No. 666,274.

Patented Jan. 22, 1901.

G. L. JOHNSTONE.

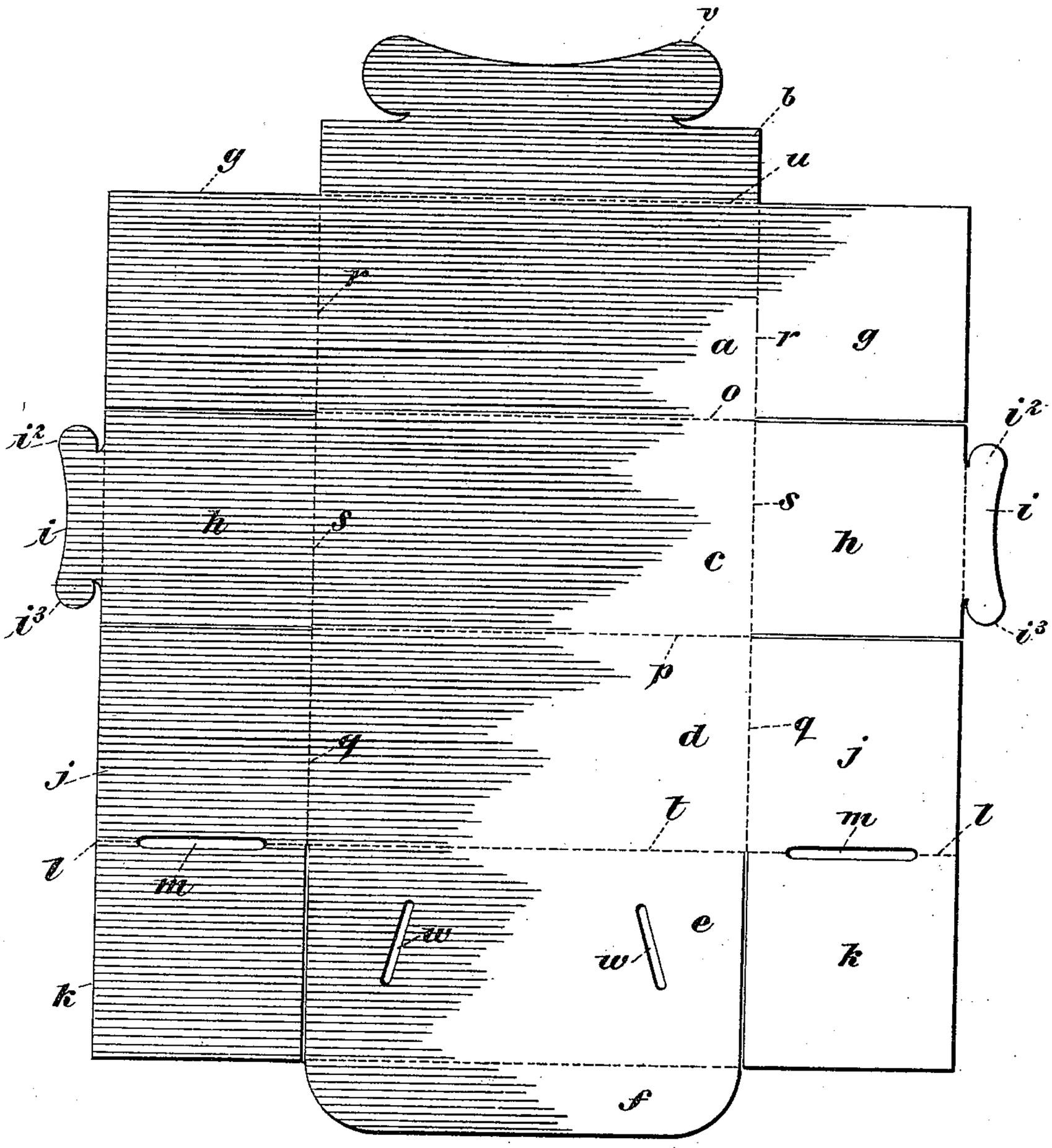
FOLDING BOX.

(Application filed Oct. 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES:

Gustave Dietterich.

Leo. E. Thomas.

