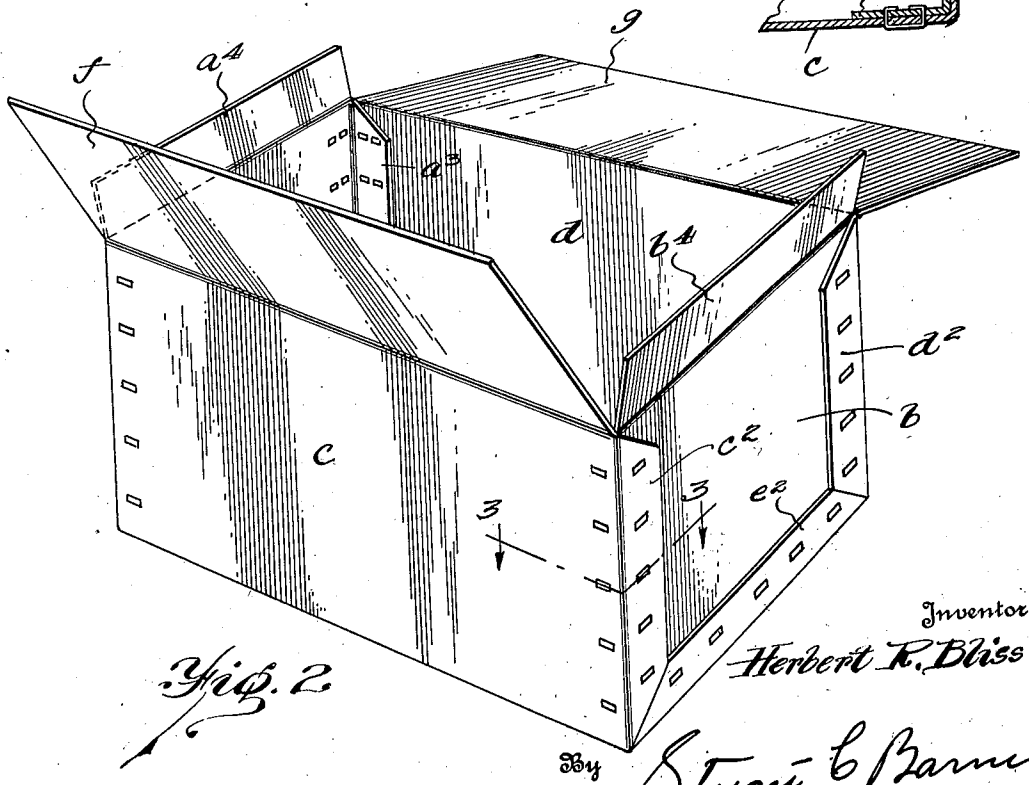


Fig. 2

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Fig. 4

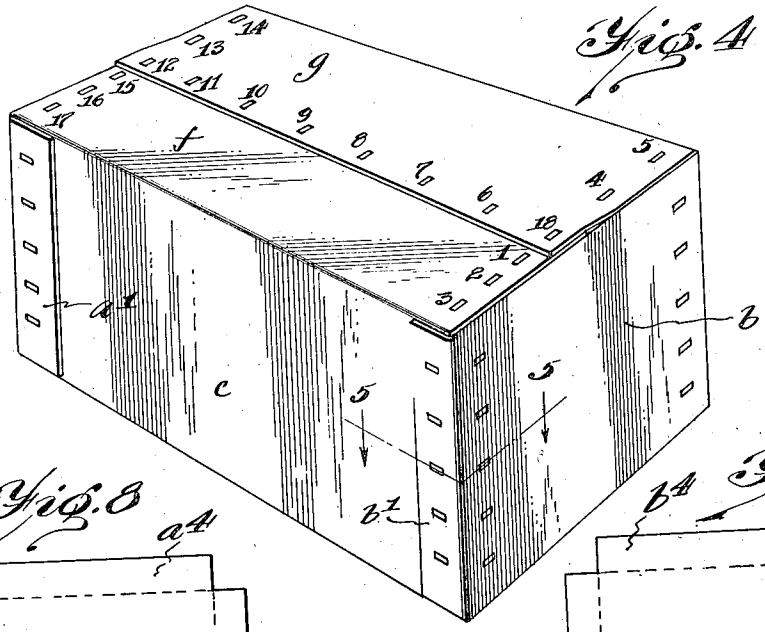


Fig. 8

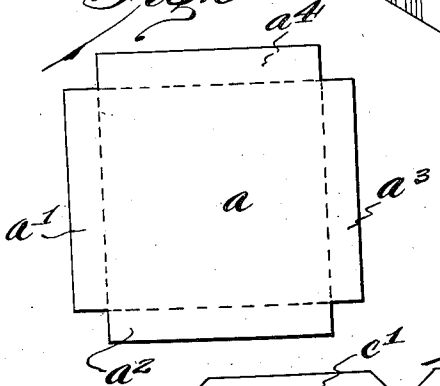


Fig. 7

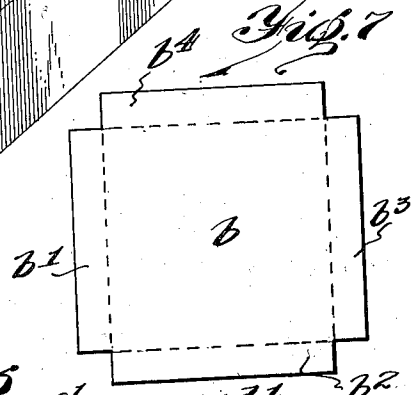


Fig. 6

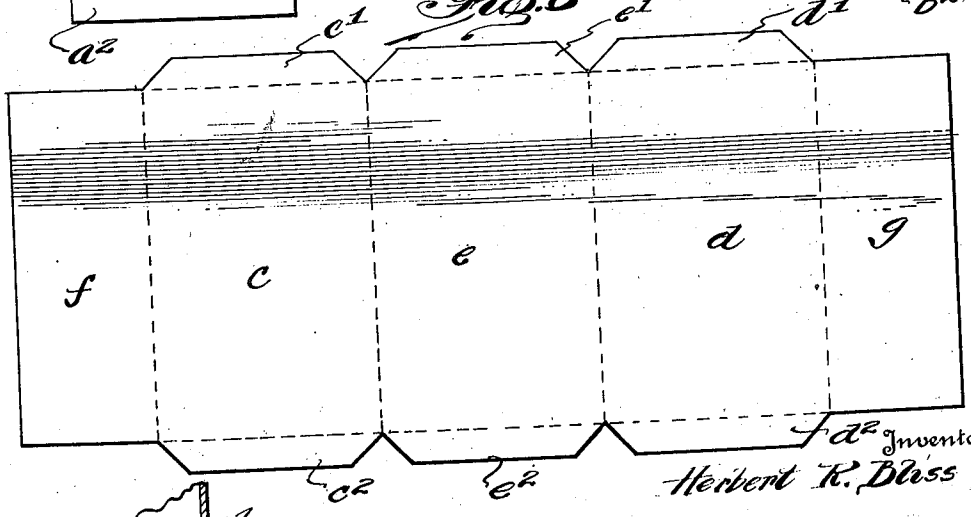
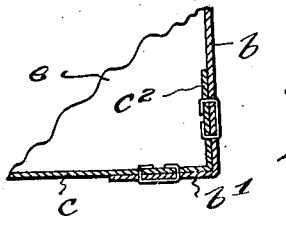


Fig. 5



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Patented Jan. 1, 1929. 1,697,709

UNITED STATES PATENT OFFICE.

HERBERT R. BLISS, OF NIAGARA FALLS, NEW YORK, ASSIGNOR TO BLISS CONTAINERS, INC., OF NIAGARA FALLS, NEW YORK, A CORPORATION OF NEW YORK.

REENFORCED SHIPPING CASE.

Application filed January 10, 1924. Serial No. 685,354.

This invention relates to a shipping case constructed of fibre board or equivalent material and has for its object a shipping case which achieves maximum blank economy and at the same time has relatively great strength by reason of double reenforced corners.

The commonly used shipping case of the present day is the so-called slotted-end container, made of a single blank. This case has given relatively good satisfaction but is enormously wasteful in material. Furthermore, the same is not suitable for shipping relatively heavy hardware, nor damp goods for it does not have the requisite strength at the vertical corners. This is especially so at the vertical corner where the manufacturer's seam appears. It is the object of the present invention to provide a shipping case which requires a less area of blank and at the same time provides double reenforced corners so that the same can stand stacking, tearing strains and dampness.

It is not broadly new to reenforce a fibre shipping case at the corners, but so far as I am aware no one has heretofore so designed a box that this reenforcement can be had on all three corners at each end of the box by flaps integral with the main blanks and which require no wastage in cutting the blanks. These features are all embodied in my improved shipping case.

In the drawings:

Fig. 1 is a perspective of the completed case.

Fig. 2 is a perspective of the case before sealing.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a perspective of a modified form of the invention.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Figs. 6, 7 and 8 show the blank construction.

The end blanks are designated a and b and are provided with corner flaps a^1, a^2 and a^3, b^1, b^2 and b^3, and sealing flaps a^4 and b^4. The main body blank comprises side walls c and d and bottom wall e, cover wings f and g. Each of the side and bottom walls are provided with corner flaps c^1, c^2, e^1 and e^2, d^1 and d^2.

The container is set up with the body blank flaps on the inside as shown in Fig. 4, and end blank flaps on the outside or with the body blank flaps on the outside and the end blank flaps on the inside, as shown in Figs. 1, 2 and 3. This is a matter of indifference.

