

No. 619,475.

Patented Feb. 14, 1899.

R. GAIR.
PAPER BOX.

(No Model.)

(Application filed Nov. 3, 1898.)

2 Sheets—Sheet 1.

Fig. 2.

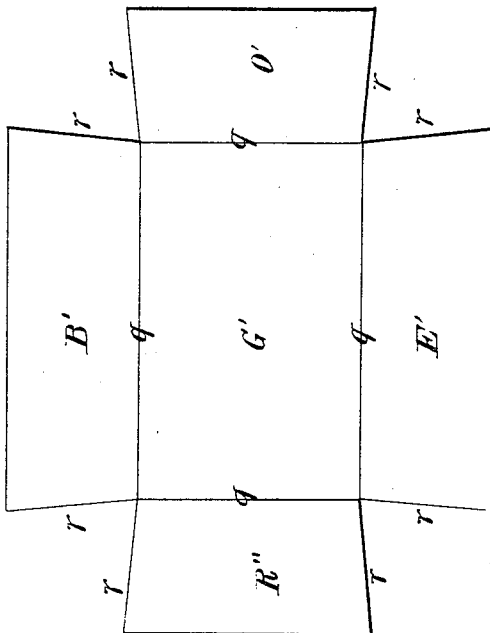
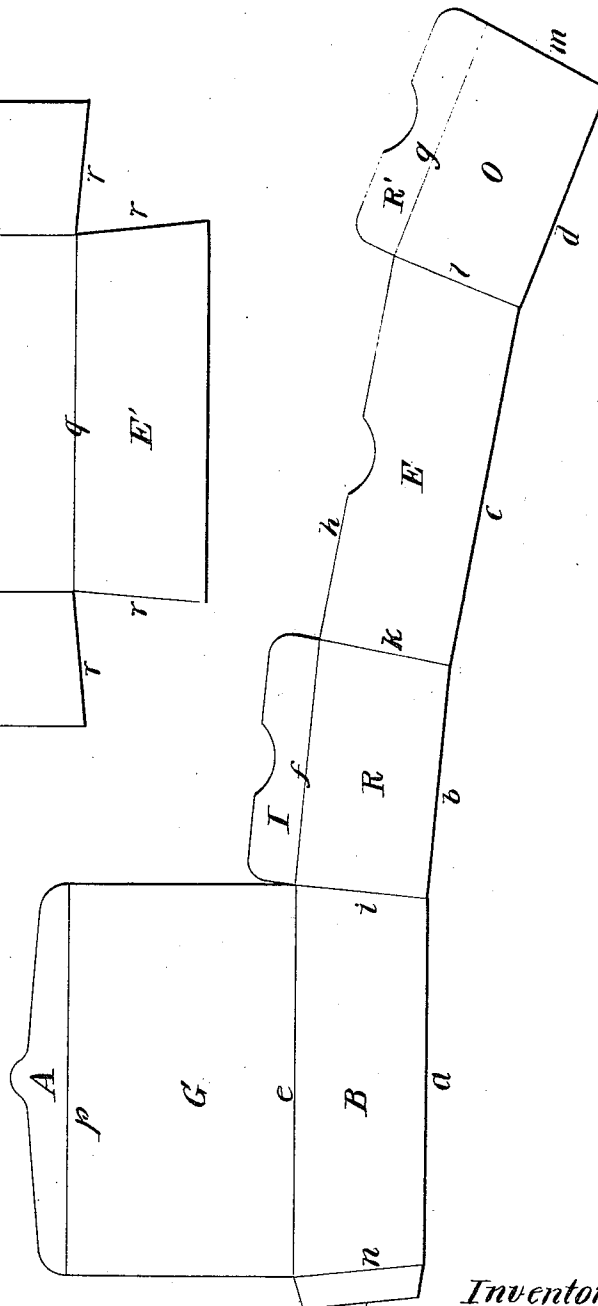


Fig. 1.