INVENTOR

G. L. Johnstone.

BY Briesen & Knauth

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

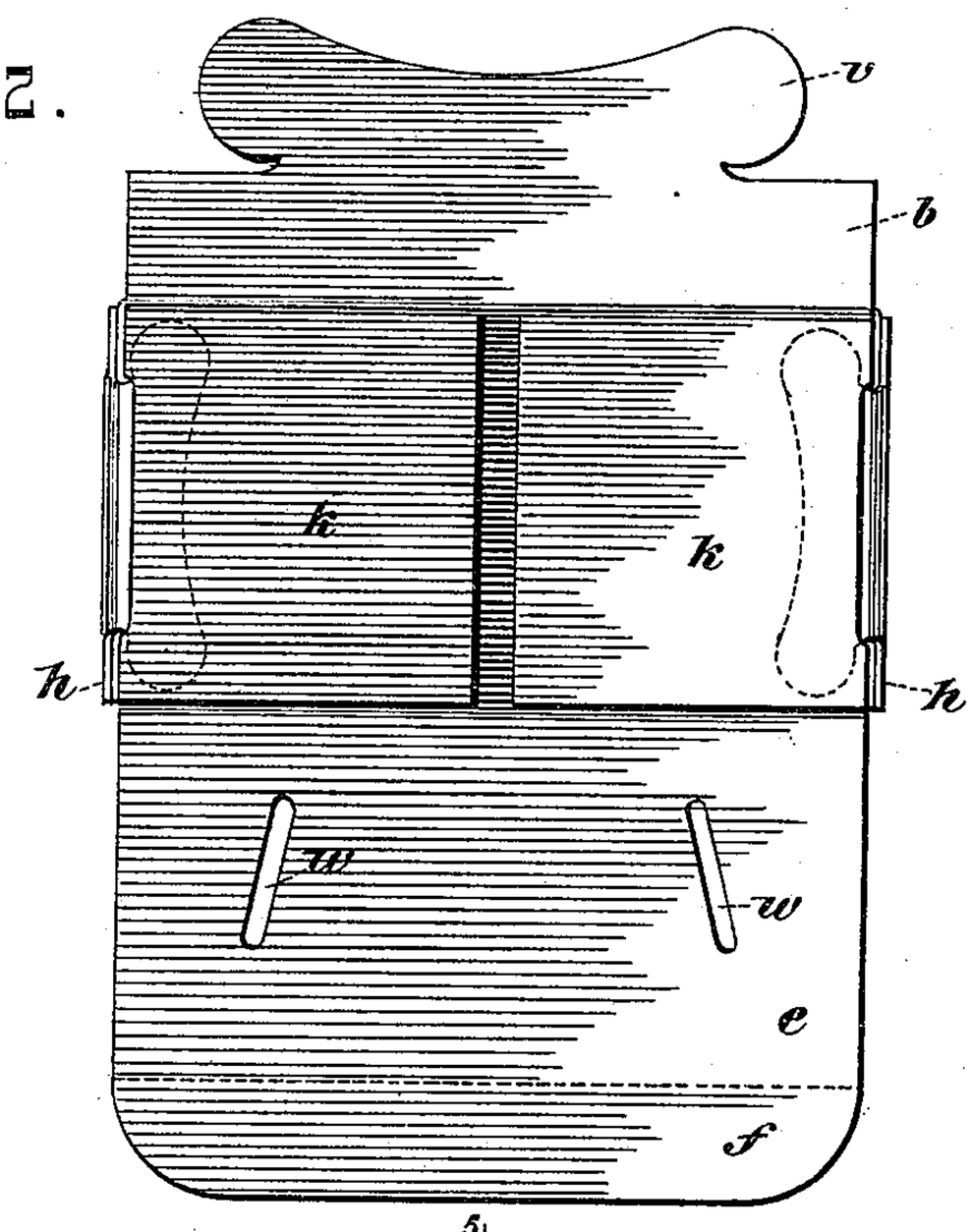


Fig. 3.

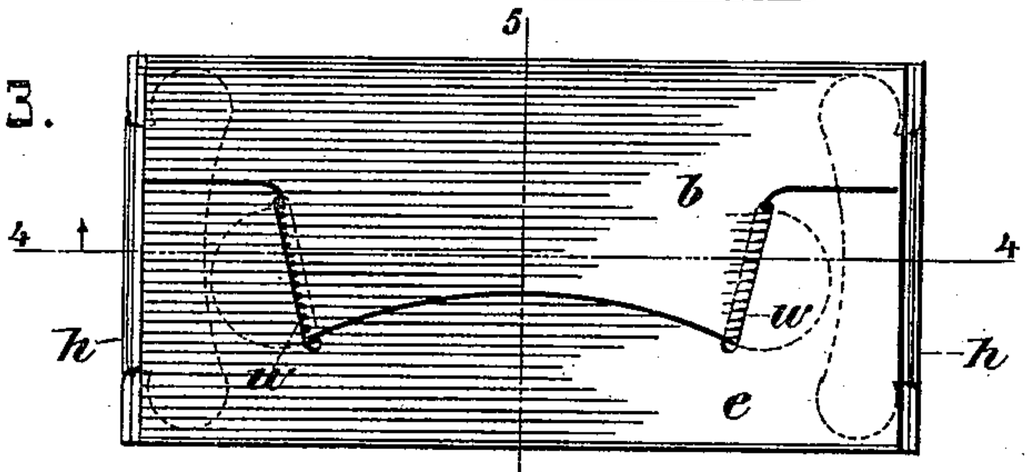


Fig. 4.