These flaps at the three corners at the ends of the case are secured to the adjacent blank, preferably by wire stitching. This forms a double reenforcement at the corners, making the box stronger than any extensively used commercial case with which I am familiar. In some cases, I shall only secure the outside flaps to the adjacent blanks, leaving the inside flaps to simply abut.

In my container, no separate reenforcing strips are required, the reenforcing strips or flaps all being on the blanks. It will be noted that the location of the flaps on the blanks makes no wastage in material save at the ends of the cover wings f and g, and at the corners of the end blanks. This wastage is very small indeed and is hardly worth considering. The resulting container is a flush-end container having a full capacity as compared to its dimensions, as opposed to the so-called recessed-end box. Furthermore, the amount of blank material required to construct this box is relatively less than the slotted-end container and yet has very much greater strength.

Furthermore, I have found that a container constructed in the way I have described has several other advantages, namely,—it has double stacking strength of ordinary shipping cases made of fibre board for the vertical reenforced corners form double strength corner posts to support the containers when filled, sealed and stacked. The corners of any fibre or corrugated board shipping case are the weakest point. In a great many factories these shipping cases are handled a great many times before they are packed and sealed and they are often torn at the corners due to rough handling. Tearing ordinarily is started by reason of the corners giving slightly due to their flexibility. By doubling the strength of the corners as I do, this makes them very much more rigid and the tears do not start as with the ordinary un-reenforced case. I also find this case a great advantage in connection with damp goods such as soap, butter, oleomargarine and similar products. Soap shrinks and leaves a clearance in the inside of the package so that the package itself has to be able to support the stresses and strains brought upon it in stacking and handling. Butter and oleomargarine are shipped

in refrigerator cars and stored in refrigerators. The board becomes damp and soft and great strength at the corners is needed to keep it in good condition. In a container constructed in this way, it is also practical to cross the grain of the board on the head of the case. This makes the fibre board approach the strength of the wood veneer construction used in the well known wire bound box.

I preferably seal the box by stitching the cover wings together in the order that I have shown. This may be by means of a blade anvil and is described in my process Patent No. 1,452,588, dated April 24th, 1923. It will be apparent that the position of the sealing flaps and the cover wings could be transposed that is,—the cover wings placed on the end blanks and the sealing flaps on the body blank. I therefore want it understood that the claims cover either position, although it has been found necessary in some of the claims to specify the location of the wings and flaps in order to make the claim unambiguous.

In a great many cases, as already stated, it will not be necessary to stitch both sets of securing flaps to the adjacent blank. The flaps on the inside can be left loose if desired. I want it therefore understood that the claims cover the case with the two sets of securing flaps whether both sets are stitched to the adjacent blank or not unless the claims distinctly specify such double stitching.

What I claim is:

1. A shipping case, constructed of three flat creased blanks, one a main blank and two end blanks provided with end panels, the former forming when folded up two side walls and one bottom wall, and all said blanks having corner flaps foldable against the adjacent blank to form double reenforced corners in which the single corners fit together to bring the end panels flush with the ends of the main blank, some of the corner flaps being fastened to the adjacent blank, thereby affording reenforced column strength at the vertical corners, and some of the said three blanks being creased to provide cover wings which can be connected together in relation destructible when the case is opened.

2. A shipping case, constructed of three flat creased and folded fibre blanks, one a main blank creased to form two sides, one bottom and a cover wing and a plurality of foldable corner flaps, and the other two blanks creased to form end panels with a plurality of foldable corner flaps, the end panels positioned in the ends of the main blank when folded up and double-stitched thereto at the end by stitching folded corner flaps of the end panels to the main blank near its ends and stitching the folded corner flaps of the main blank to the two end panels, the corners formed by the flaps and the member to which they are attached fitting together and locating the end panels flush with the ends of the case, and the case arranged to be sealed by connecting the cover wing in destructible relation with the body of the case when folded down, whereby double column reenforcement is afforded at the vertical corners of the box.

3. A shipping case, constructed of three flat creased and folded fibre blanks, one a main blank divided by creases into two cover wings, one at each end, and intervening bottom and side walls, each of the side and bottom walls have short extensions divided off by creases to form corner flaps, and two minor blanks divided by creases to form each an end panel and three corner flaps, the said main blank being arranged to fold up and the corner flaps fold in at right angles, while the end blanks can be set against the ends of the main blank, and the corner flaps folded and the corners thus produced by folding both sets of corner flaps fitted together to bring the end panels flush with the ends of the case, and means driven through the corner flaps of the end blank and the main blank and driven through the corner flaps and the end panels to form a double end frame reenforcement in the ends of the case, the said cover wings being arranged to be fastened together to seal the case.

In testimony whereof I affix my signature.

HERBERT R. BLISS.