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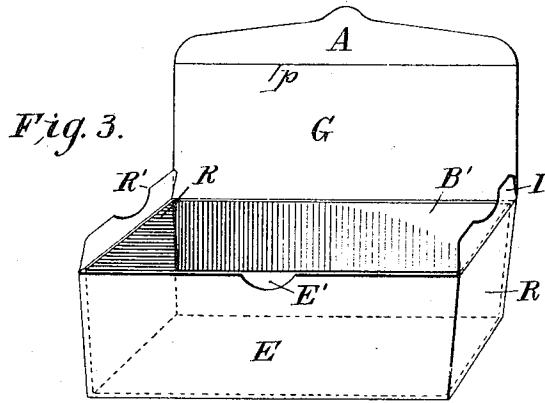
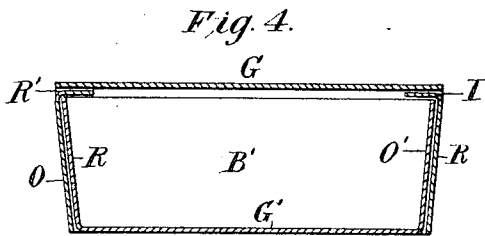
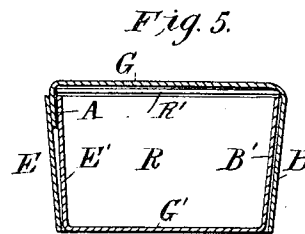
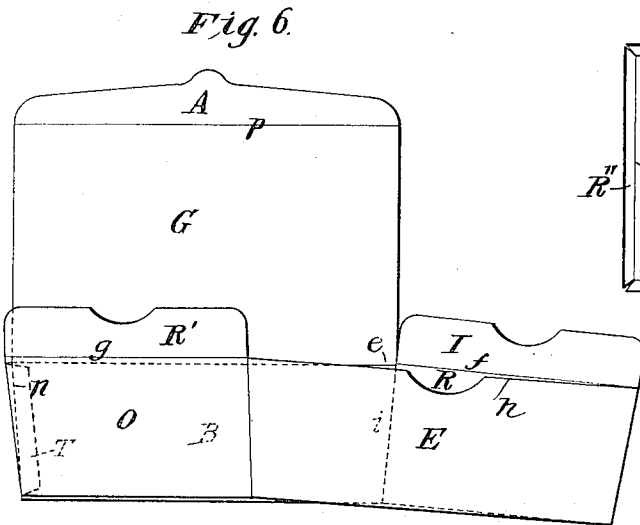
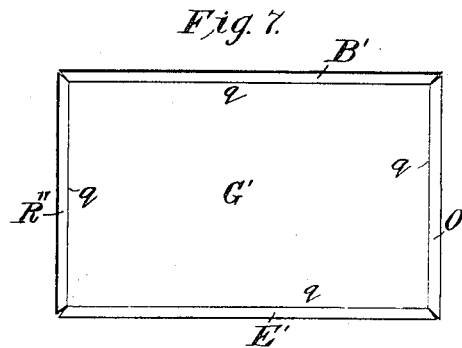
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UNITED STATES PATENT OFFICE.

ROBERT GAIR, OF NEW YORK, N. Y.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 619,475, dated February 14, 1899.

Application filed November 3, 1898. Serial No. 695,388. (No model.)

To all whom it may concern:

Be it known that I, ROBERT GAIR, a citizen of the United States, residing at New York, borough of Brooklyn, in the county of Kings and State of New York, have invented, certain new and useful Improvements in Paper Boxes; 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.

The improvements embraced in the present invention have reference to that class of paper boxes commonly known as "knockdown" boxes, being capacitated to be converted from the normal box form to a more or less flat form to adapt them to be more easily and economically packed and stored and handled.

The object of my invention is to produce a new form of such boxes which shall have the neat and finished appearance, durability, and strength of "solid" boxes, as those are called which are made up in a permanent form.

To this end the invention comprises a new structure of such boxes, consisting in forming the same in two parts, each of which is made from a blank cut in a single piece from paper, cardboard, or other material, one of the parts being cut and creased or scored to form the exterior sides, ends, and cover, and a tucking-tongue, the cutting and creasing being arranged to produce a structure in which the sides shall taper or converge from their top edges toward their bottom edges, and the other part of the box also being cut in a single piece from a like material and cut and creased in such a manner as to form a tray with sides and ends disconnected at the corners, the whole structure being so arranged that the box is set up by inserting the tray part in the exterior part to form the bottom of the box, and where it is held by the expansion of its sides against the tapering or converging sides of the exterior part of the box, while the cover when turned down is held in place by inserting its tucking-tongue between the sides of the tray and the exterior part of the box.

In the accompanying drawings, Figure 1 illustrates the blank from which the exterior part of the box is made; Fig. 2, the blank from which the tray is made. Fig. 3 repre-

sents in perspective the box made up from the two blanks mentioned; Fig. 4, a longitudinal section through the middle of the box; Fig. 5, a transverse section of the box. Fig. 6 illustrates the exterior part of the box folded, and Fig. 7 is a plan of the tray.