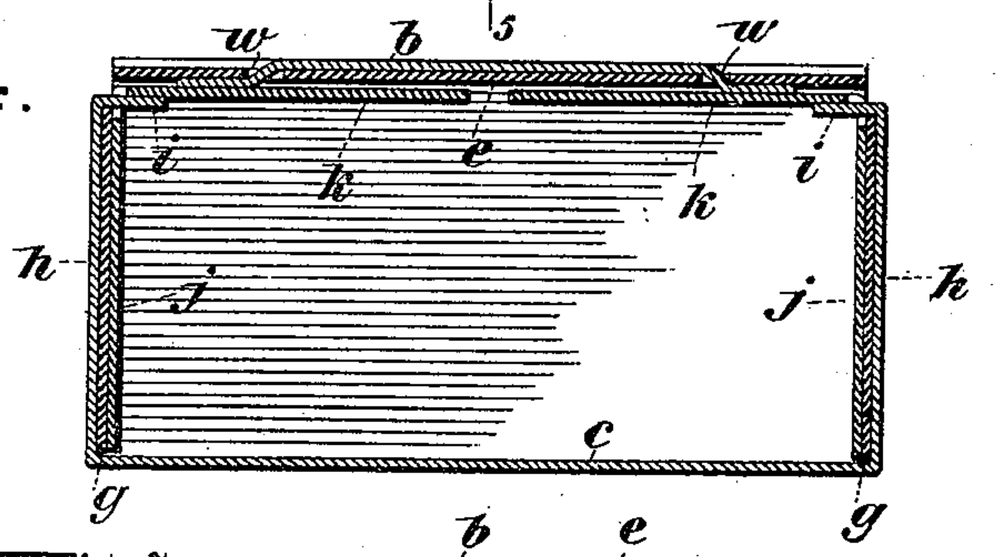
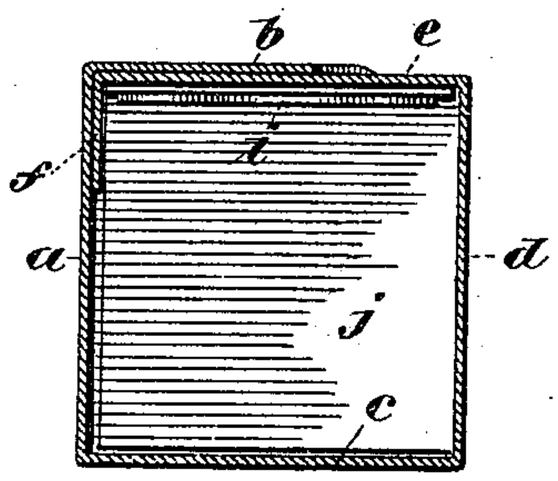


Fig. 5.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GILBERT L. JOHNSTONE, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES PRINTING COMPANY, OF SAME PLACE.

FOLDING BOX.

SPECIFICATION forming part of Letters Patent No. 666,274, dated January 22, 1901.

Application filed October 5, 1900. Serial No. 32,113. (No model.)

To all whom it may concern:

Be it known that I, GILBERT L. JOHNSTONE, a citizen of the United States, residing in the city of New York, borough of Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification.

My invention relates to folding boxes, and in the drawings annexed hereto I have shown as a form or example of my invention a knock-down paper box. This paper box will be described in detail in this specification, and the salient features of the invention will be pointed out in the claims.

In the drawings, Figure 1 is a plan or face view of the box-blank, the dotted lines indicating the lines along which the blank is creased for folding. Fig. 2 is a plan view of the box ready to receive its contents, the top and locking flap for the top being opened out for that purpose. Fig. 3 is a top view of the box with the top and locking-flap closed down. Fig. 4 is a section on line 4 4 of Fig. 3, the said section being a longitudinal vertical section. Fig. 5 is a section on line 5 5 of Fig. 3, the said section being a transverse vertical section.

Referring now for the moment particularly to Fig. 1, which shows the box-blank, *a* indicates the side of the box, provided with a locking-flap *b*, whose locking member will be hereinafter fully described. The bottom of the box is indicated by *c*. The other side of the box is indicated by *d* and the top of the box by *e*, the top of the box being provided with a flap *f*. The side *a* is provided with flaps *g*. The bottom of the box is provided with flaps *h*, which are provided with locking members *i*. The side *d* is provided with flaps *j*, which are provided with flaps *k*. These flaps *k* are integral with *j* and are hinged thereto along the crease *l*. A slot *m* is cut in the material and intervenes between each flap *j* and its adjacent flap *k*, so that the flap *j* will be adapted to fold inwardly to form part of the end of the box and the flap *k* be folded over to partially cover the mouth of the box.

The box-blanks are adapted to be shipped flat and to be set up or assembled into boxes as follows: The side flap *a* is bent upward along the crease *o*, and the side flap *d* is bent upward along the crease *p*, thus constituting the panel *c* the bottom of the box. The flaps *j* of the side *d* are then bent inwardly along the creases *q*. The flaps *g* are then bent inwardly along the creases *r*. The outside ends *h* of the box are then bent up along the creases *s*, and the locking tongues or tucks are then inserted into the slots *m*, which leaves the box open-mouthed. In closing the box the flaps *k* are folded inward along their creases *l*, as shown in Fig. 2, the cover *e* is folded down along its crease *t*, the insertion-flap *f* being folded along its crease and inserted into the box-mouth, and the closing-flap *b* is then folded down along its crease *u*, and its locking-tuck *v* inserted into the slots *w* of the top or box cover *e*. The box is thus completely closed, as shown in Fig. 3, and may be handled very severely without coming open. The locking-tuck *v*, having two projections entering the slots *w*, cannot be readily displaced. The sides of the box and the three flaps *g h j*, forming each end, are firmly secured together by the inside lock constituted by the locking-tucks *i* entering the slot *m*. It will be observed that the locking-tucks *i* are of considerably greater width than the slots *m*, and consequently in order to insert these locking-tucks into the slots *m* it is necessary to bend over their locking-jaws i^2 i^3, which locking-jaws thereafter spring out, as shown in plan view in dotted lines in Figs. 2 and 3, and securely and firmly lock the parts together. The plain flap *g*, which is interposed between the flaps *j* and *h*, fits securely between the said two flaps and will remain locked between the said flaps, as in order to remove the said flap from between the two flaps it will be necessary to impart to the same a swinging motion, which cannot be done by reason of the secure fit.

It will be observed that by reason of the fact that the slot *m* is located at the upper edge of the side of the box the flap *h*, locking therewith, will produce a space wherein the flaps *g k* will snugly fit, so that it will be impossible for the box end to open under even the severest handling. It will also be ob-

served that the slots *m* are on the crease or bend where the flaps *k* hinge, so that the said flaps may be swung up and down on their said hinge to uncover or cover the mouth of the box without disturbing the lock of the ends of the box, as would be the case if the slots were located at a distance from said crease.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a folding box, the combination of a bottom and sides, the sides being provided with flaps at their ends, the flaps of one side being also provided with additional flaps and a slot in the crease or fold between each of the end flaps and the additional flaps where the said end flaps hinge, the bottom being likewise provided with end flaps each of which end flaps is provided with a locking-tuck adapted to enter the said slots.

2. A folding box having a bottom and sides and a plurality of end flaps folded one upon the other, an additional flap *k* secured to each of the end flaps of the sides and hinged thereto, an end flap on the bottom of the box provided with a locking-tuck and a slot on the hinge between one of the end flaps and an additional flap *k* and adapted to receive the locking-tuck of the end flap of the bottom.

3. In a folding box, the combination of a bottom and sides, the sides being provided with flaps at their ends, the flaps of one side being also provided with additional flaps and a slot at the crease between the end flaps and the additional flaps, the bottom being likewise provided with end flaps each of which end flaps is provided with a locking-tuck adapted to enter the slots in the respective side flaps and a closing top flap *e* provided with slots and a locking-flap *b* provided with a locking-tuck *v* entering the slots in the closing or top flap.

4. A folding box having a bottom and sides and end flaps *g h j*, substantially as described, one of the said flaps *g h j* being provided with a single slot and a locking-tuck *i* provided with jaws $i^2 i^3$ which are adapted to be bent and spring outward to firmly lock the end flaps in place when they have been adjusted in setting up the box.

GILBERT L. JOHNSTONE.

Witnesses:
GEO. E. MORSE,
OTTO V. SCHRENK.