In the practical production of my improved paper box a blank is cut, creased, or scored, and incised, as seen in Fig. 1, to form the outer part, whereby the box sides B E and ends R O, cover G, tucking-tongue A, and flaps I R', and pasting-flap T are provided. The bottom lines *a b c d* of the sides and ends are not in a straight line, but those that adjoin are at angles to each other, which may be more or less obtuse, as it may be desired to give more or less taper to the sides and ends of the set-up box. The creased or scored lines *e f g* of the parts B R O and edge *h* of the part E are parallel to the lines *a b d c*, respectively, while the creased lines *i k l* are respectively at right angles to the parts R E O and the end edge *m* and creased line *n* between the pasting-flap T and side B are at obtuse angles to the bottom edges *a d* of the parts B O, respectively. The scored line *p* permits the tucking-tongue A to be bent over at right angles to the cover for insertion between the tray and side of the exterior part of the box.

The exterior part of the box is made up from the blank just described by bending the several parts B R E O on the scored lines *i k l*, thus bringing the side E opposite the side B and the end O opposite the end R, and pasting the end edge *m* to the pasting-flap T, thereby forming a rectangular band or shell the top of which is larger than the bottom. The scored lines *i k l n* form flexible connections or hinges which permit the band or shell to be folded flat, the end O lying against the side B, the side E against side B and end R', and the flaps I R turned up straight, as seen in Fig. 6.

The blank for the tray is cut and creased as in Fig. 2, whereby the bottom G', sides B' E', and ends R'' O' are formed. The creased or scored lines *q q q q* describe the bottom of the tray, and the edges *r r*, &c., of the sides and ends are continuations of the scored lines, but are at obtuse angles thereto, and when the sides and ends are bent up these edges

meet and the sides and edges are caused to assume a flaring position, as shown in Fig. 7. The tray is prepared for packing by simply bending the sides and end down flat flush with the bottom, as seen in Fig. 2. The box is set up by spreading the outer part, Fig. 6, until the front and back and two ends are in their proper position. The sides and ends of the tray are turned to the position indicated in Fig. 7. The tray is then inserted in the outer part and forced down until the bottom G' is flush with the bottom edges *a b c d* of the outer part; when the sides and ends of the tray are bent up until the proximate edges *r r*, &c., meet and the sides and ends of the tray are parallel with the sides and ends of the outer part, as seen in Figs. 3 and 4. The tray is thus supported by the tapering or converging sides of the outer part and there is no possibility of its falling through the band or shell formed by the outer part.

When the box is filled—say with confectionery—the pressure of the contents will wedge the tray in firmly by expanding its sides and ends against the band. The box is closed by turning the end flaps I R' down on the ends of the tray and closing the cover over all and tucking its tongue A between the sides E E' of the shell and tray, respectively.

The corner-pieces between the edges *r r* of the tray-blank are represented as cut out; but it is evident that they may be left in and the edges *r r* be formed in creased lines, so that the corner-pieces can be tucked in when the blank is arranged for inserting in the outer part.

I claim—

1. A paper box consisting in the combination of an exterior body comprising converging sides and ends flexibly connected together

and a tray having the sides and ends disconnected, inserted in the exterior body and held therein by the expansion of its sides and ends against the converging walls of the exterior body, substantially as specified.

2. A paper box consisting in the combination of an exterior body comprising converging sides and ends flexibly connected together, and a cover with a tucking-tongue and a tray inserted in the exterior body with its sides and ends supported by the converging walls of the exterior body and forming a pocket on the side opposite the cover to receive the tucking-tongue of the cover, substantially as specified.

3. The herein-described "knockdown" box, consisting of an exterior part embracing the sides B, E and ends R, O, cover G and tucking-tongue A, all made in a single piece and creased or scored at the junction of the several parts to form hinge-joints or bending-lines, and the end O and side B joined together by the flap T, the sides and ends thus joined forming a rectangular body with converging walls and flexible connections between the sides and ends to adapt it to be folded, and a tray made in a single piece and having its sides B' E' and ends R' O' disconnected, and adapted to be inserted in the exterior body and to be held therein by the expansion of its sides and ends against the converging walls thereof, substantially as specified.

In testimony that I claim the invention above set forth I do affix my signature in presence of two witnesses.

ROBERT GAIR.

Witnesses:

J. D. REILLY,
L. BEATTIE, Jr.